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A PROFESSIONAL LIMITED LIABILITY COMPANY

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June 9, 2008

Via Hand Delivery

filed electronically in docket office 6/9/2008

Chairman Eddie Roberson, PhD
c/o Ms. Sharla Dillon
Tennessee Regulatory Authority
460 James Robertson Parkway
Nashville, Tennessee 37243

Re: ***Petition Of Tennessee American Water Company To Change And Increase Certain Rates And Charges So As To Permit It To Earn A Fair And Adequate Rate Of Return On Its Property Used And Useful In Furnishing Water Service To Its Customers***
Docket No. 08-00039

Dear Chairman Roberson:

Enclosed please find an original and seven (7) copies of Tennessee American Water Company's Responses to the Remainder of the Requests Contained in the First Discovery Request of the Consumer Advocate and Protection Division to Tennessee American Water Company.

In addition, two compact disks have been provided. The first disk contains all of the Company's responses in Word or Excel to data requests. The second disk contains all such responses in pdf format.

Please stamp three (3) copies of these Discovery Responses as "filed," and return them to me by way of our courier.

Should you have any questions concerning any of the enclosed, please do not hesitate to contact me.

Sincerely,

Ross Booher (by kkw)

Ross I. Booher

RIB/smb
Enclosures

cc: Hon. Ron Jones (*w/o enclosure*)
Hon. Sara Kyle (*w/o enclosure*)
Hon. Tre Hargett (*w/o enclosure*)
Ms. Darlene Standley, Chief of Utilities Division (*w/o enclosure*)
Richard Collier, Esq. (*w/o enclosure*)
Mr. Jerry Kettles, Chief of Economic Analysis & Policy Division *(w/o enclosure*)
Timothy C. Phillips, Esq. (*w/enclosure*)
David C. Higney, Esq. (*w/enclosure*)
Henry M. Walker, Esq. (*w/enclosure*)
Michael A. McMahan, Esq. (*w/enclosure*)
Frederick L. Hitchcock, Esq., (*w/enclosure*)
Mr. John Watson (*w/o enclosure*)
Mr. Michael A. Miller (*w/o enclosure*)

BEFORE THE TENNESSEE REGULATORY AUTHORITY
NASHVILLE, TENNESSEE

IN RE:

PETITION OF TENNESSEE AMERICAN WATER COMPANY TO CHANGE AND INCREASE CERTAIN RATES AND CHARGES SO AS PERMIT IT TO EARN A FAIR AND ADEQUATE RATE OF RETURN ON ITS PROPERTY USED AND USEFUL IN FURNISHING WATER SERVICE TO ITS CUSTOMERS	)	**Docket No. 08-00039**

TENNESSEE AMERICAN WATER COMPANY'S RESPONSES TO THE REMAINDER OF THE REQUESTS CONTAINED IN THE FIRST DISCOVERY REQUEST OF THE CONSUMER ADVOCATE AND PROTECTION DIVISION TO TENNESSEE AMERICAN WATER COMPANY

The Tennessee American Water Company ("TAWC") hereby responds as follows to the remainder of the requests contained of the First Discovery Request of the Consumer Advocate and Protection Division ("CAPD") to the TAWC:

GENERAL OBJECTIONS

(1) TAWC objects to all requests that seek information protected by the attorney-client privilege, the work product doctrine and/or any other applicable privilege or restriction on disclosure.

(2) TAWC objects to the definitions and instructions accompanying requests to the extent definitions and instructions contradict, are inconsistent with, or impose any obligations beyond those required by applicable provisions of the Tennessee Rules of Civil Procedure or the rules, regulations or orders of the Tennessee Regulatory Authority.

(3) To the extent contained in the Requests, TAWC objects to the definitions of the words "document," "you," "person," "persons," "affiliate," "affiliated," "identify," "identifying,"

"identification," and "referring or relating to," that accompany the data requests because such definitions are overbroad and unduly burdensome.

(4) The specific responses set forth below are based upon information now available to TAWC, and TAWC reserves the right at any time to revise, correct, add to or clarify the objections or responses and supplement the information and/or documents produced.

(5) TAWC is providing its responses herein without wavier of, or prejudice to, its right at any later time to raise objections to: (a) the competence, relevance, materiality, privilege, or admissibility of the response, or the subject matter thereof; and (b) the use of any response, or subject matter thereof, in any subsequent proceedings.

(6) TAWC objects to each request to the extent that it is unreasonably cumulative or duplicative, or seeks information obtainable from some other source that is more convenient, less burdensome or less expensive.

(7) TAWC objects to each request to the extent it is premature such that it seeks information concerning matters about which discovery is ongoing and/or seeks information to be provided by expert witnesses.

(8) TAWC objects to each request to the extent it seeks information outside TAWC's custody or control.

(9) TAWC objects to requests that call upon TAWC to create, categorize, manipulate, customize or otherwise organize data regarding time periods outside of TAWC's historical test year. TAWC objects to all such requests because they are unduly burdensome, seek to have TAWC create work product and seek information that is not relevant to this rate case.

(10) TAWC's specific objections to each request are in addition to the General Objections set forth in this section. These General Objections form a part of each discovery

response, and they are set forth here to avoid the duplication and repetition of restating them for each discovery response. The absence of a reference to a General Objection in response to a particular request does not constitute a waiver of any General Objection with respect to that discovery request. All responses are made subject to and without waiver of TAWC's general and specific objections.

Respectfully Submitted,

R. Dale Grimes (#6223)
Ross I. Booher (#019304)
BASS, BERRY & SIMS PLC
315 Deaderick Street, Suite 2700
Nashville, TN 37238-3001
(615) 742-6200
Counsel for Petitioner
Tennessee American Water Company

CERTIFICATE OF SERVICE

I hereby certify that a true and correct copy of the foregoing has been served via the method(s) indicated, on this the 9th day of June, 2008, upon the following:

[x] Hand-Delivery [ ] U.S. Mail [ ] Facsimile [ ] Overnight [x] Email	Timothy C. Phillips, Esq. Consumer Advocate and Protection Division Office of Attorney General 2nd Floor 425 5th Avenue North Nashville, TN 37243-0491
[ ] Hand-Delivery [ ] U.S. Mail [ ] Facsimile [x] Overnight [x] Email	David C. Higney, Esq. Counsel for Chattanooga Manufacturers Association Grant, Konvalinka & Harrison, P.C. 633 Chestnut Street, 9th Floor Chattanooga, TN 37450
[x] Hand-Delivery [ ] U.S. Mail [ ] Facsimile [ ] Overnight [x] Email	Henry M. Walker, Esq. Counsel for Chattanooga Manufacturers Association Boult, Cummings, Conners & Berry, PLC Suite 700 1600 Division Street Nashville, TN 37203
[ ] Hand-Delivery [ ] U.S. Mail [ ] Facsimile [x] Overnight [x] Email	Michael A. McMahan, Esq. Special Counsel City of Chattanooga (Hamilton County) Office of the City Attorney Suite 400 801 Broad Street Chattanooga, TN 37402
[ ] Hand-Delivery [ ] U.S. Mail [ ] Facsimile [x] Overnight [x] Email	Frederick L. Hitchcock, Esq. Harold L. North, Jr., Esq. Counsel for City of Chattanooga Chambliss, Bahner & Stophel, P.C. 1000 Tallan Building Two Union Square Chattanooga, TN 37402

BEFORE THE TENNESSEE REGULATORY AUTHORITY
NASHVILLE, TENNESSEE

PETITION OF TENNESSEE AMERICAN WATER COMPANY TO CHANGE AND INCREASE CERTAIN RATES AND CHARGES SO AS TO PERMIT IT TO EARN A FAIR AND ADEQUATE RATE OF RETURN ON ITS PROPERTY USED AND USEFUL IN FURNISHING WATER SERVICE TO ITS CUSTOMERS	)	**DOCKET NO. 08-00039**

AFFIDAVIT

STATE OF WEST VIRGINIA

COUNTY OF KANAWHA

I, MICHAEL MILLER, Treasurer/Comptroller for Tennessee American Water Company, do hereby certify that the foregoing responses to the First Discovery Request of the Consumer Advocate and Protection Division to Tennessee American Water Company were prepared by me or under my supervision and are true and accurate to the best of my knowledge and information.

DATED this 6th day of June, 2008.

Michael A. Miller
(signature)

Michael A. Miller
(printed name)

Sworn to and subscribed before me this 6th day of ~~May~~ June, 2008.

Vanessa S. Turner
NOTARY PUBLIC

My Commission Expires:

July 6, 2012

OFFICIAL SEAL
NOTARY PUBLIC
STATE OF WEST VIRGINIA
VANESSA S TURNER
95 Oakwood Drive
Madison, WV 25130
My Commission Expires July 6, 2012

TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 08-00039
FIRST DISCOVERY REQUEST OF THE
CONSUMER ADVOCATE AND PROTECTION DIVISION

Responsible Witness: John J. Spanos

PART II: DEPRECIATION & WEATHER NORMALIZATION

Question:

53. Were any retirements, classified as sales or reimbursements, excluded from the life studies? If yes, were the retirements and related gross salvage and cost of removal also excluded from the net salvage studies?

Response:

There were no retirements classified as sales or reimbursements excluded to the extent to which salvage receipts represent recovery of original cost.

TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 08-00039
FIRST DISCOVERY REQUEST OF THE
CONSUMER ADVOCATE AND PROTECTION DIVISION

Responsible Witness: Michael Miller

PART II: DEPRECIATION & WEATHER NORMALIZATION

Question:

54. Please identify and explain the Company's expectations with respect to future removal requirements and markets for retired equipment and materials. Please provide the basis for these expectations.

Response:

TAWC has had a long history of installing and retiring plant in service. The historical experience of the Company in this area provides a sound basis for the determination of service life estimates for Company's many property groups. In addition to the Company's considerable experience in property retirements, the Company has a long history of the applicable costs associated with those retirements of property related to cost of removal and salvage. This historical information provides a solid benchmark from which to assess the historical experience and to extrapolate such costs for the purpose of estimating future end of life costs and any potential salvage amounts. Due to the long service lives of most of the Company's property; most of it being underground, and most of the property being specialized for a water utility, there is little expectation or likelihood that the property will have material value to another user. History tells us that we can expect only immaterial levels of salvage on utility plant other than on vehicles.

Conversely, history tells us that the cost of to remove the vast majority of the utility plant of the Company is significant in comparison to the original cost of

those assets due to the inflation of removal costs over the extremely long service lives of most water utility plant in service. It requires both Company labor and contractors to disconnect the property from service and/or physically remove and dispose of the assets. The cost to retire facilities far exceeds the salvage value and the original cost of the assets for most of the Company's utility plant groups.

The Company expects the future removal costs and salvage to hold to the historical information and trends utilized by Mr. Spanos in arriving at his service lives and net negative salvage components of his depreciation rate recommendations.

TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 08-00039
FIRST DISCOVERY REQUEST OF THE
CONSUMER ADVOCATE AND PROTECTION DIVISION

Responsible Witness: Michael Miller

PART II: DEPRECIATION & WEATHER NORMALIZATION

Question:

55. Please identify and explain the Company's expectations with respect to future removal requirements and markets for retired equipment and materials. Please provide the basis for these expectations.

Response:

Please see response to question 54. This is a duplicate question.

TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 08-00039
FIRST DISCOVERY REQUEST OF THE
CONSUMER ADVOCATE AND PROTECTION DIVISION

Responsible Witness: John J. Spanos

PART II: DEPRECIATION & WEATHER NORMALIZATION

Question:

56. Provide the calculation of the annual amount of future net salvage incorporated into the Company's proposed depreciation rates by account as of November 30, 2007. If the amount is reduced by the total amount of legal ARO's included in year-end accumulated depreciation, show that calculation.

Response:

The attached spreadsheet sets forth the annual amount of future net salvage incorporated in the Company's proposed depreciation rates by account as of November 30, 2007.

These accounts are not reduced by legal ARO's.

TENNESSEE AMERICAN WATER COMPANY

NET SALVAGE, ORIGINAL COST AND PROJECTED ACCRUAL FOR NET SALVAGE
RELATED TO UTILITY PLANT AT NOVEMBER 30, 2007

ACCOUNT	DEPRECIABLE GROUP	NET SALVAGE	ORIGINAL COST AT NOVEMBER 30, 2007	PROJECTED ACCRUAL FOR NET SALVAGE
	(1)	(3)	(4)	(5)=(4)*(3)
	STRUCTURES & IMPROVEMENTS			
304.20	PUMPING EQUIPMENT	(15)	3,810,529.24	(571,579)
304.30	WATER TREATMENT	(15)	2,013,182.07	(301,977)
304.40	TRANSMISSION & DISTRIBUTION	(15)	524,791.43	(78,719)
304.60	OFFICE BUILDINGS	(15)	149,174.18	(22,376)
304.70	STORES, SHOP, & GARAGE	(15)	312,641.58	(46,896)
304.80	MISCELLANEOUS	(15)	657,572.65	(98,636)
304.99	PAINTING	0	1,694,810.07	0
	TOTAL ACCOUNT 304		**9,162,701.22**	**(1,120,184)**
306.00	LAKE, RIVER AND OTHER INTAKES	(5)	489,122.97	(24,456)
309.00	SUPPLY MAINS	0	602,663.86	0
310.00	OTHER POWER GENERATION EQUIPMENT	(5)	227,421.97	(11,371)
	PUMPING EQUIPMENT			
311.20	ELECTRIC PUMPING EQUIPMENT	(10)	5,662,341.08	(566,234)
311.30	DIESEL PUMPING EQUIPMENT	(10)	119,296.31	(11,930)
311.50	MISCELLANEOUS PUMPING EQUIPMENT	(10)	268,063.36	(26,806)
	TOTAL ACCOUNT 311		**6,049,700.75**	**(604,970)**
320.10	WATER TREATMENT EQUIPMENT	(10)	12,378,401.76	(1,237,840)
	DISTRIBUTION RESERVOIRS & STANDPIPES			
330.00	DISTRIBUTION RESERVOIRS & STANDPIPES	(20)	6,607,165.53	(1,321,433)
330.10	DISTRIBUTION RESERVOIRS & STANDPIPES-MISC.	(20)	1,780,709.33	(356,142)
330.40	DISTRIBUTION RESERVOIRS & STANDPIPES-CLEARWELL	(20)	680,783.96	(136,157)
330.99	DISTRIBUTION RESERVOIRS & STANDPIPES-PAINTING	0	1,710,126.13	0
	TOTAL ACCOUNT 330		**10,778,784.95**	**(1,813,732)**
331.00	TRANSMISSION AND DISTRIBUTION MAINS	(35)	100,664,086.42	(35,232,430)
333.00	SERVICES	(30)	18,858,847.78	(5,657,654)
334.10	METERS	4	4,652,541.59	186,102
334.20	METER INSTALLATIONS	(20)	10,950,256.85	(2,190,051)
335.00	HYDRANTS	(30)	7,420,614.90	(2,226,184)
339.20	OTHER PLANT & EQUIPMENT	0	8,523.30	0
339.60	OTHER PLANT & EQUIPMENT-COMPREHENSIVE STUDY	0	405,131.83	0
	OFFICE FURNITURE & EQUIPMENT			
340.10	FURNITURE	0	626,817.51	0
340.20	COMPUTER & PERIPHERAL EQUIPMENT	0	1,788,278.42	0
340.30	COMPUTER SOFTWARE	0	4,167,653.31	0
340.40	METER SHOP (UPS)	0	15,283.88	0
340.50	OTHER EQUIPMENT	0	137,209.77	0
	TOTAL ACCOUNT 340		**6,735,242.89**	**0**
	TRANSPORTATION EQUIPMENT			
341.10	LIGHT DUTY TRUCKS	15	1,074,347.12	161,152
341.20	HEAVY DUTY TRUCKS	15	733,951.40	110,093
341.30	AUTOS	15	254,776.59	38,216
341.40	OTHER	15	237,241.98	35,586
	TOTAL ACCOUNT 341		**2,300,317.09**	**345,048**

TENNESSEE AMERICAN WATER COMPANY

NET SALVAGE, ORIGINAL COST AND PROJECTED ACCRUAL FOR NET SALVAGE
RELATED TO UTILITY PLANT AT NOVEMBER 30, 2007

ACCOUNT	DEPRECIABLE GROUP	NET SALVAGE	ORIGINAL COST AT NOVEMBER 30, 2007	PROJECTED ACCRUAL FOR NET SALVAGE
	(1)	(3)	(4)	(5)=(4)*(3)
342.00	STORES EQUIPMENT	0	43,392.21	0
343.00	TOOLS, SHOP & GARAGE EQUIPMENT	0	1,182,044.81	0
344.00	LABORATORY EQUIPMENT	0	370,119.75	0
345.00	POWER OPERATED EQUIPMENT	5	332,767.47	16,638
346.10	COMMUNICATION EQUIPMENT - NON-TELEPHONE	0	354,831.19	0
346.20	COMMUNICATION EQUIPMENT - TELEPHONE	0	155,730.84	0
347.00	MISCELLANEOUS EQUIPMENT	0	1,075,581.01	0
348.00	OTHER TANGIBLE PROPERTY	0	4,918.13	0
	TOTAL DEPRECIABLE PLANT		**195,203,745.54**	**(49,571,086)**
	NONDEPRECIABLE PLANT			
303.30	LAND & LAND RIGHTS - WATER TREATMENT		73,444.37	
303.40	LAND & LAND RIGHTS - TRANSMISSION & DISTRIBUTION		18,009.00	
303.50	LAND & LAND RIGHTS - DISTRIBUTION RESERVOIRS & STANDPIPES		315,867.14	
303.60	LAND & LAND RIGHTS - GENERAL		25,021.90	
339.50	OTHER PLANT & EQUIPMENT		0.00	
	TOTAL NONDEPRECIABLE PLANT		**432,342.41**	**0**
	TOTAL PLANT		**195,636,087.95**	**(49,571,086)**

TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 08-00039
FIRST DISCOVERY REQUEST OF THE
CONSUMER ADVOCATE AND PROTECTION DIVISION

Responsible Witness: Michael Miller

PART II: DEPRECIATION & WEATHER NORMALIZATION

Question:

57. Please provide all manuals, guidelines, memoranda or other documentation that deal with the Company's policies with regard to the physical removal of plant in the following accounts:

Response:

Please see Confidential Document submitted pursuant to Protective Order dated May 23, 2008.

TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 08-00039
FIRST DISCOVERY REQUEST OF THE
CONSUMER ADVOCATE AND PROTECTION DIVISION

Responsible Witness: John S. Watson/Michael Miller

PART II: DEPRECIATION & WEATHER NORMALIZATION

Question:

58. Please provide a summary of Main and Service Replacement projects during 2006 and 2007. Separately identify all major costs, including the removal of the existing Main and/or Service.

Response:

The Company objects to this request on the grounds that it is vague and ambiguous, over broad, and unduly burdensome. Furthermore, the information is not readily available to the Company in the requested format. This request involves hundreds, if not thousands, of individual work orders. In order to produce and compile the requested information, the Company would have to research each of those work orders, which would take countless hours of effort. Due to the magnitude of individual work orders covering this work, the Company will make the responsive records available for the CAPD to review at its office at a mutually agreeable time.

Subject to and without waiving its objections, the Company provides the following response.

Attached is a listing of the water mains that were installed to replace/restore existing mains during 2006 and 2007. The examples of categories of items that contribute to the total cost are materials such as pipe, valves and contracted work, as well as inspection services, paving, and street cut permits.

Tennessee American Water Co.
Worksheet of Mains Replacement and Service Replacement
BUDGET B / 81--- MAINS - REPLACED / RESTORED

2006-2007

TASK / W.O. #	TOTAL CHARGES		DESCRIPTION
50000752	**$28,800**		BLANKET MAIN - 2"
50000759	**$10,034**		BLANKET MAIN - 2.5"
50000761	**$54,057**		BLANKET MAIN REP 6"
50000762	**$187,852**		BLANKET MAIN REP 8"
50000763	**($6,359)**		BLANKET MAIN REP 10"
50000764	**$23,933**		BLANKET MAIN REP 12"
50044576	**($4)**		ZIEGLER RD. MAIN RELOCATION
50052623	**$133**		ENG COST ROPER SITE
50076406	**$4,120**		INS 637' 6" IN OAKLAND AVE.
50079892	**$285**		INS 151' 6" IN McCALLIE AVE
50084138	**$17,104**		ENGINEERING COST FOR OFFSETS W 38TH ST
50080571	**$1,302**		INS 146' 8" DI IN SKYLINE DR
50086833	**$314**		ROSSVILLE FIRE PROT 2006
50089399	**$40,779**		INS 635' 8" IN FAXON ST
50096329	**$26,576**		INS 546' 6" DI IN HUNT AVE
50097795	**$161,238**		INS 8" MAIN 9TH AVE & OTHER
50098131	**$111,528**		INS 8" MAIN IN MERCER ST
50098473	**$50,527**		INS 819' 8" MAIN IN NORTHRUP ST
50098553	**$24,463**		INS 637' 8" CAMP JORDAN PKWY
50098615	**$123,676**		INS 3094' 8" WEST HILLS DR
50098628	**$80,684**		1238' 12" IN HAMM RD
50100080	**$33,658**		INS 6" IN JORDAN DR & LEE PKY
50100184	**$49,097**		INS AIR VACUUM RELIEF VALVE
50100242	**$16,188**		INS 400' 6"DI IN LOCKSLEY CIR
50100307	**$32,595**		INS 601' 8" IN ARLINGTON AVE
50100741	**$80,595**		RELOCATE 12" FACILITIES IN 38TH ST.
50101588	**$70,657**		INS 910' 6" MAIN IN TAYLOR ST
50102052	**$11,248**		INS 200' 4" DI IN MARYLAND ST
50102056	**$18,847**		INS 273' 8" DI IN MARYLAND ST
50102120	**$17,389**		INS 264' 8" IN PEERLESS ST
50103188	**$14,705**		INS 273' 6" IN ELMENDORF CIR
50104757	**$177,019**		INS VALVE WHITE OAK TANK
50106212	**$38,494**		INS 564' 6" DI IN TREWHITT ST
50106276	**$26,638**		INS 382' 6" DI IN E 18TH ST
50106281	**$7,503**		INS LATERALS IN E 18TH ST
50106756	**$131,093**		INS 900' 12" DI IN RIVERSIDE AVE
50107415	**$287,589**		INS 780' 8" TIE INS BRAINERD RD.
50107591	**$59,630**		1,075' 6" DI IN OCOEE ST
50107593	**$83,799**		INS 1381' 4" STANFIEL & BRADT
50107770	**$20,173**		INS 382' 8" IN WATAUGA ST
50108684	**$84,829**		INS 728' 6" CHICKAMAUGA TRL
50108977	**$62,650**		INS 1,001' 6" CHANDLER AVE
50109069	**$107,318**		INS 983' 6" IN NEWTON AVE
50110165	**$68,087**		INS 927' 8" IN SPEARS AVE
50110173	**$18,170**		INS 250' 4" IN BUSH ST
50110451	**$15,262**		INS 2 -6" GATE VALVES HWY 58
50110465	**$36,441**		INS 328' 8" IN NEWBY ST
50110685	**$73,911**		INS 8" IN AUDOBON & DAUPHIN
50110789	**$13,552**		INS 8" GA TER & MISSION DR

Tennessee American Water Co.
Worksheet of Mains Replacement and Service Replacement
BUDGET B / 81--- MAINS - REPLACED / RESTORED

	2006-2007		
TASK / W.O. #	**TOTAL CHARGES**		**DESCRIPTION**
50110858	**$37,625**		INS 528' 6" DI IN OLIVE ST
50110865	**$51,649**		INS 728' 8" IN THOMPSON ST
50110954	**$142,854**		INS 2002' 6" IN LYERLY ST
50111237	**$70,609**		INS 8" DAISY OREAR & APPLING
50111238	**$16,848**		INS 164' 6" IN DAISY ST
50111239	**$33,963**		INS 1,037' 4" IN KOBLENTZ CIR
50112278	**$68,922**		INS 128' 12" DI IN S CREST RD
50114089	**$202,943**		INS 1660' 8 " IN LAKEVIEW DR
50114128	**$5,750**		INS LATERALS CHICKAMAUGA TRL
50115359	**$44,415**		INS 510' 8" IN VALENTINE CIR
50115476	**$37,649**		INS 245' 8" IN DUANE RD
50115593	**$2,326**		INS 650' 6" IN OAKWOOD RD
50115923	**$690,490**		INS 2,013' 12" BRAINERD RD
50117901	**$7,980**		INS 436' 8" IN DORCHESTER RD
50121712	**$30,179**		INSTALL 552' 4" DI IN DIXIE CIR
50121711	**$155,813**		INS 1,588' 8" DIXIE CIR
50122174	**$41,291**		INS. 673' 8" DI IN ADAMS ST.
50122176	**$10,230**		INS 8 SERV LATERALS ADAMS ST.
50122535	**$46,475**		INS 473' 8" DI IN PAGE RD.
50123050	**$176,704**		INS 2,293' 8" IN KIRKMAN RD
50123350	**$55,753**		INS 601' 8" IN PAGE RD
50123453	**$58,987**		INS. 618' 8" IN SPRING ST.
50123990	**$22,699**		INS 350' 4" DI IN SHADY CIR
50123981	**$23,015**		REPAIR 12" MAIN S CREST RD
50123989	**$111,190**		INS 1,565' 6" IN HIXSON PIKE
50124836	**$169,679**		INS. 12' DI IN RIVERSIDE DR.
50125134	**$190,206**		TRANS SERVICES/HYDTS MFG RD
50126356	**$44,525**		INS. 582' 8" DI IN E 3RD ST.
50128032	**$140,988**		RELOC 1,125' 6" ASHLAND TER
50129259	**$40,058**		INS 655' 8" IN FLEGAL ST
50129257	**$65,118**		INS 1,164' 6" IN CARDEN AVE
410085	**$16,320**		RELOCATE METER 1001 SCENIC HWY.
410196	**$50,458**		INS. 8" MAIN, 1ST & GLOVERKNOLL
410228	**$21,663**		INS 510' 8" IN GLOVERKNOLL DR.
410307	**$4,610**		INS 190' 8" IN PALMS CT. PHASE II
415762	**$46,259**		INS 530' 6" IN ROSEWOOD AVE.
416809	**$627,697**		INS 4,550' 12" DI IN FRAWLEY RD.
REPLACEMENT			
WATER MAIN TOTALS	**$6,162,118.64**		

BUDGET H/85 --- SERVICES AND LATERALS - REPLACED

26005290	**$165,509**		RENEW SERVICES- TN 3/4"-2006
26005291	**$35**		RENEW SERVICES -GA 3/4" -2006
26005300	**$19,028**		RENEW SERVICES -TN 1" -2006
26005311	**$13,231**		RENEW SERVICES -TN 2" -2006
407357	**$36,507**		Services-Repl-Chattanooga ALL-2007
407387	**$696**		Services-Repl-Ft Oglethorpe, GA ALL -2007
407399	**$11,785**		Services-Repl-Ridgeside, TN ALL -2007

Tennessee American Water Co.
Worksheet of Mains Replacement and Service Replacement
BUDGET B / 81--- MAINS - REPLACED / RESTORED

2006-2007

TASK / W.O. #	TOTAL CHARGES		DESCRIPTION
407400	**$107**		Services-Repl-Rossville, GA ALL -2007
REPLACEMENT			
SERVICES TOTALS	**$246,897**		

TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 08-00039
FIRST DISCOVERY REQUEST OF THE
CONSUMER ADVOCATE AND PROTECTION DIVISION

Responsible Witness: Michael Miller

PART II: QUESTIONS & REQUESTS REGARDING DEPRECIATION & WEATHER NORMALIZATION

Question:

59. With Respect to for each of the mass property accounts for which there is net salvage, please provide for the each of the last 10 years:
    a. The number of plant units retired each year, and
    b. The total number of plant units in the Company's system.

Response:

a. The Company objects to this question on the grounds that the request is overbroad, not readily available in the format requested, and would be unduly burdensome to produce the data prior to 2001 due to the extensive effort and cost required to develop such data. Subject to and without waiving its objections, please see the Table below. The data provided represents units of each Mass Property Account retired in the last 7 years. The data includes multiple retirement units in each Mass Property account, for example, Mains include not only length of pipe retired but also Qty of valves, Qty of valve-boxes, etc. The same is true for each of the Mass Property Accounts.

			Units Retired		
Account	331	333	334	334	335
Year	Mains(FT)	Services(EA)	Meters(EA)	Meter Install(EA)	Hydrants(EA)
2001	39,781	132	3,961	322	134
2002	19,768	122	3,571	277	32
2003	36,310	181	1,850	445	84
2004	19,900	112	1,324	257	101
2005	18,115	59	4,676	170	65
2006	49,882	43	6,146	55	110
2007	22,174	0	17	0	36
	205,930	649	21,545	1,526	562

b. The Company objects to this request as overbroad and unduly burdensome. The requested data is not readily available in the format requested and to produce the data prior to 2001 would require extensive effort and cost to develop. Subject to and without waiving its objections, the Company responds that the total units in-service for each Mass account is presented in the table below. The data is for only the major property unit in each account. Mains, for example, shows total footage of main and does not count valves as an item.

Account	Mains(FT) 331	Services(EA) 333	Meters(EA) 334	Meter Install(EA) 334	Hydrants(EA) 335
Total Quantity In-Service	6,744,148	76,982	75,792	75,792	4,989

TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 08-00039
FIRST DISCOVERY REQUEST OF THE
CONSUMER ADVOCATE AND PROTECTION DIVISION

Responsible Witness: Michael Miller

PART II: DEPRECIATION & WEATHER NORMALIZATION

Question:

60. Please provide all workpapers, studies, memoranda or any other documentation supporting the Company's quantification of ARO's, ARC's, and ARO annual expense pursuant to SFAS No. 143.

Response:

Please see the response to Part II, Question 34.

TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 08-00039
FIRST DISCOVERY REQUEST OF THE
CONSUMER ADVOCATE AND PROTECTION DIVISION

Responsible Witness: Michael Miller

PART II: DEPRECIATION & WEATHER NORMALIZATION

Question:

61. If not already provided, please provide the "credit adjusted risk free rate" used for any and all ARO calculations under FASB Statement No. 143.

Response:

Not applicable. See the Company's response to Part II, Question 34.

TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 08-00039
FIRST DISCOVERY REQUEST OF THE
CONSUMER ADVOCATE AND PROTECTION DIVISION

Responsible Witness: Michael Miller

PART II: DEPRECIATION & WEATHER NORMALIZATION

Question:

62. Please provide the accounting entries (debits and credits) used to implement SFAS No. 143, along with all workpapers supporting those entries. Please provide all these workpapers and calculations in electronic format (Excel) with all formulae intact.

Response:

Please see the Company's response to Part II, Question 34.

TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 08-00039
FIRST DISCOVERY REQUEST OF THE
CONSUMER ADVOCATE AND PROTECTION DIVISION

Responsible Witness: Michael Miller

PART II: DEPRECIATION & WEATHER NORMALIZATION

Question:

63. Does TAWC consider that it is bound by SEC regulations to record accruals for future costs of removal as regulatory liabilities?
    a. If so, please provide a record of those accruals in as much account detail as is available along with the workpapers used to develop those accruals.
    b. If not, please explain why not.
    c. State whether the Company proposes to separate retirement cost accounting from depreciation accounting, with separate rates and reserves. If the Company does not propose such separation, please state fully the reasons for not doing so.

Response:

This question appears to be duplicative to Part II, Question 35 if one assumes the SEC requires financial statement presentation to comply with U.S. GAAP. Please see the response to Part II, Question 35.

a. Please see the response to Part II, Question 34.
b. Not Applicable.
c. No. This practice is not followed by most regulatory commissions (including the TRA) across the country, it is not consistent with the remaining life depreciation methods utilized to establish the Company's current depreciation rates and the depreciation rates of most utility companies, and is not consistent with the remaining life depreciation

methodologies recommended by the Company's expert witness, John Spanos, or the depreciation study prepared for TAWC and previously produced in this case.

TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 08-00039
FIRST DISCOVERY REQUEST OF THE
CONSUMER ADVOCATE AND PROTECTION DIVISION

Responsible Witness: Michael Miller

PART II: DEPRECIATION & WEATHER NORMALIZATION

Question:

64. State whether PSE has forecast any non-legal removal costs that it does not regard as regulatory liabilities. Please describe these costs in detail, state fully the reason(s) for your belief that such forecast costs are not regulatory liabilities, and identify the forecast amounts of such removal costs in as much detail as is available. Provide the supporting documentation for each forecast amount.

Response:

The Company objects to this question on the grounds that it clearly is not intended for TAWC. Notwithstanding the objection, please see the response to Part II, Question 35 (b) for the Company's position on legal versus non-legal removal costs per the definitions included in SFAS 143. Also see the response to Part II, Question 34 which provides the Company's calculations and workpapers regarding the reclassifications of NNS required by SFAS 143.

TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 08-00039
FIRST DISCOVERY REQUEST OF THE
CONSUMER ADVOCATE AND PROTECTION DIVISION

Responsible Witness: Michael Miller

PART II: DEPRECIATION & WEATHER NORMALIZATION

Question:

65. Please identify and describe fully any administrative, accounting, computational or conceptual objections that PSE has to the treatment of non-legal plant retirement cost obligations in similar manner as legal asset retirement obligations are treated under SFAS 143.

Response:

The Company objects to this question on the grounds that it clearly is not intended for TAWC. Notwithstanding the objection, please see the response to Part II, Question 35 (b) for the Company's position on legal versus non-legal removal costs per the definitions included in SFAS 143.

TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 08-00039
FIRST DISCOVERY REQUEST OF THE
CONSUMER ADVOCATE AND PROTECTION DIVISION

Responsible Witness: Michael J. Vilbert

PART III: QUESTIONS & REQUESTS REGARDING COST OF CAPITAL & MISCELLANEOUS

Question:

1. Regarding Dr. Vilbert's testimony filed in this docket, provide copies of the following items referenced in Dr. Vilbert's testimony:

   a Electronic copies of all documents, testimony and comments listed by Dr. Vilbert at page A-7 of 7 in Appendix A.

   b. Provide legible source pages for all references to Value Line Standard Edition, Value Line Plus Edition, Bloomberg, Blue Chip Economic Indicators, and Mergent Bond Record.

   c. Provide legible copies pages of workpapers given by Tennessee-American or its parent, American Water Works to Dr. Vilbert, which Dr. Vilbert relied on to prepare his testimony.

Response:

a. Due to the size of these documents, please refer to the enclosed CD. The electronic documents are named TN-CAPD-01-PART III-Q001a-ATTACHMENT 1.pdf through TN-CAPD-01-PART III-Q001a-ATTACHMENT 7.pdf, with the exception of the rebuttal testimony before the Public Utilities Commission of the State of South Dakota, Docket No. NG-07-013, on behalf of NorthWestern Corporation, on the Cost of Capital for NorthWestern Energy Company's natural gas operations in South Dakota, November 2007. This rate case was settled just before the stage

at which rebuttal testimony was filed. The rebuttal testimony was therefore incorrectly included in Dr. Vilbert's resume. An errata to Dr. Vilbert's Appendix A is attached to this response to reflect the correction of this error.

b. The requested documents are located on the enclosed CD named TN-CAPD-01-PART III-Q001b-ATTACHMENT.pdf, with the exception of Bloomberg source pages. Historical data regarding stock prices, dividend payments, interest rates, yields on public utility bonds, and balance sheet and income statement figures that were used in the calculation of the estimated ROE are included in the Tables and Workpapers submitted with Dr. Vilbert's testimony. This information was extracted from Bloomberg directly into the Excel spreadsheets, and therefore no source pages can be provided. The remaining Bloomberg information concerns bond ratings and M&A activity of sample companies. This information was reviewed on a computer screen using a licensed Bloomberg terminal. Licensing terms prevent Dr. Vilbert from providing printouts of any Bloomberg terminal information.

c. Dr. Vilbert relied on the regulatory capital structure information provided by Tennessee American. The worksheet containing that information is located in the enclosed CD named TN-CAPD-01-PART III-Q001c-ATTACHMENT.pdf.

JOINT APPLICATION OF WISCONSIN ELECTRIC POWER COMPANY AND WISCONSIN GAS LLC FOR RATE RELIEF TEST YEAR 2008

DOCKET NO. _____

DIRECT TESTIMONY OF

MICHAEL J. VILBERT

ON BEHALF OF

WISCONSIN ENERGY CORP.

CONCERNING

COST OF CAPITAL

FOR

WISCONSIN ELECTRIC POWER COMPANY

AND

WISCONSIN GAS LLC

MAY 4, 2007

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I. INTRODUCTION AND SUMMARY

Q1. Please state your name and address for the record.

A1. My name is Michael J. Vilbert. My business address is The Brattle Group, 44 Brattle Street, Cambridge, MA 02138, USA.

Q2. Please describe your job and your educational experience.

A2. I am a Principal of The Brattle Group, ("Brattle"), an economic, environmental and management consulting firm with offices in Cambridge, Washington, London, San Francisco and Brussels. My work concentrates on financial and regulatory economics. I hold a B.S. from the U.S. Air Force Academy and a Ph.D. in finance from the Wharton School of Business at the University of Pennsylvania.

Q3. What is the purpose of your testimony in this proceeding?

A3. I have been asked by Wisconsin Electric Power Company ("Wisconsin Electric)" and Wisconsin Gas LLC ("Wisconsin Gas") (collectively the "Applicants") to estimate the costs of equity that the Public Service Commission of Wisconsin ("PSCW" or the "Commission") should allow them the opportunity to earn on the equity financed portions of their operations. Wisconsin Electric is an integrated electric utility with limited natural gas distribution activities, and Wisconsin Gas provides retail gas distribution service in Wisconsin (i.e., a natural gas local distribution company or "LDC").

To accomplish this task, I estimate the overall cost of capital for two samples, a sample of regulated electric companies and a sample of regulated natural gas LDCs using the discounted cash flow ("DCF") and risk positioning models. I then evaluate the relative business and financial risk of Wisconsin Electric to the electric sample and that of Wisconsin Gas to the gas LDC sample. These comparisons are important in determining my recommended cost of equity for a regulatory capital structure with 55.4 percent equity (Wisconsin Electric) or 52.2 percent equity (Wisconsin Gas), which is the percentage of equity in the Applicants' proposed capital structures in this proceeding.

Q4. Please summarize the parts of your background and experience that are particularly relevant to your testimony on these matters.

A4. Brattle's specialties include financial economics, regulatory economics, and the gas and electric industries. I have worked in the areas of cost of capital, investment risk and related matters for many industries, regulated and unregulated alike, in many forums. I have testified or filed cost of capital testimony before the Federal Energy Regulatory Commission, the Arizona Corporation Commission, the Pennsylvania Public Utility Commission, the Public Service Commission of West Virginia, the Tennessee Regulatory Authority, the Canadian National Energy Board, Alberta Energy and Utilities Board, the Ontario Energy Board, and the Labrador & Newfoundland Board of Commissioners of Public Utilities. I have not previously testified before this Commission. Appendix A contains more information on my professional qualifications.

Q5. Please summarize how you approached this task.

A5. With respect to Wisconsin Electric, I review the evidence from a sample of regulated electric utilities which were selected to have comparable business risk to Wisconsin Electric.[1] Similarly, I select a sample of regulated natural gas LDCs with comparable business risk to Wisconsin Gas. My analyses consider cost of capital evidence from the risk positioning and discounted cash flow models for both samples, but I rely primarily on the results from the risk positioning model because I do not believe that the DCF method is completely reliable at this time for these industries.

Specifically, I estimate the cost of equity for the companies in both samples using both cost-of-equity estimation methods. I combine each cost-of-equity estimate with the sample company's market costs of debt and preferred stock to calculate each firm's overall cost of capital, i.e. its after-tax weighted-average cost of capital ("ATWACC"), using each company's market value capital structure as the weights. For each method of estimating the return on equity, I report the sample average ATWACC and the estimated cost of equity for each of the regulated companies as if the sample companies had a capital structure with same percentage of equity as filed by each of the Applicants. I thus

[1] Wisconsin Electric has about 10 percent of its regulated assets devoted to providing local distribution service for natural gas customers, but Wisconsin Electric is primarily an integrated electric utility.

present the cost of equity that is consistent with each sample's market information and the regulatory capital structures of Wisconsin Electric and Wisconsin Gas. (By "regulatory capital structure," I mean the capital structures that the Applicants utilize in their applications.[2])

This method automatically avoids problems that can arise when an analyst focuses separately on the individual components of the overall cost of capital (i.e., the cost of equity and the appropriate capital structure). The danger with that approach is that the estimated cost of equity from the sample may correspond to a very different level of financial risk than would exist at the regulated company's capital structure. The result could be an inconsistency between the allowed return on equity and the financial risk inherent in the regulatory capital structure.

Q6. Why do you believe that the DCF model is less reliable for these industries at this time than the risk positioning model?

A6. Results for the DCF model depend critically on the estimate of the dividend growth rate. A one percent error in the estimate of the growth rate results in a greater than one percent error in the cost of equity estimates. Several of the sample companies have only one or two analyst forecasts, and forecast growth rates are likely to have been affected by the uncertainty in the industry. For example, the move toward a restructured industry featuring greater competition among providers of generation services has stalled and the future structure of the electric industry remains in doubt. The governor in Virginia has signed into law a bill that would reverse the restructuring in that commonwealth,[3] and similar moves are occurring in Connecticut, Montana, and Maryland.[4] The legislature in Illinois has proposed extending through 2011 the rate cap on the cost of power that is less

[2] The capital structure that I use in the analyses that follow is based upon the long-term sources of capital, i.e., long-term debt, preferred equity and common equity. I do not use short-term debt because long-term assets are not generally financed with short-term debt. For Wisconsin Electric, I include capitalized leases but not imputed debt from purchased power agreements in debt because this is consistent with the measure of financial risk for the sample companies.

[3] See "Virginia's electric power play," *The Washington Times,* April 9, 2007.

[4] See "Expectations zapped: Power prices putting utilities in the hot seat," *Worcester Business Journal*, 16 April 2007.

than the current market price of power.[5] There have been a number of mergers and acquisitions with the gas LDC industry recently, and gas prices have increased dramatically and have been much more volatile lately. Although most of the companies in both of the samples have fuel cost adjustment clauses, the increased volatility of gas prices has increased the uncertainty of both industries' earnings going forward. These facts are not a description of industries that could be characterized as stable, with earnings and dividends likely to grow at a constant rate over the foreseeable future. However, this stability is precisely the condition necessary for the reliable implementation of the DCF model.

In addition, the DCF model results display a greater spread and are more variable and less reliable than those based upon the risk positioning model; however, I provide results using the DCF method, because it is a method that has been relied upon by commissions frequently in the past. In addition, results from the DCF model serve as a check on the results from the equity risk positioning approach.

Q7. You mentioned the importance of considering financial risk when evaluating the results of the models. Please explain how you adjust for financial risk.

A7. Both the DCF and the risk positioning models rely on market data to estimate the cost of equity for the sample companies. That cost of equity estimate captures both the business risk and the financial risk of the assets. Business risk is the risk that the company would have if it were financed entirely with equity. Financial risk is the additional risk carried by the equity holders when debt is used to finance some of the assets. The more debt that is used by a company, the riskier the company's equity becomes. As explained in more detail below, the procedures I use consider both the business risk and the financial risk of the sample companies in comparison to Wisconsin Electric and Wisconsin Gas in determining my recommended costs of equity.

[5] See "Excelon shares slip on Illinois rate freeze fears." Reuters, March 22, 2007 and "It's hard to get free of Illinois' electric power rate tar pit," *St. Louis Post Dispatch*, March 11, 2007.

Q8. What is your conclusion on the market-determined costs of capital for Wisconsin Electric and Wisconsin Gas based upon the results from the samples of regulated companies you selected?

A8. For a capital structure with 55 percent equity, the sample results indicate a range for the cost of equity estimate for Wisconsin Electric of 10½ to 11½ percent. I believe this is a conservative estimate for reasons I discuss below, but I feel more comfortable with estimates in the upper half of the range. For Wisconsin Gas, with a capital structure with 52 percent equity, I estimate the range for the cost of capital to be 11 percent to 12 percent. I understand that the Applicants are requesting that the Commission authorize a single 11.2 percent cost of equity for both companies (after a change in risk profile due to the sale of the Point Beach Nuclear Plant). Based on my analyses, I believe that request is reasonable and fully consistent with the evidence from the two samples.

Note that I specify a plus or minus ½ percent range for the return on equity and specify the point estimate to the nearest ¼ percent because I do not believe that it is possible to estimate the cost of equity more precisely than that.

Q9. How is your testimony organized?

A9. *Section II* formally defines the cost of capital and touches on the principles relating to the cost of capital and capital structure for a business. *Section III* presents the methods used to estimate the cost of capital for the benchmark samples and their associated numerical analyses, and explains the basis of my conclusions for the benchmark samples' returns on equity and overall costs of capital. *Section IV* presents the results of these methods applied to the benchmark sample groups, and presents the costs of equity implied by the results. My conclusions on the cost of equity for Wisconsin Electric and Wisconsin Gas are presented in *Section V*. *Appendix B* provides additional detail on the sample selection process and the calculation of the market value capital structures of the sample companies. *Appendices C and D* support *Sections III and IV* with additional details on the risk positioning model and DCF approach, respectively, including the details of the numerical analyses. *Appendix E* discusses the effect of debt on the cost of equity in more detail.

II. COST OF CAPITAL THEORY

A. THE COST OF CAPITAL AND RISK

Q10. Please formally define the "Cost of Capital."

A10. The cost of capital can be defined as *the expected rate of return in capital markets on alternative investments of equivalent risk*. In other words, it is the rate of return investors require based on the risk-return alternatives available in competitive capital markets. The cost of capital is a type of opportunity cost: it represents the rate of return that investors could expect to earn elsewhere without bearing more risk. "Expected" is used in the statistical sense: the mean of the distribution of possible outcomes. The terms "expect" and "expected" in this testimony, as in the definition of the cost of capital itself, refer to the probability-weighted average over all possible outcomes.

The definition of the cost of capital recognizes a tradeoff between risk and return that is known as the "security market risk-return line," or "security market line" for short. This line is depicted in Figure 1. The higher the risk, the higher is the cost of capital. A version of Figure 1 applies for all investments. However, for different types of securities, the location (i.e., the intercept and the slope) of the line may depend on corporate and personal tax rates.

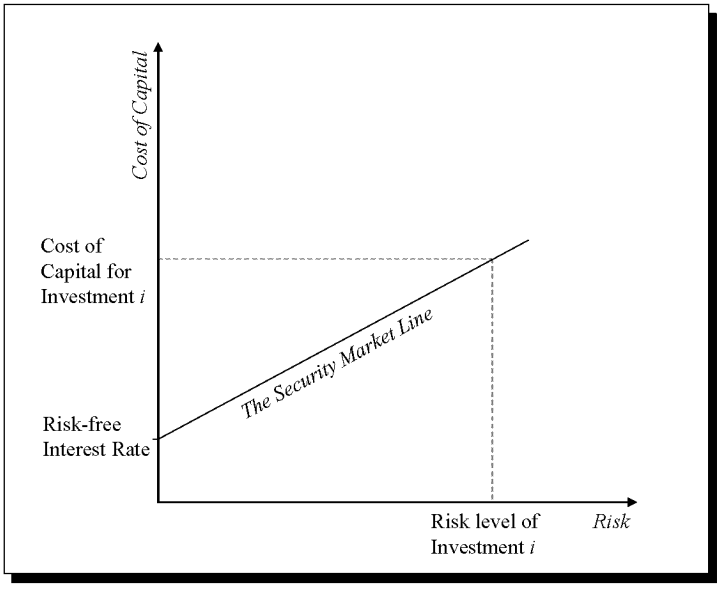

Figure 1: The Security Market Line

Q11. Why is the cost of capital relevant in rate regulation?

A11. It has become routine in U.S. rate regulation to accept the "cost of capital" as the right expected rate of return on utility investment.[6] That practice is normally viewed as consistent with the U.S. Supreme Court's opinions in *Bluefield Waterworks & Improvement Co. v. Public Service Commission*, 262 U.S. 678 (1923), and *Federal Power Commission v. Hope Natural Gas*, 320 U.S. 591 (1944).

From an economic perspective, rate levels that give investors a fair opportunity to earn the cost of capital are the lowest levels that compensate investors for the risks they bear. Over the long run, an expected return above the cost of capital makes customers overpay for service. Regulatory commissions normally try to prevent such outcomes, unless there are offsetting benefits (e.g., from incentive regulation that reduces future costs). At the same time, an expected return below the cost of capital does a disservice to investors and customers. In the long run, such a return denies the company the ability to attract capital, to maintain its financial integrity, and to expect a return commensurate with that of other enterprises attended by corresponding risks and uncertainties.

More important for customers, however, are the economic issues an inadequate return raises for them. In the short run, deviations of the expected rate of return on the rate base from the cost of capital create a "zero-sum game"-- investors gain if customers are overcharged, and customers gain if investors are shortchanged. In the long run, however, inadequate returns are likely to cost customers -- and society generally -- far more than is gained in the short run. Inadequate returns lead to inadequate investment, whether for maintenance or for new plant and equipment. The costs of an undercapitalized industry can be far greater than the short-run gains from shortfalls in the cost of capital. Moreover, in capital-intensive industries (such as the electric utility or the gas distribution industries), systems that take a long time to decay cannot be fixed overnight. Thus, it is in the customers' interest not only to make sure the return investors expect does not

[6] A formal link between to the cost of capital as defined by financial economics with the right expected rate of return for utilities is established by Stewart C. Myers, "Application of Finance Theory to Public Utility Rate Cases," *The Bell Journal of Economics and Management Science*, 3:58-97 (Spring 1972).

exceed the cost of capital, but also to make sure that it does not fall short of the cost of capital, either.

Of course, the cost of capital cannot be estimated with perfect certainty, and other aspects of the way the revenue requirement is set may mean investors expect to earn more or less than the cost of capital even if the allowed rate of return equals the cost of capital exactly. However, a commission that sets rates so investors expect to earn the cost of capital on average treats both customers and investors fairly, and acts in the long-run interests of both groups.

B. Business Risk and Financial Risk: Capital Structure and the Cost of Equity

Q12. Please explain briefly the difference between business risk and financial risk.

A12. Business risk is the risk of a company from its line of business if it used no debt financing. When a firm uses debt to finance its assets, the business risk of the assets is shared between the debt holders and the equity holders, but the equity holders bear more of the risk because debt holders have a prior claim on the company's cash flows. Equity holders are residual claimants, which simply means that equity holders get paid last. In other words, the use of debt imposes financial risk on equity holders. Therefore, the goal of selecting a sample is to choose companies whose business risk is judged to be comparable to the regulated company in the proceeding.

Q13. Please explain why it is necessary to report the cost of equity adjusted for capital structure.

A13. Briefly, rate regulation in North America tends to focus on the components of the overall cost of capital, and in particular, on what the "right" cost of equity and capital structure should be. Frequently, there is no consideration of whether the financial risks of the sample companies differ among themselves or differ from the regulated company. The cost of equity estimated using the standard models (e.g., the DCF model or the risk positioning model) reflects both the business and financial risk of the sample companies. However, the overall cost of capital depends primarily on the business the firm is in, i.e., its business risk, while the costs of the debt and equity components depend not only on

this business risk alone but also on the distribution of revenues between debt and equity, i.e., financial risk. The overall cost of capital is thus the more basic concept. As I explain in Appendix C, the overall cost of capital is constant within a broad middle range, but the distribution of the costs and risks among debt and equity is not. Appendix E sets out the principles and procedures on which I rely to adjust the cost of equity to reflect differences in financial risk.

C. IMPLICATIONS FOR ANALYSIS

Q14. Please explain the implications of the relationship between capital structure and the cost of equity in your testimony.

A14. The risk equity holders carry, and therefore the cost of equity, depends on the capital structure. As leverage increases, financial risk increases, and hence the required return on equity increases. An approach that estimates the cost of equity for each of the sample firms without explicit consideration of the market value capital structure (i.e., the financial risk) underlying those costs risks material errors. The costs of equity of the sample companies at their actual market-value capital structures do not necessarily reflect the same degree of financial risk as faced by equity holders in the regulated company, and thus could lead to an unfair rate of return if the sample's cost of equity estimate were simply and mechanically applied to the regulated company's capital structure. I avoid this problem by calculating each sample company's ATWACC using its market value capital structure. Using the sample's average overall cost of capital (i.e., the average of the sample companies' ATWACCs) as an estimate of the regulated company's overall cost of capital, I then determine the corresponding return on equity at each applicant's filed regulatory capital structure. This procedure ensures that the capital structure (i.e., financial risk) and the estimated cost of equity are consistent with the market derived sample information for the regulated company.

Q15. To assess the magnitude of financial risk for a rate regulated company, should you use the market-value or the book-value capital structure?

A15. The market-value capital structure is the relevant quantity for analyzing the cost of equity evidence, which is based on market information.

Q16. Has the need to use market-value capital structures to estimate the cost of equity been widely recognized in the academic community?

A16. Yes. The need to use market-value capital structures to analyze the effect of debt on the cost of equity has been recognized in the financial literature for a long time. For example, the initial reconciliation of the Modigliani-Miller theories of capital structure with the Capital Asset Pricing Model, in Robert S. Hamada, "Portfolio Analysis, Market Equilibrium and Corporate Finance," The Journal of Finance 24: 13-31 (March 1969) works with market-value capital structures. For a more recent presentation of the concept, see, for example, Richard A. Brealey, Stewart C. Myers, and Franklin Allen, *Principles of Corporate Finance*, New York: McGraw-Hill/Irwin 8th ed. (2006) pp. 503-06. Book values may be relevant for some issues, e.g., for covenants on individual bond issues, but as explained in the text, market values are the determinants of the impact of debt on the cost of equity.

Q17. Is the use of market values to calculate the impact of capital structure on the risk of equity incompatible with use of a book-value rate base for a regulated company?

A17. No, no more than it is incompatible to use market-based cost of equity estimation methods (such as DCF or the risk positioning model) with a book value rate base. That is, the cost of capital is the fair rate of return on regulatory assets for both investors and customers. Most regulatory jurisdictions in North America measure the rate base using the net book value of assets, not current replacement value or historical cost trended for inflation, but the jurisdictions still apply market-derived measures of the cost of equity to that net book value rate base.

The issue here is "what level of risk is reflected in that cost of equity estimate?" That equity risk level depends on the sample company's market-value capital structure, not its book-value capital structure. *The risk level measured by the market data would be different if the sample company's market-value capital structure were different.* If the regulated utility has a different capital structure than the market value capital structure for the sample companies, the financial risk is different. Therefore, the estimated cost of equity from the market information, if not adjusted for differences in financial risk, would not correspond to the financial risk of the regulated company.

Q18. Please sum up the implications of this section.

A18. The market risk and, therefore, the cost of equity depend directly on the market-value capital structure of the company or asset in question. It therefore is impossible to compare validly the measured costs of equity of different companies without taking capital structure into account. Capital structure and the cost of equity are unbreakably linked, and any effort to treat the two as separate and distinct questions violates both everyday experience (e.g., with home mortgages as shown in the extended example in Appendix E) and basic financial principles.

Q19. How should a cost of capital analyst implement this principle?

A19. As discussed further in Appendix E, there has been a great deal of financial research on the effects of capital structure on the value of the firm. One of the key conclusions that results from the research is that no narrowly defined optimal capital structure exists within industries, although the typical range of capital structures does vary among industries.[7] Instead, there is a relatively wide range of capital structures within any industry in which fine-tuning the debt ratio makes little or no difference to the value of the firm, and hence to its overall after-tax cost of capital.

Accordingly, analysts should treat the market-value weighted average of the cost of equity and the after-tax current cost of debt, or the "ATWACC" for short,[8] as constant within a broad middle range of capital structures for the industry. Sample evidence should be analyzed to determine the sample's average ATWACC, which can be compared across different firms or industries. The economically appropriate cost of equity for a regulated firm is the quantity that, when applied to the *regulatory* capital structure, produces the same ATWACC. That value is the cost of equity that the sample

[7] An exception is that very high-risk industries should avoid debt entirely, which makes their optimal capital structure zero percent debt.

[8] This quantity typically is called the "weighted-average cost of capital" or "WACC" in finance textbooks. The textbook WACC equals the *market*-value weighted average of the cost of equity and the *after-tax*, *current* cost of debt. However, rate regulation in North America has a legacy of working with another weighted-average cost of capital, the *book*-value weighted average of the cost of equity and the *before-tax*, *embedded* cost of debt. Accordingly, in regulatory settings it's useful to refer to the textbook WACC as the "ATWACC," or "after-tax weighted-average cost of capital." I follow that practice here.

would have had estimation problems aside, if the sample's market-value capital structure had been equal to the regulatory capital structure in question.

Q20. Can you provide a simple example of the calculation of the cost of equity consistent with the market-determined estimate of the sample's average overall cost of capital?

A20. Yes. Consider the following equation to calculate the ATWACC:[9]

$$ATWACC = r_D \times (1 - T_C) \times D + r_E \times E \quad (1)$$

where r_D = market cost of debt,
r_E = market cost of equity,
T_C = corporate income tax rate,
D = percentage of debt in the capital structure, and
E = percentage of equity in capital structure.

The cost of equity consistent with overall cost of capital estimate (ATWACC), the market cost of debt and equity, the marginal corporate income tax rate and the amount of debt and equity in the capital structure can be determined by solving equation (1) for r_E.

III. COST OF CAPITAL METHODOLOGY

Q21. How is this section of your testimony organized?

A21. As noted in *Section II*, I estimate the cost of capital using a sample of comparable risk companies. This section first outlines the steps involved in selecting the benchmark samples, in determining the market-value capital structures, and in estimating the sample companies' costs of debt. It then turns to the procedures for estimating the cost of equity and describes the two cost of equity estimation methodologies used in this testimony, the DCF method and the risk positioning approach. These are the foundations of my cost of capital calculations, which I present in the following section and which I use to derive my recommended costs of equity for the Applicants at their regulatory capital structures.

[9] Note that this equation assumes that only debt and equity are in the capital structure, but it is simple to add preferred equity to the equation.

A. SAMPLE SELECTION CRITERIA

Q22. What is the goal of your sample selection procedures?

A22. The overall cost of capital for a part of a company depends on the risk of the business in which the part is engaged, not on the overall risk of the parent company on a consolidated basis. According to financial theory, the overall risk of a diversified company equals the market-value-weighted average of the risks of its components.

Estimating the cost of capital for the Applicants' regulated assets is the subject of this proceeding. The ideal sample would be a large number of companies that are publicly traded "pure plays" in the electric utility industry for Wisconsin Electric[10] or the natural gas distribution business for Wisconsin Gas. "Pure Play" is an investment term referring to companies with operations only in one line of business. Publicly traded firms, firms whose shares are freely traded on stock exchanges, are ideal because the best way to infer the cost of capital is to examine evidence from capital markets on companies in the given line of business.

In the case of Wisconsin Electric, a sample of integrated electric companies whose operations are concentrated primarily in the regulated portion of the electric industry would be ideal for its regulated electric assets. For Wisconsin Gas, the corresponding ideal sample would consist of pure play companies in the local gas distribution line of business. Unfortunately, the available sample of publicly traded pure play companies meeting these criteria in the U.S. is relatively small for both the electric industry and natural gas LDC line of business at this time. Moreover, some of the companies that do meet these criteria suffer from data problems that may make their cost of capital estimates unreliable. For this reason, my standard selection procedures are also designed to exclude companies which have characteristics which may result in unreliable cost of capital estimates. Specifically, I require that data from S&P (or Moody's), *Value Line*,

[10] As noted earlier, about 10 percent of Wisconsin Electric's assets are devoted to providing natural gas distribution service. Theoretically, those assets could have a different level of business risk than the integrated electric assets, which in turn would require an alternative cost of capital estimate. However, in this proceeding the estimated ATWACCs for the natural gas LDC and electric utility samples are nearly identical, which means that there is no material error in applying the same cost of capital for all of Wisconsin Electric's regulated assets.

and Bloomberg be available for all sample companies. Moreover, companies are required to evidence a high degree of regulated operations, have no significant merger activity in the previous five years, and have no recent dividend cuts or other activity that could cause the growth rates or beta estimates to be biased.

B. CAPITAL STRUCTURE & THE COST OF DEBT

1. Market-Value Capital Structure

Q23. What capital structure information do you require?

A23. For reasons discussed in Appendix E, explicit evaluation of the market-value capital structures of the sample companies is vital for a correct interpretation of the market evidence on the return on equity. This requires estimates of the market values of common equity, preferred equity and debt, and the current market costs of preferred equity and debt.

Q24. Please describe how you calculate the market values of common equity, preferred equity and debt.

A24. I estimate the market value capital structure for each sample company by estimating the market values of common equity, preferred equity and debt from the most recent publicly available data. The details are in Appendix B.

Briefly, the market value of common equity is the price per share times the number of shares outstanding. For the risk positioning approach, I use the average closing price over last five trading days of each year to calculate the market value of equity for the year. I then calculate the average capital structure over the corresponding five-year period used to estimate the "beta" risk measures for the sample companies.[11] This procedure matches the estimated beta to the degree of financial risk present during its estimation period. In the DCF analyses, I use the average closing stock price over the 15 trading days ending on the day that the earnings growth rate forecasts are obtained from Bloomberg.[12]

[11] *Value Line* uses five years of historical data to estimate its forecasted betas.

[12] Forecasts were obtained on April 9, 2007 for all companies in the both samples.

The market value of debt is estimated at its book value adjusted by the difference between the "estimated fair (market) value" and the "carrying cost" of long-term debt reported in each company's 10-K.[13] The market value of preferred stock for the samples is set equal to its book value because the market values and book values do not differ much and because the percent of preferred stock in the capital structures of the sample companies is relatively small compared to the debt and common equity components.

2. Market Costs of Debt and Preferred Equity

Q25. How do you estimate the current market cost of debt?

A25. The market cost of debt for each company in the DCF analysis is the current yield reported by Bloomberg for a public utility company bond corresponding to the sample company's current debt rating as classified by S&P. The risk positioning analysis, on the other hand, uses the current yield of a utility bond that corresponds to the five-year average debt rating of each company so as to match consistently the horizon of information used by *Value Line* to estimate company betas.

Q26. How do you estimate the market cost of preferred equity?

A26. For each company with preferred stock, the cost of preferred equity for each company is set equal to the yield on an index of preferred stock as reported in the Mergent Bond Record corresponding to the S&P rating of that company's debt.

3. Risk-Free Interest Rate Forecast

Q27. How do you obtain the forecasts of the risk-free interest rates over the period the utility rates set here are to be in effect?

A27. I obtain these forecast rates using data provided by Bloomberg. In particular, I use the reported government debt yields from the "constant maturity series". This information is displayed in Panels A and B of Table No. MJV-9.

[13] The book value of debt from Bloomberg includes all interest-bearing financial obligations that are not current and includes capitalized leases and mandatory redeemable preferred and trust preferred securities in accordance with FASB 150 effective June 2003. See Bloomberg definition of long-term debt for additional detail.

Q28. What values do you use for the short-term and long-term risk-free interest rates?

A28. I use a value of 3.8 percent for the short-term risk-free interest rate and a value of 4.9 percent for the long-term risk-free interest rate as the benchmark interest rates in the equity risk premium analyses. These forecasts are constructed by using historical yield curve data to find the long-run average implied term premia on government securities, and combining these with recent yield curve data. Details of their calculation can be found in the Workpapers to Table No. MJV-9.

Q29. How did you determine a representative tax rate to use in your cost of capital estimation?

A29. The Applicants provided estimated marginal tax rates for each company. For Wisconsin Electric the estimated 2008 marginal tax rate is 39.8 percent, and for Wisconsin Gas it is 40.0 percent.

C. COST OF EQUITY METHODS

Q30. How do you estimate the cost of equity for your sample companies?

A30. Recall the definition of the cost of capital from the outset of my testimony: *the expected rate of return in capital markets on alternative investments of equivalent risk*. My cost of capital estimation procedures address three key points implied by the definition:

1. Since the cost of capital is an expected rate of return, it cannot be directly observed; it must be inferred from available evidence.

2. Since the cost of capital is determined in capital markets (e.g., the New York Stock Exchange), data from capital markets provide the best evidence from which to infer it.

3. Since the cost of capital depends on the return offered by alternative investments of equivalent risk, measures of the risks that matter in capital markets are part of the evidence that needs to be examined.

Q31. How does the above definition help in cost of capital estimation?

A31. The definition of the cost of capital recognizes a tradeoff between risk and expected return, plotted above in Figure 1, the security market line. Cost of capital estimation methods take one of two approaches: (1) they try to identify a comparable-risk sample of

companies and to estimate the cost of capital directly; or (2) they establish the location of the security market line and estimate the relative risk of the security, which jointly determine the cost of capital. In terms of Figure 1, the first approach focuses directly on the vertical axis, while the second focuses both on the security's position on the horizontal axis and on the position of the security market line.

The first type of approach is more direct, but ignores the wealth of information available on securities not thought to be of precisely comparable risk. The "discounted cash flow" or "DCF" model is an example. The second type of approach, sometimes known as "equity risk premium approach," requires an extra step, but as a result can make use of information on all securities, not just a very limited subset. The Capital Asset Pricing Model ("CAPM") is an example. While both approaches can work equally well if conditions are right, one may be preferable to the other under a given set of circumstances. In particular, approaches that rely on the entire security market line (e.g., the risk positioning model) are less sensitive to deviations from the assumptions that underlie the model, all else equal. In this proceeding, I examine sample evidence from both the DCF and risk positioning models.

1. The Risk Positioning Approach

Q32. Please explain the risk positioning method.

A32. The risk positioning method estimates the cost of equity as the sum of a current interest rate and a company specific risk premium. It is therefore sometimes also known as the "risk premium" approach. This approach may sometimes be applied informally. For example, an analyst or commission may check the spread between interest rates and what is believed to be a reasonable estimate of the cost of capital at one time, and then apply that spread to changed interest rates to get a new estimate of the cost of capital at another time.

More formal applications of the risk positioning approach take full advantage of the security market line depicted in Figure 1: they use information on all securities to identify the security market line and derive the cost of capital for the individual security based on that security's relative risk. This reliance on the entire security market line

makes the method less vulnerable to the kinds of problems that arise for the DCF method, which relies on one stock at a time. The risk positioning approach is widely used and underlies most of the current research published in academic journals on the nature, determinants and magnitude of the cost of capital.

Section I of Appendix C to this testimony provides more detail on the principles that underlie the risk positioning approach. *Section II* of Appendix C provides the details of the risk positioning approach empirical estimates I obtain.

Q33. How are the "more formal" applications of risk positioning approach implemented?

A33. The first step is to specify the current values of the parameters that determine the security market line. The second is to determine the security's or investment's relative risk. The third is to specify exactly how the parameters combine to produce the security market line, so the company's cost of capital can be calculated based on its relative risk. All of these elements and how they relate are usefully formulated in the framework of the CAPM.

a) The Capital Asset Pricing Model

Q34. Please start with the CAPM, by describing the model.

A34. As noted above, modern models of capital market equilibrium express the cost of equity as the sum of a risk-free rate and a market risk premium. The CAPM is the longest-standing and most widely used of these theories. The CAPM states that the cost of capital for an investment, *s*, (e.g., a particular common stock) is given by the following equation:

$$k_s = r_f + \beta_s \times MRP \qquad (2)$$

where k_s is the cost of capital for investment *s*; r_f is the risk-free rate, β_s is the beta risk measure for the investment *s*; and *MRP* is the market risk premium.

The CAPM relies on the empirical fact that investors price risky securities to offer a higher expected rate of return than safe securities do. It says that the security market line starts at the risk-free interest rate (that is the return on a zero-risk security, the y-axis

intercept in Figure 1, equals the risk-free interest rate). Further, it says that the risk premium over the risk-free rate equals the product of beta and the risk premium on a value-weighted portfolio of all investments, which by definition has average risk.

b) The Empirical Capital Asset Pricing Model

Q35. What other equity risk premium model do you use?

A35. Empirical research has long shown that the CAPM tends to overstate the actual sensitivity of the cost of capital to beta: low-beta stocks tend to have higher risk premia than predicted by the CAPM and high-beta stocks tend to have lower risk premia than predicted. A number of variations on the original CAPM theory have been proposed to explain this finding, but this finding can also be used to estimate the cost of capital directly, using beta to measure relative risk without simultaneously relying on the CAPM.

The second model makes use of these empirical findings. It estimates the cost of capital with the equation, where α is the "alpha" adjustment of the risk-return line, a constant,

$$k_s = r_f + \alpha + \beta_s \times (MRP - \alpha) \quad (3)$$

and the other symbols are defined as above. I label this model the Empirical Capital Asset Pricing Model, or "ECAPM." The alpha adjustment has the effect of increasing the intercept but reducing the slope of the security market line in Figure 1, which results in a security market line that more closely matches the results of empirical tests.

Q36. Why is it appropriate for you to use the empirical CAPM?

A36. Although the CAPM is still the most widely used cost of capital estimation model, it has not been completely satisfactory as an empirical model; however, its short-comings are directly addressed by the ECAPM. The ECAPM recognizes the consistent empirical observation that the CAPM underestimates (overestimates) the cost of capital for low (high) beta stocks. In other words, the ECAPM is based on the recognition that the actual slope of the risk-return tradeoff is flatter than predicted and the intercept higher based upon repeated empirical tests of the CAPM. The alpha parameter (α) in the ECAPM adjusts for this fact. The difference between the CAPM and the type of relationship identified in the empirical studies is depicted in Figure 2.

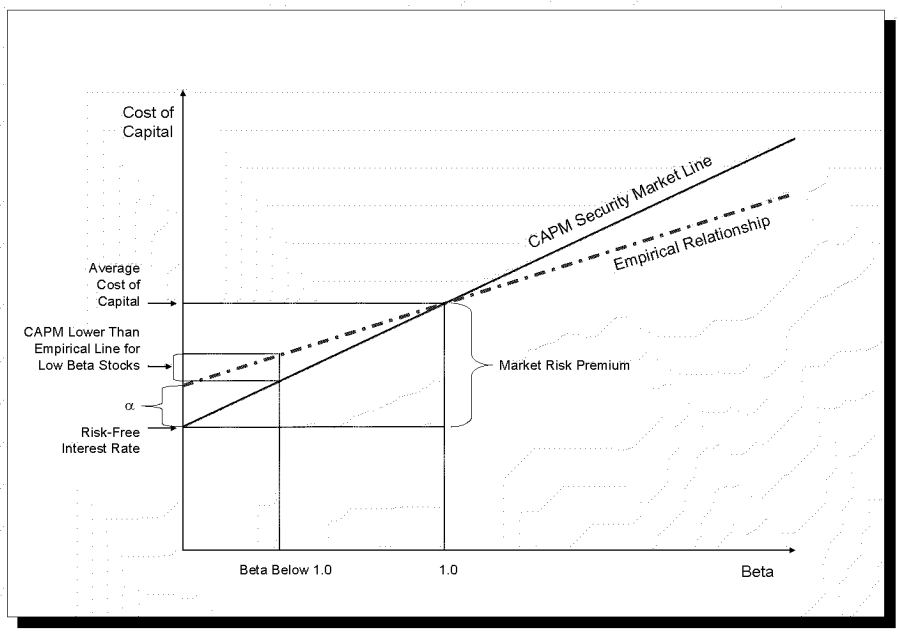

Figure 2: The Empirical Security Market Line

Research supports values for α of one to seven percent when using a short-term interest rate. I use baseline values of α of 2 percent for the short-term risk-free rate and 0.5 percent for the long-term risk-free rate. I also conduct sensitivity tests for different values of α. For the short-term risk-free rate I use values for α of 1, 2 and 3 percent. For the long-term risk-free rate, the corresponding α values are 0, 0.5 and 1.5 percent. These values are lower than would be justified by the magnitude of the correction revealed in the tests of the CAPM. The α values are lower when using the long-term risk-free rate because use of a long-term risk-free rate incorporates some of the desired effect of using the ECAPM. That is, the long-term risk-free rate version of the security market line has a higher intercept and a flatter slope than the short-term risk-free version which has been extensively tested. Thus, I do not need to make the same degree of refinement when I use the long-term risk-free rate. Please see Table No. MJV-C1 in Appendix C for a summary of the empirical evidence on the size of the required adjustment necessary to better match the results of the empirical tests.

2. Discounted Cash Flow Method

Q37. Please describe the discounted cash flow approach.

A37. The DCF model takes the first approach to cost of capital estimation, i.e., to attempt to estimate the cost of capital in one step. The method assumes that the market price of a stock is equal to the present value of the dividends that its owners expect to receive. The method also assumes that this present value can be calculated by the standard formula for the present value of a cash flow stream:

$$P = \frac{D_1}{(1+k)} + \frac{D_2}{(1+k)^2} + \frac{D_3}{(1+k)^3} + \cdots + \frac{D_T}{(1+k)^T} \quad (4)$$

where "P" is the market price of the stock; "D_t" is the dividend cash flow expected at the end of period t (i.e., subscript period 1, 2, 3 or T in the equation); "k" is the cost of capital; and "T" is the last period in which a dividend cash flow is to be received. The formula just says that the stock price is equal to the sum of the expected future dividends, each discounted for the time and risk between now and the time the dividend is expected to be received.

Very often, when the DCF is applied in regulatory proceedings, very strong (i.e., unrealistic) assumptions are used that yield a simplification of the standard formula, which then can be rearranged to estimate the cost of capital. Specifically, it is assumed that investors expect a dividend stream that will grow *forever* at a steady rate, and if so, the market price of the stock will be given by a very simple formula,

$$P = \frac{D_1}{(k-g)} \quad (5)$$

where "D_1" is the dividend expected at the end of the first period, "g" is the perpetual growth rate, and "P" and "k" are the market price and the cost of capital, as before. Equation (5) is a simplified version of equation (4) that can be solved to yield the well known "DCF formula" for the cost of capital:

$$k = \frac{D_1}{P} + g = \frac{D_0 \times (1+g)}{P} + g \quad (6)$$

where "D_0" is the current dividend, which investors expect to increase at rate g by the end of the next period, and the other symbols are defined as before. Equation (6) says that if equation (5) is correct, the cost of capital equals the expected dividend yield plus the (perpetual) expected future (forever constant) growth rate of dividends. I refer to this as the simple DCF model. Of course, the "simple" model is simple because it relies on very strong (i.e., very unrealistic) assumptions.

Q38. Are there other versions of the DCF models besides the "simple" one?

A38. Yes. The constant growth rate DCF model requires that dividends and earnings grow at the same rate for companies that earn their cost of capital on average.[14] It is inconsistent with the theory on which the model is based to have different growth rates in earnings and dividends over the period when growth is assumed to be constant. If the growth in dividends and earnings were expected to vary over some number of years before settling down into a constant growth period, then it would be appropriate to estimate a multistage DCF model. In the multistage model, earnings and dividends can grow at different rates, but must grow at the same rate in the final, constant growth rate period. A difference between forecasted dividend and earnings rates therefore is a signal that the facts do not fit the assumptions of the simple DCF model.

So, I consider a variant of the DCF model that relies on slightly less strong assumptions in that it allows for varying dividend growth rates in the near term before assuming a perpetual growth rate beginning in year eleven. I use the forecast growth of GDP as the forecast of the long-term growth rate, i.e. year eleven on. This is a "multistage" variant

[14] Why must the two growth rates be equal in a steady-growth DCF model? Think of earnings as divided between reinvestment, which funds future growth, and dividends. If dividends grow faster than earnings, there is less investment and slower growth each year. Sooner or later dividends will equal earnings. At that point, growth is zero because nothing is being reinvested (dividends are constant). If dividends grow slower than earnings, each year a bigger fraction of earnings are reinvested. That makes for ever faster growth. Both scenarios contradict the steady-growth assumption. So if you observe a company with different expectations for dividend and earnings growth, you know the company's stock price and its dividend growth forecast are inconsistent with the assumptions of the steady-growth DCF model.

of the DCF method. The DCF models are described in detail in Section I.A of Appendix D. (*Section II* of Appendix D provides the details of my empirical DCF results.)

Q39. What are the merits of the DCF approach?

A39. The DCF approach is conceptually sound if its assumptions are met, but can run into difficulty in practice because those assumptions are so strong[15], and hence so unlikely to correspond to reality. Dividends, earnings and prices are unlikely to grow at a constant rate literally forever. Two conditions other are also well known to be necessary for the DCF approach to yield a reliable estimate of the cost of capital: the variant of the present value formula that is used must actually match the variations in investor expectations for the growth of dividends, and the growth rate(s) used in that formula must match current investor expectations. Less frequently noted conditions may also create problems (see Appendix D for details).

Q40. Is estimating the "right" dividend growth rate the most difficult part for the implementation of the DCF approach?

A40. Yes. Finding the right growth rate(s) is the usual "hard part" of a DCF application. The original approach to estimation of g relied on average historical growth rates in observable variables, such as dividends or earnings, or on the "sustainable growth" approach, which estimates g as the average book rate of return times the fraction of earnings retained within the firm. But it is highly unlikely that these historical averages over periods with widely varying rates of inflation and costs of capital will equal current growth rate expectations. As discussed above, this is particularly true for the electric industry at present because the ultimate structure of the industry is uncertain. The movement toward restructuring has stalled and, in some locations, a reversal of the process is being considered. In addition, there is uncertainty associated with the possible imposition of new environmental regulations. Although there has been less turmoil in the natural gas LDC line of business, there have been a number of mergers and acquisitions as well as some accounting irregularities in recent years due in part due to the increased volatility of natural gas prices. Uncertainty generally leads to lower earnings growth

[15] In this context "strong" means that the assumption is unlikely to match reality and that it also has a substantial impact on the model's results.

estimates. These facts would not be a description of the stable conditions necessary for the reliable implementation of the DCF model for either sample.

IV. COST OF CAPITAL ESTIMATES

A. WISCONSIN ELECTRIC

1. Company Background

Q41. Please describe Wisconsin Electric.

A41. Wisconsin Electric operates in three operating segments: 1) an electric utility, 2) a natural gas utility, and 3) a steam utility, but about 90 percent of the assets are dedicated to providing service as an integrated electric utility. Wisconsin Electric serves approximately 1,102,200 electric customers in Wisconsin and the Upper Peninsula of Michigan, approximately 452, 600 gas customers in Wisconsin, and 460 steam customers in metropolitan Milwaukee. Wisconsin Electric has been investing in natural gas fired and coal fired electric generating facilities, upgrading existing electric generating facilities, and investing in upgrades in existing energy distribution systems to improve its supply and reliability of electricity service. Wisconsin Electric faces fluctuating prices in the natural gas market but has in place a fuel cost adjustment clause to help hedge price fluctuations. The company also supports a state supported energy conservation program. The company has an unsecured debt rating of A- from S&P.

2. Sample Selection

Q42. How did you select your sample of electric utilities?

A42. The goal was to create a sample of companies whose primary business is as a regulated electric utility with business risk generally similar to that of Wisconsin Electric. To construct this sample, I formed a universe of 61 companies by the electric companies under East, Central and West categories listed in *Value Line*. From this group, companies were first eliminated if their operating regions were outside of the continental USA or if they were primarily or solely engaged in generation and/or transmission. I

then applied my standard selection criteria outlined earlier to remove companies that have characteristics that may bias the cost of capital estimates.

Specifically, I required the sample companies to have an investment grade credit rating (i.e., BBB- or above), have had no dividend cuts in the past five years, have revenues of at least $300 million and have five years of historical data in Bloomberg. I only accepted companies whose share of regulated assets was estimated to be at least "Mostly Regulated" as classified by the Edison Electric Institute ("EEI").[16] I also required that the companies have engaged in no major merger or acquisition during the last five years. A total of nine companies met all of these requirements: Cleco Corp, Consolidated Edison, Empire District Electric, Entergy Corp, MGE Energy, NSTAR, Pinnacle West Capital Corp, PPL Corp, and Southern Corp. Additional details on the sample selection process can be found in Appendix B. Characteristics of the sample companies are outlined in Table 1 below.

[16] EEI has three classifications for electric utilities based upon the percentage of total assets that are regulated. The categories are Regulated (> 80% regulated), Mostly Regulated (50-80% regulated) and Diversified (< 50% regulated). See *EEI 2006 Financial Review*, p. 24.

Table 1: Benchmark Regulated Electric Sample

Company	Business Activities [1]	Revenue (2006) ($MM) [2]	Regulated Assets (2006) [3]	Market Cap. (2006) ($MM) [4]	S&P Bond Rating (2007) [5]	Estimated Beta [6]	Long-Term Growth Estimate [7]
Cleco Corp	ET ED IE EM	1,001	R	1,463	BBB	1.30	12.3%
Consolidated Edison Inc	ED EM GD GM	12,137	R	12,362	A	0.75	3.5%
Empire District Electric Co	ET ED IE EM	413	R	750	BBB-	0.80	4.7%
Entergy Corp	IE ED EM	10,932	R	18,786	BBB	0.85	8.2%
MGE Energy Inc	IE ED EM D M	508	MR	764	AA-	0.75	7.0%
NSTAR	ED ET EM GD GM	3,578	R	3,689	A+	0.80	6.1%
Pinnacle West Capital Corp	EM WH ET ED	3,402	R	5,061	BBB-	1.00	2.9%
PPL Corp	EM WH ED ET	6,899	MR	13,855	BBB	0.95	13.2%
Southern Co	IE EM ET ED	14,356	R	27,609	A	0.70	4.9%
Wisconsin Electric Power Company†	**IE WH GD STM**	**3,117**	**R***	**-**	**A-**	**-**	**-**

Sources and Notes:

† Market cap, estimated beta, and long term growth estimates are not available for the subsidiary company.

* Wisconsin Electric's primary activity is as an integrated utility, but it also has a retail natural gas segment distributing in Wisconsin and a small steam utility segment regulated by PSCW. The integrated utility's wholesale sales to MISO are regulated by the FERC.

[1] GD – Natural Gas Distribution GP – Natural Gas Pipeline GM – Natural Gas Marketing ST – Natural Gas Storage ET - Electric Transmission ED - Electric Distribution IE – Integrated Electric EM – Electric Marketing EInv – Energy Investments PCon – Pipeline Construction WH – Wholesale Activities STM - Steam utility segment. *Sources:* Company 10-K's for 2006 fiscal year.

[2] Bloomberg as of April 9, 2007.

[3] R -- Regulated (More than 80 percent of assets regulated). MR - Mostly Regulated (50-80 percent of assets regulated). *Source:* Edison Electric Institute. See Table MJV-2.

[4] Bloomberg as of April 9, 2007.

[5] See Workpaper #1, Panel A to Table MJV-11

[6] Value Line Investment Survey – see Workpaper # 1 to Table MJV-10

[7] See Table MJV-5.

Q43. Table 1 lists the characteristics of the sample. Do you have any concerns with any of the companies in the benchmark electric sample?

A43. Possibly. Although there was not enough merger and acquisition activity to eliminate them from the sample, three of nine companies had more activity over the past five years than the others: Cleco, Empire District Electric and Entergy. Cleco Corp.'s beta is also

substantially higher at 1.30 than any of the other sample companies'. Two sample companies, Empire District and MGE Energy, are smaller companies compared to the others in the sample, but both have a book value of about a $1 billion making them "large" by most standards. PPL Corp and MGE Energy are classified as Mostly Regulated which means that a substantial portion of their assets are not subject to regulation. A potential problem for the DCF estimates is that sample companies growth rate forecasts vary substantially company-to-company, and some companies have only one or two analyst forecasts. As noted earlier, this may be an indication that the industry conditions necessary for the reliable application of the DCF model are not fully met at this time. Recall that the DCF model requires stable industry conditions so that dividends, earnings, stock prices etc. are all growing at a constant rate.

3. Relative Risk of the Sample and Wisconsin Electric

Q44. Please summarize the general risk characteristics of the companies in the sample and those of Wisconsin Electric?

A44. The sample consists of six integrated utilities and three companies with a provider of last resort ("POLR) obligation operating in states that have already transitioned to market based rates. A summary of their risk characteristics is provided in Table 2 below.

Table 2: Risk Factors of Electric Sample

	States Served	Subsidiary Utilities Providing Service to State	POLR	Rate Cap for POLR Utilities	Fuel Cost Adjustment†	S&P Business Profile‡
Restructured Electricity Markets						
Consolidated Edison Inc	NY	Con Edison of New York	Yes	No	Yes	2
	NJ	Orange and Rockland	Yes	No	No	
	PA		Yes	No	No	
NSTAR	MA	NSTAR	Yes	No	Yes	1
PPL Corp	PA	PPL Electric Utilities Co	Yes	Yes [until 2009]	No	7
Restructuring-in-process Markets						
Pinnacle West Capital Corp [a]	AZ	Arizona Public Service Co	No	-	Yes	6
Integrated Electricity Markets						
Cleco Corp	LA	Cleco Power	-	-	Yes	6
Empire District Electric Co	KS	Empire District Electric Co	-	-	Yes	-
	MO		-	-	No	
	OK[c]		-	-	Yes	
	AR[c]		-	-	Yes	
Entergy Corp	AR[c]	Entergy Arkansas	-	-	Yes	6
	TX	Entergy Gulf States	-	-	Yes	
	LA	Entergy Louisiana / Entergy Gulf States / Entergy New Orleans[b]	-	-	Yes	
	MS	Entergy Mississippi	-	-	Yes	
MGE Energy Inc	WI	Madison Gas and Electric Co	-	-	Yes	4
Southern Co	AL	Alabama Power Company	-	-	Yes	4
	GA	Georgia Power Company	-	-	Yes	
	FL	Gulf Power Company	-	-	Yes	
	MS	Mississippi Power Company	-	-	Yes	
	WI MI	**Wisconsin Electric Power Co.**	**-**	**-**	**Yes**	4

Notes:

† Yes indicates a mechanism was reported in company 10-Ks, but different mechanisms exist by company and by state. If a mechanism exists, it generally allows for eventual recovery of most if not all prudent costs.

‡ S&P Business Profile as published on April 28, 2006 in S&P's U.S. Utility and Power Ranking List where available.

[a] Retail competition adopted in 1999, implemented fully in 2003 and partially retracted in 2005.

[b] Entergy New Orleans is currently in Chapter 11 reorganization, but it represents less than 3% of the assets of Entergy.

[c] States either repealed or delayed restructuring.

Sources:

Company 10-K's, 2006.

Q45. How does the risk of the sample compare to the risk of Wisconsin Electric?

A45. In general, the sample appears to be of similar risk to Wisconsin Electric. Six of the nine companies are integrated utilities, and all but Empire electric have some form of fuel-cost adjustment mechanisms covering the bulk of their operations. Three sample companies have a POLR obligation, and they are in states that have moved to market based rates. As a result, they face a different kind of regulatory uncertainty than does Wisconsin Electric, but all sample companies face the uncertainty associated with the recent the volatility of fuel prices. Consumers have demonstrated an aversion to highly volatile energy prices, so regulatory authorities may be reluctant to allow full recovery of energy prices that are too variable.

Depending upon the recovery mechanism for the costs of providing POLR service, the risks faced by electric distribution companies with a POLR obligation may be greater than or less than those of an integrated utility. The biggest risk difference between the two is that integrated utilities own or contract for the generation capacity to meet the power needs of their customers. Although they are still exposed to changes in fuel prices as well as the construction and operating risk of owning generation, they have a natural hedge against volatile energy prices through their ownership of generation assets. POLR companies, on the other hand, are potentially exposed to changes in market prices not related to the volatility of fuel prices, because they must purchase power at market rates.

4. Electric Sample Cost of Capital Estimates

Q46. Please summarize the results of the risk positioning and DCF methodologies in estimating the average cost of capital for the benchmark sample and the implications for Wisconsin Electric's cost of equity?

A46. Table 3 summarizes the sample average ATWACCs derived from risk positioning and DCF models along with the implied cost of equity for Wisconsin Electric at its regulatory capital structure with 55 percent equity.

Table 3: Cost of Equity Estimates - Benchmark Electric Sample

Regulatory Capital Structure: *55.4% Equity / 0.7% Pref. / 44.0% Debt* *2008 Tax Rate:* *39.8%*

	METHODS								
	RISK POSITIONING (using Long-Term Risk-Free			RISK POSITIONING (using Short-Term Risk-Free				DCF	
	CAPM	α = 0.5%	α = 1.5%	CAPM	α = 1%	α = 2%	α = 3%	Simple	Multi
[1] **Electric Sample***									
Cost of Equity	11.0%	11.1%	11.2%	11.2%	11.4%	11.5%	11.6%	12.5%	10.6%
Average ATWACC	7.7%	7.7%	7.8%	7.8%	7.9%	8.0%	8.0%	8.5%	7.4%

[2] Risk Positioning Security Market Line Parameters:

Long-Term		*Short-Term*	
Risk Free Rate Estimate:	4.9%	Risk Free Rate Estimate:	3.8%
Estimated MRP:	6.5%	Estimated MRP:	8.0%

Multi-Stage DCF Parameter:

GDP Growth	5.1%

Sources and Notes:

* For the US Electric Sample , Risk Positioning data from Table No. MJV-12 and DCF data from Table No. MJV-8.

[1] Electric sample consists of Cleco Corp, Consolidated Edison, Empire District Electric, Entergy Corp, MGE Energy, NSTAR, Pinnacle West Capital Corp, PPL Corp, and Southern Co.

[2] See Appendix C and D for details on Risk Positioning and DCF parameters used in estimates.

The two risk positioning models (CAPM and ECAPM) are estimated for each horizon, with the long-term estimates utilizing two values of the ECAPM parameter (0.5% and 1.5%), and the short-term estimates utilizing three values of the ECAPM parameter (1%, 2%, and 3%). I therefore obtain three long-term and four short-term estimates of each sample company's cost of equity. The results are displayed in Table MJV-10, Panel A (long-term risk-free rate) and Panel B (short-term risk-free rate). Next, the cost of equity estimates are combined with each company's estimated cost of debt and preferred equity to calculate the company's ATWACC using each company's market value capital structure as weights. These calculations and the resulting sample average ATWACCs are presented in Table No. MJV-11. Panels A-C rely on the cost of equity estimates from the long-term version of the model, while Panels D-G utilize the estimates from the short-term version of the model. The sample average ATWACC and cost of equity at Wisconsin Electric's 55 percent equity capital structure for each risk positioning cost of equity estimate are displayed in Table No. MJV-12. These results are summarized in Table 3 above.

Q47. How did you determine that the appropriate capital structure for Wisconsin Electric has 55 percent equity?

A47. I reviewed Exhibit MLW-2, Schedule 1, page 3 of 5 of Company Witness Mary L. Wolter on the capital structure of Wisconsin Electric. I adjusted the total long-term capital of the company by subtracting short-term debt and the imputed debt for the company's purchased power contracts. I then recalculated the percentages of debt, preferred and common equity in the capital structure. The calculations are in Workpaper #4 to Table No. MJV-4. These calculations insure that the measures of financial risk for the sample and Wisconsin Electric are comparable.

Q48. What are the DCF estimates for the benchmark electric sample?

A48. For each sample company, cost-of-equity estimates are calculated for the two versions of the DCF method, the simple DCF model and multistage DCF model. The DCF estimates for each company are displayed in Table No. MJV-6, Panel A (simple DCF) and Panel B (multistage DCF). The sample average ATWACC for each method is calculated in Table No. MJV-7 and the resulting sample average ATWACC is used in Table No. MJV-8 to derive the return on equity at Wisconsin Electric's 55 percent equity capital structure. These results are shown in Table 3 above, along with the sample average ATWACC numbers. Table 3 shows the estimated cost of equity to be 12.5 percent when using the simple DCF model and 10.6 percent from the multistage DCF model. The estimates from the simple DCF exceed the estimates from both the long-term and short-term risk positioning models, but the estimates from the multistage DCF model are somewhat lower than all of the risk positioning estimates.

B. WISCONSIN GAS

1. Company Background

Q49. Please describe Wisconsin Gas.

A49. Wisconsin Gas is the largest natural gas utility in Wisconsin, operating throughout the state, including the city of Milwaukee. In 2006, the company delivered approximately 1,216.3 million gas therms to 588,800 gas customers, generating $830 million in revenue.

The company faces competition in the form of alternate fuels, especially in instances where large industrial or commercial customers have dual-fuel capabilities. Wisconsin Gas contracts with various pipelines located in Oklahoma, Texas, the Gulf of Mexico and Canada, reflecting a desire to diversify based upon geographic location. The company has also contracted for substantial storage capacity, primarily in Michigan, allowing it flexibility in terms of customer demand and pricing. The company has a PSCW approved gas price hedging program and a fuel cost adjustment clause, but it has no weather or volume adjustment clauses. The S&P rates its unsecured senior debt at A-.

2. Sample Selection

Q50. How did you select your sample of natural gas LDCs?

A50. The goal was to create a sample of companies whose primary business is as a regulated natural gas LDC with business risk generally similar to that of Wisconsin Gas. I considered the universe of 23 companies classified by the *Value Line Investment Survey Plus* as natural gas LDCs, and added Vectren Corporation to my sample because it is often viewed as a natural gas LDC. Vectren is involved in both gas and electric distribution activities, but now obtains a substantial amount of income from its gas distribution operations.[17] This company is also covered by *Value Line*, but is classified as an Electric Utility due to its regulated electric operations.

Companies were first eliminated if their operating regions were outside of the continental USA. I then applied my standard selection criteria to narrow the sample to those companies likely to have reliable cost of equity estimates. This resulted in a benchmark sample of ten companies which are outlined in Table 4. Additional details on the sample selection process can be found in Appendix B.

[17] Vectren Utility Holdings, Inc.'s 2006 10K reveals that about 45.4 percent of its income is from regulated gas distribution activities and 45.5 percent from regulated electric operations. Because it has a substantial amount of regulated electric activity, I exclude it from the sub-sample of companies I consider to be the most representative of the natural gas distribution line of business and to be most free of characteristics that may bias cost of equity estimates (see below).

Table 4: Benchmark Regulated Gas LDC Sample

Company	Business Activities [1]	Revenue (2006) ($MM) [2]	Regulated Assets [3]	Market Cap. (2006) ($MM) [4]	S&P Bond Rating (2007) [5]	Beta Estimate [6]	Long-Term Growth Estimate [7]
Atmos Energy Corp	GD GP ST GM	6,152	R	2,622	BBB	0.80	5.8%
The Laclede Group	GD GM	1,998	R	753	A	0.85	3.0%
Northwest Natural Gas Co	GD ST	1,013	R	1,161	AA-	0.75	4.8%
Piedmont Natural Gas Co	GD GP GM ST	1,925	R	2,022	A	0.80	5.0%
South Jersey Industries Inc	GD GP ST GM EM	931	MR	981	BBB	0.70	6.3%
Southwest Gas Corp	GD PCon	2,025	R	1,613	BBB-	0.85	5.5%
WGL Holdings Inc	GD ST GM EM	2,638	R	1,603	AA-	0.85	3.7%
AGL Resources Inc	GD GM WH EInv	2,621	MR	3,042	A-	0.95	4.5%
Vectren Corp	GD IE EM	2,042	R	2,156	A-	0.95	2.2%
New Jersey Resources Corp	GD GM ST EInv EMg OS	3,300	MR	1,353	A	0.80	5.7%
Wisconsin Gas†	**GD GT**	**830**	**R**	**-**	**A-**	**-**	**-**

Sources and Notes:

† Market cap, beta estimates, and long-term growth estimates are not available for Wisconsin Gas.

[1] GD – Natural Gas Distribution GP – Natural Gas Pipeline GM – Natural Gas Marketing GT- Gas Transportation for other retailers ST – Natural Gas Storage IE – Integrated Electric EM – Electric Marketing EInv – Energy Investments PCon – Pipeline Construction WH – Wholesale Activities EMg – Energy Management OS– Off-System Sales and Capacity Release Mkt. Participation. *Sources:* Company 10-K's for 2006 fiscal year.
* Companies may participate in other activities comprising a small portion of their operations.

[2] Bloomberg as of April 9, 2007.

[3] R – Regulated (More than 80 % of assets regulated). MR – Mostly Regulated (50-80 % of assets regulated) *Source:* Company 10-K's. See Table MJV-13.

[4] Bloomberg as of April 9, 2007.

[5] See Workpaper #1 to Table MJV-21.

[6] Value Line Investment Survey – see Workpaper # 1 to Table MJV-20.

[7] See Table MJV-16.

3. The Gas LDC Sub-Sample

Q51. Why do you advocate summarizing the cost of capital estimates from a sub-sample of the gas LDC companies as well as for the full sample?

A51. Although the sample selection criteria are designed to screen out any company that has characteristics that may bias the cost of equity estimates, some of the sample companies are better than others. For example, although still investment grade, Southwest Gas is at the bottom of the scale of investment grade credit ratings and has a relatively low average equity thickness over the past five years – 40.1 percent compared to 61.8 percent for the remaining companies. Closer investigation shows that Southwest Gas's capital structure has been shifting rapidly toward equity over the last five years, with a level of about 50 percent over the most recent two years. This instability suggests a potential reliability problem for estimates of this company's cost of capital. The Laclede Group's market cap of $688 million is a bit smaller than the average of the group, but with revenues of more than $1.5 billion, it is still a large company. In 2006, Piedmont Natural Gas restated some portions of its 2003-2005 financial reports. Although this can generally lead to less reliable estimates from the equity estimation models, the restatements were not caused by fraudulent activities but were due to an accounting error in the classification of hedging amounts. This type of reclassification would not be expected to change the value of the firm and prices did not show any erratic behavior in the period surrounding the announcement of this reclassification. A potential concern for the DCF estimates is that the industry has experienced a sustained level of merger and acquisition activity over the last five years that has implication for the stability of the industry necessary for the reliable application of the DCF model. Due to the concerns with the sample, I also report the results for a sub-sample of the gas LDC sample that consists of companies with no material data issues.

4. Relative Risk of the Sample and Wisconsin Gas

Q52. Could you please summarize the general characteristics of the companies in the sample and those of Wisconsin Gas?

A52. Yes. The sample consists of ten gas LDCs with risk characteristics generally similar to those of Wisconsin Gas. Like Wisconsin Gas, they all have fuel-cost adjustment clauses which either remove or significantly reduce their exposure to this risk. In their 10-Ks, all sample companies report that they engage in hedging activities to further reduce this risk. In addition, seven of the ten companies have weather adjustment clauses which Wisconsin Gas does not have.

Table 5: Risk Characteristics of the Gas LDC Sample

Company [1]	Fuel Cost Adjustment [2]	Weather Normalization [3]	Fuel Cost Hedging [4]	Storage Facilities [5]	S&P Bus. Profile [6]
Atmos Energy *(GA, KS, KY, LA, TX, MS, TN, VA)*	Yes	Yes	S & D	Yes	4
Laclede Group *(MO)*	Yes	No	D	Yes	3
Northwest N. Gas *(WA, OR)*	Yes	Yes	S & D	Yes	1
Piedmont N. Gas *(SC, TN, NC)*	Yes	Yes	Yes	Yes	2
South Jersey Industries *(NJ)*	Yes	Incentive Prog.	D	Yes	-
Southwest Gas *(AZ, NV, CA)*	Yes	Yes	F & V	Yes	3
WGL Holdings *(DC, VA, MD)*	Yes	Yes	D	No	3
AGL Resources *(GA, FL, MD, NJ, TN, VA)*	Yes	Yes	D	Yes	4
Vectren *(IN, OH)*	Yes	Yes	D	Yes	3
Wisconsin Gas LLC *(WI)*	**Yes**	**No**	**S & D**	-	**2**

Sources and Notes: *All company 10-K sources are for the 2006 fiscal year.*

[1] States of operation as reported in company 10-Ks for significant operations.

[2] Yes indicates a mechanism was reported in company 10-Ks, but different mechanisms exist by company and by state. If a mechanism exists, it generally allows for eventual recovery of most if not all prudent costs.

[3] Yes indicates a mechanism was reported in company 10-Ks, but different mechanisms exist by company and by state. South Jersey Industries reports participation in a Conservation incentive program.

[4] S - Storage (owned or contracted) D - Financial Derivatives
F & V - Fixed and Variable Price formulas are used to help mitigate weather risks.
As reported in company 10-K's.

[5] Own Storage facilities. Information from company 10-Ks.

[6] S&P Business Profile as published on April 28, 2006 in S&P's *U.S. Utility and Power Ranking List*

Q53. How does the risk of the sample compare to the risk of Wisconsin Gas's distribution operations?

A53. In general, the benchmark sample has comparable business risk to Wisconsin Gas.

5. Gas LDC Sample Cost of Capital Estimates

Q54. Please summarize the results of the risk positioning and DCF methodologies in estimating the average cost of capital for the sample and the implications for Wisconsin Gas's cost of equity?

A54. Table 6 below summarizes the risk positioning and DCF cost of equity estimates and the resulting sample average ATWACC estimates for the gas LDC sample, along with the implied cost of equity for Wisconsin Gas at a regulatory capital structure with 52 percent equity.

Q55. How were the cost of equity estimates derived from the risk positioning approach for the benchmark gas LDC sample?

A55. In exactly the sample manner as for the electric sample, the two risk positioning models (CAPM and ECAPM) are estimated for each horizon, with the long-term estimates utilizing two values of the ECAPM parameter (0.5% and 1.5%), and the short-term estimates utilizing three values of the ECAPM parameter (1%, 2%, and 3%). The risk positioning cost of equity estimates for the gas LDC sample are displayed in Table No. MJV-20, Panels A and B. The cost of equity estimates are subsequently combined with each company's estimated cost of debt and preferred equity to calculate the company's ATWACC using each company's market value capital structure. These calculations and the resulting sample average ATWACC are presented in Table No. MJV-21. Panels A-C of Table No. MJV-21 rely on the cost of equity estimates from the long-term version of the model, while Panels D-G utilize the estimates from the short-term version of the model. The sample average ATWACC and cost of equity at Wisconsin Energy's 52 percent equity capital structure for each cost of equity estimation methods are displayed in Table No. MJV-22. These results are summarized in Table 6 below.

Table 6: Cost of Equity Estimates - Benchmark Gas LDC Sample

Regulatory Capital Structure:	*52.2% Equity / 47.8% Debt*							*2008 Tax Rate: 40.048%*	
	METHODS								
	RISK POSITIONING (using Long-Term Risk-Free			RISK POSITIONING (using Short-Term Risk-Free				DCF	
	CAPM	α = 0.5%	α = 1.5%	CAPM	α = 1%	α = 2%	α = 3%	Simple	Multi
[1] **Gas LDC Sample***									
Cost of Equity	11.4%	11.5%	11.7%	11.6%	11.8%	12.0%	12.2%	9.3%	10.0%
Average ATWACC	7.6%	7.7%	7.8%	7.7%	7.8%	7.9%	8.0%	6.5%	6.9%
[2] **Sub-sample* Average**									
Cost of Equity	11.6%	11.7%	11.9%	11.7%	12.0%	12.2%	12.4%	9.5%	10.5%
Average ATWACC	7.7%	7.8%	7.9%	7.8%	7.9%	8.0%	8.2%	6.7%	7.1%

[3] Risk Positioning Security Market Line Parameters:				Multi-Stage DCF Parameter:	
Long-Term		*Short-Term*			
Risk Free Rate Estimate:	4.9%	Risk Free Rate Estimate:	3.8%	GDP	
Estimated MRP:	6.5%	Estimated MRP:	8.0%	Growth	5.1%

Sources and Notes:

* For the MJV US Gas LDC Sample , Risk Positioning data from Table No. MJV-22 and DCF data from Table No. MJV-17.

[1] , [2] The Gas LDC sample consists of Atmos Energy Corp, Laclede Group Inc, Northwest Natural Gas Co, Piedmont Natural Gas Co, South Jersey Industries Inc, Southwest Gas Corp, WGL Holdings Inc, AGL Resources Inc, Vectren Corp., and New Jersey Resources. The sub-sample includes only Laclede Group Inc, Northwest Natural Gas Co, Piedmont Natural Gas Co, and WGL Holdings Inc.

[3] See Testimony, Section IV.C for details on Risk Positioning and DCF parameters used in estimates.

Q56. What are the DCF estimates for the gas LDC sample?

A56. For each sample company, cost-of-equity estimates are calculated for the two versions of the DCF method. The DCF estimates for each company are displayed in Table No. MJV-17, Panel A (simple DCF) and Panel B (multistage DCF). The sample average ATWACC for each method is calculated in Table No. MJV-18 and the resulting sample average ATWACC is used in Table No. MJV-19 to derive returns on equity at Wisconsin Gas's 52 percent equity capital structure. These results are shown in Table 6 above, along with the sample average ATWACC numbers. Table 6 shows a cost of equity of 9.3 percent when using the simple DCF model but 10.0 percent from the multistage DCF model for the full sample. The corresponding results for the more reliable sub-sample are 9.5 percent and 10.5 percent. The variation in estimates from the simple DCF compared to the multistage model likely reflect the unusual events in the industry and are not likely to be reliable estimates of the cost of capital at this time.

V. CONCLUSIONS

Q57. What are your conclusions from the DCF model regarding the cost of equity for the Applicants?

A57. As discussed above, the conditions necessary for the completely reliable implementation of the DCF model are not likely to exist for the electric utility and the gas LDC industries at this time. For example, the company specific growth rate forecasts displayed in Table 1 and Table 4 vary substantially company to company, but for an industry operating in stable conditions, you would expect to see very similar forecast growth rates.

Review of Table No. MJV-6, Panel A and Table No. MJV-17, Panel A shows that the simple DCF cost of equity estimates are highly variable. For the electric sample, the estimates range from a low of 7.4 percent to a high of 16.3 percent. The multistage estimates are much less variable, but still have a relatively wide range from a low of 7.7 percent to a high of 10.7 percent. For the gas LDC sample, the simple DCF estimates are also quite variable ranging from a low of 6.5 percent to a high of 10.1 percent. The range for the multistage DCF is 7.4 percent to 9.8 percent. In addition, given the generally similar business risk of the two industries, I would expect that the overall cost of capital for the two industries would be very similar, but that is not the result from the DCF model. For example, the ATWACC from the simple DCF model for the electric sample is 8.5 percent compared to 6.5 percent for the gas LDC sample (6.7 percent for the sub-sample).[18] The results for the more reliable multistage DCF model are closer, 7.4 percent for the electric sample compared to 6.9 percent for the full gas LDC sample (7.1 percent for the sub-sample). (See Tables 3 and 6 above) These results are in stark contrast to the more consistent results for the two samples from the risk positioning model.

In my view, these results confirm that the conditions for the completely reliable implementation of the DCF model are not present for either sample at this time. I therefore place little weight on the DCF results for either sample.

[18] Note that the comparison is between the estimated overall costs of capital because those estimates consider both the business and financial risk of the sample companies.

Q58. Do you have any general comments regarding the results of the risk positioning models?

A58. The risk positioning results for the two samples are summarized above in Table 3 and Table 6. For both samples, the estimates based upon the short-term risk-free rate are higher on average than the estimates using the long-term risk-free rate, partially because the yield curve is currently flat or slightly inverted, i.e., the yield on short-term Treasury bills exceeds the yield on long-term Treasury bonds. Table No. MJV-9, Panel A shows that 30-day Treasury bills are currently yielding 5.16 percent compared to only 4.90 percent for long-term Treasury bonds. This relationship between the yield on short-term and long-term Treasury securities is unusual. Yields on long-term Treasury bonds have averaged about 150 basis points more than yields on 30-day Treasury bills over the last 80 years. (See Workpaper #1, Panel B to Table No. MJV-9) The yield on short-term Treasury bills reflects the efforts by the Federal Reserve ("Fed") to prevent the rate of inflation from increasing any further. If the Fed believes that inflation is not yet contained, short-term rates are likely to increase further. On the other hand, if inflation is judged to be under control, short-term rates may decline as fears of recession replace those of inflation. Because of this uncertainty, I believe that the estimates using the long-term risk-free rate are more reliable at this time.

Of those results, the CAPM values deserve the least weight, because this method does not adjust for the empirical finding that the cost of capital is less sensitive to beta than predicted by the CAPM (which my testimony considers by using the ECAPM). Conversely, the ECAPM numbers deserve the most weight, because this method adjusts for the empirical findings.

For the electric sample, the cost of equity estimates using the long-term risk free rate, adjusted for a capital structure with 55 percent equity, range from 11.0 to 11.2 percent, and the estimates from the short-term version of the model range from 11.2 to 12.6 percent.

A review of the results in Panel A of Table No. MJV-10 (ECAPM $\alpha = 0.5$) shows that the cost of equity estimates are much less variable than for the DCF model, and range from a

low of 9.6 percent to a high of 11.4 with the except of Cleco which has an estimate of 13.2 percent for the electric sample. As noted earlier, this is due to the higher beta estimate for Cleco.

For the gas LDC sample, the cost of equity estimates using the long-term risk free rate, adjusted for a capital structure with 52 percent equity, range from 11.4 to 11.7 percent for the full sample and from 11.6 to 11.9 percent for the sub-sample. The estimates from the short-term version of the model range from 11.6 to 12.2 percent for the full sample and 11.7 to 12.4 percent for the sub-sample.

A review of the results in Panel A of Table No. MJV-21 (ECAPM $\alpha = 0.5$) also shows that the cost of equity estimates are much less variable than for the DCF model, and range from a low of 9.6 percent to a high of 11.1 with no outlier like Cleco in the electric sample.

Q59. Given the results of the two models, what is your conclusion regarding the cost of equity for Wisconsin Electric?

A59. Focusing on the middle values in Table 3 for the electric sample, the results from the long-term risk positioning model (ECAPM with $\alpha = 0.5$), the average ATWACC for the full sample is 7.7 percent, with a corresponding cost of equity estimate of 11.1 percent. I believe that Wisconsin Electric is of generally comparable business risk to the sample so the sample average ATWACC represents a good estimate of the overall cost of capital for Wisconsin Electric.

Wisconsin Electric has about $300 million of imputed debt from its purchased power contracts which would tend to increase the financial risk and therefore the cost of equity of the company relative to its adjusted regulatory capital structure with 55 percent equity. On the other hand, the sample average is pulled up by Cleco which has a noticeably higher estimated cost of capital than the rest of the electric sample companies. Based upon all of the evidence, the best point estimate for the cost of equity for Wisconsin Electric is 11 percent.

I believe that this is a conservative estimate because I have generally rounded *down* from the long-term risk-positioning results of about 11.1 percent for the sample and because of the somewhat higher overall cost of capital for the gas LDC sub-sample. In addition this estimate is about ½ percent lower than the average risk positioning results from the short-term model estimates, but it also reflects the effect on the sample of the estimates from Cleco. It is about ½ percent higher than the multistage DCF estimates. However, it is more correct to say that the estimates from the sample provide a range of values from a low of 10½ percent to a high of 11½ percent, but I feel more comfortable with an estimate in the upper half of the range. As previously noted, in estimating the cost of equity I round to the nearest ¼ percent (25 basis points) because I do not believe that cost of capital estimates can be made more precisely than that.

Q60. If the amount of imputed debt calculated by Wisconsin Electric were treated as debt in Wisconsin Electric's regulatory capital structure, how much would the return on equity change?

A60. The return on equity would increase by about 50 basis points. Without considering imputed debt, Wisconsin Electric's capital structure has 55.4 percent equity, but if imputed debt is considered, the equity percentage falls to about 51.9 percent. (See Workpaper #4 to Table No. MJV-4) This 50 basis points estimate is likely to be an upper bound on the increase in the cost of equity due to imputed debt because some of the sample companies are also likely to have imputed debt which was not considered when I calculated the sample's ATWACC.

Q61. Can the effect of imputed debt be dealt with by increasing the percentage of equity in the capital structure?

A61. Yes. One way to offset the increase in financial risk resulting from imputed debt is to increase the amount of equity in the regulatory capital structure. This approach simply involves restoring the regulatory capital structure to its percentages of debt and equity before consideration of imputed debt. In this case, considering imputed debt as real debt reduced the equity percentage from 55.4 to 51.9 percent, so restoring the equity ratio to 55.4 percent would require the addition of 3.5 percent equity to the capital structure when imputed debt is considered. When increasing equity to adjust for imputed debt, the return

on equity would remain at the requested 11.2 percent as equity is increased. As before, this is likely to be an upper bound on the amount of equity required.

Q62. Given the results of the two models, what is your conclusion regarding the cost of equity for Wisconsin Gas?

A62. Focusing on the middle values in Table 6 for the gas LDC sample, the results from the long-term risk positioning model (ECAPM with $\alpha = 0.5$), the average ATWACC for the full sample is 7.7 percent, with a corresponding cost of equity estimate of 11.5 percent for the full sample for a capital structure with 52 percent equity. The estimates are slightly higher for the sub-sample with an ATWACC of 7.8 percent and a cost of equity estimate of 11.7 percent. I believe that Wisconsin Gas is of comparable risk to the sample so the sample average ATWACC represents a good estimate of the overall cost of capital for Wisconsin Gas.

Based upon the evidence then, the best point estimate for the cost of equity for Wisconsin Gas is 11½ percent with a range of 11 to 12 percent. Just as for the electric sample, this result is about ½ percent lower than the average risk positioning results from the short-term model estimates, but it is also 1 percent higher than the multistage DCF estimates for the sub-sample. As discussed above, I do not believe that the DCF estimates are completely reliable for either industry at this time.

As with the electric sample, I believe that this is a conservative estimate of the cost of equity because it again represents a downward adjustment from the results of the more reliable sub-sample estimates which are about 20 basis points higher than the estimates for the full sample.

Q63. Do you have any final comments on the cost of capital estimates from the two samples?

A63. Yes. It is worth noting that the ATWACC estimates from the risk positioning model for both samples are very similar at about 7¾ percent although the estimates for the gas LDC sample are very slightly higher than for the electric sample. This provides some assurance that the results for both samples are reasonable because I expect the business risk of the two industries to be similar. The generally higher ATWACC estimates for the

gas LDC sample provide additional evidence of the conservative nature of the point estimate for Wisconsin Electric.

Q64. Does this conclude your testimony?

A64. Yes

APPENDIX A

RESUMÉ

MICHAEL J. VILBERT **PRINCIPAL**

Michael Vilbert is an expert in cost of capital, financial planning and valuation who has advised clients on these matters in the context of a wide variety of investment and regulatory decisions. He received his Ph.D. in Financial Economics from the Wharton School of the University of Pennsylvania, an MBA from the University of Utah, an M.S. from the Fletcher School of Law and Diplomacy, Tufts University, and a B.S. degree from the United States Air Force Academy. He joined The Brattle Group in 1994 after a career as an Air Force officer, where he served as a fighter pilot, intelligence officer, and professor of finance at the Air Force Academy.

REPRESENTATIVE CONSULTING EXPERIENCE

- In a securities fraud case, Dr. Vilbert designed and created a model to value the private placement stock of a drug store chain as if there had been full disclosure of the actual financial condition of the firm. He analyzed key financial data and security analyst's reports regarding the future of the industry in order to recreate pro forma balance sheet and income statements under a variety of scenarios designed to establish the value of the firm.

- For pharmaceutical companies rebutting price-fixing claims in antitrust litigation, Dr. Vilbert was a member of a team which prepared a comprehensive analysis of industry profitability. The analysis replicated, tested and critiqued the major recent analyses of drug costs, risks and returns. The analyses helped develop expert witness testimony to rebut allegations of excess profits.

- For an independent electric power producer, Dr. Vilbert created a model that analyzed the reasonableness of rates and costs filed by a natural gas pipeline. The model not only duplicated the pipeline's rates, but it also allowed simulation of a variety of "what if" scenarios associated with cost recovery under alternative time patterns and joint cost allocations. Results of the analysis were adopted by the intervenor group for negotiation with the pipeline.

- For the CFO of an electric utility, Dr. Vilbert developed the valuation model used to support a stranded cost estimation filing. The case involved a conflict between two utilities over the responsibility for out-of-market costs associated with a power purchase contract between them. In addition, he advised and analyzed cost recovery mechanisms

- that would allow full recovery of the stranded costs while providing a rate reduction for the company's rate payers.

- Dr. Vilbert has assisted in the preparation of testimony and the development of estimation models in numerous cost of capital cases for natural gas pipeline, water utility and electric utility clients before the Federal Energy Regulatory Commission ("FERC") and state regulatory commissions. These have spanned standard estimation techniques (e.g., Discounted Cash Flow and Risk Positioning models). He has also developed and applied more advanced models specific to the industries or lines of business in question, e.g., based on the structure and risk characteristics of cash flows, or based on multi-factor models that better characterize regulated industries.

- Dr. Vilbert has valued several large, residual oil-fired generating stations to evaluate the possible conversion to natural gas or other fuels. In these analyses, the expected pre- and post-conversion station values were computed using a range of market electricity and fuel cost conditions.

- For a major western electric utility, Dr. Vilbert helped prepare testimony that analyzed the prudence of QF contract enforcement. The testimony demonstrated that the utility had not been compensated in its allowed cost of capital for major disallowances stemming from QF contract management.

- Dr. Vilbert analyzed the economic need for a major natural gas pipeline expansion to the Midwest. This involved evaluating forecasts of natural gas use in various regions of the United States and the effect of additional supplies on the pattern of natural gas pipeline use. The analysis was used to justify the expansion before the FERC and the National Energy Board of Canada.

- For a Public Utility Commission in the Northeast, Dr. Vilbert analyzed the auction of an electric utilities purchase power agreements to determine whether the outcome of the auction was in the ratepayers' interest. The work involved the analysis of the auction procedures as well as the benefits to ratepayers of transferring risk of the PPA payments to the buyer.

- Dr. Vilbert led a team tasked to determine whether bridge tolls were "just and reasonable" for a non-profit port authority. Determination of the cost of service for the authority required estimation of the value of the authority's assets using the trended original cost methodology as well as evaluation of the operations and maintenance budgets. Investment costs, bridge traffic information and inflation indices covering a 75 year period were utilized to estimate the value of four bridges and a passenger transit line valued in excess of $1 billion.

- Dr. Vilbert helped a recently privatized railroad in Brazil develop an estimate of its revenue requirements, including a determination of the railroad's cost of capital. He also helped evaluate alternative rate structures designed to provide economic incentives to shippers as well as to the railroad for improved service. This involved the explanation

and analysis of the contribution margin of numerous shipper products, improved cost analysis and evaluation of bottlenecks in the system.

- For a utility in the Southeast, Dr. Vilbert quantified the company's stranded costs under several legislative electric restructuring scenarios. This involved the evaluation of all of the company's fossil and nuclear generating units, its contracts with Qualifying Facilities and the prudence of those QF contracts. He provided analysis concerning the impact of securitizing the company's stranded costs as a means of reducing the cost to the rate payers and several alternative designs for recovering stranded costs.

- For a recently privatized electric utility in Australia, Dr. Vilbert evaluated the proposed regulatory scheme of the Australian Competition and Consumer Commission for the company's electric transmission system. The evaluation highlighted the elements of the proposed regulation which would impose uncompensated asymmetric risks on the company and the need to either eliminate the asymmetry in risk or provide additional compensation so that the company could expect to earn its cost of capital.

- For an electric utility in the Southwest, Dr. Vilbert helped design and create a model to estimate the stranded costs of the company's portfolio of Qualifying Facilities and Power Purchase contracts. This exercise was complicated by the many variations in the provisions of the contracts that required modeling in order to capture the effect of changes in either the performance of the plants or in the estimated market price of electricity.

- Dr. Vilbert helped prepare the testimony responding to a FERC request for further comments on the appropriate return on equity for electric transmission facilities. In addition, Dr. Vilbert was a member of the team that made a presentation to the FERC staff on the expected risks of the unbundled electric transmission line of business.

- Dr. Vilbert and Mr. Frank C. Graves, also of The Brattle Group, prepared testimony evaluating an innovative Canadian stranded cost recovery procedure involving the auctioning of the output of the province's electric generation plants instead of the plants themselves. The evaluation required the analysis of the terms and conditions of the long-term contracts specifying the revenue requirements of the plants for their entire forecasted remaining economic life and required an estimate of the cost of capital for the plant owners under this new stranded cost recovery concept.

- Dr. Vilbert served as the neutral arbitrator for the valuation of a petroleum products tanker. The valuation required analysis of the Jones Act tanker market and the supply and demand balance of the available U.S. constructed tanker fleet.

PRESENTATIONS

"Utility Distribution Cost of Capital," *EEI Electric Rates Advanced Course*, Bloomington, IN, 2002, 2003.

"Issues for Cost of Capital Estimation," with Bente Villadsen, *Edison Electric Institute Cost of Capital Conference*, Chicago, IL, February 2004.

"Not Your Father's Rate of Return Methodology," *Utility Commissioners/Wall Street Dialogue*, NY, May 2004.

"Current Issues in Cost of Capital," *EEI Electric Rates Advanced Course*, Madison, WI, July 2004.

"Cost of Capital Estimation: Issues and Answers," *MidAmerican Regulatory Finance Conference*, Des Moines, IA, April 7, 2005.

"Cost of Capital - Explaining to the Commission - Different ROEs for Different Parts of the Business," *EEI Economic Regulation & Competition Analysts Meeting*, May 2, 2005.

"Current Issues in Cost of Capital," with Bente Villadsen, *EEI Electric Rates Advanced Course*, Madison, WI, 2005.

"Current Issues in Estimating the Cost of Capital," *EEI Electric Rates Advanced Course*, Madison, WI, 2006.

"Revisiting the Development of Proxy Groups and Relative Risk Analysis," Society of Utility and Regulatory Financial Analysts: 39th Financial Forum, April 2007.

ARTICLES

"Flaws in the Proposed IRS Rule to Reinstate Amortization of Deferred Tax Balances Associated with Generation Assets Reorganized in Industry Restructuring," by Frank C. Graves and Michael J. Vilbert, white paper for *Edison Electric Institute* (EEI) to the IRS, July 25, 2003.

"The Effect of Debt on the Cost of Equity in a Regulatory Setting," by A. Lawrence Kolbe, Michael J. Vilbert, Bente Villadsen and The Brattle Group, *Edison Electric Institute*, April 2005.

"Measuring Return on Equity Correctly: Why current estimation models set allowed ROE too low," by A. Lawrence Kolbe, Michael J. Vilbert and Bente Villadsen, *Public Utilities Fortnightly*, August 2005.

"Understanding Debt Imputation Issues," by Michael J. Vilbert, Bente Villadsen and Joseph B. Wharton, *Edison Electric Institute*, forthcoming May 2007.

TESTIMONY

Direct and rebuttal testimony before the Alberta Energy and Utilities Board on behalf of TransAlta Utilities Corporation in the matter of an application for approval of its 1999 and 2000 generation tariff, transmission tariff, and distribution revenue requirement, October 1998.

Direct testimony before the Federal Energy Regulatory Commission on behalf of Central Maine Power in Docket No. ER00-982-000, December 1999.

Direct testimony before the Alberta Energy and Utilities Board on behalf of TransAlta Utilities Corporation for approval of its 2001 transmission tariff, May 2000.

Direct testimony before the Federal Energy Regulatory Commission on behalf of Mississippi River Transmission Corporation in Docket No. RP01-292-000, March 2001.

Written evidence, rebuttal, reply and further reply before the National Energy Board in the matter of an application by TransCanada PipeLines Limited for orders pursuant to Part I and Part IV of the *National Energy Board Act*, Order AO-1-RH-4-2001, May 2001, Nov. 2001, Feb. 2002.

Written evidence before the Public Utility Board on behalf of Newfoundland & Labrador Hydro - Rate Hearings, October 2001.

Direct testimony (with Bill Lindsay) before the Federal Energy Regulatory Commission on behalf of DTE East China, LLC in Docket No. ER02-1599-000, April 2002.

Direct and rebuttal reports before the Arbitration Panel in the arbitration of stranded costs for the City of Casselberry, FL, Case No. 00-CA-1107-16-L, July 2002.

Direct reports before the Arbitration Board for Petroleum products trade in the Arbitration of the Military Sealift Command vs. Household Commercial Financial Services, fair value of sale of the Darnell, October 2002.

Direct testimony and hearing before the Arbitration Panel in the arbitration of stranded costs for the City of Winter Park, FL, In the Circuit Court of the Ninth Judicial Circuit in and for Orange County, FL, Case No. C1-01-4558-39, December 2002.

Direct testimony before the Federal Energy Regulatory Commission on behalf of Florida Power Corporation, dba Progress Energy Florida, Inc. in Docket No. SC03-___-000, March 2003.

Direct report before the Arbitration Panel in the arbitration of stranded costs for the Town of Belleair, FL, Case No. 000-6487-C1-007, April 2003.

Direct and rebuttal reports before the Alberta Energy and Utilities Board in the matter of the Alberta Energy and Utilities Board Act, R.S.A. 2000, c. A-17, and the Regulations under it; in the matter of the Gas Utilities Act, R.S.A. 2000, c. G-5, and the Regulations under it; in the matter of the Public utilities Board Act, R.S.A. 2000, c. P-45, as amended, and the Regulations

under it; and in the matter of Alberta Energy and Utilities Generic Cost of Capital Hearing, Proceeding No. 1271597, July 2003, November 2003.

Written evidence before the National Energy Board in the matter of the National Energy Board Act, R.S.C. 1985, c. N–7, as amended, (Act) and the Regulations made under it; and in the matter of an application by TransCanada PipeLines Limited for orders pursuant to Part IV of the *National Energy Board Act*, for approval of Mainline Tolls for 2004, RH-2-2004, January 2004.

Direct and rebuttal testimony before the Public Service Commission of West Virginia, on Cost of Capital for West Virginia-American Water Company, Case No 04-0373-W-42T, May 2004.

Direct and rebuttal testimony before the Federal Energy Regulatory Commission, on Energy Allocation of Debt Cost for Incremental Shipping Rates for Edison Mission Energy, Docket No. RP04-274-000, December 2004 and March 2005.

Direct testimony before the Arizona Corporation Commission, Cost of Capital for Paradise Valley Water Company, a subsidiary of Arizona-American Water Company, Docket No. WS-01303A-05, May 2005.

Written evidence before the Ontario Energy Board, Cost of Capital for Union Gas Limited, Inc., Docket No. EB-2005-0520, January 2006.

Direct and rebuttal testimony before the Pennsylvania Public Utility Commission, Return on Equity for Metropolitan Edison Company, Docket No. R-00061366 and Pennsylvania Electric Company, Docket No. R-00061367, April 2006 and August 2006.

Expert report in the United States Tax Court, Docket No. 21309-05, 34th Street Partners, DH Petersburg Investment, LLC and Mid-Atlantic Finance, Partners Other than the Tax Matters Partner, Petitioner, v. Commissioner of Internal Revenue, Respondent, July 28, 2006.

Direct and supplemental testimony before the Federal Energy Regulatory Commission, Docket No. ER06-427-003, on behalf of Mystic Development, LLC on the Cost of Capital for Mystic 8 and 9 Generating Plants Operating Under an Reliability Must Run Contract, August 2006 and September 2006.

Direct testimony before the Federal Energy Regulatory Commission, Docket No. ER07-46-000, on behalf of Northwestern Corporation on the Cost of Capital for Transmission Assets, October 2006.

Direct and rebuttal testimony before the Tennessee Regulatory Authority, Case No. 06-00290, on behalf of Tennessee American Water Company, on the Cost of Capital, November, 2006 and April 2007.

APPENDIX B

SELECTING THE GAS LDC SAMPLE AND USE OF MARKET VALUES

I. SAMPLE SELECTION AND THE SAMPLE'S CHARACTERISTICS 1

A. THE ELECTRIC UTILITIES SAMPLE 1

B. THE GAS LDC SAMPLE 3

II. MARKET VALUE CAPITAL STRUCTURE, COSTS OF DEBT & COSTS OF PREFERRED EQUITY 7

I. SAMPLE SELECTION AND THE SAMPLE'S CHARACTERISTICS

A. THE ELECTRIC UTILITIES SAMPLE

Q1. How did you select your sample of electric utilities?

A1. The goal was to create a sample of companies whose primary business is as a regulated electric utility with business risk generally similar to that of Wisconsin Electric. To construct this sample, I formed a universe of 61 companies by the electric companies under East, Central and West categories listed in *Value Line*. From this group, companies were first eliminated if their operating regions were outside of the continental USA or if they were primarily or solely engaged in generation and/or transmission. I then applied my standard selection criteria outlined earlier to remove companies that have characteristics that may bias the cost of capital estimates.

Specifically, I eliminated all companies whose S&P bond rating as reported by Bloomberg was not investment grade, i.e., less than BBB-. To guard against measurement bias caused by "thin trading," I also restricted the sample to companies with total operating revenues greater than $300 million (USD) in 2006 as reported by Bloomberg.[1] And which had no significant mergers and acquisition activity over the past five years. The screen for merger activity was primarily done by scanning each company's news history on Bloomberg and a search of company web pages. To further ensure comparability to Wisconsin Electric's operations, companies whose share of regulated assets were not estimated to be at least "Mostly Regulated", as classified by the Edison Electric Institute ("EEI"), were removed.[2]

Finally, I required that the companies have historical data available from Bloomberg for the relevant period and had no dividend cuts or restatement of financial statements in the past five years, since the latter can be signs of financial distress.

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[1] Data was reviewed during the first week of April 2007.

[2] EEI has three classifications for electric utilities based upon the percentage of total assets that are regulated. The categories are Regulated (> 80% regulated), Mostly Regulated (50-80% regulated) and Diversified (< 50% regulated). See *EEI 2006 Financial Review*, p. 24.

A total of nine companies met all of these requirements: Cleco Corp, Consolidated Edison, Empire District Electric, Entergy Corp, MGE Energy, NSTAR, Pinnacle West Capital Corp, PPL Corp, and Southern Corp.

Q2. Please elaborate on how companies were eliminated from your sample?

A2. Eleven companies were excluded due to less than investment grade credit rating. Two companies for less than $300 million in 2006 revenues – Green Mountain Power and ITC Holding Corp., which also had less than five years of data. Of the remaining companies, 19 had excessive merger and acquisition activity ("M&A") and/or dividend cuts over the past five years. A further nine were also eliminated for dividend cuts or because they essentially own only generation or transmission assets .

Q3. Are there any issues with the remaining companies in your sample?

A3. Possibly. Although not enough merger and acquisition activity to eliminate them from the sample, three of nine companies had more activity over the past five years than the others: Cleco, Empire District Electric and Entergy. Cleco Corp.'s beta is also substantially higher at 1.30 than any of the other sample companies', which may reflect this merger activity. Two sample companies, Empire District and MGE Energy, are smaller companies compared to the others in the sample, but both have a book value of about a $1 billion making them "large" by most standards. PPL Corp and MGE Energy only fall into EEI's "Mostly Regulated" category, indicating that between 50 and 80 percent of their assets are subject to regulation. (See Table No. MJV-2 for a list of the regulated asset categorizations by EEI for each sample company.) A potential problem for the DCF estimates is that sample companies growth rate forecasts vary substantially company-to-company. For example, Cleco Corp and PPL each have a combined growth rate estimate of over 12 percent, while Consolidated Edison's combined estimate is 3.5 percent and Pinnacle West's is 2.9 percent (see column [6], Table No. MJV-5). Moreover, Bloomberg does not provide a BEst Estimate for MGE Energy, which means there is only one growth estimate for this company, and there are only two growth estimates provided for Cleco Corp. and Empire District Electric. As such, the growth rates estimates do not support the view that investors are expecting growth rates equal to the single perpetual growth rate assumed in the simple DCF model. Again, this may be

an indication that the industry conditions are not fully met for the reliable application of the DCF model. Recall that the DCF model requires stable industry conditions so that dividends, earnings, stock prices etc. are all growing at a constant rate.

Q4. How does the risk of the sample compare to the risk of Wisconsin Electric?

A4. In general, the sample appears to be of similar risk to Wisconsin Electric. Six of the nine companies are integrated utilities, and all but Empire Electric have some form of fuel-cost adjustment mechanisms covering the bulk of their operations. Three sample companies have a provider of last resort ("POLR") obligation, and they are in states that have moved to market based rates. As a result, they face a different kind of regulatory uncertainty than does Wisconsin Electric, but all sample companies face the uncertainty associated with the recent the volatility of fuel prices. Consumers have demonstrated an aversion to highly volatile energy prices, so regulatory authorities may be reluctant to allow full recovery of energy prices that are too variable.

Depending upon the recovery mechanism for the costs of providing POLR service, the risks faced by electric distribution companies with a POLR obligation may be greater than or less than those of an integrated utility. The biggest risk difference between the two is that integrated utilities own or contract for the generation capacity to meet the power needs of their customers. Although they are still exposed to changes in fuel prices as well as the construction and operating risk of owning generation, they have a natural hedge against volatile energy prices through their ownership of generation assets. POLR companies, on the other hand, are potentially exposed to changes in market prices not related to the volatility of fuel prices, because they must purchase power at market prices.

B. THE GAS LDC SAMPLE

Q5. How do you select the gas LDC sample?

A5. To select this sample, I started with the universe of publicly traded natural gas distribution utilities covered by *Value Line Investment Survey Plus*. This resulted in an initial group of 23 companies, to which I added Vectren Corporation because it is often viewed as a natural gas LDC. Vectren is involved in both gas and electric distribution

activities, but more of its regulated assets are invested in the gas distribution operations.[3] This company is also covered by *Value Line*, but is classified as an Electric Utility due to its regulated electric operations.[4] I then eliminated companies by applying additional selection criteria designed to remove companies with unique circumstances which may bias the cost of capital estimates. The final sample consists of ten gas LDCs, from which I also consider a sub-sample of four companies with the fewest reliability concerns. Table No. MJV-13 reports the estimated share of total assets for each company devoted to regulated activities in 2006.

Q6. What are the other selection criteria you applied?

A6. Companies were first eliminated if their operating regions were outside of the continental USA. I then applied my standard selection criteria to narrow the sample to those companies likely to have reliable cost of equity estimates. Specifically, I eliminated all companies whose S&P bond rating as reported by Bloomberg was not investment grade, i.e., less than BBB-. To guard against measurement bias caused by "thin trading," I also restricted the sample to companies with total operating revenues greater than $300 million (USD) in 2006 as reported by Bloomberg.[5] Companies that had a large merger during the period January 2004 to April 2007 (i.e., just over the past three years) were also generally removed from the sample, although two companies which would otherwise not survive the process were included since their primary merger activity occurred in 2004. These two companies were Atmos Energy and AGL Resources, and they were subsequently excluded from a sub-sample of *cleanest* companies I also considered as part

[3] Vectren Utility Holdings, Inc.'s 2006 10-K reveals that about 57 percent of its assets are regulated natural gas distribution assets and 37 percent are regulated electric assets. Because it has a substantial amount of regulated electric activity, I exclude it from the sub-sample of companies I consider to be the most representative of the natural gas distribution line of business and to be most free of characteristics that may bias cost of equity estimates.

[4] The 24 companies are from *Value Line Investment Survey Plus*, reviewed March 9, 2007.

[5] Data was reviewed during the first week of April 2007.

of my analysis. The screen for merger activity was primarily done by scanning each company's news history on Bloomberg and a search of company web pages.[6]

Finally, I required that the companies have historical data available from Bloomberg for the relevant period and had no dividend cuts or restatement of financial statements in the past five years, since the latter can be signs of financial distress.

Q7. Please elaborate on how companies were eliminated from your sample?

A7. Five companies were eliminated immediately because they had less than investment grade bond rating and a further four for having no bond rating. Four more companies were eliminated for excessive merger and acquisition activity ("M&A") over the past three years. For example, Keyspan Corp. was eliminated for high levels of M&A and recent dividend cuts. UGI Corp. was removed for high levels of merger activity, and because it primarily sells propane which is not regulated. Southern Union was eliminated for its unusually high levels of M&A activity. Finally, Nicor Inc. was eliminated from the sample because it restated earnings for 1999-2001 and because it settled regulatory compliance issues with the Federal Energy Regulatory Commission ("FERC") in 2003.[7]

Q8. Are there any issues with the remaining companies in your sample?

A8. Perhaps. Several companies in the sample engage in natural gas marketing activities (see Table 4 in the MJV Direct Testimony).[8] Given the turmoil of the energy trading markets, the companies' cost of capital estimates may be more volatile than those of more stable companies. Although still investment grade, Southwest Gas is at the bottom of the scale of investment grade credit ratings and has a relatively low average equity thickness over the past five years – 40.1 percent compared to over sixty percent for the remaining companies. Closer investigation shows that Southwest Gas's capital structure has been shifting rapidly towards equity over the last five years, with a level of about 50 percent

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[6] Company web pages were searched in December 2003 for merger and acquisition activities during the 2001-2003 period, in July 2006 for merger and acquisition activities during the period 2004 through July 2006, and in December 2006 for the period August through December 2006.

[7] Nicor announced on October 29, 2002 that its earnings for 1999-2001 would be revised downwards by $15-35 million. March 4, 2003, Nicor released its restated earnings for 1999-2001 along with 2002 earnings.

[8] The percentages of regulated assets calculated for the samples are only estimates due to data reporting limitations.

over the most recent two years. These factors suggest a potential reliability problem for estimates of this company's cost of capital at this time. The Laclede Group's market cap is a bit smaller than the average of the group, but with revenues of more than $1.5 billion, it is still a large company. In 2006, Piedmont Natural Gas restated some portions of its 2003-2005 financial reports. Although this can generally lead to less reliable estimates from the equity estimation models, the restatements were not caused by fraudulent activities but were due to an accounting error in the classification of hedging amounts. This type of reclassification would not be expected to change the value of the firm and prices did not show any erratic behavior in the period surrounding the announcement of this reclassification. A potential concern for the DCF estimates is that the industry has experienced a sustained level of merger and acquisition activity over the last five years that has implication for the stability of the industry necessary for the reliable application of the DCF model. Due to the concerns with the sample, I also report the results for a sub-sample of the gas LDC sample that consists of companies with no material data issues.

Q9. Please compare the relative risk of the sample with respect to Wisconsin Gas.

A9. The sample consists of ten gas LDCs with risk characteristics generally similar to those of Wisconsin Gas. Like Wisconsin Gas, they all have fuel-cost adjustment clauses which either remove or significantly reduce their exposure to this risk. In their 10-Ks, all sample companies report that they engage in hedging activities to further reduce this risk. In addition, seven of the ten companies have weather adjustment clauses which Wisconsin Gas does not have. The sample also evidences a high degree of regulated activities, with seven of the ten companies falling into the 'Regulated' category.[9] As mentioned earlier in my direct testimony, Vectren Corp. earns a significant amount of its income from regulated electric activities despite being very active in the regulated gas LDC line of business. As such, it may be considered to be of slightly different business risk than the rest of the sample, although its S&P Business Profile in April 2006 places it in the middle of the group in terms of business risk.[10] Wisconsin Gas's S&P profile also

[9] As with the electric sample, a characterization of 'Regulated' indicates that more than 80 percent of the company's assets are regulated.

[10] Vectren was excluded from the sub-sample for this reason.

places it close to the sample group's average, though towards the less risky side of the group profiles but it does not have weather or volume adjustment clauses as do some of the sample companies.

Q10. What companies are in the sub-sample?

A10. The sub-sample consists of Laclede Group, Northwest Natural Gas, Piedmont Natural Gas and WGL Holdings. Vectren was eliminated because of its mix of both regulated natural gas and regulated electric operations. Atmos Energy and AGL Resources were eliminated because of concerns about M&A activities in 2004, and South Jersey Industries was eliminated from the sub-sample because of the accounting restatements. All remaining companies fall into the 'Regulated' category and as a group have an average S&P business profile very close to that of Wisconsin Gas.

Q11. What do you conclude from the comparison of the sample companies to Wisconsin Gas?

A11. I believe that the sample of regulated gas utility companies has business risk that is comparable on average to that of Wisconsin Gas.

II. MARKET VALUE CAPITAL STRUCTURE, COSTS OF DEBT & COSTS OF PREFERRED EQUITY

Q12. What capital structure information do you require?

A12. For reasons discussed in my written evidence and explained in detail in Appendix E, explicit evaluation of the market-value capital structures of the sample companies versus the capital structure used for rate making is vital for a correct interpretation of the market evidence. This requires estimates of the market values of common and preferred equity and debt, and the current market costs of preferred equity and debt.

Q13. How do you calculate the market-value capital structures of the sample companies?

A13. I estimate the capital structure for each company by estimating the market values of common equity, preferred equity and debt from publicly available data. The calculations

are in Panels A to I of Table No. MJV-3 for the electric sample, and Panels A to J of Table No. MJV-14 for the gas LDC sample.

The market value of equity is straightforward: the price per share times the number of shares outstanding. The market value of preferred is set equal to its book value because the portion of the capital structure financed with preferred equity is generally small. The market value of debt is estimated at the book value of debt reported by Bloomberg plus or minus the difference in the estimated fair (market) value and book value of long-term debt as reported in the companies' 10-Ks or annual reports.[11]

For purposes of assessing financial risk to common shareholders, I add an adjustment for short-term debt to the debt portion of the capital structure. This adjustment is used only for those companies whose short-term (current) liabilities exceed their short-term (current) assets. I add an amount equal to the minimum of the difference between short-term liabilities and short-term assets or the amount of short-term debt. The reason for this adjustment is to recognize that when current liabilities exceed current assets, a portion of the companies long-term assets are being financed, in effect, by short-term debt.

The market value capital structure is calculated to be consistent with the time period over which the cost of capital is estimated for the sample. The capital structure is determined over the historical period over which the relevant risk positioning parameters were determined and as of the date analysts provide forward looking growth forecasts. Therefore, Tables No. MJV-3 and MJV-14 report the market value capital structure at year end for the years ending 2002 - 2006. The output of these tables is the market equity-to-value, debt-to-value, and preferred equity-to-value ratios. The overall cost of capital calculation for the risk positioning estimates in both samples rely on the average of the market value capital structure computed for the years 2002 through 2006 as shown in Tables No. MJV-4 and MJV-15. The results in columns [1]-[3] are used in the DCF model calculations, while columns [4]-[6] are for the risk positioning models.

Q14. How do you estimate the current market cost of preferred equity?

A14. For companies with preferred equity, the cost of preferred equity for each company was set equal to the yield on an index of preferred stock as reported in the Mergent Bond Record corresponding to the S&P rating of that company's debt. The yields from Mergent were as of March 10, 2007. In general, the average amount of preferred equity in the sample companies' capital structures is very small and frequently zero. No company in either sample has more than two percent on average.[12]

Q15. How do you estimate the current market cost of debt?

A15. The market cost of debt for each company in the DCF analysis is the current yield reported by Bloomberg for a public utility company bond corresponding to the sample company's current debt rating as classified by S&P. The risk positioning analysis, on the other hand, uses the current yield of a utility bond that corresponds to the five-year average debt rating of each company so as to match consistently the horizon of information used by *Value Line* to estimate company betas. The current S&P debt ratings were obtained from Bloomberg.

Bloomberg reports that as of March 27, 2007, the average yield on A-rated Public Utility bonds was 5.85 percent, and 6.11 percent on average for BBB-rated Public Utility bonds.[13] (See Panel C of Workpaper #1 to Table No. MJV-11 for the yields on utility bonds and preferred stock by credit rating.) Calculation of the after-tax cost of debt uses the marginal tax rates provided by the companies of 39.80 percent for Wisconsin Electric and 40.048 percent for Wisconsin Gas.

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[11] See Panels A through I in Tables No. MJV-3 and MJV-14 for details. The adjustment relies on the difference between the companies' self-reported fair value of long-term debt and the carrying value of the same line items. This information was obtained from the sample companies' annual reports.

[12] Wisconsin Electric has less than one percent preferred securities in its regulatory capital structure, while Wisconsin Gas has no preferred securities in its structure.

[13] All companies in the electric sample are either BBB, AA, or A, while in the gas LDC samples they are either BBB or A rated, except WGL Holdings which is AA-rated. The yield on AA-rated utility bonds is calculated as the yield on A-rated utility bonds minus ½ times the spread between the yield on BBB and A rated utility bonds.

APPENDIX C

RISK POSITIONING APPROACH METHODOLOGIES:

EMPIRICAL RESULTS

I. EQUITY RISK PREMIUM METHODOLOGY 1

A. THE BASIC EQUITY RISK PREMIUM MODEL 1
B. MARKET RISK PREMIUM 2
C. RELATIVE RISK 9
D. INTEREST RATE FORECAST 12
E. COST OF CAPITAL MODELS 12

II. EMPIRICAL EQUITY RISK PREMIUM RESULTS 15

A. RISK-FREE INTEREST RATE FORECAST 15
B. BETAS AND THE MARKET RISK PREMIUM 16
1. Beta Estimation Procedures 16
2. Market Risk Premium Estimation 16
C. COST OF CAPITAL ESTIMATES 16
1. Wisconsin Electric 16
2. Wisconsin Gas 17

Q1. What is the purpose of this appendix?

A1. This appendix reviews the principles behind the risk positioning methodologies, describes the estimation of the parameters used in the models, and details the cost of capital estimates obtained from these methodologies. This appendix intentionally repeats portions of my direct testimony, because I want the reader to be able to have a full discussion of the issues addressed here, rather than having to continually turn back to the corresponding section of the testimony.

I. EQUITY RISK PREMIUM METHODOLOGY

Q2. How is this section of the appendix organized?

A2. It first reviews the basic nature of the equity risk premium approach. It then discusses the individual components of the model: the benchmark risk premium, the relative risk of the company or line of business in question, the appropriate interest rate, and the combination of these elements in a particular equity risk premium model.

A. THE BASIC EQUITY RISK PREMIUM MODEL

Q3. How does the equity risk premium model work?

A3. The equity risk premium approach estimates the cost of equity as the sum of a current interest rate and a risk premium. (It therefore is sometimes also known as the "risk premium" or the "risk positioning" approach.)

This approach may sometimes be applied informally. For example, an analyst or a commission may check the spread between interest rates and what is believed to be a reasonable estimate of the cost of capital at one time, and then apply that spread to changed interest rates to get a new estimate of the cost of capital at another time.

More formal applications of equity risk premium method implement the second approach to cost of capital estimation. They use information on all securities to identify the security market line (Figure 1 in the body of the testimony) and derive the cost of capital for the individual security based on that security's relative risk. This equity risk premium

approach is widely used and underlies most of the current scholarly research on the nature, determinants and magnitude of the cost of capital.

Q4. How are "more formal applications" put into practice?

A4. The essential benchmarks that determine the security market line are the risk-free interest rate and the premium that a security of average risk commands over the risk-free rate. This premium is commonly referred to as the "market risk premium" ("MRP"), i.e., the excess of the expected return on the average common stock over the risk-free interest rate. In the equity risk premium approach the risk-free interest rate and MRP are common to all securities. A security-specific measure of relative risk (beta) is estimated separately and combined with the MRP to obtain the company-specific risk premium.

In principle, there may be more than one factor affecting the expected stock return, each with its own security-specific measure of relative risk and its own benchmark risk premium. For example, the "arbitrage pricing theory" and other "multi-factor" models have been proposed in the academic literature. These models estimate the cost of capital as the sum of a risk-free rate and several security-specific risk premiums. However, none of these alternative models has emerged in practice as "the" improvement to use instead of the original, single-factor model. I use the traditional single-factor model in this testimony.

Accordingly, the required elements in my formal equity risk premium approach are the market risk premium, an objective measure of relative risk, the risk-free rate that corresponds to the measure of the market risk premium, and a specific method to combine these elements into an estimate of the cost of capital.

B. MARKET RISK PREMIUM

Q5. Why is a risk premium necessary?

A5. Experience (e.g., the U.S. market's October Crash of 1987) demonstrates that shareholders, even well diversified shareholders, are exposed to enormous risks. By investing in stocks instead of risk-free Government bills, investors subject themselves not only to the risk of earning a return well below those they expected in any year but also to

the risk that they might lose much of their initial capital. This is why investors demand a risk premium.

I estimate two versions of the Capital Asset Pricing Model ("CAPM"). The first version measures the market risk premium as the risk premium of average risk common stocks over the long-term risk-free rate. The second version measures the risk premium relative to a short-term risk-free rate, which is the usual measure of the "market risk premium" used in capital market theories.

Q6. Please discuss some of the issues involved in selecting the appropriate MRP?

A6. To determine the cost of capital in a regulatory proceeding, the MRP should be used with a forecast of the same interest rate used to calculate the MRP (i.e., the short-term Treasury bill rate or the long-term Government rate). For example, it would be inconsistent to utilize a short-term risk-free with an estimate of the MRP derived from comparisons to long-term interest rates. In addition, the appropriate measure of the MRP should be based upon the arithmetic mean not the geometric mean return.[1] The arithmetic mean is the simple average while the geometric mean is the compound rate of return between two periods.

Q7. How do you estimate the MRP?

A7. There is presently little consensus on "best practice" for estimating the MRP, which does not mean that each approach is equally valid. For example, the latest edition of the leading graduate textbook in corporate finance, after recommending use of the arithmetic average realized excess return on the market for many years (which for awhile was noticeably over 9 percent), now reviews the current state of the research and expresses the view that the a range between 5 to 8 percent is reasonable for the U.S.[2,3]

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[1] See, for example, Morningstar, *Stocks, Bonds, Bills, and Inflation: Valuation Edition 2007 Yearbook*, pp. 75-77.

[2] Richard A. Brealey, Stewart C. Myers, and Franklin Allen, *Principles of Corporate Finance*, McGraw-Hill, 8th edition, 2006, pp. 151-154.

[3] In past editions, the authors expressed the view that they are "most comfortable" with values toward the upper end of that range, but this language does not appear in the 8th edition. Although Professor Myers still holds this view, this language and other sections were dropped to accommodate a request to reduce the length of the text.

My written testimony considers both the historical evidence and the results of scholarly studies of the factors that affect the risk premium for average-risk stocks in order to estimate the benchmark risk premium investors currently expect. I consider the historical difference in returns between the Standard and Poor's 500 Index ("S&P 500") and the risk-free rate, recent academic literature on the MRP and the results of recent surveys to estimate the market risk premium.

Q8. Please summarize the recent literature on the MRP and the conclusions you draw from it?

A8. The new research based upon U.S. data challenges the conventional wisdom of using the arithmetic average historical excess returns to estimate the MRP. However, after reviewing the issues in the debate, I remain skeptical for several reasons that the market risk premium has declined in the U.S. as much as is claimed in some of the literature.

First, despite eye-catching claims like "equity risk premium as low as three percent,"[4] and "the death of the risk premium,"[5] not all recent research arrives at the same conclusion. In his presidential address to the American Finance Association in 2001, Professor Constantinides seeks to estimate the unconditional equity premium based on average historical stock returns.[6] (Note that this address was based upon evidence just before the major fall in market value.) He adjusts the average returns downward by the change in price-earnings ratio because he assumes no change in valuations in an unconditional state. His estimates for 1926 to 2000 and 1951 to 2000 are 8.0 percent and 6.0 percent, respectively, over the 3-month T-bill rate. In another published study in 2001, Professors Harris and Marston use the DCF method to estimate the market risk premium for the U.S. stocks.[7] Using analysts' forecasts to proxy for investors' expectation, they conclude that over the period 1982-1998 the MRP over the *long-term*

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[4] Claus, J. and J. Thomas, (2001), "Equity Risk Premium as Low as Three Percent: Evidence from Analysts' Earnings Forecasts for Domestic and International Stocks," *Journal of Finance* 56:1629-1666.

[5] Arnott, R. and R. Ryan, (2001), "The Death of the Risk Premium," *Journal of Portfolio Management* 27(3):61-84.

[6] Constantinides, G.M. (2002), "Rational Asset Prices," *Journal of Finance* 57:1567-1591.

[7] Robert S. Harris and Felicia C. Marston, "The Market Risk Premium: Expectational Estimates Using Analysts' Forecasts," *Journal of Applied Finance* 11 (1) 6-16, 2001.

risk-free rate is 7.14 percent. As yet another example, the paper by Drs. Ibbotson and Chen (2003) adopts a supply side approach to estimate the forward looking long-term sustainable equity returns and equity risk premium based upon economic fundamentals. Their equity risk premium over the *long-term* risk-free rate is estimated to be 3.97 percent in geometric terms and 5.90 percent on an arithmetic basis. They conclude their paper by stating that their estimate of the equity risk premium is "far closer to the historical premium than being zero or negative."[8]

Second, Professor Ivo Welch surveyed a large group of financial economists in 1998 and 1999. The average of the estimated MRP was 7.1 percent in Prof. Welch's first survey and 6.7 percent in his second survey which was based on a smaller number of individuals. However, a more recent survey[9] by Prof. Welch reported only a 5.5 percent MRP.[10] In characterizing these results Prof. Welch notes that "[T]he equity premium consensus forecast of finance and economics professors seems to have dropped during the last 2 to 3 years, a period with low realized equity premia."[11]

The above quotation from Prof. Welch emphasizes the caution that must attend survey data even from knowledgeable survey participants: the outcome is likely to change quickly with changing market circumstances. Regulatory commissions should not, in my opinion, attempt to keep pace with such rapidly changing opinions.

Third, some of the evidence for negative or close to zero market risk premium simply does not make sense. Despite the relatively high valuation levels, stock returns remain much more volatile than Treasury bond returns. I am not aware of any empirical or theoretical evidence showing that investors would rationally hold equities and not expect to earn a positive risk premium for bearing the risk.

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[8] Ibbotson, R. and P. Chen (2003), "Stock Market Returns in the Long Run: Participating in the Real Economy," *Financial Analyst Journal*, 59(1):88-98. Cited figures are on p. 97.

[9] Ivo Welch (2000), "Views of Financial Economists on the Equity Premium and on Professional Controversies," *Journal of Business*, 73(4):501-537. The cited figures are in Table 2, p. 514.

[10] Ivo Welch (2001), "The Equity Premium Consensus Forecast Revisited," School of Management at Yale University working paper. The cited figure is in Table 2.

[11] *Ibid*, p. 8.

Fourth, I am unaware of a convincing theory for why the future MRP should have substantially declined. At the height of the stock market bubble in the U.S., many claimed that the only way to justify the high stock prices would be if the MRP had declined dramatically,[12] but this argument was heard less frequently after the market declined substantially from its tech bubble high. All else equal, a high valuation ratio such as price-earnings ratio implies a low required rate of return, hence a low MRP. However, there is considerable debate about whether the high level of stock prices (despite the burst of the internet bubble from its high in the summer of 2000) represents the transition to a new economy or is simply an "irrational exuberance," which cannot be sustained for the long term. If the former case is true, then the MRP may have decreased permanently. Conversely, the long-run MRP may remain the same even if expected market returns in the short-term are smaller.

Another common argument for a lower expected MRP is that the U.S. experienced very remarkable growth in the 20th century that was not anticipated at the start of the century. As a result, the average realized excess return is overestimated meaning the standard method of estimating the MRP would be biased upward. However, one recent study by Profs. Jorion and Goetzmann finds, under some simplifying assumptions, that the so-called "survivorship bias" is only 29 basis points.[13] Furthermore, "[I]f investors have overestimated the equity premium over the second half of the last century, Constantinides (2002) argues that 'we now have a bigger puzzle on our hands' Why have investors systematically biased their estimates over such a long horizon?"[14]

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[12] See Robert D. Arnott and Peter L. Bernstein, "What Risk Premium is 'Normal'?," *Financial Analysts Journal* 58:64-85, for an example.

[13] Jorion, P., and W. Goetzmann (1999), "Global Stock Markets in the Twentieth Century," *Journal of Finance* 54:953-980. Dimson, Marsh, and Staunton (2003) make a similar point when they comment on the equity risk premia for 16 countries based on returns between 1900 and 2001: "While the United States and the United Kingdom have indeed performed well, compared to other markets there is no indication that they are hugely out of line." p.4.

[14] Mehra, R., and E.C. Prescott (2003), "The Equity Premium in Retrospect," in *Handbook of the Economics of Finance*, Edited by G.M. Constantinides, M. Harris and R. Stulz, Elsevier B.V, p. 926

To sum up the above, I cite two passages from Profs. Mehra and Prescott's review of the theoretical literature on equity premium puzzle:[15]

> Even if the conditional equity premium given current market conditions is small, and there appears to be general consensus that it is, this in itself does not imply that it was obvious either that the historical premium was too high or that the equity premium has diminished.
>
> In the absence of this [knowledge of the future], and based on what we currently know, we can make the following claim: over the long horizon the equity premium is likely to be similar to what it has been in the past and the returns to investment in equity will continue to substantially dominate that in T-bills for investors with a long planning horizon.

Q9. Is there other scholarly support for the conclusion?

A9. Yes. Another line of research was pursued by Steven N. Kaplan and Richard S. Ruback. They estimate the market risk premium in their article, "The Valuation of Cash Flow Forecasts: An Empirical Analysis."[16] Professors Kaplan and Ruback compare published cash flow forecasts for management buyouts and leveraged recapitalization over the 1983 to 1989 period against the actual market values that resulted from these transactions. One of their results is an estimate of the market risk premium over the long-term Treasury bond yield that is based on careful analysis of actual major investment decisions, not realized market returns. Their median estimate is 7.78 percent and their mean estimate is 7.97 percent.[17] This is considerably higher than my estimate of 6.5 percent. Even if the maturity premium of Treasury bonds over Treasury bills were only 1 percent, well below the best estimate of 1.5 percent the resulting estimate of the market risk premium over Treasury bills is higher than my estimate of 8.0 percent.

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[15] *Ibid*, p. 926.

[16] *Journal of Finance*, 50, September 1995, pp. 1059-1093.

[17] *Ibid*, p. 1082.

Q10. In addition to the scholarly articles and survey evidence you discussed in Section I.B of your Direct Testimony, what other evidence do you consider to estimate the MRP?

A10. I also consider the long-run realized equity premiums reported in Morningstar *SBBI Valuation Edition 2007 Yearbook*. The data provided cover the period 1926 through 2006. The results are discussed below.

Q11. What is the "long-run realized risk premium" in the U.S.?

A11. From 1926 to 2006, the full period reported, Morningstar's data show that the average premium of stocks over Treasury bills is 8.6 percent. I also examine the "post-War" period. The risk premium for 1947-2006 is 8.4 percent.[18] (I exclude 1946 because its economic statistics are heavily influenced by the War years; e.g., the end of price controls yielded an inflation rate of 18 percent. It is not really a "post-War" year, from an economic viewpoint.) These averages often change slightly when another year of data is added to the Ibbotson series. The average premium of stocks over the income returns on long-term Government bonds is 7.1 percent for the 1926 to 2006 period and 7.1 for the 1947 to 2006 period.

Recently there has been a great deal of academic research on the MRP. This research has put practitioners in a dilemma: there is nothing close to a consensus about how the MRP should be estimated, but a general agreement in the academic community seems to be emerging that the old approach of using the average realized return over long periods gives too high an answer.

Q12. What is your conclusion regarding the MRP?

A12. Estimation of the MRP remains controversial. There is no consensus on its value or even how to estimate it. Given a careful review of all of the information, I estimate the risk premium for average risk stocks to be 8.0 percent over Treasury bills and 6.5 percent over long-term Government bonds.

[18] Morningstar, *SBBI Valuation Edition 2007 Yearbook*, Appendix A.

C. RELATIVE RISK

Q13. How do you measure relative risk?

A13. The risk measure I examine is the "beta" of the stocks in question. Beta is a measure of the "systematic" risk of a stock — the extent to which a stock's value fluctuates more or less than average when the market fluctuates. It is the most commonly used measure of risk in capital market theories.

Q14. Please explain beta in more detail.

A14. The basic idea behind beta is that risks that cannot be diversified away in large portfolios matter more than those that can be eliminated by diversification. Beta is a measure of the risks that *cannot* be eliminated by diversification.

Diversification is a vital concept in the study of risk and return. (Harry Markowitz won a Nobel Prize for work showing just how important it was.) Over the long run, the rate of return on the stock market has a very high standard deviation, on the order of 15 - 20 percent per year. But many individual stocks have much higher standard deviations than this. The stock market's standard deviation is "only" about 15 - 20 percent because when stocks are combined into portfolios, some of the risk of individual stocks is eliminated by diversification. Some stocks go up when others go down, and the average portfolio return — positive or negative — is usually less extreme than that of individual stocks within it.

In the limiting case, if the returns on individual stocks were completely uncorrelated with one another, the formation of a large portfolio of such stocks would eliminate risk entirely. That is, the market's long-run standard deviation would be not 15-20 percent per year, but virtually zero.

The fact that the market's actual annual standard deviation is so large means that, in practice, the returns on stocks are correlated with one another, and to a material degree. The reason is that many factors that make a particular stock go up or down also affect other stocks. Examples include the state of the economy, the balance of trade, and inflation. Thus some risk is "non-diversifiable". Single-factor equity risk premium models derive conditions in which all of these factors can be considered simultaneously,

through their impact on the market portfolio. Other models derive somewhat less restrictive conditions under which several of them might be individually relevant.

Again, the basic idea behind all of these models is that risks that cannot be diversified away in large portfolios matter more than those that can be eliminated by diversification, because there are a large number of large portfolios whose managers actively seek the best risk-reward tradeoffs available. Of course, undiversified investors would like to get a premium for bearing diversifiable risk, but they cannot.

Q15. Why not?

A15. Well-diversified investors compete away any premium rates of return for diversifiable risk. Suppose a stock were priced especially low because it had especially high diversifiable risk. Then it would seem to be a bargain to well diversified investors. For example, suppose an industry is subject to active competition, so there is a large risk of loss of market share. Investors who held a portfolio of all companies in the industry would be immune to this risk, because the loss on one company's stock would be offset by a gain on another's stock. (Of course, the competition might make the whole industry more vulnerable to the business cycle, but the issue here is the diversifiable risk of shifts in market share among firms.)

If the shares were priced especially low because of the risk of a shift in market shares, investors who could hold shares of the whole industry would snap them up. Their buying would drive up the stocks' prices until the premium rates of return for diversifiable risk were eliminated. Since all investors pay the same price, even those who are not diversified can expect no premium for bearing diversifiable risk.

Of course, substantial non–diversifiable risk remains, as the October Crash of 1987 demonstrates. Even an investor who held a portfolio of all traded stocks could not diversify against that type of risk. Sensitivity to such market–wide movements is what beta measures. That type of sensitivity, whether considered in a single- or multi-factor model, determines the risk premium in the cost of equity.

Q16. What does a particular value of beta signify?

A16. By definition, a stock with a beta equal to 1.0 has average non-diversifiable risk: it goes up or down by 10 percent on average when the market goes up or down by 10 percent. Stocks with betas above 1.0 exaggerate the swings in the market: stocks with betas of 2.0 tend to fall 20 percent when the market falls 10 percent, for example. Stocks with betas below 1.0 are less volatile than the market. A stock with a beta of 0.5 will tend to rise 5 percent when the market rises 10 percent.

Q17. How is beta measured?

A17. The usual approach to calculating beta is a statistical comparison of the sensitivity of a stock's (or a portfolio's) return to the market's return. Many investment services report betas, including Merrill Lynch's quarterly Security Risk Evaluation, Bloomberg and the *Value Line Investment Survey*. Betas are not always calculated the same way, and therefore must be used with a degree of caution, but the basic point that a high beta indicates a risky stock has long been widely accepted by both financial theorists and investment professionals.

Q18. Are there circumstances when the "usual approach" should not be used?

A18. There are at least two cases where the standard estimate of beta should be viewed skeptically.

First, companies in serious financial distress seem to "decouple" from their normal sensitivity to the stock market. The stock prices of financially distressed companies tend to change based more on individual news about their particular circumstances than upon overall market movements. Thus, a risky stock could have a low estimated beta if the company was in financial distress. Other circumstances that may cause a company's stock to decouple include an industry restructuring or major changes in a company's supply or output markets.

Second, similar circumstances seem to arise for companies "in play" during a merger or acquisition. Once again, the individual information about the progress of the proposed takeover is so much more important for that stock than day-to-day market fluctuations that, in practice, beta estimates for such companies seem to be too low.

Q19. How reliable is beta as a risk measure?

A19. Scholarly studies have long confirmed the importance of beta for a stock's required rate of return. It is widely regarded as the best single risk measure available. The merits of beta seemed to have been challenged by widely publicized work by Professors Eugene F. Fama and Kenneth R. French.[19] However, despite the early press reports of their work as signifying that "beta is dead," it turns out that beta is still a potentially important explanatory factor (albeit one of several) in their work. Thus, beta remains alive and well as the best single measure of relative risk.

D. INTEREST RATE FORECAST

Q20. What interest rates do your procedures require?

A20. Modern capital market theories of risk and return use the short-term risk-free rate of return as the starting benchmark. My measures of the MRP incorporate this approach, since they represent the excess of the expected return on the market over the 30-day U.S. Treasury bill rate and over the long-term U.S. Government bond rate. Accordingly, implementation of my procedures requires use of a forecast of the 30-day Treasury bill rate and the long-term Government bond rate.

E. COST OF CAPITAL MODELS

Q21. How do you combine the above components into an estimate of the cost of capital?

A21. By far the most widely used approach to estimation of the cost of capital is the "Capital Asset Pricing Model," and I do calculate CAPM estimates. However, the CAPM is only one equity risk premium approach technique, and I also use another.

Q22. Please start with the CAPM, by describing the model.

A22. As noted above, the modern models of capital market equilibrium express the cost of equity as the sum of a risk-free rate and a risk premium. The CAPM is the longest-standing and most widely used of these theories. The CAPM states that the cost of

[19] See for example, "The Capital Asset Pricing Model: Theory and Evidence", Eugene F. Fama and Kenneth R. French, *Journal of Economic Perspectives*, Volume 18, Summer 2004, pp. 25-46.

capital for investment I (e.g., a particular common stock) is given by the following equation:

$$k_s = r_f + \beta_s \times MRP \quad \textbf{(C-1)}$$

where k_s is the cost of capital for investment s; r_f is the risk-free rate, β_s is the beta risk measure for the investment s; and MRP is the market risk premium.

The CAPM relies on the empirical fact that investors price risky securities to offer a higher expected rate of return than safe securities do. It says that the security market line starts at the risk-free interest rate (that is, that the return on a zero-risk security, the y-axis intercept in Figure 1 in the body of my testimony, equals the risk-free interest rate). Further, it says that the risk premium over the risk-free rate equals the product of beta and the risk premium on a value-weighted portfolio of all investments, which by definition has average risk.

Q23. What other equity risk premium approach model do you use?

A23. Empirical research has long shown that the CAPM tends to overstate the actual sensitivity of the cost of capital to beta: low-beta stocks tend to have higher risk premia than predicted by the CAPM and high-beta stocks tend to have lower risk premia than predicted. A number of variations on the original CAPM theory have been proposed to explain this finding. The difference between the CAPM and the type of relationship identified in the empirical studies is depicted in Figure MJV-C1.

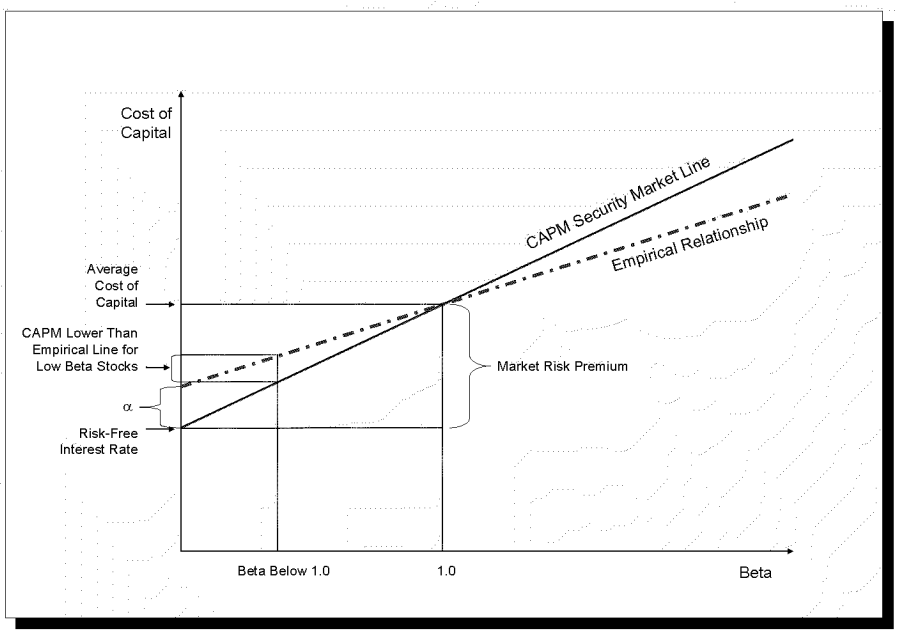

Figure MJV-C1: The Empirical Security Market Line

The second model makes use of these empirical findings. It estimates the cost of capital with the equation, where α is the "alpha" of the risk-return line, a constant,

$$k_s = r_f + \alpha + \beta_s \times (MRP - \alpha) \qquad \textbf{(C-2)}$$

and the other symbols are defined as above. I label this model the Empirical Capital Asset Pricing Model, or "ECAPM." For the short-term risk-free rate models, I set alpha equal to 1, 2, and 3 percent which are values somewhat lower than that estimated empirically. For low-beta stocks such as regulated utilities, the use of a lower value for alpha leads to a lower estimate of the cost of capital. For the long-term risk-free rate models, I set alpha equal to both 0.5 percent and 1.5 percent, but I rely more heavily on the 0.5 percent results. The use of a long-term risk-free rate incorporates some of the desired effect of using the ECAPM. That is, the long-term risk-free rate version of the Security Market Line has a higher intercept and a flatter slope than the short-term risk-free version which has been tested. Thus, it is likely that I do not need to make the same degree adjustment when I use the long-term risk-free rate. A summary of the empirical evidence on the magnitude of alpha is provided in Table No. MJV-C1 below.

II. EMPIRICAL EQUITY RISK PREMIUM RESULTS

Q24. How is this part of the appendix organized?

A24. This section presents the full details of my equity risk premium approach analyses, which are summarized in the body of my testimony. This section discusses the sample selection process, calculation of the market value capital structures, and the forecasts of the short-term and the long-term risk-free interest rates. Next, it addresses the beta estimates, and the estimates of the MRP I use in the models. Finally, it reports the CAPM and ECAPM results for the samples' costs of equity, and then describes the results of adjusting for differences between the benchmark samples and each of the Applicants at their regulated capital structures.

A. RISK-FREE INTEREST RATE FORECAST

Q25. How do you obtain the forecasts of the risk-free interest rates over the period the utility rates set here are to be in effect?

A25. I obtain these forecast rates using data provided by Bloomberg. In particular, I use their reported government debt yields from the "constant maturity series". This information is displayed in Panels A and B of both Tables No. MJV-9.

Q26. What values do you use for the short-term and long-term risk-free interest rates?

A26. I use a value of 3.8 percent for the short-term risk-free interest rate and a value of 4.9 percent for the long-term risk-free interest rate as the benchmark interest rates in the equity risk premium analyses for both samples. These forecasts are constructed by using historical yield curve data to find the long-run average implied term premia on government securities, and combining these with recent yield curve data. Details of their calculation can be found in the Workpapers to Table No. MJV-9.

B. BETAS AND THE MARKET RISK PREMIUM

1. Beta Estimation Procedures

Q27. How do you estimate beta for each of the benchmark samples?

A27. I use the beta estimates reported in the *Value Line* for both the electric and the gas LDC sample companies. The current *Value Line* beta estimates range from 0.70 to 1.30 for the electric sample (See Workpaper #1 to Table No. MJV-10), and 0.70 to 0.95 for the gas LDC sample (See Workpaper #1 to Table No. MJV-20).

2. Market Risk Premium Estimation

Q28. Given all of the evidence, what MRP do you use in your analysis?

A28. It is clear that market return information is volatile and difficult to interpret, but based on the collective evidence, the MRP I use for the short-term risk-free rate is 8 percent and for the long-term risk-free rate is 6.5 percent.

C. COST OF CAPITAL ESTIMATES

1. Wisconsin Electric

Q29. Based on these data, what are the values you calculate for the overall cost of capital and the corresponding cost of equity for the electric sample?

A29. Panels A and B of Table No. MJV-10 present the cost of equity results using the equity risk positioning methods. Panel A uses the long-term risk-free rate forecast while Panel B uses the short-term risk-free rate forecast. These returns on equity are replicated and the overall cost of capital for the various equity risk positioning methods are reported in Table No. MJV-11. Panels A through C utilize the long-term risk-free rate while Panels D through G use the short-term risk free rate. Panel A reports the cost of capital estimates using the CAPM results for the long-term risk-free rate, while Panels B and C report these estimates for the ECAPM cost of equity results using ECAPM parameters of 0.5 and 1.5 percent, respectively. Panel D reports the CAPM estimates using the short-term risk free rate, while Panels E, F and G report ECAPM results using ECAPM

parameters of 1, 2 and 3 respectively. In each panel, column [8] reports the overall cost of capital for each company. The last row of each panel reports the sample average.

Q30. What does the electric sample market data imply about the sample's cost of equity at Wisconsin Electric's proposed 55.38 percent equity ratio?

A30. The sample average ATWACC from each panel of Table No. MJV-11 is reproduced in column [1] of Table No. MJV-12, which then reports the cost of equity for each of the risk positioning methods that is consistent with the sample information and the capital structure of Wisconsin Electric. Panel A of Table No. MJV-12 reports the results for all sample companies. The sample average ATWACCs and corresponding costs of equity at a 55.38 percent equity ratio are also displayed in Table 3 of my testimony.

I discuss the implications of the equity risk positioning results for the electric sample in the main body of my testimony.

2. Wisconsin Gas

Q31. Based on these data, what are the values you calculate for the overall cost of capital and the corresponding cost of equity for the gas LDC sample?

A31. Panels A and B of Table No. MJV-20 present the cost of equity results using the equity risk positioning methods. Panel A uses the long-term risk-free rate forecast while Panel B uses the short-term risk-free rate forecast. These returns on equity are replicated and the overall cost of capital for the various equity risk positioning methods are reported in Table No. MJV-21. Panels A through C utilize the long-term risk-free rate while Panels D through G use the short-term risk free rate. Panel A reports the cost of capital estimates using the CAPM results for the long-term risk-free rate, while Panels B and C report these estimates for the ECAPM cost of equity results using ECAPM parameters of 0.5 and 1.5 percent, respectively. Panel D reports the CAPM estimates using the short-term risk free rate, while Panels E, F and G report ECAPM results using ECAPM parameters of 1, 2 and 3 respectively. In each panel, column [8] reports the overall cost of capital for each company. The last two rows of each panel report the sample and sub-sample averages. The first is for all companies in the gas LDC sample and the second is for the sub-sample of companies which exhibit the fewest reliability issues and which, in

my opinion, are most representative of the business risk of Wisconsin Gas's utility operations.

Q32. What does the gas LDC sample market data imply about the sample's cost of equity at Wisconsin Gas's proposed 52.16 percent equity ratio?

A32. The sample average ATWACC from each panel of Table No. MJV-21 is reproduced in column [1] of Table No. MJV-22, which then reports the cost of equity for each of the risk positioning methods that is consistent with the sample information and the capital structure of Wisconsin Gas. Panel A of Table No. MJV-22 reports the results for all sample companies. Panel B of the table summarizes the results for the sub-sample of companies that have a larger percentage of revenues from regulated activities and fewer data problems. The results for the sub-sample are generally slightly higher than for the full sample. The sample average ATWACCs and corresponding costs of equity at a 52 .16 percent equity ratio are also displayed in Table 6 of my testimony.

I discuss the implications of the equity risk positioning results for gas LDC sample in the main body of my testimony.

Table MJV-C1

EMPIRICAL EVIDENCE ON THE ALPHA FACTOR IN ECAPM*		
AUTHOR	RANGE OF ALPHA	PERIOD RELIED UPON
Black (1993)[1]	1% for betas 0 to 0.80	1931-1991
Black, Jensen and Scholes (1972)[2]	4.31%	1931-1965
Fama and McBeth (1972)	5.76%	1935-1968
Fama and French (1992)[3]	7.32%	1941-1990
Litzenberger and Ramaswamy (1979)[4]	5.32%	1936-1977
Litzenberger, Ramaswamy and Sosin (1980)	1.63% to 3.91%	1926-1978
Pettengill, Sundaram and Mathur (1995)[5]	4.6%	1936-1990

*The figures reported in this table are for the longest estimation period available and, when applicable, use the authors' recommended estimation technique. Many of the articles cited also estimate alpha for sub-periods and those alphas may vary.

[1]Black estimates alpha in a one step procedure rather than in an un-biased two-step procedure.

[2]Estimate a negative alpha for the subperiod 1931-39 which contain the depression years 1931-33 and 1937-39.

[3]Calculated using Ibbotson's data for the 30-day treasury yield.

[4]Relies on Lizenberger and Ramaswamy's before-tax estimation results. Comparable after-tax alpha estimate is 4.4%.

[5]Pettengill, Sundaram and Mathur rely on total returns for the period 1936 through 1990 and use 90-day treasuries. The 4.6% figure is calculated using auction averages 90-day treasuries back to 1941 as no other series were found this far back.

Sources:

Black, Fischer. 1993. Beta and Return. *The Journal of Portfolio Management* 20 (Fall): 8-18.

Black, F., Michael C. Jensen, and Myron Scholes. 1972. The Capital Asset Pricing Model: Some Empirical Tests, from Studies in the theory of Capital Markets. In *Studies in the Theory of Capital Markets*, edited by Michael C. Jensen, 79-121. New York: Praeger.

Fama, Eugene F. and James D. MacBeth. 1972. Risk, Returns and Equilibrium: Empirical Tests. *Journal of Political Economy* 81 (3): 607-636.

Fama, Eugene F. and Kenneth R. French. 1992. The Cross-Section of Expected Stock Returns. *Journal of Finance* 47 (June): 427-465.

Litzenberger, Robert H. and Krishna Ramaswamy. 1979. The Effect of Personal Taxes and Dividends on Capital Asset Prices, Theory and Empirical Evidence. *Journal of Financial Economics* XX (June): 163-195.

Litzenberger, Robert H. and Krishna Ramaswamy and Howard Sosin. 1980. On the CAPM Approach to Estimation of a Public Utility's Cost of Equity Capital. *The Journal of Finance* 35 (2): 369-387.

Pettengill, Glenn N., Sridhar Sundaram and Ike Mathur. 1995. The Conditional Relation between Beta and Returns. *Journal of Financial and Quantitative Analysis* 30 (1): 101-116.

1

APPENDIX D

DISCOUNTED CASH FLOW METHODOLOGY:

DETAILED PRINCIPLES AND RESULTS

I. DISCOUNTED CASH FLOW METHODOLOGY PRINCIPLES 1

A. SIMPLE AND MULTI-STAGE DISCOUNTED CASH FLOW MODELS 1

B. CONCLUSIONS ABOUT DCF 7

II. EMPIRICAL DCF RESULTS 7

A. PRELIMINARY MATTERS 8

B. GROWTH RATES 8

C. DIVIDEND AND PRICE INPUTS 11

D. COMPANY-SPECIFIC DCF COST OF CAPITAL ESTIMATES 12

Q1. What is the purpose of this appendix?

A1. This appendix reviews the principles behind the discounted cash flow or "DCF" methodology and the details of the cost of capital estimates obtained from this methodology.

I. DISCOUNTED CASH FLOW METHODOLOGY PRINCIPLES

Q2. How is this section of the appendix organized?

A2. The first part discusses the general principles that underlie the DCF approach. The second portion describes the strengths and weaknesses of the DCF model and why it is generally less reliable for estimating the cost of capital for the sample companies at the present time than the risk positioning method discussed in Appendix C.

A. SIMPLE AND MULTI-STAGE DISCOUNTED CASH FLOW MODELS

Q3. Please summarize the DCF model.

A3. The DCF model takes the first approach to cost of capital estimation discussed with Figure 1 in Section II-A of my direct testimony. That is, it attempts to measure the cost of equity in one step. The method assumes that the market price of a stock is equal to the present value of the dividends that its owners expect to receive. The method also assumes that this present value can be calculated by the standard formula for the present value of a cash flow stream:

$$P = \frac{D_1}{(1+k)} + \frac{D_2}{(1+k)^2} + \frac{D_3}{(1+k)^3} + \cdots + \frac{D_T}{(1+k)^T} \qquad \textbf{(D-1)}$$

where "P" is the market price of the stock; "D_i" is the dividend cash flow expected at the end of period i; "k" is the cost of capital; and "T" is the last period in which a dividend cash flow is to be received. The formula just says that the stock price is equal to the sum of the expected future dividends, each discounted for the time and risk between now and the time the dividend is expected to be received.

Most DCF applications go even further, and make very strong (*i.e.*, unrealistic) assumptions that yield a simplification of the standard formula, which then can be rearranged to estimate the cost of capital. Specifically, if investors expect a dividend stream that will grow forever at a steady rate, the market price of the stock will be given by a very simple formula,

$$P = \frac{D_1}{(k-g)} \qquad \textbf{(D-2)}$$

where "D_1" is the dividend expected at the end of the first period, "g" is the perpetual growth rate, and "P" and "k" are the market price and the cost of capital, as before. Equation D-2 is a simplified version of Equation D-1 that can be solved to yield the well known "DCF formula" for the cost of capital:

$$\begin{aligned} k &= \frac{D_1}{P} + g \\ &= \frac{D_0 \times (1+g)}{P} + g \end{aligned} \qquad \textbf{(D-3)}$$

where "D_0" is the current dividend, which investors expect to increase at rate g by the end of the next period, and the other symbols are defined as before. Equation D-3 says that if Equation D-2 holds, the cost of capital equals the expected dividend yield plus the (perpetual) expected future growth rate of dividends. I refer to this as the simple DCF model. Of course, the "simple" model is simple because it relies on very strong (*i.e.*, very unrealistic) assumptions.

Q4. Are there other versions of the DCF models besides the "simple" one?

A4. Yes. If Equation D-2 does not hold, sometimes other variations of the general present value formula, Equation D-1, can be used to solve for k in ways that differ from Equation D-3. For example, if there is reason to believe that investors do *not* expect a steady growth rate forever, but rather have different growth rate forecasts in the near term (e.g., over the next five or ten years), these forecasts can be used to specify the early dividends in Equation D-1. Once the near-term dividends are specified, Equation D-2 can be used to specify the share price value at the end of the near-term (e.g., at the end of five or ten

years), and the resulting cash flow stream can be solved for the cost of capital using Equation D-1.

More formally, the "multi-stage" DCF approach solves the following equation for k:

$$P = \frac{D_1}{(1+k)} + \frac{D_2}{(1+k)^2} + \frac{D_3}{(1+k)^3} + \cdots + \frac{D_T + P_{TERM}}{(1+k)^T} \quad \textbf{(D-4)}$$

The terminal price, P_{TERM} is estimated as

$$P_{TERM} = \frac{D_{T+1}}{(k - g_{LR})} \quad \textbf{(D-5)}$$

where T is the last of the periods in which a near term dividend forecast is made and g_{LR} is the long-run growth rate. Thus, Equation D-4 defers adoption of the very strong perpetual growth assumptions that underlie Equation D-2 — and hence the simple DCF formula, Equation D-3 — for as long as possible, and instead relies on near term knowledge to improve the estimate of k. I examine both simple and multi-stage DCF results below.

Q5. What are the merits of the DCF model?

A5. The DCF approach is conceptually sound if its assumptions are met but can run into difficulty in practice because those assumptions are so strong, and hence so unlikely to correspond to reality. Two conditions are well-known to be necessary for the DCF approach to yield a reliable estimate of the cost of capital: the variant of the present value formula, Equation D-1, that is used must actually match the variations in investor expectations for the dividend growth path; and the growth rate(s) used in that formula must match current investor expectations. Less frequently noted conditions may also create problems.

The DCF model assumes that investors expect the cost of capital to be the same in all future years. Investors may not expect the cost of capital to be the same, which can bias the DCF estimate of the cost of capital in either direction.

The DCF model only works for companies for which the standard present value formula works. The standard formula does *not* work for companies that operate in industries or markets options (*e.g.*, puts and calls on common stocks), and so it will not work for companies whose stocks behave as options do. Option-pricing effects will be important for companies in financial distress, for example, which implies the DCF model will *understate* their cost of capital, all else equal.

In recent years even the most basic DCF assumption, that the market price of a stock in the absence of growth options is given by the standard present value formula (*i.e.*, by Equation D-1 above), has been called into question by a literature on market volatility.[1] In any case, it is still too early to throw out the standard formula, if for no other reasons than that the evidence is still controversial and no one has offered a good replacement. But the evidence suggests that it must be viewed with more caution than financial analysts have traditionally applied. Simple models of stock prices may not be consistent with the available evidence on stock market volatility.

Q6. Normally DCF debates center on the right growth rate. What principles underlie that choice?

A6. Finding the right growth rate(s) is indeed the usual "hard part" of a DCF application. The original approach to estimation of g relied on average historical growth rates in observable variables, such as dividends or earnings, or on the "sustainable growth" approach, which estimates g as the average book rate of return times the fraction of earnings retained within the firm. But it is highly unlikely that historical averages over periods with widely varying rates of inflation, interest rates and costs of capital, such as in the relatively recent past, will equal current growth rate expectations.

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[1] See for example, Robert J. Shiller (1981), "Do Stock Prices Move Too Much to be Justified by Subsequent Changes in Dividends?," *The American Economic Review*, Vol. 71, No. 3, pp. 421-436. John Y. Campbell and Robert J. Shiller (1988), "The Dividend-Price Ratio and Expectations of Future Dividends and Discount Factors," *The Review of Financial Studies*, Vol. 1, No. 3, pp. 195-228. Lucy F. Ackert and Brian F. Smith (1993), "Stock Price Volatility, Ordinary Dividends, and Other Cash Flows to Shareholders," *Journal of Finance*, Vol. 48, No. 1, pp. 1147-1160. Eugene F. Fama and Kenneth R. French (2001), "Disappearing Dividends: Changing Firm Characteristics or Lower Propensity to Pay?," *Journal of Financial Economics*, Vol. 60, pp. 3-43. Borja Larrain and Motohiro Yogo (2005), "Does Firm Value Move Too Much to be Justified by Subsequent Changes in Cash Flow?," Federal Reserve Bank of Boston, *Working Paper*, No. 05-18.

A better approach is to use the growth rates currently expected by investment analysts, if an adequate sample of such rates is available. If this approach is feasible and if the person estimating the cost of capital is able to select the appropriate version of the DCF formula, the DCF method should yield a reasonable estimate of the cost of capital for companies not in financial distress and without material option-pricing effects (always subject to recent concerns about the applicability of the basic present value formula to stock prices as well as issues of optimism bias). However, for the DCF approach to work, the basic stable-growth assumption must become reasonable and the underlying stable-growth rate must become determinable *within the period for which forecasts are available*.

Q7. What is the so called "optimism bias" in the earnings growth rate forecasts of security analysts and what is its effect on the DCF analysis?

A7. Optimism bias is related to the observed tendency for analysts to forecast earnings growth rates that are higher than are actually achieved. This tendency to over estimate growth rates is perhaps related to incentives faced by analysts that provide rewards not strictly based upon the accuracy of the forecasts. To the extent optimism bias is present in the analysts' earnings forecasts, the cost of capital estimates from the DCF model would be too high.

Q8. Does optimism bias mean that the DCF estimates are completely unreliable?

A8. No. The effect of optimism bias is least likely to affect DCF estimates for large, rate regulated companies in relatively stable segments of an industry. Furthermore, the magnitude of the optimism bias (if any) for regulated companies is not clear. This issue is addressed in a paper by Chan, Karceski, and Lakonishok (2003)[2] who sort companies on the basis of the size of the I/B/E/S forecasts to test the level of optimism bias. Utilities constitute 25 percent of the companies in lowest quintile, and by one measure the level of optimism bias is 4 percent. However, the 4 percent figure does not represent the complete characterization of the results in the paper. Table IX of the paper shows that the median I/B/E/S forecast for the first (lowest) quintile averages 6.0 percent. The

[2] L. K.C. Chan, J. Karceski, and J. Lakonishok, 2003, "The Level and Persistence of Growth Rates," *Journal of Finance* 58(2):643-684.

realized "Income before Extraordinary Items" is 2.0 percent (implying a four percent upward bias in I/B/E/S forecasts), but the "Portfolio Income before Extraordinary Items" is 8.0 percent (implying a two percent downward bias in I/B/E/S forecasts).

The difference between the "Income before Extraordinary Items" and "Portfolio Income before Extraordinary Items" is whether individual firms or a portfolio are used in estimating the realized returns. The first is a simple average of all firms in the quintile while the second is a market value weighted-average. Although both measures of bias have their own drawbacks according to the authors,[3] the Portfolio Income measure gives more weight to the larger firms in the quintile such as regulated utilities. In addition, the paper demonstrates that "analysts' forecasts as well as investors' valuations reflect a wide-spread belief in the investment community that many firms can achieve streaks of high growth in earnings."[4] Therefore, it is not clear how severe the problem of optimism bias may be for regulated utilities or even whether there is a problem at all.

Finally, the two-stage DCF model also adjusts for any over optimistic (or pessimistic) growth rate forecasts by substituting the long-term GDP growth rate for the 5-year growth rate forecasts of the analysts in the years after year 5.

Q9. What about the reforms by the National Associate of Security Dealers (NASD) that were designed to reduce the conflicts of interest and pressures brought against security analysts? Have those reforms been generally successful?

A9. Yes. The conclusion from the Joint Report by NASD and the New York Stock Exchange ("NYSE") on the reforms states

> … the SRO Rules have been effective in helping restore integrity to research by minimizing the influences of investment banking and promoting transparency of other potential conflicts of interest. Evidence also suggests that investors are benefiting from more balanced and accurate research to aid their investment decisions.[5]

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[3] Chan, Karceski, and Lakonishok, *op. cit.*, p. 675.

[4] Chan, Karceski, and Lakonishok, *op. cit.*, p. 663.

[5] Joint Report by NASD and NYSE on the Operation and Effectiveness of the Research Analyst Conflict of Interest Rules, December 2005, p. 44.

The report does note additional reforms are advisable, but the situation is far different today than during the height of the tech bubble when analyst objectivity was clearly suspect.

B. CONCLUSIONS ABOUT DCF

Q10. Please sum up the implications of this part of the appendix.

A10. The unavoidable questions about the DCF model's strong assumptions — whether the basic present value formula works for stocks, whether option pricing effects are important for the company, whether the right variant of the basic formula has been found, and whether the true growth rate expectations have been identified — cause me to view the DCF method as *inherently* less reliable than equity risk premium approach, the other approach I use. However, because the DCF method has been widely used in the past and in other forums when the industry's economic conditions were different from today's, I submit DCF evidence in this case. DCF estimates also serve as a check on the values provided by the risk positioning approach methods.

II. EMPIRICAL DCF RESULTS

Q11. How is this part of the appendix organized?

A11. This section presents the details of my DCF analyses for each sample, which are summarized in my written evidence. The first part describes some preliminary matters, such as the calculation of market value capital structures of the sample companies and the determination of the growth rates. It then turns to the details of the DCF estimates themselves.

In particular, implementation of the simple DCF models described above requires an estimate of the current price, the dividend, and near-term and long-run growth rate forecasts. The simple DCF model relies only on a single growth rate forecast, while the multistage DCF model employs both near-term individual company forecasts and long-run GDP growth rate forecasts. The remaining parts of this section describe each of these inputs in turn.

A. PRELIMINARY MATTERS

Q12. In Appendix C you discuss estimating cost of capital and implied cost of equity using the risk positioning methodology. What, if anything, is different when you use the DCF method?

A12. First, the timing of the market value capital structure calculations is different in the DCF method than in the equity risk premium method. The equity risk premium method relies on the average capital structure over the five-year period *Value Line* uses to estimate beta while the DCF approach uses only current data, so the relevant market value capital structure measure is the most recent that can be calculated. This capital structure is reported in columns [1]-[3] of Tables No. MJV-4 for the electric sample, and MJV-15 for the gas LDC sample.

B. GROWTH RATES

Q13. What growth rates do you use?

A13. For reasons discussed above, historical growth rates today are generally unreliable as forecasts of current investor expectations for the natural gas distribution industry or the electric utility industry. I therefore use rates forecasted by security analysts.

The ideal in a DCF application would be a detailed forecast of future dividends, year by year well into the future, based on a large sample of investment analysts' expectations. I know of no source of such data. Dividends are ultimately paid from earnings, however, and earnings forecasts are available for a few years. Investors do not expect dividends to grow in lockstep with earnings, but for companies for which the DCF approach can be used reliably (*i.e.*, for relatively stable companies whose prices do not include the option-like values described previously), they do expect dividends to track earnings over the long-run. Thus, use of earnings growth rates as a proxy for expectations of dividend growth rates is a common practice.

Accordingly, the first step in my DCF analysis is to examine a sample of investment analysts' forecasted earnings growth rates. For both samples I utilize Bloomberg's BEst

and *Value Line's* forecasted earnings growth.[6] The projected earnings growth rates for the electric sample companies are in Table No. MJV-5, while for the gas LDC companies these rates are presented in Table No. MJV-16.[7] Column [1] of each table reports Bloomberg's BEst analysts' forecasts of the long-term earnings growth for each of the given sample's companies. Column [2] reports the number of analysts that provided a forecast. Columns [3] and [4] report *Value Line's* forecasted earnings per share ("EPS") value for each company for 2008 and 2010-2012 respectively. Column [5] provides *Value Line's* implied long-term growth rate forecast, and column [6] provides a weighted average growth rate for each company across the two sources. (I treat the *Value Line* forecasts as though they overlap exactly with the forecasts from Bloomberg.) These growth rates underlie my simple and multi-stage DCF analyses.

In particular, the five-year average annual growth rate is the perpetual growth rate I employ in the simple DCF model.[8] In the multi-stage model, I rely on the company-specific growth rate until 2012 and on the long-term GDP forecast for year 2017 onwards. During the years from 2012 to 2016, I assume the growth rate converges linearly towards the long-term GDP forecast.[9]

Q14. Do these growth rates correspond to the ideal you mentioned above?

A14. No, not completely. While forecasted growth rates are the quantity required in principle, the forecasts need to go far enough out into the future so that it is reasonable to believe that investors expect a stable growth path afterwards. As can be seen from both Tables No. MJV-5 and MJV-16, the growth rates estimates do not support the view that investors are expecting growth rates equal to the single perpetual growth rate assumed in the simple DCF model. This is particularly striking in the electric sample, where there is

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[6] The BEst growth rates were downloaded from Bloomberg on April 9, 2007. *Value Line* numbers are their most recent available, variously dated December 29th, 2006, February 9, 2007, and March 2, 2007 for the electric sample, and March 16, 2007 for all gas LDC sample companies but Vectren Corp., which are as of March 30, 2007. (See Tables No. MJV-5 and MJV-16.)

[7] No Bloomberg BEst growth rate was available for MGE Energy Inc. at the time of this document's production.

[8] This growth rate is in column [6] of Tables No. MJV-5 and MJV-16.

[9] For companies in both the electric and gas LDC samples, I use the long-term U.S. GDP growth estimate from *Blue Chip Economic Indicators* (March 10, 2007).

substantial variation across companies' combined growth rates. For example, Cleco Corp and PPL each have a combined growth rate estimate of over 12 percent, while Consolidated Edison's combined estimate is 3.5 percent and Pinnacle West's is 2.9 percent (see column [6], Table No. MJV-5).

In the case of the gas LDCs, the situation is less volatile. The 5-year growth rate estimates for the sample companies are relatively homogeneous with the possible exception of Vectren Corp., which has a combined average growth rate of two percent. This is more than one percent lower than the next lowest estimate. In general, the growth rates estimates for the gas LDC sample are lower than the forecast growth in GDP, which may represent a reaction to the uncertainty in the industry. (See column [6], Table No. MJV-16). The combined forecasts for the remaining gas LDC companies range from 3.3 to 5.9 percent which is generally consistent with the 5.1 percent forecast for the long-term growth rate in GDP.

It should be noted that except for MGE Energy, there are at least two analyst estimates for all of the sample companies, though Cleco Corp, Empire Electric, The Laclede Group and Vectren Corp. have only two. The comparison between the average growth rate forecasts and the growth in GDP indicates that while these growth rate forecasts are not overly optimistic for the gas LDC sample, they may be more so in the case of some electric companies.

Q15. How well are the conditions needed for DCF reliability met at present?

A15. The requisite conditions for the sample companies are not fully met at this time for either sample. Of particular concern for this proceeding is the uncertainty about what investors truly expect the long-run outlook for the sample companies to be. The longest time period available for growth rate forecasts of which I am aware is five years. The long-run growth rate (*i.e.*, the growth rate after the energy industry settles into a steady state, which is certainly *beyond* the next five years for this industry) drives the actual results one gets with the DCF model. Unfortunately, this implies that unless the company or industry in question is stable, so there is little doubt as to the growth rate investors expect,

DCF results in practice can end up being driven by the subjective judgment of the analyst who performs the work.

This is a problem at present because it is hard to imagine that today's energy industry would accurately be described as stable. Inflation and interest rates have largely stabilized over the last 10 years, but oil and natural gas prices have increased dramatically. The prices of natural gas and petroleum have also exhibited a great deal of volatility recently. These factors make demand for natural gas and electricity more uncertain. Additionally, the electric industry as well as both the pipeline industry and the gas distribution sector are going through a series of mergers and acquisitions, which affects the companies' earnings growth rate estimates. This is one reason why companies heavily involved in mergers and acquisitions are normally excluded from the sample. A number of states are actively considering reversing the restructuring process for the electric utility industry. There has also been financial distress among companies specializing in trading natural gas and electricity products which affects both regulated and unregulated companies. Taken together, these factors mean that it may be some time before the energy industry settles into anything investors will see as a stable equilibrium.

Such circumstances imply that a regulator may often be faced with a wide range of DCF numbers, none of which can be well grounded in objective data on true long-run growth expectations, *because no such objective data now exist*. DCF for firms or industries in flux is *inherently* subjective with regard to a parameter (the long-run growth rate) that drives the answer one gets.

It is clear that much longer detailed growth rate forecasts than currently available from Bloomberg and *Value Line* would be needed to implement the DCF model in a completely reliable way for these two samples at this time.

C. DIVIDEND AND PRICE INPUTS

Q16. What values do you use for dividends and stock prices?

A16. Dividends are the last recorded dividend payments as reported by Bloomberg, the 4th-quarter 2006 dividend. This dividend is grown at the estimated growth rate and divided

by the price described below to estimate the dividend yield for the simple and multi-stage DCF models.

For both samples' calculations, stock prices are the average of the closing stock prices for the 15 trading days (approximately three weeks) ending April 9, 2007 for each company, the same date growth rate estimates were pulled from Bloomberg. I do not use a longer period to measure the price, because that would be inconsistent with the principles that underlie the DCF formula. The DCF approach assumes the stock price is the present value of future expected dividends. Stock prices six months or a year ago reflect expectations at that time, which are different from those that underlie the currently available growth forecasts. At the same time, use of an average over a brief period helps guard against a company's price on a particular day price being unduly influenced by mistaken information, differences in trading frequency, and the like.

The closing stock price is used because it is at least as good as any other measure of the day's outcome, and may be better for DCF purposes. In particular, if there were any single price during the day that would affect investors' decisions to buy or sell a stock, I would suspect that it would be each day's closing price, not the high or low during the day. The daily price changes reported in the financial pages, for example, are from close to close, not from high to high or from low to low.

D. COMPANY-SPECIFIC DCF COST OF CAPITAL ESTIMATES

Q17. What DCF estimates do these data yield?

A17. The cost of equity results for the simple and multistage DCF models are shown in Table No. MJV-6 for the electric sample, and Table No. MJV-17 for the gas LDCs. For both samples, Panel A reports the results for the simple DCF method while Panel B reports the results for the multistage DCF method using the long-term GDP growth rate as the perpetual growth rate.

Q18. What overall cost of capital estimates result from the DCF cost of equity estimates?

A18. The capital structure, DCF cost of equity, and cost of debt estimates are combined to obtain the overall after-tax weighted-average cost of capital for each sample company.

These results are presented in Table No. MJV-7 for the electric sample and Table No. MJV-18 for the gas LDCs. Again, Panel A relies on the simple DCF cost of equity results while Panel B relies on the multistage DCF cost of equity results. For the gas LDCs, I also report the average for a sub-sample of companies that have evidenced no apparent data concerns and which appear to be the closest to "pure-plays".[10]

Q19. What information do you report in Tables No. MJV-8 and MJV-19?

A19. These tables report, for each sample, the return on equity consistent with the sample's (and the sub-sample's) estimated overall after-tax weighted-average cost of capital and each Applicant's proposed equity thickness: 55.38 percent for Wisconsin Electric and 52.16 percent for Wisconsin Gas. For both the simple DCF and multistage DCF methods, the sample's average ATWACC is reported in column [1]. Column [6] reports the return on equity as if the sample companies' average market value capital structure had been that of the corresponding Applicant company.

Q20. What are the implications of these results?

A20. The implication of these numbers is discussed in my written evidence, along with the findings of the equity risk premium approach.

[10] Table No. MJV-2 presents information on the percent of regulated assets for the companies in the electric sample as categorized by the Edison Electric Institute. Table No. MJV-13 provides a similar categorization for the companies in the gas LDC sample based upon calculations from the companies' 10-Ks.

APPENDIX E

EFFECT OF DEBT ON THE COST OF EQUITY

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C. THE EFFECT OF TAXES 18

D. COMBINED EFFECTS 23

Q1. What is the purpose of this Appendix?

A1. In this appendix, I provide details on the effects of debt on the cost of equity. First, I summarize a fairly large body of financial research on capital structure. Second, I provide an extended example to illustrate the effect of debt on the cost of equity.

I. AN OVERVIEW OF THE ECONOMIC LITERATURE

Q2. What is the focus of the economic literature on the effects of debt?

A2. The economic literature focuses on the effects of debt on the value of a firm. The standard way to recognize one of these effects, the impact of the fact that interest expense is tax-deductible, is to discount the all-equity after-tax operating cash flows generated by a firm or an investment project at a weighted average cost of capital, typically known in textbooks as the "WACC." The textbook WACC equals the *market*-value weighted average of the cost of equity and the *after-tax*, *current* cost of debt. However, rate regulation in North America has a legacy of working with another weighted-average cost of capital, the *book*-value weighted average of the cost of equity and the *before-tax*, *embedded* cost of debt. To distinguish the concepts, I refer to the after-tax weighted-average cost of capital as ATWACC.

Q3. How is this section of the appendix organized?

A3. It starts with the tax effects of debt. It then turns to other effects of debt.

A. TAX EFFECTS

Q4. What are the key findings in the literature regarding tax effects?

A4. Three seminal papers are vital for this literature. The first assumes no taxes and risk-free debt. The second adds corporate income taxes. The third adds personal income taxes.

1. Base Case: No Taxes, No Risk to High Debt Ratios

Q5. Please start by explaining the simplest case of the effect of debt on the value of a firm.

A5. The "base case," no taxes and no costs to excessive debt, was worked out in a classic 1958 paper by Franco Modigliani and Merton Miller, two economists who eventually won Nobel Prizes in part for their body of work on the effects of debt.[1] Their 1958 paper made what is in retrospect a very simple point: if there are no taxes and no risk to the use of excessive debt, use of debt will have no effect on a company's operating cash flows (i.e., the cash flows to investors as a group, debt plus equity combined). If the operating cash flows are the same regardless of whether the company finances mostly with debt or mostly with equity, then the value of the firm cannot be affected at all by the debt ratio. In cost of capital terms, this means the overall cost of capital is constant regardless of the debt ratio, too.

In the base case, issuing debt merely divides the cash flows into two pools, one for bondholders and one for shareholders. If the divided pools have different priorities in claims on the cash flows, the risks and costs of capital will differ for each pool. But the risk and overall cost of capital of the entire firm, the sum of the two pools, is constant regardless of the debt ratio. Thus,

$$r_1^* = r_{A1} \qquad \text{(E-1a)}$$

where r^*_1 is the overall after-tax cost of capital at any particular capital structure and r_{A1} is the all-equity cost of capital for the firm. (The "1" subscripts distinguish the case where there are no taxes from subsequent equations that consider first corporate and then both corporate and personal taxes.) With no taxes and no risk to debt, the overall cost of capital does not change with capital structure.

This implies that the relationship of the overall cost of capital to the component costs of debt and equity is

[1] Franco Modigliani and Merton H. Miller (1958), "The Cost of Capital, Corporation Finance and the Theory of Investment," *American Economic Review*, 48, pp. 261-297.

$$r_{E1} \times \left(\frac{E}{V}\right) + r_{D1} \times \left(\frac{D}{V}\right) = r_1^* \quad \text{(E-1b)}$$

with the overall cost of capital (r^*) on the *right* side, as the *independent* variable, and the costs of equity (r_E) and debt (r_D) on the left side, as *dependent* variables determined by the overall cost of capital and by the capital structure (i.e., the shares of equity (E) and debt (D) in overall firm value (V=E+D)) that the firm happens to choose. Note that if equation (E-1a) were correct, the equation that solved it for the cost of equity would be,

$$r_{E1} = r_1^* + (r_1^* - r_D) \times \left(\frac{D}{E}\right) \quad \text{(E-1c)}$$

Note also that (D/E) gets exponentially higher in this equation as the debt-to-value ratio increases[2] i.e., the cost of equity increases exponentially with leverage.

2. Corporate Tax Deduction for Interest Expense

Q6. What happens when you add corporate taxes to the discussion?

A6. If corporate taxes exist with risk-free debt (and if only taxes at the corporate level matter, not taxes at the level of the investor's personal tax return), the initial conclusion changes. Debt at the corporate level reduces the company's tax liability by an amount equal to the marginal tax rate times interest expense. All else equal, this will add value to the company because more of the operating cash flows will end up in the hands of investors as a group. That is, if only corporate taxes mattered, interest would add cash to the firm equal to the corporate tax rate times the interest expense. This increase in cash would increase the value of the firm, all else equal. In cost of capital terms, it would reduce the overall cost of capital.

How much the value of the firm would rise and *how far* the overall cost of capital would fall would depend in part on how often the company adjusts its capital structure, but this is a second-order effect in practice. (The biggest effect would be if companies could issue riskless perpetual debt, an assumption Profs. Modigliani and Miller explored in

[2] For example, at 20-80, 50-50, and 80-20 debt-equity ratios, (D/E) equals, respectively, (20/80) = 0.25, (50/50) = 1.0, and (80/20) = 4.0. The extra 30 percent of debt going from 20-80 to 50-50 has much less impact on (D/E) [i.e., by moving it from 0.25 to 1.0] than the extra 30 percent of debt going from 50-50 to 80-20 [i.e., by moving it from 1.0 to 4.0]. Since the cost of equity equals a constant risk premium times the debt-equity ratio, the cost of equity grows ever more rapidly as you add more and more debt.

1963, in the second seminal paper;[3] this assumption could *not* be true for a real company.) Prof. Robert A. Taggart provides a unified treatment of the main papers in this literature and shows how various cases relate to one another.[4] Perhaps the most useful set of benchmark equations for the case where only corporate taxes matter are:

$$r_2^* = r_{A2} - r_D \times t_C \times \left(\frac{D}{V}\right) \quad \text{(E-2a)}$$

$$r_2^* = r_{E2} \times \left(\frac{E}{V}\right) + r_D \times \left(\frac{D}{V}\right) \times (1 - t_C) \quad \text{(E-2b)}$$

which imply for the cost of equity,

$$r_{E2} = r_{A2} + (r_{A2} - r_D) \times \left(\frac{D}{E}\right) \quad \text{(E-2c)}$$

where the variables have the same meaning as before but the "2" subscripts indicate the case that considers corporate but not personal taxes.

Note that Equation (E-2a) implies that when only corporate taxes matter, the overall after-tax cost of capital declines steadily as more debt is added, until it reaches a minimum at 100 percent debt (i.e., when D/V = 1.0). Note also that Equation (E-2c) still implies an exponentially increasing cost of equity as more and more debt is added. In fact, except for the subscript, Equation (E-2c) looks just like Equation (E-1c).

However, whether any value is added and whether the cost of capital changes at all also depends on the effect of taxes at the personal level.

3. Personal Tax Burden on Interest Expense

Q7. How do personal taxes affect the results?

A7. Ultimately, the purpose of investment is to provide income for consumption, so personal taxes affect investment returns. For example, in the U.S., municipal bonds have lower interest rates than corporate bonds because their income is taxed less heavily at the

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[3] Franco Modigliani and Merton H. Miller (1963), "Corporate Income Taxes and the Cost of Capital: A Correction," *American Economic Review*, 53, pp. 433-443.

[4] Robert A. Taggart, Jr. (1991), "Consistent Valuation and Cost of Capital Expressions with Corporate and Personal Taxes," *Financial Management* 20, pp. 8-20.

personal level. In general, capital appreciation on common stocks is taxed less heavily than interest on corporate bonds because (1) taxes on unrealized capital gains are deferred until the gains are realized, and (2) the capital gains tax rate is lower. Dividends are taxed less heavily than interest, also, under current tax law.[5] The effects of personal taxes on the cost of common equity are hard to measure, however, because common equity is so risky.

Professor Miller, in his Presidential Address to the American Finance Association,[6] explored the issue of how personal taxes affect the overall cost of capital. The paper pointed out that personal tax effects could offset the effect of corporate taxes entirely.

Q8. Is it likely that the effect of personal taxes will completely neutralize the effect of corporate taxes?

A8. I do not believe so, although the likelihood of such a result would be increased if the current federal tax reductions on dividends and capital gains became permanent rather than expiring in 2010. However, personal taxes are important even if they do not make the corporate tax advantage on interest vanish entirely. Capital gains and dividend tax advantages definitely convey some personal tax advantage to equity, and even a partial personal advantage to equity reduces the corporate advantage to debt.

The Taggart paper explores the case of a partial offset, also. With personal taxes, the risk-free rate on the security market line is the after-personal-tax rate, which must be equal for risk-free debt and risk-free equity.[7] Therefore, the pre-personal-tax risk-free rate for equity will generally not be equal to the pre-personal-tax risk-free rate for debt. In particular, $r_{fE} = r_{fD} \times [(1-t_D)/(1-t_E)]$, where r_{fE} and r_{fD} are the risk-free costs of equity and debt and t_E and t_D are the personal tax rates for equity and debt, respectively. In

[5] The current maximum personal tax rate on dividend income was extended to the end of 2010 by the President on May 17, 2006. It is uncertain whether the reduced rates on dividend income will be further extended.

[6] Merton H. Miller (1977), "Debt and Taxes," *The Journal of Finance*, 32: 261-276, the third of the seminal papers mentioned earlier.

[7] As Prof. Taggart notes (his footnote 9), it is not necessary that a specific, risk-free equity security exist as long as one can be created synthetically, through a combination of long and short sales of traded assets. Such constructs are a common analytical tool in financial economics.

terms of the cost of debt, the Taggart paper's results imply that a formal statement of these effects can be written as:[8]

$$r_3^* = r_{A3} - r_D \times t_N \times \left(\frac{D}{V}\right) \quad \text{(E-3a)}$$

$$= r_{E3} \times \left(\frac{E}{V}\right) + r_D \times \left(\frac{D}{V}\right) \times (1 - t_C) \quad \text{(E-3b)}$$

which imply

$$r_{E3} = r_{A3} + \left[r_{A3} - r_D \times \left(\frac{1-t_D}{1-t_E}\right)\right] \times \left(\frac{D}{E}\right) \quad \text{(E-3c)}$$

Suppose, for example, that t_C = 0.35 percent, t_E = 7.7 percent and t_D = 40 percent. Then $[(1-t_D)/(1-t_E)] = 0.65 = (1-t_C)$. That condition corresponds to Miller's 1977 paper, in which the net personal tax advantage of equity fully offsets the net corporate tax advantage of debt. Note also that in that case, $t_N = 0$.[9] Therefore, if the personal tax advantage on equity fully offsets the corporate tax advantage on debt, Equation (E-3a) confirms that the overall after-tax cost of capital is a constant.

However, it is unlikely that the personal tax advantage of equity fully offsets the corporate tax advantage of debt. If taxes were all that mattered (i.e., if there were no other costs to debt), the overall after-corporate-tax cost of capital would still fall as debt was added, just not as fast.

Finally, note that the overall after-tax cost of capital, Equation (E-3b), still uses the corporate tax rate even when personal taxes matter. Equations (E-2b) and (E-3b) both correspond to the usual formula for the ATWACC. Personal taxes affect the way the cost of equity changes with capital structure -- Equation (E-3c) -- but not the formula for the overall after-tax cost of capital given that cost of equity.

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[8] The net all-tax effect of debt on the overall cost of capital, t_N, equals $\{[t_C+t_E-t_D-(t_C \times t_E)] / (1-t_E)\}$, where t_D is the personal tax rate on debt, as before. This measure of net tax effect is designed for use with the cost of debt in Equation (E-3a), which seems more useful in the present context. The Taggart paper works with a similar measure, but one which is designed for use with the cost of risk-free equity in the equivalent Taggart equation.

[9] In the above example, $t_N = \{[0.35+0.077-0.4-(0.35 \times 0.077)] / (1.0-0.077)\} = 0.0/0.923 = 0$.

B. NON-TAX EFFECTS

Q9. Please describe the non-tax effects of Debt.

A9. If debt is truly valuable, firms should use as much as possible, and competition should drive firms in a particular industry to the same, optimal capital structure for the industry. If debt is harmful on balance, firms should avoid it. Neither picture corresponds to what we actually see. A large economic literature has evolved to try to explain why.

Part of the answer clearly is the costs of excessive debt. Here the results cannot be reduced to equations, but they are no less real for that fact. As companies add too much debt, the costs come to outweigh the benefits. Too much debt reduces or eliminates financial flexibility, which cuts the firm's ability to take advantage of unexpected opportunities or weather unexpected difficulty. Use of debt rather than internal financing may be taken as a negative signal by the market.

Even if the company is generally healthy, more debt increases the risk that the company cannot use all of the interest tax shields in a bad year. As debt continues to grow, this problem grows and others may crop up. Management begins to worry about meeting debt payments instead of making good operating decisions. Suppliers are less willing to extend trade credit, and a liquidity shortage can translate into lower operating profits. Ultimately, the firm might have to go through the costs of bankruptcy and reorganization. Collectively, such factors are known as the costs of "financial distress."[10]

The net tax advantage to debt, if positive, is affected by costs such as a growing risk that the firm might have to bear the costs of financial distress. First, the expected present value of these costs offsets the value added by the interest tax shield. Second, since the likelihood of financial distress is greater in bad times when other investments also do poorly, the possibility of financial distress will increase the risks investors bear. These effects increase the variability of the value of the firm. Thus, firms that use too much debt can end up with a higher overall cost of capital than those that use none.

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[10] See, for example, Section 18.3 of Brealey, Myers and Allen, 2006, *Principles of Corporate Finance*, 8th Edition, McGraw-Hill/Irwin, 2006.

Other parts of the answer include the signals companies send to investors by the decision to issue new securities, and by the type of securities they issue. Other threads of the literature explore cases where management acts against shareholder interests, or where management attempts to "time" the market by issuing specific securities under different conditions. For present purposes, the important point is that no theory, whether based on taxes or on some completely different issue, has emerged as "the" explanation for capital structure decisions by firms. Nonetheless, despite the lack of a single "best" theory, there is a great deal of relevant empirical research.

Q10. What does that research show?

A10. The research does not support the view that debt makes a material difference in the value of the firm, at least not once a modest amount of debt is in place. If debt were truly valuable, competitive firms should use as much debt as possible short of producing financial distress, and competitive firms that use less debt ought to be less profitable. The research shows exactly the opposite.

For example, Kester[11] found that firms in the same industry in both the U.S. and Japan do not band around a single, "optimal" capital structure, and the most profitable firms are the ones that use the *least* debt. This finding comes despite the fact that both countries at the time (unlike the U.S. currently) had fully "classical" tax systems, in which dividends are taxed fully at both the corporate and personal level. Wald[12] confirms that high profitability implies low debt ratios in France, Germany, Japan, the U.K., and the U.S. Booth *et al.* find the same result for a sample of developing nations.[13] Fama and French[14] analyze over 2000 firms for 28 years (1965-1992, inclusive) and conclude, "Our

[11] Carl Kester (1986), "Capital and Ownership Structure: A Comparison of United States and Japanese Manufacturing Concerns," *Financial Management*, 15:5-16.

[12] John K. Wald (1999), "How Firm Characteristics Affect Capital Structure: An International Comparison," *Journal of Financial Research*, 22:161-167.

[13] Laurence Booth *et al.* (2001), "Capital Structures in Developing Countries," *The Journal of Finance* Vol. LVI, pp. 87-130, finds at p. 105 that "[o]verall, the strongest result is that profitable firms use less total debt. The strength of this result is striking ..."

[14] Eugene F. Fama and Kenneth R. French (1998), "Taxes, Financing Decisions and Firm Value," *The Journal of Finance*, 53:819-843.

tests thus produce no indication that debt has net tax benefits."[15] A paper by Graham[16] carefully analyzes the factors that might have led a firm not to take advantage of debt. It confirms that a large proportion of firms that ought to benefit substantially from use of additional debt, including large, profitable, liquid firms, appear not to use it "enough."

This research leaves us with only three options: either (1) apparently good, profit-generating managers are making major mistakes or deliberately acting against shareholder interests, (2) the benefits of the tax deduction on debt are less than they appear, or (3) the non-tax costs to use of debt offset the potential tax benefits. Only the first of these possibilities is consistent with the view that the tax deductibility of debt conveys a material cost advantage. Moreover, if the first explanation were interpreted to mean that otherwise good managers are acting against shareholder interests, either deliberately or by mistake, it would require the additional assumption that their competitors (and potential acquirers) let them get away with it.

Q11. Are there any explanations in the financial literature for this puzzle other than stupid or self-serving managers at the most profitable firms?

A11. Yes. For example, Stewart C. Myers, a leading expert on capital structure, made it the topic of his Presidential Address to the American Finance Association.[17] The poor performance of tax-based explanations for capital structure led him to propose an entirely different mechanism, the "pecking order" hypothesis. This hypothesis holds that the net tax benefits of debt (i.e., corporate tax advantage over personal tax disadvantage) are at most of a second order of importance relative to other factors that drive actual debt decisions.[18] Similarly, Baker and Wurgler (2002)[19] observe a strong and persistent

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[15] *Ibid.*, p. 841.

[16] John R. Graham (2000), "How Big Are the Tax Benefits of Debt," *The Journal of Finance*, 55:1901-1942.

[17] Stewart C. Myers (1984), "The Capital Structure Puzzle," *The Journal of Finance*, 39: 575-592. See also S. C. Myers and N. S. Majluf (1984), "Corporate Financing Decisions When Firms Have Information Investors Do Not Have," *Journal of Financial Economics* 13:187-222.

[18] See also Stewart C. Myers (1989), "Still Searching for Optimal Capital Structure," *Are the Distinctions Between Debt and Equity Disappearing?,* R.W. Kopke and E. S. Rosengren, eds., Federal Reserve Bank of Boston.

[19] Malcolm Baker and Jeffrey Wurgler (2002), "Market Timing and Capital Structure," *The Journal of Finance* 57:1-32.

impact that fluctuations in market value have on capital structure. They argue that this impact is not consistent with other theories. The authors suggest a new capital structure theory based on market timing -- capital structure is the cumulative outcome of attempts to time the equity market.[20] In this theory, there is no optimal capital structure, so market timing financing decisions just accumulate over time into the capital structure outcome. (Of course, this theory only makes sense if investors do not recognize what managers are doing.)

Q12. Do inter-firm differences within an industry explain the wide variations in capital structure across the firms in an industry?

A12. No. This view is contradicted by the empirical research. As mentioned before, it has long been found that the most profitable firms in an industry, i.e., those in the best position to take advantage of debt, use the least.[21] Graham (2000) carefully examines differences in firm characteristics as possible explanations for why firms use "too little" debt and concludes that such differences are *not* the explanation: firms that ought to benefit substantially from more debt by all measurable criteria, if the net tax advantage of debt is truly valuable, voluntarily do not use it.[22]

Nor does the research support the view that firms are constantly trying to adjust their capital structures to optimal levels. Additional research on the pecking order hypothesis demonstrates that firms do not tend towards a target capital structure, or at least do not do so with any regularity, and that past studies that seemed to show the contrary actually lacked the power to distinguish whether the hypothesis was true or not.[23] In the words of

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[20] *Ibid.*, p. 29.

[21] For example, Kester, *op. cit.* and Wald, *op. cit.*

[22] While not contradicting Graham's finding that differences in firm characteristics do not explain capital structure differences, Nengjiu Ju, Robert Parrino, Allen M. Poteshman, and Michael S. Weisbach, "Horses and Rabbits? Trade-Off Theory and Optimal Capital Structure," *Journal of Financial and Quantitative Analysis*, June 2005, pp. 1-24, looks at the issue in a different manner. Their paper uses a dynamic rather than static model to analyze the tradeoff between the tax benefits of debt and the risk of financial distress. It finds that bankruptcy costs by themselves are enough to explain observed capital structures, once dynamic effects are considered. This means debt is not as valuable as suggested by the traditional static analysis (of the sort used by Graham).

[23] Lakshmi Shyam-Sunder and Stewart C. Myers (1999), "Testing static tradeoff against pecking order models of capital structure," *Journal of Financial Economics* 51:219-244.

the Shyam-Sunder - Myers paper p. 242, "If our sample companies did have well-defined optimal debt ratios, it seems that their managers were not much interested in getting there."

II. EXPANDED EXAMPLE

Q13. What topics do you cover in this section?

A13. The discussion in my testimony did not detail the impact of different starting points for the level of debt nor did it address income earned on the investment, interest expense, or taxes. This section covers these topics. First, it discusses how the level of debt affects the cost of equity. Second, it addresses the influence of income and interest on the investment. Third, it explains the impact of taxes on capital structure decisions. The final topic covered in this section is the combined consequence of tax and non-tax effects of debt.

A. DETAILS OF DIFFERENT LEVELS OF DEBT

Q14. Why does more debt mean more risk for equity holders?

A14. Debt magnifies the variability of the equity return. As a simple example, think of an investor who takes money out of her savings and invests $100,000 in real estate. The future value of the real estate is uncertain. If the real estate market booms, she wins. If the real estate market goes down, she loses. Figure E-1 below illustrates this.

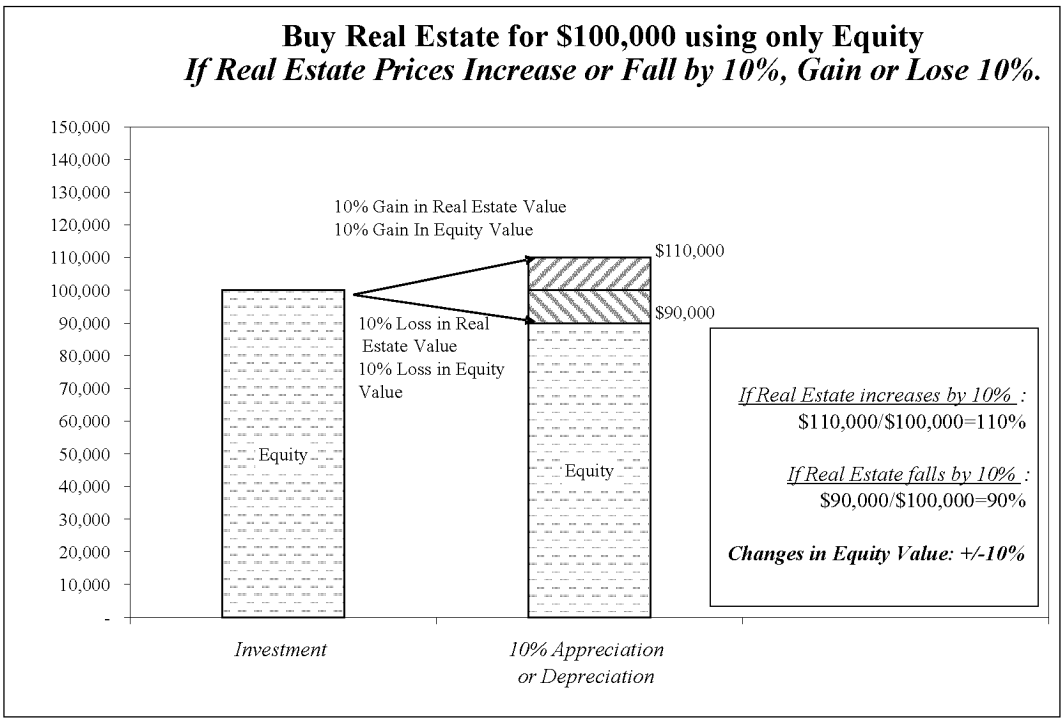

Figure E-1

In the scenario above, the investor financed her real estate purchase through 100 percent equity. Suppose instead that the investor had financed 50 percent of her real estate investment with a mortgage of $50,000. The mortgage lender does not expect to share in any benefits from increases in real estate values. Neither does the mortgage lender expect to share in any losses from falling real estate values, i.e., the investor carries the entire risk of fluctuating real estate prices. Figure E-2 illustrates this effect.

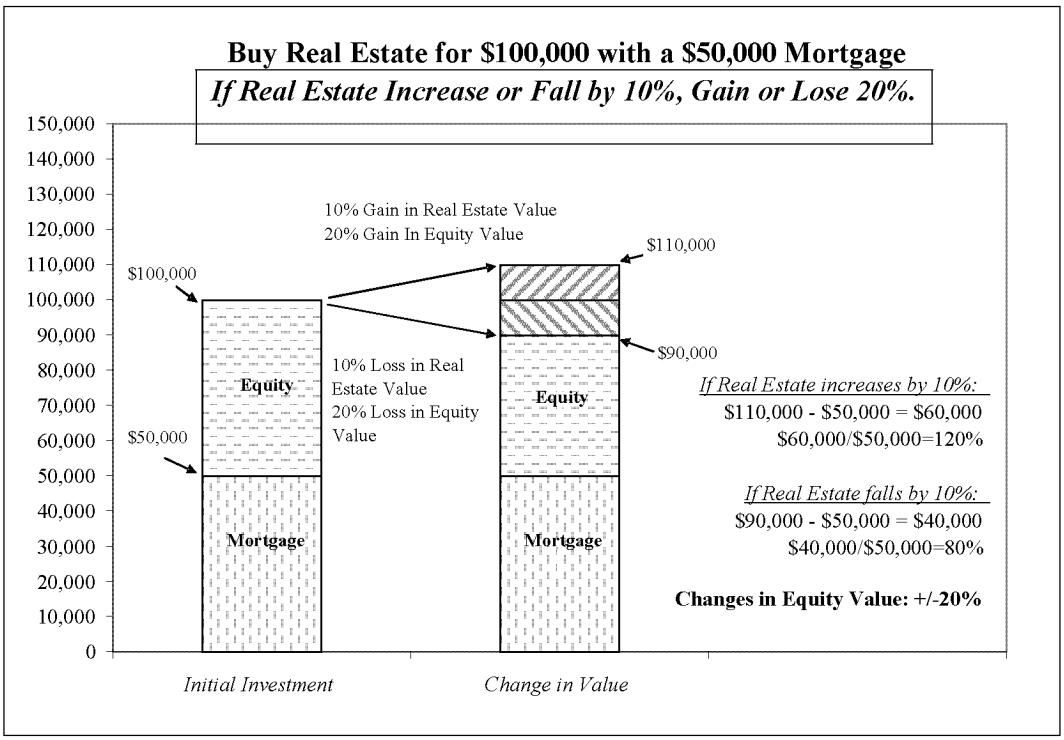

Figure E-2

In Figure E-2 where the investor financed her purchase through 50 percent equity and 50 percent debt, the variability in the investor's equity return is two times greater than that of Figure E-1. The entire fluctuation of 10 percent from rising or falling real estate prices falls on the investor's $50,000 equity investment. The lesson from the example is obvious, debt adds risk to equity.

Q15. What happens if the investor finances the real estate purchase with different proportions of debt?

A15. The equity return becomes more variable when the mortgage percentage is a greater proportion of the initial price. Table E-1 below calculates the return on equity when real estate prices increase by 10 percent when mortgages are 0 percent, 30 percent, 50 percent, and 70 percent of the initial price.

Table E-1: The Impact of Leverage on the Return on Equity

	100% Equity	70% Equity	50% Equity	30% Equity
Debt	$0	$30,000	$50,000	$70,000
Original Equity Investment	$100,000	$70,000	$50,000	$30,000
Increase in Market Value of Equity	$10,000	$10,000	$10,000	$10,000
Return on Equity Investment	10%	14.3%	20%	33.3%

Note that going from 70 percent equity down to 50 percent equity increases the return on the equity investment by 5.7 percent while going from 50 percent equity to 30 percent equity increases the return on equity by 13.3 percent. This illustrates a general point; the rate of return on equity increases more quickly at higher levels of debt than at lower levels. Investors demand a higher equity rate of return to bear more risk and debt magnifies equity's risk at an ever increasing rate. Therefore, the required equity rate of return goes up at an ever increasing rate as debt is added. This is not only basic finance theory, it is the everyday experience of anyone who buys a home. The bigger the mortgage, the more percentage risk the equity faces from changes in housing prices.

Q16. Please provide an example that illustrates why market values are relevant.

A16. Suppose in the above example that the investor has invested in real estate 10 years ago. Further assume that depreciation has reduced the book value of the real estate from $100,000 to $75,000 and assume the investor has paid off 40 percent of his $50,000 mortgage. Thus, the investor has a remaining mortgage of $30,000 (= 60% × $50,000). The book value of the investor's equity investment is therefore $45,000 (= $75,000 - $30,000).

What happens now if real estate prices rise or fall 20 percent? To answer that question, we need to know how real estate prices have developed over the past 10 years. If the market value of the real estate now is $200,000 then a 20 percent decrease in the price of real estate ($40,000) is almost equal to the investor's book value equity. However, his

market value equity (or net worth) is equal to the value of the real estate minus what he owes on the mortgage. If we assume that the market value of the mortgage equals the unpaid balance ($30,000), then the investor's net worth is calculated as follows:

Net Worth	=	Market Value of Real Estate	-	Remaining Mortgage
	=	$200,000	-	$30,000
	=	$170,000		

Therefore, the rate of return on equity due to a 20 percent decline in real estate prices is calculated in Table E-2.

Table E-2: Calculating the Rate of Return on Equity

Decline in Real Estate Value	$40,000
Market-Value Equity	$170,000
Rate of Return on Equity	- $40,000/$170,000 = -23.5%

B. THE IMPACT OF INCOME AND INTEREST

Q17. How does earning income from the investment and paying interest on debt affect the results?

A17. In the following explanation, I ignore income taxes which I deal with in Section C. Assume the investor is receiving income, e.g., rent, from the real estate. Specifically, assume the investor receives $500 per month in income after all non-interest expenses ($6,000 per year). Also, assume that the expected appreciation is 5 percent per year, so the expected market value is $105,000 after one year. Then the expected rate of return from the real estate with all equity financing is:

$$\text{Expected Return on Equity @ 0\% debt} = \frac{\text{Expected Net Income + Expected Appreciation}}{}$$

$$\text{Initial Investment} = \frac{\$6{,}000 + (\$105{,}000 - \$100{,}000)}{\$100{,}000} = 11\%$$

Now suppose that the mortgage interest rate were 5 percent. Then at a mortgage equal to 50 percent, or $50,000, interest expense would be ($50,000 x 0.05), or $2,500. The expected equity rate of return would be:

$$\text{Expected Return on Equity @ 50\% debt} = \frac{\text{Expected (Net Income + Appreciation) – Int. Expense}}{\text{Initial } \textit{Equity} \text{ Investment}} = \frac{\$6{,}000 + \$5{,}000 - \$2{,}500}{\$50{,}000} = 17\%$$

Notice that the expected return on equity is higher as is the risk carried by equity.

Q18. Can you provide a more general illustration?

A18. Yes. Figure E-3 uses these assumptions at different mortgage levels to plot both (i) the expected rate of return on the equity in the dwelling, and (ii) the realized rate of return on

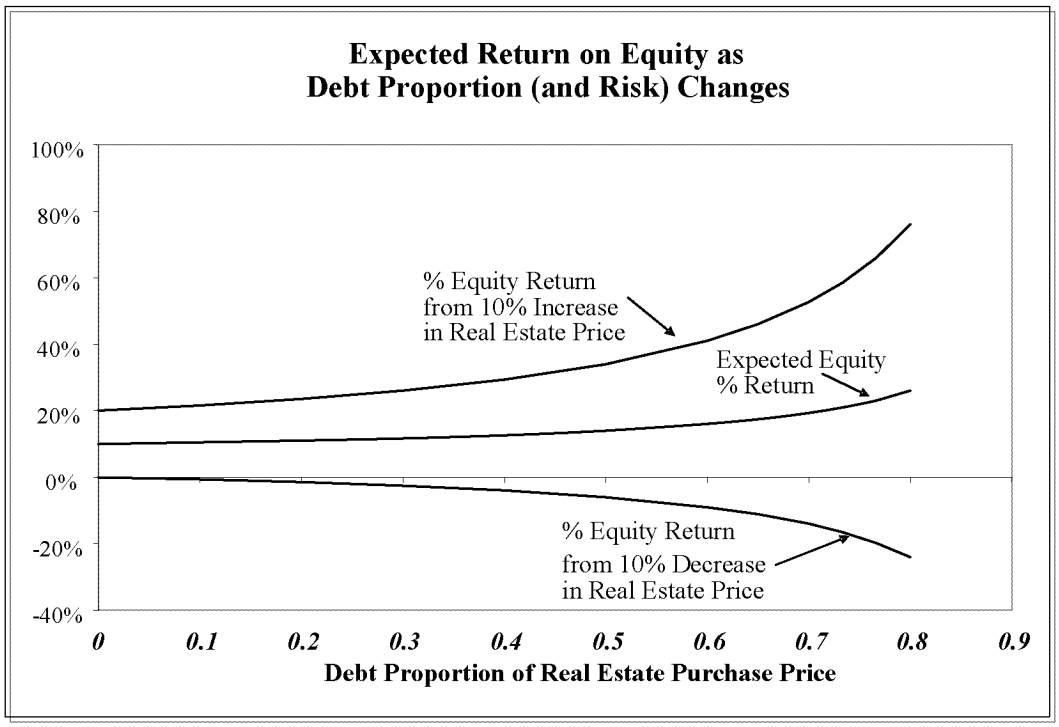

Figure E-3

that equity in a year if the dwelling value increases by 10 percent more than the expected 5 percent rate (i.e., if the value increases by 15 percent) or by 10 percent less than expected (i.e., if it decreases by 5 percent).[24]

The expected rate of return on equity increases at an increasing rate as the investor finances more and more of the real estate through loans (e.g., with a mortgage). Since equity bears all the risk of increases or decreases in real estate values (absent financial distress or bankruptcy), the amount of risk the buyer bears grows at an ever increasing rate as the mortgage percentage also increases.

Q19. What are the implications of this example?

A19. Any time an individual or a company uses debt to finance part an investment, the same risk magnifies. For example, if an investor buys stocks "on margin" -- by borrowing part of the money used to buy the stock -- the expected rate of return will be higher as will the risks the investor carries. As an everyday example, imagine investing your retirement

savings in a stock portfolio bought with as much margin as possible. If you were lucky, you could end up living very well in retirement. But you would be taking a lot of risk on the opposite outcome, since your portfolio could decline by more than 100 percent of your initial investment.

The same risk-magnifying effects happen when companies borrow to finance part of their investments.

C. THE EFFECT OF TAXES

Q20. What is the impact of taxes?

A20. Analyzing the net effect of taxes in capital structure decisions by corporations is an important part of the financial research. (Other parts of that research address such issues as the risk of financial distress or bankruptcy, and the signals corporations send investors by the choice of how to finance new investments.) The bottom line is that taxes complicate the picture without changing the basic conclusion.

Q21. Please describe the potential impact of taxes.

A21. Interest expense is tax-deductible for corporations. That increases the pool of cash the corporation gets to keep out of its operating earnings (i.e., its earnings before interest expense). With no debt, 100 percent of operating income is subject to taxes. With debt, only the equity part of the operating income is subject to taxes.

All else equal, the extra money kept from operating income increases the value of the corporation. The standard way to recognize that increase in value is to use an after-tax weighted-average cost of capital as a discount rate when valuing a company's operating cash flows.

Q22. Do personal taxes affect the value of debt, too?

A22. Yes, but in the other direction. One offset to debt's tax benefits at the corporate level is its higher tax burden at the personal level. Investors care about the money they get to

[24] For simplicity, the figure assumes the debt's interest rate is independent of the debt proportion. This might not always be true, and in general would not be true for a corporation that issued debt. However, the

keep after all taxes are paid, and while the corporation saves taxes by opting for debt over equity, individuals pay more taxes on interest than on capital gains from equity (and for now, on dividends as well).

Q23. Are there factors other than taxes matter?

A23. Absolutely, "all else" does not remain equal as more debt is added. The more debt, the more the non-tax effects of debt offset the tax benefits. Other costs include such effects as a loss of flexibility, the possibility of sending negative signals to investors, and a host of costs and risks associated with the danger of financial distress.

Q24. Does the tradeoff between the tax and non-tax effects of debt mean that firms have well-defined, optimal capital structures?

A24. No, this sort of "tradeoff" model does not explain actual corporate behavior. A substantial body of economic research confirms that real-world corporations act as if, after a moderate amount of debt is in place, the tax benefits of debt are not worth debt's other costs. In country after country and in industry after industry, the most profitable corporations in an industry tend to use the least debt. The research on this point is quite thorough, and the finding that the most profitable companies tend to use the least debt in a given industry is robust. Yet these are the companies with the most operating income to shield from taxes, who would benefit most if interest tax shields were truly valuable net of debt's other costs. They also presumptively are the best-managed on average (else why are they the most profitable?). This means it is unrealistic to suppose that more debt is always better, or that greater tax savings due to higher interest expense always add value to the firm on balance.

Q25. If the tradeoff model doesn't explain capital structure decisions by firms, is there a model that does?

A25. No single model has (yet) emerged as 'the" explanation of capital structure. However, several alternative models attempt to model the tradeoff (e.g., the "pecking order" hypothesis and "agency cost" explanations).

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general shape of the graphs remains the same.

Q26. What does the absence of an agreed theory of capital structure in the financial literature imply about the overall effect of debt on the value of the firm?

A26. The findings of the financial literature mean that within an industry, there is no well-defined optimal capital structure. The use of some debt does convey some value advantage in most industries, but that advantage is offset by other costs as firms add more debt.[25] The range of capital structures over which the value of the firm in any industry is maximized is wide and should be treated as flat. The location and level of that range, however, does vary from industry to industry, just as the overall cost of capital varies from industry to industry.

Figure E-4 illustrates the picture that emerges from the research. This figure shows the present value of an investment in each of four different industries. For simplicity, the investment is expected to yield $1.00 per year forever. For firms in relatively high-risk industries (Industry 1 in the graph, the lowest line), the $1.00 perpetuity is not worth much and any use of debt decreases firm value. For firms in relatively low-risk industries (Industry 4 in the graph), the perpetuity is worth more and substantial amounts of debt make sense. Industries 2 and 3 are intermediate cases.

The maximum net rate at which taxes can increase value in this figure equals 20 percent of interest expense, representing a balance between the corporate tax advantage to debt and the personal tax disadvantage. The figure plots the maximum possible impact of taxes on value as a separate line, starting at the all-equity value of the lowest-risk industry (Industry 4).

[25] Note that if debt did increase the value of the firm materially, competition would tend to take that value away, since issuing debt is an easy-to-copy competitive strategy. Prices would fall as firms copied the strategy, lowering operating earnings and passing the net tax advantages to debt through to customers (just as happens under rate regulation). Therefore, if also there were a narrow range of optimal capital structures within an industry, competition would drive all firms in the industry to capital structures within that range. This does not happen in practice, which contradicts one or both of the assumptions, i.e., (1) that debt adds material value on balance, and/or (2) that there is a narrow range of optimal capital structures.

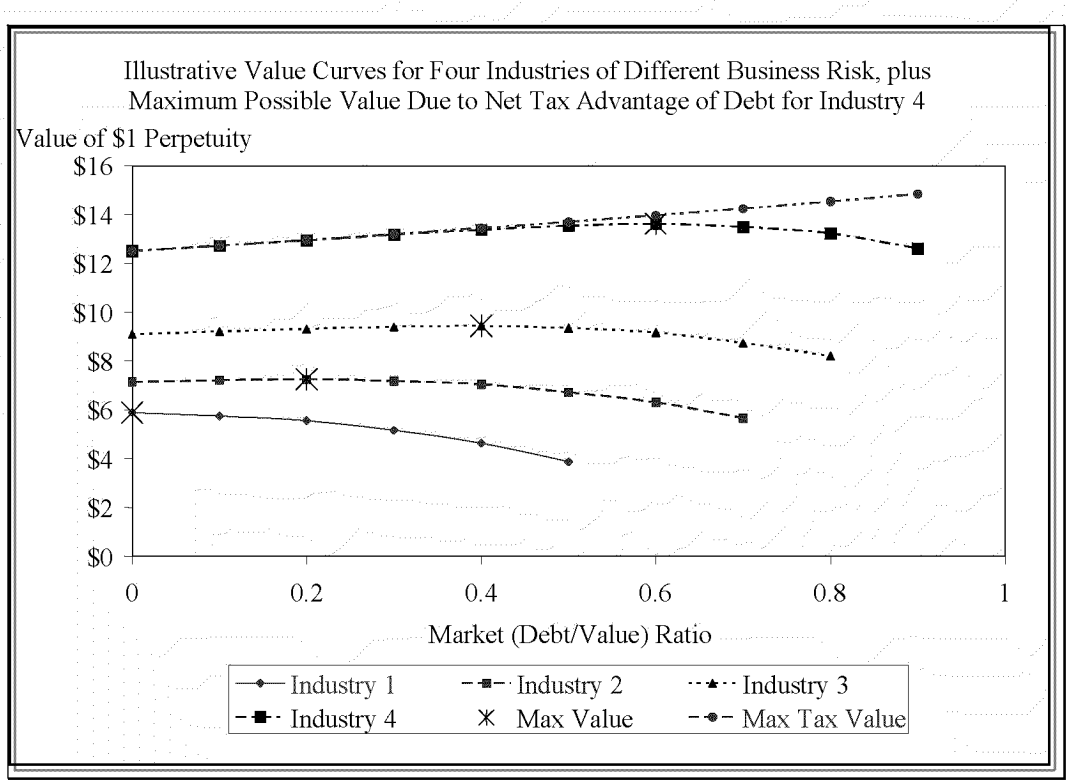

Figure E-4

Figure E-4 identifies a particular point as the maximum value on each of the four curves. However, the research shows that reliable identification of this maximum point, except in the extreme case where no debt should be used, is impossible. In accord with the research, the graph is prepared so that in none of the industries does a change in capital structure make much difference near the top of the curve. Even Industry 4, which increases in value at the maximum rate as quite a lot of debt is added, eventually must reach a broad range where changes in the debt ratio make little difference to firm value, given the research. For Industry 4, debt makes less than a 2 percent difference in the total value of the firm for debt-to-value ratios between 40 and 70 percent. (While these particular values are illustrative, numbers of this order of magnitude are the only ones consistent with the research.)

Q27. What does this imply for the overall cost of capital?

A27. Figure E-5 plots the after-tax weighted-average costs of capital ("ATWACCs") that correspond to the value curves in Figure E-4. This picture just turns Figure E-4 upside

down.[26] All the same conclusions remain, except that they are stated in terms of the overall cost of capital instead of the overall firm value. In particular, except for high-risk industries, the overall cost of capital is essentially flat across a broad middle range of capital structures for each industry, which is the only outcome consistent with the research. For Industry 4, for example, the ATWACC changes by less than 15 basis points for debt-to-value ratios between 40 and 70 percent.

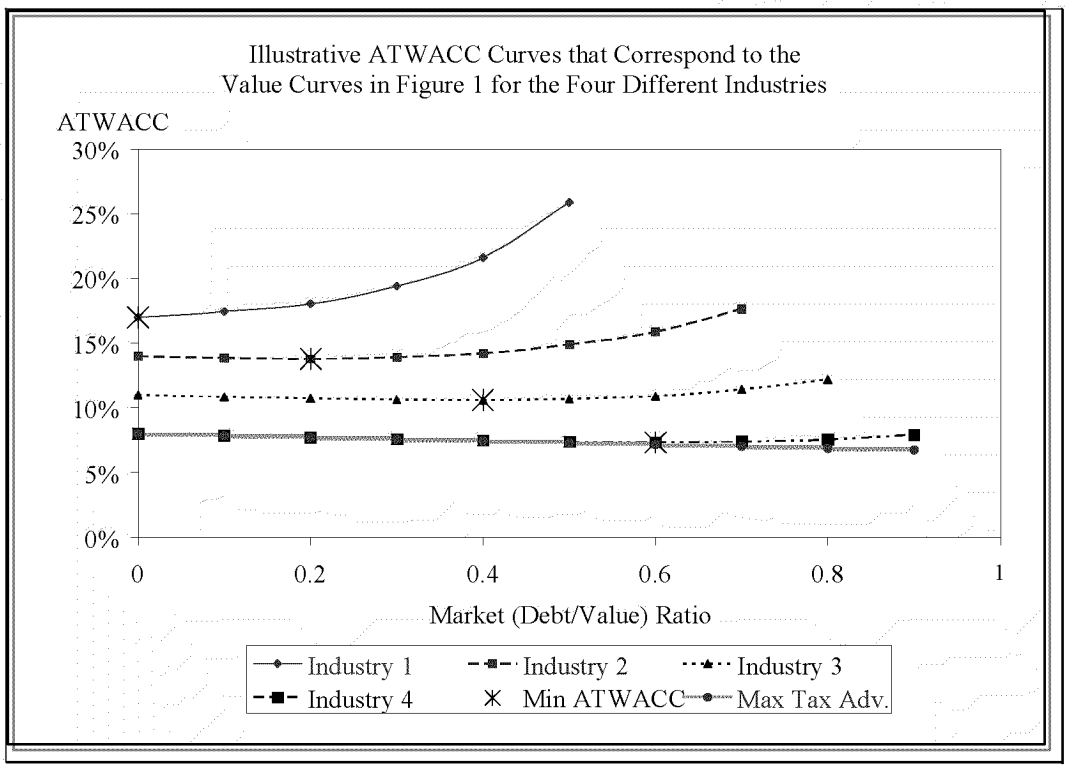

Figure E-5

Q28. How does this discussion relate to estimation of the right cost of equity for ratemaking purposes?

A28. When an analyst estimates the cost of equity for a sample of companies, s/he does so at the sample's actual market-value capital structure. That is, the sample evidence corresponds to ATWACCs that are already out somewhere in the broad middle range in

[26] Note that the actual estimated ATWACC at higher debt ratios will tend to underestimate the ATWACC that corresponds to the value curves in Figure E-4, which are depicted in Figure E-5, and so will tend to overestimate the value of debt to the firm. The reason is that some of the non-tax effects of excessive debt, such as a loss of financial flexibility, may be hard to detect and not show up in cost of capital measurement.

which changes in the debt ratio have little or no impact on the overall value of the firm or the ATWACC.

An analyst therefore should assume the ATWACCs for the sample companies are literally flat. This assumption always provides the exact tradeoff between the cost of equity and capital structure at the literal minimum of the company's ATWACC curve. The research shows that this minimum is actually a broad, flat region, as depicted above. If the company happens to be somewhat to one side or the other of the literal minimum within this region, the recommended procedure may lead to a small understatement or overstatement of the amount that the cost of equity will change as capital structure changes. The degree of this under- or overstatement, however, is very small compared to the inherent uncertainty in estimating the cost of equity in the first place. Otherwise, the financial research would have found very different results about the existence of a narrowly defined optimal capital structure.

D. COMBINED EFFECTS

Q29. Please summarize the implications for the combined impact of the tax and non-tax effects of debt.

A29. The most profitable firms do not behave as if the precise amount of debt they use makes any material difference to value, and competition does not force them into an alternative decision, as it would if debt were genuinely valuable. The explanation that fits the facts and the research is that within an industry, there is no well-defined optimal capital structure. Use of some debt does convey an advantage in most industries, but that advantage is offset by other costs as firms add more debt. The range of capital structures over which the value of the firm in any industry is maximized is wide and should be treated as flat. The location and level of that range, however, does vary from industry to industry, just as the overall cost of capital varies from industry to industry. To conclude that more debt does add more value, once the firm is somewhere in the normal range for the industry, is to conclude that corporate management in general is either blind to an easy source of value or otherwise incompetent (and that their competitors let them get away with it).

The finding that there is no narrowly defined optimal capital structure implies that analysts should estimate the ATWACCs for a sample of companies in a given industry and treat the average ATWACC value as independent of capital structure (at least within a broad middle range of capital structures). The right cost of equity for a rate-regulated company in the same industry is the number that yields the same ATWACC at the capital structure used to set the revenue requirement, since that is the cost of equity that (estimation problems aside) the sample companies would have had if their market-value capital structures had been equal to the regulatory capital structure.

Table No. MJV-1

Index to Tables for the Written Evidence of Michael J. Vilbert

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Table No. MJV-3	Market Value of the US Electric Sample
Table No. MJV-4	Capital Structure Summary of the US Electric Sample
Table No. MJV-5	Estimated Growth Rates of the US Electric Sample
Table No. MJV-6	DCF Cost of Equity of the US Electric Sample
Table No. MJV-7	Overall After Tax DCF Cost of Equity of the US Electric Sample
Table No. MJV-8	DCF Cost of Equity at Wisconsin Electric Co.'s Capital Structure
Table No. MJV-9	Normalized Risk-Free Rates
Table No. MJV-10	Risk Positioning Cost of Equity of theUS Electric Sample
Table No. MJV-11	Overall Risk Positioning Cost of Equity of the US Electric Sample
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Table No. MJV-14	Market Value of the MJV US Gas LDC Sample
Table No. MJV-15	Capital Structure Summary of the MJV US Gas LDC Sample
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Table No. MJV-18	Overall After Tax DCF Cost of Equity of the MJV US Gas LDC Sample
Table No. MJV-19	DCF Cost of Equity at Wisconsin Gas's Capital Structure
Table No. MJV-20	Risk Positioning Cost of Equity of the MJV US Gas LDC Sample
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Table No. MJV-22	Risk Positioning Cost of Equity at Wisconsin Gas's Capital Structure

Table No. MJV-2

US Electric Sample

Percentage of Regulated Assets

Company	Company Category
Cleco Corp	R
Consolidated Edison Inc	R
Empire District Electric Co/The	R
Entergy Corp	R
MGE Energy Inc	MR
NSTAR	R
Pinnacle West Capital Corp	R
PPL Corp	MR
Southern Co	R

Sources and Notes:
R = Regulated (greater than 80 percent of total assets are regulated).
MR-- Mostly Regulated (50 to 80 percent of total assets are regulated).
EEI 2006 Financial Review.

Table No. MJV-3

Market Value of the US Electric Sample

Panel A: Cleco Corp

($MM)

	DCF Capital Structure	Year End, 2006	Year End, 2005	Year End, 2004	Year End, 2003	Year End, 2002	Notes
MARKET VALUE OF COMMON EQUITY							
Book Value, Common Shareholder's Equity	$876	$876	$684	$538	$483	$562	[a]
Shares Outstanding (in millions) - Common	58	58	50	50	47	47	[b]
Price per Share - Common	$26	$25	$21	$20	$18	$14	[c]
Market Value of Common Equity	$1,507	$1,463	$1,037	$1,007	$853	$661	[d] = [b] x [c].
Market to Book Value of Common Equity	1.72	1.67	1.52	1.87	1.77	1.17	[e] = [d] / [a].
MARKET VALUE OF PREFERRED EQUITY							
Book Value of Preferred Equity	$20	$20	$22	$23	$19	$18	[f]
Market Value of Preferred Equity	$20	$20	$22	$23	$19	$18	[g] = [f].
MARKET VALUE OF DEBT							
Current Assets	$537	$537	$434	$288	$253	$285	[h]
Current Liabilities	$389	$389	$294	$338	$346	$519	[i]
Current Portion of Long-Term Debt	$50	$50	$40	$160	$5	$45	[j]
Net Working Capital	$199	$199	$180	$110	($87)	($188)	[k] = [h] - ([i] - [j]).
Notes Payable (Short-Term Debt)	$0	$0	$0	$9	$201	$315	[l]
Adjusted Short-Term Debt	$0	$0	$0	$0	$87	$188	[m] = See Sources and Notes.
Long-Term Debt	$619	$619	$610	$451	$907	$869	[n]
Book Value of Long-Term Debt	$669	$669	$650	$611	$999	$1,103	[o] = [n] + [j] + [m].
Adjustment to Book Value of Long-Term Debt	$11	$11	$14	$34	$35	$23	[p] = See Sources and Notes.
Market Value of Long-Term Debt	$680	$680	$664	$644	$1,034	$1,126	[q] = [p] + [o].
Market Value of Debt	$680	$680	$664	$644	$1,034	$1,126	[r] = [q].
MARKET VALUE OF FIRM	$2,207	$2,163	$1,723	$1,674	$1,906	$1,804	[s] = [d] + [g] + [r].
DEBT AND EQUITY TO MARKET VALUE RATIOS							
Common Equity - Market Value Ratio	68.29%	67.64%	60.21%	60.13%	44.75%	36.62%	[t] = [d] / [s].
Preferred Equity - Market Value Ratio	0.91%	0.93%	1.27%	1.40%	0.98%	0.97%	[u] = [g] / [s].
Debt - Market Value Ratio	30.80%	31.43%	38.53%	38.47%	54.27%	62.41%	[v] = [r] / [s].

Sources and Notes:
Bloomberg as of April 09, 2007
Capital structure from Year End, 2006 calculated using respective balance sheet information and 5-day average prices ending at period end.
The DCF Capital structure is calculated using 4th Quarter, 2006 balance sheet information and a 15-trading day average closing price ending on 4/9/2007.
Prices are reported in Workpaper #1 to Table No. MJV-6.
[m] =
(1): 0 if [k] > 0.
(2): The absolute value of [k] if [k] < 0 and |[k]| < [l].
(3): [l] if [k] < 0 and |[k]| > [l].
[p]: Difference between fair value of Long-Term debt and carrying amount of Long-Term debt per company 10-K. Data for adjustment is from 2006 10-K.

Table No. MJV-3

Market Value of the US Electric Sample

Panel B: Consolidated Edison Inc

($MM)

	DCF Capital Structure	Year End, 2006	Year End, 2005	Year End, 2004	Year End, 2003	Year End, 2002	Notes
MARKET VALUE OF COMMON EQUITY							
Book Value, Common Shareholder's Equity	$8,004	$8,004	$7,310	$7,054	$6,423	$5,921	[a]
Shares Outstanding (in millions) - Common	257	257	245	243	226	214	[b]
Price per Share - Common	$51	$48	$47	$44	$43	$43	[c]
Market Value of Common Equity	$13,122	$12,362	$11,462	$10,662	$9,729	$9,161	[d] = [b] x [c].
Market to Book Value of Common Equity	1.64	1.54	1.57	1.51	1.51	1.55	[e] = [d] / [a].
MARKET VALUE OF PREFERRED EQUITY							
Book Value of Preferred Equity	$213	$213	$213	$213	$213	$213	[f]
Market Value of Preferred Equity	$213	$213	$213	$213	$213	$213	[g] = [f].
MARKET VALUE OF DEBT							
Current Assets	$2,937	$2,937	$3,072	$1,715	$1,592	$1,706	[h]
Current Liabilities	$2,917	$2,917	$3,321	$2,224	$1,911	$2,275	[i]
Current Portion of Long-Term Debt	$374	$374	$22	$469	$166	$473	[j]
Net Working Capital	$394	$394	($227)	($40)	($153)	($96)	[k] = [h] - ([i] - [j]).
Notes Payable (Short-Term Debt)	$117	$117	$755	$156	$159	$162	[l]
Adjusted Short-Term Debt	$0	$0	$227	$40	$153	$96	[m] = See Sources and Notes.
Long-Term Debt	$8,324	$8,324	$7,428	$6,594	$6,769	$6,204	[n]
Book Value of Long-Term Debt	$8,698	$8,698	$7,677	$7,103	$7,088	$6,773	[o] = [n] + [j] + [m].
Adjustment to Book Value of Long-Term Debt	$0	$0	$0	$0	$0	$0	[p] = See Sources and Notes.
Market Value of Long-Term Debt	$8,698	$8,698	$7,677	$7,103	$7,088	$6,773	[q] = [p] + [o].
Market Value of Debt	$8,698	$8,698	$7,677	$7,103	$7,088	$6,773	[r] = [q].
MARKET VALUE OF FIRM	$22,033	$21,273	$19,352	$17,978	$17,030	$16,147	[s] = [d] + [g] + [r].
DEBT AND EQUITY TO MARKET VALUE RATIOS							
Common Equity - Market Value Ratio	59.56%	58.11%	59.23%	59.31%	57.13%	56.73%	[t] = [d] / [s].
Preferred Equity - Market Value Ratio	0.97%	1.00%	1.10%	1.18%	1.25%	1.32%	[u] = [g] / [s].
Debt - Market Value Ratio	39.48%	40.89%	39.67%	39.51%	41.62%	41.95%	[v] = [r] / [s].

Sources and Notes:
Bloomberg as of April 09, 2007
Capital structure from Year End, 2006 calculated using respective balance sheet information and 5-day average prices ending at period end.
The DCF Capital structure is calculated using 4th Quarter, 2006 balance sheet information and a 15-trading day average closing price ending on 4/9/2007.
Prices are reported in Workpaper #1 to Table No. MJV-6.
[m] =
(1): 0 if [k] > 0.
(2): The absolute value of [k] if [k] < 0 and |[k]| < [l].
(3): [l] if [k] < 0 and |[k]| > [l].
[p]: Difference between fair value of Long-Term debt and carrying amount of Long-Term debt per company 10-K. Data for adjustment is from 2006 10-K.

Table No. MJV-3

Market Value of the US Electric Sample

Panel C: Empire District Electric Co/The

($MM)

	DCF Capital Structure	Year End, 2006	Year End, 2005	Year End, 2004	Year End, 2003	Year End, 2002	Notes
MARKET VALUE OF COMMON EQUITY							
Book Value, Common Shareholder's Equity	$469	$469	$393	$379	$379	$329	[a]
Shares Outstanding (in millions) - Common	30	30	26	26	25	23	[b]
Price per Share - Common	$25	$25	$20	$23	$22	$18	[c]
Market Value of Common Equity	$749	$750	$534	$585	$543	$411	[d] = [b] x [c].
Market to Book Value of Common Equity	1.60	1.60	1.36	1.54	1.43	1.25	[e] = [d] / [a].
MARKET VALUE OF PREFERRED EQUITY							
Book Value of Preferred Equity	$0	$0	$0	$0	$0	$50	[f]
Market Value of Preferred Equity	$0	$0	$0	$0	$0	$50	[g] = [f].
MARKET VALUE OF DEBT							
Current Assets	$128	$128	$116	$90	$94	$96	[h]
Current Liabilities	$146	$146	$108	$58	$56	$88	[i]
Current Portion of Long-Term Debt	$0	$0	$0	$11	$0	$0	[j]
Net Working Capital	($18)	($18)	$9	$42	$38	$8	[k] = [h] - ([i] - [j]).
Notes Payable (Short-Term Debt)	$77	$77	$31	$0	$13	$23	[l]
Adjusted Short-Term Debt	$18	$18	$0	$0	$0	$0	[m] = See Sources and Notes.
Long-Term Debt	$462	$462	$408	$400	$410	$361	[n]
Book Value of Long-Term Debt	$480	$480	$408	$411	$411	$361	[o] = [n] + [j] + [m].
Adjustment to Book Value of Long-Term Debt	$0	$0	$0	$14	$10	$4	[p] = See Sources and Notes.
Market Value of Long-Term Debt	$480	$480	$408	$425	$420	$365	[q] = [p] + [o].
Market Value of Debt	$480	$480	$408	$425	$420	$365	[r] = [q].
MARKET VALUE OF FIRM	$1,229	$1,231	$942	$1,010	$963	$826	[s] = [d] + [g] + [r].
DEBT AND EQUITY TO MARKET VALUE RATIOS							
Common Equity - Market Value Ratio	60.91%	60.96%	56.67%	57.94%	56.36%	49.75%	[t] = [d] / [s].
Preferred Equity - Market Value Ratio	-	-	-	-	-	6.06%	[u] = [g] / [s].
Debt - Market Value Ratio	39.09%	39.04%	43.33%	42.06%	43.64%	44.19%	[v] = [r] / [s].

Sources and Notes:
Bloomberg as of April 09, 2007
Capital structure from Year End, 2006 calculated using respective balance sheet information and 5-day average prices ending at period end.
The DCF Capital structure is calculated using 4th Quarter, 2006 balance sheet information and a 15-trading day average closing price ending on 4/9/2007.
Prices are reported in Workpaper #1 to Table No. MJV-6.
[m] =
(1): 0 if [k] > 0.
(2): The absolute value of [k] if [k] < 0 and |[k]| < [l].
(3): [l] if [k] < 0 and |[k]| > [l].
[p]: Difference between fair value of Long-Term debt and carrying amount of Long-Term debt per company 10-K. Data for adjustment is from 2006 10-K.

Table No. MJV-3

Market Value of the US Electric Sample

Panel D: Entergy Corp

($MM)

	DCF Capital Structure	Year End, 2006	Year End, 2005	Year End, 2004	Year End, 2003	Year End, 2002	Notes
MARKET VALUE OF COMMON EQUITY							
Book Value, Common Shareholder's Equity	$8,198	$8,198	$7,748	$8,297	$8,704	$7,838	[a]
Shares Outstanding (in millions) - Common	203	203	208	217	229	222	[b]
Price per Share - Common	$106	$93	$69	$68	$57	$46	[c]
Market Value of Common Equity	$21,383	$18,786	$14,323	$14,669	$13,008	$10,189	[d] = [b] x [c].
Market to Book Value of Common Equity	2.61	2.29	1.85	1.77	1.49	1.30	[e] = [d] / [a].
MARKET VALUE OF PREFERRED EQUITY							
Book Value of Preferred Equity	$345	$345	$446	$365	$334	$359	[f]
Market Value of Preferred Equity	$345	$345	$446	$365	$334	$359	[g] = [f].
MARKET VALUE OF DEBT							
Current Assets	$3,325	$3,325	$4,063	$3,000	$2,919	$3,206	[h]
Current Liabilities	$2,465	$2,465	$3,112	$2,332	$2,282	$3,172	[i]
Current Portion of Long-Term Debt	$335	$335	$234	$626	$684	$1,345	[j]
Net Working Capital	$1,195	$1,195	$1,185	$1,294	$1,321	$1,379	[k] = [h] - ([i] - [j]).
Notes Payable (Short-Term Debt)	$25	$25	$40	$0	$0	$0	[l]
Adjusted Short-Term Debt	$0	$0	$0	$0	$0	$0	[m] = See Sources and Notes.
Long-Term Debt	$8,997	$8,997	$9,013	$7,180	$7,498	$7,465	[n]
Book Value of Long-Term Debt	$9,331	$9,331	$9,248	$7,807	$8,182	$8,810	[o] = [n] + [j] + [m].
Adjustment to Book Value of Long-Term Debt	($692)	($692)	($815)	($403)	($199)	$184	[p] = See Sources and Notes.
Market Value of Long-Term Debt	$8,640	$8,640	$8,433	$7,404	$7,983	$8,993	[q] = [p] + [o].
Market Value of Debt	$8,640	$8,640	$8,433	$7,404	$7,983	$8,993	[r] = [q].
MARKET VALUE OF FIRM	$30,368	$27,771	$23,202	$22,439	$21,325	$19,541	[s] = [d] + [g] + [r].
DEBT AND EQUITY TO MARKET VALUE RATIOS							
Common Equity - Market Value Ratio	70.41%	67.65%	61.73%	65.37%	61.00%	52.14%	[t] = [d] / [s].
Preferred Equity - Market Value Ratio	1.14%	1.24%	1.92%	1.63%	1.57%	1.84%	[u] = [g] / [s].
Debt - Market Value Ratio	28.45%	31.11%	36.35%	33.00%	37.43%	46.02%	[v] = [r] / [s].

Sources and Notes:
Bloomberg as of April 09, 2007
Capital structure from Year End, 2006 calculated using respective balance sheet information and 5-day average prices ending at period end.
The DCF Capital structure is calculated using 4th Quarter, 2006 balance sheet information and a 15-trading day average closing price ending on 4/9/2007.
Prices are reported in Workpaper #1 to Table No. MJV-6.
[m] =
(1): 0 if [k] > 0.
(2): The absolute value of [k] if [k] < 0 and |[k]| < [l].
(3): [l] if [k] < 0 and |[k]| > [l].
[p]: Difference between fair value of Long-Term debt and carrying amount of Long-Term debt per company 10-K. Data for adjustment is from 2006 10-K.

Table No. MJV-3

Market Value of the US Electric Sample

Panel E: MGE Energy Inc

($MM)

	DCF Capital Structure	Year End, 2006	Year End, 2005	Year End, 2004	Year End, 2003	Year End, 2002	Notes
MARKET VALUE OF COMMON EQUITY							
Book Value, Common Shareholder's Equity	$375	$375	$344	$338	$263	$227	[a]
Shares Outstanding (in millions) - Common	21	21	20	20	18	18	[b]
Price per Share - Common	$36	$36	$34	$36	$32	$28	[c]
Market Value of Common Equity	$745	$764	$700	$735	$584	$484	[d] = [b] x [c].
Market to Book Value of Common Equity	1.99	2.04	2.04	2.17	2.22	2.13	[e] = [d] / [a].
MARKET VALUE OF PREFERRED EQUITY							
Book Value of Preferred Equity	$0	$0	$0	$0	$0	$0	[f]
Market Value of Preferred Equity	$0	$0	$0	$0	$0	$0	[g] = [f].
MARKET VALUE OF DEBT							
Current Assets	$149	$149	$161	$144	$112	$97	[h]
Current Liabilities	$144	$144	$153	$118	$106	$81	[i]
Current Portion of Long-Term Debt	$15	$15	$0	$0	$20	$0	[j]
Net Working Capital	$21	$21	$8	$26	$27	$16	[k] = [h] - ([i] - [j]).
Notes Payable (Short-Term Debt)	$57	$57	$83	$53	$32	$34	[l]
Adjusted Short-Term Debt	$0	$0	$0	$0	$0	$0	[m] = See Sources and Notes.
Long-Term Debt	$237	$237	$222	$202	$202	$192	[n]
Book Value of Long-Term Debt	$252	$252	$222	$202	$222	$192	[o] = [n] + [j] + [m].
Adjustment to Book Value of Long-Term Debt	$8	$8	$13	$15	$13	$17	[p] = See Sources and Notes.
Market Value of Long-Term Debt	$260	$260	$235	$217	$235	$209	[q] = [p] + [o].
Market Value of Debt	$260	$260	$235	$217	$235	$209	[r] = [q].
MARKET VALUE OF FIRM							
	$1,006	$1,025	$935	$952	$819	$693	[s] = [d] + [g] + [r].
DEBT AND EQUITY TO MARKET VALUE RATIOS							
Common Equity - Market Value Ratio	74.11%	74.59%	74.86%	77.21%	71.27%	69.83%	[t] = [d] / [s].
Preferred Equity - Market Value Ratio	-	-	-	-	-	-	[u] = [g] / [s].
Debt - Market Value Ratio	25.89%	25.41%	25.14%	22.79%	28.73%	30.17%	[v] = [r] / [s].

Sources and Notes:
Bloomberg as of April 09, 2007
Capital structure from Year End, 2006 calculated using respective balance sheet information and 5-day average prices ending at period end.
The DCF Capital structure is calculated using 4th Quarter, 2006 balance sheet information and a 15-trading day average closing price ending on 4/9/2007.
Prices are reported in Workpaper #1 to Table No. MJV-6.
[m] =
(1): 0 if [k] > 0.
(2): The absolute value of [k] if [k] < 0 and |[k]| < [l].
(3): [l] if [k] < 0 and |[k]| > [l].
[p]: Difference between fair value of Long-Term debt and carrying amount of Long-Term debt per company 10-K. Data for adjustment is from 2006 10-K.

Table No. MJV-3

Market Value of the US Electric Sample

Panel F: NSTAR

($MM)

	DCF Capital Structure	Year End, 2006	Year End, 2005	Year End, 2004	Year End, 2003	Year End, 2002	Notes
MARKET VALUE OF COMMON EQUITY							
Book Value, Common Shareholder's Equity	$1,583	$1,583	$1,535	$1,441	$1,362	$1,299	[a]
Shares Outstanding (in millions) - Common	107	107	107	107	106	106	[b]
Price per Share - Common	$35	$35	$29	$27	$24	$22	[c]
Market Value of Common Equity	$3,779	$3,689	$3,055	$2,883	$2,576	$2,352	[d] = [b] x [c].
Market to Book Value of Common Equity	2.39	2.33	1.99	2.00	1.89	1.81	[e] = [d] / [a].
MARKET VALUE OF PREFERRED EQUITY							
Book Value of Preferred Equity	$0	$0	$0	$43	$43	$43	[f]
Market Value of Preferred Equity	$0	$0	$0	$43	$43	$43	[g] = [f].
MARKET VALUE OF DEBT							
Current Assets	$960	$960	$1,021	$798	$643	$507	[h]
Current Liabilities	$1,240	$1,240	$1,162	$898	$956	$886	[i]
Current Portion of Long-Term Debt	$176	$176	$123	$149	$230	$213	[j]
Net Working Capital	($104)	($104)	($18)	$49	($83)	($167)	[k] = [h] - ([i] - [j]).
Notes Payable (Short-Term Debt)	$436	$436	$418	$161	$239	$199	[l]
Adjusted Short-Term Debt	$104	$104	$18	$0	$83	$167	[m] = See Sources and Notes.
Long-Term Debt	$2,404	$2,404	$2,445	$2,101	$1,980	$2,091	[n]
Book Value of Long-Term Debt	$2,684	$2,684	$2,586	$2,251	$2,293	$2,471	[o] = [n] + [j] + [m].
Adjustment to Book Value of Long-Term Debt	$86	$86	$117	$233	$276	$118	[p] = See Sources and Notes.
Market Value of Long-Term Debt	$2,770	$2,770	$2,703	$2,483	$2,568	$2,589	[q] = [p] + [o].
Market Value of Debt	$2,770	$2,770	$2,703	$2,483	$2,568	$2,589	[r] = [q].
MARKET VALUE OF FIRM	$6,549	$6,459	$5,758	$5,409	$5,187	$4,984	[s] = [d] + [g] + [r].
DEBT AND EQUITY TO MARKET VALUE RATIOS							
Common Equity - Market Value Ratio	57.70%	57.11%	53.06%	53.29%	49.66%	47.19%	[t] = [d] / [s].
Preferred Equity - Market Value Ratio	-	-	-	0.80%	0.83%	0.86%	[u] = [g] / [s].
Debt - Market Value Ratio	42.30%	42.89%	46.94%	45.91%	49.51%	51.95%	[v] = [r] / [s].

Sources and Notes:
Bloomberg as of April 09, 2007
Capital structure from Year End, 2006 calculated using respective balance sheet information and 5-day average prices ending at period end.
The DCF Capital structure is calculated using 4th Quarter, 2006 balance sheet information and a 15-trading day average closing price ending on 4/9/2007.
Prices are reported in Workpaper #1 to Table No. MJV-6.
[m] =
(1): 0 if [k] > 0.
(2): The absolute value of [k] if [k] < 0 and |[k]| < [l].
(3): [l] if [k] < 0 and |[k]| > [l].
[p]: Difference between fair value of Long-Term debt and carrying amount of Long-Term debt per company 10-K. Data for adjustment is from 2006 10-K.

Table No. MJV-3

Market Value of the US Electric Sample

Panel G: Pinnacle West Capital Corp

($MM)

	DCF Capital Structure	Year End, 2006	Year End, 2005	Year End, 2004	Year End, 2003	Year End, 2002	Notes
MARKET VALUE OF COMMON EQUITY							
Book Value, Common Shareholder's Equity	$3,446	$3,446	$3,425	$2,950	$2,830	$2,686	[a]
Shares Outstanding (in millions) - Common	100	100	99	92	91	91	[b]
Price per Share - Common	$49	$51	$42	$44	$40	$34	[c]
Market Value of Common Equity	$4,859	$5,061	$4,160	$4,072	$3,615	$3,097	[d] = [b] x [c].
Market to Book Value of Common Equity	1.41	1.47	1.21	1.38	1.28	1.15	[e] = [d] / [a].
MARKET VALUE OF PREFERRED EQUITY							
Book Value of Preferred Equity	$0	$0	$0	$0	$0	$0	[f]
Market Value of Preferred Equity	$0	$0	$0	$0	$0	$0	[g] = [f].
MARKET VALUE OF DEBT							
Current Assets	$1,480	$1,480	$1,891	$1,137	$984	$860	[h]
Current Liabilities	$1,459	$1,459	$2,272	$1,626	$1,433	$1,233	[i]
Current Portion of Long-Term Debt	$2	$2	$385	$617	$705	$281	[j]
Net Working Capital	$23	$23	$4	$128	$256	($92)	[k] = [h] - ([i] - [j]).
Notes Payable (Short-Term Debt)	$36	$36	$16	$71	$86	$228	[l]
Adjusted Short-Term Debt	$0	$0	$0	$0	$0	$92	[m] = See Sources and Notes.
Long-Term Debt	$3,233	$3,233	$2,608	$2,585	$2,617	$2,744	[n]
Book Value of Long-Term Debt	$3,234	$3,234	$2,993	$3,202	$3,321	$3,116	[o] = [n] + [j] + [m].
Adjustment to Book Value of Long-Term Debt	($40)	($40)	$10	$110	$150	$100	[p] = See Sources and Notes.
Market Value of Long-Term Debt	$3,194	$3,194	$3,003	$3,312	$3,471	$3,216	[q] = [p] + [o].
Market Value of Debt	$3,194	$3,194	$3,003	$3,312	$3,471	$3,216	[r] = [q].
MARKET VALUE OF FIRM	$8,053	$8,256	$7,164	$7,384	$7,086	$6,313	[s] = [d] + [g] + [r].
DEBT AND EQUITY TO MARKET VALUE RATIOS							
Common Equity - Market Value Ratio	60.33%	61.31%	58.08%	55.14%	51.01%	49.05%	[t] = [d] / [s].
Preferred Equity - Market Value Ratio	-	-	-	-	-	-	[u] = [g] / [s].
Debt - Market Value Ratio	39.67%	38.69%	41.92%	44.86%	48.99%	50.95%	[v] = [r] / [s].

Sources and Notes:
Bloomberg as of April 09, 2007
Capital structure from Year End, 2006 calculated using respective balance sheet information and 5-day average prices ending at period end.
The DCF Capital structure is calculated using 4th Quarter, 2006 balance sheet information and a 15-trading day average closing price ending on 4/9/2007.
Prices are reported in Workpaper #1 to Table No. MJV-6.
[m] =
(1): 0 if [k] > 0.
(2): The absolute value of [k] if [k] < 0 and |[k]| < [l].
(3): [l] if [k] < 0 and |[k]| > [l].
[p]: Difference between fair value of Long-Term debt and carrying amount of Long-Term debt per company 10-K. Data for adjustment is from 2006 10-K.

Table No. MJV-3

Market Value of the US Electric Sample

Panel H: PPL Corp

($MM)

	DCF Capital Structure	Year End, 2006	Year End, 2005	Year End, 2004	Year End, 2003	Year End, 2002	Notes
MARKET VALUE OF COMMON EQUITY							
Book Value, Common Shareholder's Equity	$5,122	$5,122	$4,418	$4,239	$3,259	$2,224	[a]
Shares Outstanding (in millions) - Common	385	385	380	378	355	331	[b]
Price per Share - Common	$41	$36	$30	$27	$22	$17	[c]
Market Value of Common Equity	$15,742	$13,855	$11,291	$10,088	$7,711	$5,773	[d] = [b] x [c].
Market to Book Value of Common Equity	3.07	2.71	2.56	2.38	2.37	2.60	[e] = [d] / [a].
MARKET VALUE OF PREFERRED EQUITY							
Book Value of Preferred Equity	$301	$301	$51	$51	$51	$82	[f]
Market Value of Preferred Equity	$301	$301	$51	$51	$51	$82	[g] = [f].
MARKET VALUE OF DEBT							
Current Assets	$3,630	$3,630	$2,906	$2,276	$2,039	$1,819	[h]
Current Liabilities	$3,348	$3,348	$3,354	$2,295	$1,773	$2,613	[i]
Current Portion of Long-Term Debt	$1,107	$1,107	$1,126	$866	$395	$366	[j]
Net Working Capital	$1,389	$1,389	$678	$847	$661	($428)	[k] = [h] - ([i] - [j]).
Notes Payable (Short-Term Debt)	$42	$42	$214	$42	$56	$943	[l]
Adjusted Short-Term Debt	$0	$0	$0	$0	$0	$428	[m] = See Sources and Notes.
Long-Term Debt	$6,728	$6,728	$6,044	$6,881	$8,145	$6,562	[n]
Book Value of Long-Term Debt	$7,835	$7,835	$7,170	$7,747	$8,540	$7,356	[o] = [n] + [j] + [m].
Adjustment to Book Value of Long-Term Debt	$123	$123	$504	$483	$584	$390	[p] = See Sources and Notes.
Market Value of Long-Term Debt	$7,958	$7,958	$7,674	$8,230	$9,124	$7,746	[q] = [p] + [o].
Market Value of Debt	$7,958	$7,958	$7,674	$8,230	$9,124	$7,746	[r] = [q].
MARKET VALUE OF FIRM	$24,001	$22,114	$19,016	$18,369	$16,886	$13,601	[s] = [d] + [g] + [r].
DEBT AND EQUITY TO MARKET VALUE RATIOS							
Common Equity - Market Value Ratio	65.59%	62.65%	59.38%	54.92%	45.66%	42.44%	[t] = [d] / [s].
Preferred Equity - Market Value Ratio	1.25%	1.36%	0.27%	0.28%	0.30%	0.60%	[u] = [g] / [s].
Debt - Market Value Ratio	33.16%	35.99%	40.36%	44.80%	54.03%	56.95%	[v] = [r] / [s].

Sources and Notes:
Bloomberg as of April 09, 2007
Capital structure from Year End, 2006 calculated using respective balance sheet information and 5-day average prices ending at period end.
The DCF Capital structure is calculated using 4th Quarter, 2006 balance sheet information and a 15-trading day average closing price ending on 4/9/2007.
Prices are reported in Workpaper #1 to Table No. MJV-6.
[m] =
(1): 0 if [k] > 0.
(2): The absolute value of [k] if [k] < 0 and |[k]| < [l].
(3): [l] if [k] < 0 and |[k]| > [l].
[p]: Difference between fair value of Long-Term debt and carrying amount of Long-Term debt per company 10-K. Data for adjustment is from 2006 10-K.

Table No. MJV-3

Market Value of the US Electric Sample

Panel I: Southern Co

($MM)

	DCF Capital Structure	Year End, 2006	Year End, 2005	Year End, 2004	Year End, 2003	Year End, 2002	Notes
MARKET VALUE OF COMMON EQUITY							
Book Value, Common Shareholder's Equity	$11,371	$11,371	$10,689	$10,278	$9,648	$8,710	[a]
Shares Outstanding (in millions) - Common	746	746	742	742	735	717	[b]
Price per Share - Common	$37	$37	$35	$34	$30	$29	[c]
Market Value of Common Equity	$27,483	$27,609	$25,879	$24,939	$22,142	$20,522	[d] = [b] x [c].
Market to Book Value of Common Equity	2.42	2.43	2.42	2.43	2.30	2.36	[e] = [d] / [a].
MARKET VALUE OF PREFERRED EQUITY							
Book Value of Preferred Equity	$744	$744	$596	$561	$423	$298	[f]
Market Value of Preferred Equity	$744	$744	$596	$561	$423	$298	[g] = [f].
MARKET VALUE OF DEBT							
Current Assets	$4,019	$4,019	$4,205	$3,491	$3,060	$2,929	[h]
Current Liabilities	$6,353	$6,353	$5,240	$3,798	$3,505	$4,987	[i]
Current Portion of Long-Term Debt	$1,418	$1,418	$901	$983	$741	$1,679	[j]
Net Working Capital	($916)	($916)	($134)	$676	$296	($379)	[k] = [h] - ([i] - [j]).
Notes Payable (Short-Term Debt)	$1,941	$1,941	$1,258	$426	$568	$972	[l]
Adjusted Short-Term Debt	$916	$916	$134	$0	$0	$379	[m] = See Sources and Notes.
Long-Term Debt	$12,503	$12,503	$12,846	$12,449	$12,064	$11,094	[n]
Book Value of Long-Term Debt	$14,837	$14,837	$13,881	$13,432	$12,805	$13,152	[o] = [n] + [j] + [m].
Adjustment to Book Value of Long-Term Debt	($122)	($122)	$10	$243	$212	$284	[p] = See Sources and Notes.
Market Value of Long-Term Debt	$14,715	$14,715	$13,891	$13,675	$13,017	$13,436	[q] = [p] + [o].
Market Value of Debt	$14,715	$14,715	$13,891	$13,675	$13,017	$13,436	[r] = [q].
MARKET VALUE OF FIRM	$42,942	$43,068	$40,366	$39,175	$35,582	$34,256	[s] = [d] + [g] + [r].
DEBT AND EQUITY TO MARKET VALUE RATIOS							
Common Equity - Market Value Ratio	64.00%	64.11%	64.11%	63.66%	62.23%	59.91%	[t] = [d] / [s].
Preferred Equity - Market Value Ratio	1.73%	1.73%	1.48%	1.43%	1.19%	0.87%	[u] = [g] / [s].
Debt - Market Value Ratio	34.27%	34.17%	34.41%	34.91%	36.58%	39.22%	[v] = [r] / [s].

Sources and Notes:
Bloomberg as of April 09, 2007
Capital structure from Year End, 2006 calculated using respective balance sheet information and 5-day average prices ending at period end.
The DCF Capital structure is calculated using 4th Quarter, 2006 balance sheet information and a 15-trading day average closing price ending on 4/9/2007.
Prices are reported in Workpaper #1 to Table No. MJV-6.
[m] =
(1): 0 if [k] > 0.
(2): The absolute value of [k] if [k] < 0 and |[k]| < [l].
(3): [l] if [k] < 0 and |[k]| > [l].
[p]: Difference between fair value of Long-Term debt and carrying amount of Long-Term debt per company 10-K. Data for adjustment is from 2006 10-K.

Table No. MJV-4

US Electric Sample

Capital Structure Summary

Company	DCF Capital Structure			5-Year Average Capital Structure		
	Common Equity - Value Ratio [1]	Preferred Equity - Value Ratio [2]	Debt - Value Ratio [3]	Common Equity - Value Ratio [4]	Preferred Equity - Value Ratio [5]	Debt - Value Ratio [6]
Cleco Corp	0.68	0.01	0.31	0.54	0.01	0.45
Consolidated Edison Inc	0.60	0.01	0.39	0.58	0.01	0.41
Empire District Electric Co/The	0.61	-	0.39	0.56	0.01	0.42
Entergy Corp	0.70	0.01	0.28	0.62	0.02	0.37
MGE Energy Inc	0.74	-	0.26	0.74	-	0.26
NSTAR	0.58	-	0.42	0.52	0.00	0.47
Pinnacle West Capital Corp	0.60	-	0.40	0.55	-	0.45
PPL Corp	0.66	0.01	0.33	0.53	0.01	0.46
Southern Co	0.64	0.02	0.34	0.63	0.01	0.36
Average	0.65	0.01	0.35	0.58	0.01	0.41

Sources and Notes:
[1], [4]:Workpaper #1 to Table No. MJV-4.
[2], [5]:Workpaper #2 to Table No. MJV-4.
[3], [6]:Workpaper #3 to Table No. MJV-4.
Values in this table may not add up exactly to 1.0 because of rounding.

Table No. MJV-5

US Electric Sample

Combined Bloomberg Estimated and Value Line Estimated Growth Rates

Company	Bloomberg Estimate		Value Line			Combined BEst and Value Line Growth Rate
	BEst Long-Term Growth Rate	Number of Estimates	EPS Year 2008 Estimate	EPS Year 2010 - 2012 Estimate	Annualized Growth Rate	
	[1]	[2]	[3]	[4]	[5]	[6]
Cleco Corp	12.0%	1	$1.40	$2.00	12.6%	12.3%
Consolidated Edison Inc	4.0%	5	$3.20	$3.30	1.0%	3.5%
Empire District Electric Co/The	3.0%	1	$1.45	$1.75	6.5%	4.7%
Entergy Corp	9.0%	5	$5.45	$6.20	4.4%	8.2%
MGE Energy Inc	n/a	n/a	$2.00	$2.45	7.0%	7.0%
NSTAR	5.0%	3	$2.30	$3.00	9.3%	6.1%
Pinnacle West Capital Corp	3.0%	2	$3.00	$3.25	2.7%	2.9%
PPL Corp	12.5%	5	$2.35	$3.75	16.9%	13.2%
Southern Co	5.3%	4	$2.25	$2.50	3.6%	4.9%

Sources and Notes:
[1] - [2]: Bloomberg as of April 09, 2007.
[3] - [4]: Value Line Standard Edition as of March 20, 2007. Dated as of December 29, 2006, February 9, 2007 and March 2, 2007.
[5]: ([4] / [3]) ^ (1/3) - 1.
[6]: ([1] x [2] + [5]) / ([2] + 1).

Table No. MJV-6

DCF Cost of Equity of the US Electric Sample

Panel A: Simple DCF Method (Quarterly)

Company	Stock Price [1]	Quarterly Dividend Q4, 2006 [2]	Combined BEst and Value Line Long-Term Growth Rate [3]	Quarterly Growth Rate [4]	DCF Cost of Equity [5]
Cleco Corp	$26.20	$0.23	12.3%	2.9%	16.2%
Consolidated Edison Inc	$50.97	$0.58	3.5%	0.9%	8.3%
Empire District Electric Co/The	$24.74	$0.32	4.7%	1.2%	10.3%
Entergy Corp	$105.51	$0.54	8.2%	2.0%	10.5%
MGE Energy Inc	$35.54	$0.35	7.0%	1.7%	11.3%
NSTAR	$35.38	$0.30	6.1%	1.5%	9.7%
Pinnacle West Capital Corp	$48.61	$0.53	2.9%	0.7%	7.4%
PPL Corp	$40.88	$0.28	13.2%	3.2%	16.3%
Southern Co	$36.82	$0.39	4.9%	1.2%	9.4%

Sources and Notes:
[1]: Workpaper #1 to Table No. MJV-6.
[2]: Workpaper #2 to Table No. MJV-6.
[3]: Table No. MJV-5, [6].
[4]: {(1 + [3]) ^ (1/4)} - 1.
[5]: {(([2] / [1]) x (1 + [4]) + [4] + 1) ^ 4} - 1.

Table No. MJV-6

DCF Cost of Equity of the US Electric Sample

Panel B: Multi-Stage DCF (Using Blue Chip Long-Term GDP Growth Forecast as the Perpetual Rate)

Company	Stock Price [1]	Quarterly Dividend Q4, 2006 [2]	Combined BEst and *Value Line* Long-Term Growth Rate [3]	Growth Rate: FY 2012 [4]	Growth Rate: FY 2013 [5]	Growth Rate: FY 2014 [6]	Growth Rate: FY 2015 [7]	Growth Rate: FY 2016 [8]	GDP Long-Term Growth Rate [9]	DCF Cost of Equity [10]
Cleco Corp	$26.20	$0.23	12.3%	11.1%	9.9%	8.7%	7.5%	6.3%	5.1%	10.7%
Consolidated Edison Inc	$50.97	$0.58	3.5%	3.8%	4.0%	4.3%	4.6%	4.8%	5.1%	9.5%
Empire District Electric Co/The	$24.74	$0.32	4.7%	4.8%	4.9%	4.9%	5.0%	5.0%	5.1%	10.5%
Entergy Corp	$105.51	$0.54	8.2%	7.7%	7.2%	6.7%	6.1%	5.6%	5.1%	7.7%
MGE Energy Inc	$35.54	$0.35	7.0%	6.7%	6.4%	6.0%	5.7%	5.4%	5.1%	9.8%
NSTAR	$35.38	$0.30	6.1%	5.9%	5.7%	5.6%	5.4%	5.3%	5.1%	9.2%
Pinnacle West Capital Corp	$48.61	$0.53	2.9%	3.3%	3.6%	4.0%	4.4%	4.7%	5.1%	9.1%
PPL Corp	$40.88	$0.28	13.2%	11.9%	10.5%	9.2%	7.8%	6.5%	5.1%	9.8%
Southern Co	$36.82	$0.39	4.9%	4.9%	5.0%	5.0%	5.0%	5.1%	5.1%	9.5%

Sources and Notes:
[1]: Workpaper #1 to Table No. MJV-6.
[2]: Workpaper #2 to Table No. MJV-6.
[3]: Table No. MJV-5, [6].
[4]: [3] - {([3] - [9])/ 6}.
[5]: [4] - {([3] - [9])/ 6}.
[6]: [5] - {([3] - [9])/ 6}.
[7]: [6] - {([3] - [9])/ 6}.
[8]: [7] - {([3] - [9])/ 6}.
[9]: Blue Chip Economic Indicators published March 10, 2007 This number is assumed to be the perpetual growth rate. (See Appendix E).
[10]: Workpaper #3 to Table No. MJV-6.

Table No. MJV-7

Overall Cost of Capital of the US Electric Sample

Panel A: Simple DCF Method (Quarterly)

Company	4th Quarter, 2006 Bond Rating [1]	4th Quarter, 2006 Preferred Equity Rating [2]	DCF Cost of Equity [3]	DCF Common Equity to Market Value Ratio [4]	Cost of Preferred Equity [5]	DCF Preferred Equity to Market Value Ratio [6]	DCF Cost of Debt [7]	DCF Debt to Market Value Ratio [8]	Wisconsin Electric Co.'s Income Tax Rate [9]	Overall After- Tax Cost of Capital [10]
Cleco Corp	BBB	BBB	16.2%	0.68	6.0%	0.01	6.1%	0.31	39.8%	12.3%
Consolidated Edison Inc	A	A	8.3%	0.60	5.9%	0.01	5.9%	0.39	39.8%	6.4%
Empire District Electric Co/The	BBB	-	10.3%	0.61	-	-	6.1%	0.39	39.8%	7.7%
Entergy Corp	BBB	BBB	10.5%	0.70	6.0%	0.01	6.1%	0.28	39.8%	8.5%
MGE Energy Inc	AA	-	11.3%	0.74	-	-	5.7%	0.26	39.8%	9.2%
NSTAR	A	-	9.7%	0.58	-	-	5.9%	0.42	39.8%	7.1%
Pinnacle West Capital Corp	BBB	-	7.4%	0.60	-	-	6.1%	0.40	39.8%	5.9%
PPL Corp	BBB	BBB	16.3%	0.66	6.0%	0.01	6.1%	0.33	39.8%	12.0%
Southern Co	A	A	9.4%	0.64	5.9%	0.02	5.9%	0.34	39.8%	7.3%
Average			11.0%	0.65	6.0%	0.01	6.0%	0.35	39.8%	8.5%

Sources and Notes:
[1]: Bloomberg as of April 09, 2007.
[2]: Preferred ratings were assumed equal to debt ratings.
[3]: Table No. MJV-6; Panel A, [5].
[4]: Table No. MJV-4, [1].
[5]: Workpaper #2 to Table No. MJV-11, Panel B, [6].
[6]: Table No. MJV-4, [2].
[7]: Workpaper #2 toTable No. MJV-11, Panel A, [6].
[8]: Table No. MJV-4, [3].
[9]: Provided by Wisconsin Electric Co..
[10]: ([3] x [4]) + ([5] x [6]) + {[7] x [8] x (1 - [9])}.

Table No. MJV-7

Overall Cost of Capital of the US Electric Sample

Panel B: Multi-Stage DCF (Using Blue Chip Long-Term GDP Growth Forecast as the Perpetual Rate)

Company	4th Quarter, 2006 Bond Rating [1]	4th Quarter, 2006 Preferred Equity Rating [2]	DCF Cost of Equity [3]	DCF Common Equity to Market Value Ratio [4]	Cost of Preferred Equity [5]	DCF Preferred Equity to Market Value Ratio [6]	DCF Cost of Debt [7]	DCF Debt to Market Value Ratio [8]	Wisconsin Electric Co.'s Income Tax Rate [9]	Overall After- Tax Cost of Capital [10]
Cleco Corp	BBB	BBB	10.7%	0.68	6.0%	0.01	6.1%	0.31	39.8%	8.5%
Consolidated Edison Inc	A	A	9.5%	0.60	5.9%	0.01	5.9%	0.39	39.8%	7.1%
Empire District Electric Co/The	BBB	-	10.5%	0.61	-	-	6.1%	0.39	39.8%	7.8%
Entergy Corp	BBB	BBB	7.7%	0.70	6.0%	0.01	6.1%	0.28	39.8%	6.6%
MGE Energy Inc	AA	-	9.8%	0.74	-	-	5.7%	0.26	39.8%	8.1%
NSTAR	A	-	9.2%	0.58	-	-	5.9%	0.42	39.8%	6.8%
Pinnacle West Capital Corp	BBB	-	9.1%	0.60	-	-	6.1%	0.40	39.8%	6.9%
PPL Corp	BBB	BBB	9.8%	0.66	6.0%	0.01	6.1%	0.33	39.8%	7.7%
Southern Co	A	A	9.5%	0.64	5.9%	0.02	5.9%	0.34	39.8%	7.4%
Average			9.5%	0.65	6.0%	0.01	6.0%	0.35	39.8%	7.4%

Sources and Notes:
[1]: Bloomberg as of April 09, 2007.
[2]: Preferred ratings were assumed equal to debt ratings.
[3]: Table No. MJV-6; Panel B, [10].
[4]: Table No. MJV-4, [1].
[5]: Workpaper #2 to Table No. MJV-11, Panel B, [6].
[6]: Table No. MJV-4, [2].
[7]: Workpaper #2 toTable No. MJV-11, Panel A, [6].
[8]: Table No. MJV-4, [3].
[9]: Provided by Wisconsin Electric Co..
[10]: ([3] x [4]) + ([5] x [6]) + {[7] x [8] x (1 - [9])}.

Table No. MJV-8

DCF Cost of Equity at Wisconsin Electric Co. Capital Structure

US Electric Sample

Using Capital Structure w/o Imputed Debt

	Overall Cost of Capital [1]	Wisconsin Electric Co.'s Regulatory % Debt [2]	Wisconsin Electric Co.'s Cost of Debt [3]	Wisconsin Electric Co.'s Income Tax Rate [4]	Wisconsin Electric Co.'s Regulatory % Preferred Equity [5]	Wisconsin Electric Co.'s Cost of Preferred Equity [6]	Wisconsin Electric Co.'s Regulatory % Equity [7]	Estimated Return on Equity [8]
Using All Companies with Bloomberg Forecast								
Simple DCF Quarterly	8.5%	0.44	5.9%	39.8%	0.7%	5.9%	0.55	12.5%
Multi-Stage DCF - Using the Blue Chip Economic Indicator Long-Term GDP as the Perpetual Rate	7.4%	0.44	5.9%	39.8%	0.7%	5.9%	0.55	10.6%

Sources and Notes:
[1]: Table No. MJV-7; Panels A-B, [10].
[2]: Workpaper #4 to Table No. MJV-4.
[3]: Based off an A rating, as provided by Wisconsin Electric Co.. Yield pulled from Bloomberg as of March 27, 2007.
[4]: Provided by Wisconsin Electric Co..
[5]: Workpaper #4 to Table No. MJV-4.
[6]: Based off an A rating, as provided by Wisconsin Electric Co. Yield from March 2007 Mergent Bond Record.
[7]: Workpaper #4 to Table No. MJV-4.
[8]: {[1] - ([2] x [3] x (1 - [4]) + [5] x [6])} / [7].

Table No. MJV-9 - Interest Rate Forecasts

US Electric Sample

Panel A: US Interest Rate Series (All Constant Maturity Series)

	Trading Date	30 Day	90 Day	180 Day	1 Year	2 Year	3 Year	5 Year	7 Year	10 Year	Long Term
	3/20/2007	5.22%	5.06%	5.12%	4.94%	4.60%	4.51%	4.47%	4.49%	4.56%	4.79%
	3/21/2007	5.24%	5.05%	5.08%	4.89%	4.51%	4.44%	4.43%	4.45%	4.53%	4.78%
	3/22/2007	5.23%	5.06%	5.08%	4.91%	4.58%	4.51%	4.49%	4.52%	4.60%	4.86%
	3/23/2007	5.24%	5.08%	5.10%	4.93%	4.60%	4.54%	4.52%	4.54%	4.62%	4.88%
	3/26/2007	5.22%	5.06%	5.09%	4.91%	4.56%	4.50%	4.48%	4.51%	4.60%	4.86%
	3/27/2007	5.20%	5.08%	5.09%	4.91%	4.58%	4.51%	4.50%	4.53%	4.62%	4.89%
	3/28/2007	5.18%	5.06%	5.08%	4.90%	4.53%	4.49%	4.50%	4.53%	4.62%	4.90%
	3/29/2007	5.05%	5.05%	5.06%	4.90%	4.58%	4.52%	4.53%	4.55%	4.64%	4.90%
	3/30/2007	5.07%	5.04%	5.06%	4.90%	4.58%	4.54%	4.54%	4.58%	4.65%	4.92%
	4/2/2007	5.12%	5.04%	5.09%	4.92%	4.60%	4.53%	4.54%	4.57%	4.65%	4.92%
	4/3/2007	5.15%	5.05%	5.09%	4.93%	4.63%	4.57%	4.56%	4.59%	4.67%	4.93%
	4/4/2007	5.16%	5.07%	5.08%	4.92%	4.61%	4.55%	4.55%	4.58%	4.66%	4.92%
	4/5/2007	5.10%	5.04%	5.07%	4.93%	4.63%	4.57%	4.57%	4.60%	4.68%	4.95%
	4/6/2007	5.10%	5.05%	5.10%	4.98%	4.75%	4.68%	4.67%	4.69%	4.76%	5.00%
	4/9/2007	5.08%	5.02%	5.11%	4.98%	4.73%	4.67%	4.66%	4.68%	4.75%	5.00%
[A]	Average:	5.16%	5.05%	5.09%	4.92%	4.60%	4.54%	4.53%	4.56%	4.64%	4.90%
[B]	Maturity Premium:	0.00%	0.10%	0.20%	0.33%	0.59%	0.75%	1.00%	1.15%	1.27%	1.50%
[C]	Implied Short-Term Yield:	5.16%	4.95%	4.89%	4.59%	4.01%	3.79%	3.53%	3.41%	3.37%	3.40%

Sources and Notes:

[A]: Average over the last 15 trading days.

[B]: Workpaper #1 to Table No. MJV-9, Panel C, [2].

[C]: [A] - [B].

St. Louis Federal Reserve Bank. {http://research.stlouisfed.org/fred2/}. The most recent 15 trading days are used.

Table No. MJV-9 - Interest Rate Forecasts

US Electric Sample

Panel B: Forecasted Short-Term Interest Rates

	30 Day [1]	90 Day [2]	180 Day [3]	1 Year [4]	2 Year [5]	3 Year [6]	5 Year [7]	7 Year [8]	10 Year [9]	Total Days [10]	Implicit Short-Term Rate [11]
[A] Implied Short-Term Yield:	5.16%	4.95%	4.89%	4.59%	4.01%	3.79%	3.53%	3.41%	3.37%		
[B] Days Remaining in 2007	30	60	90	86						266	4.84%
[C] Days Remaining in 2008				99	266					365	4.17%
[D] Days Remaining in 2009					99	266				365	3.85%
[E] Days Remaining in 2010						99	266			365	3.60%
[F] Days Remaining in 2011							99	266		365	3.44%
[G] Days Remaining in 2012								99	266	365	3.38%
[H] Total Days	30	60	90	185	365	365	730	730	1095		
[I] Implicit Short-Term Rate for 2008-2011										1460	3.77%
[J] Implicit Short-Term Rate for 2008-2012										1825	3.69%

Sources and Notes:

[A]: Table No. MJV-9 - Interest Rate Forecasts Panel A, [C].

[B] - [G]: Total number of days remaining for each period, beginning with March 20, 2007.

[H]: Sum of [B] through [G] for the respective period.

[11]: [(1+ Implied Short-Term Yield$_1$)^(days remaining in period$_1$)x…x(1+Implied Short-Term Yield$_n$)^(days remaining in period$_n$)]^(1/[9])-1.

This formula is applied to all periods from 1 to n in each year.

[I]: ((1+[10][C])^[9][C]x…x(1+10[F])^[9][F]))^(1/[9][I])-1.

[J]: ((1+[10][C])^[9][C]x…x(1+10[G])^[9][G]))^(1/[9][J])-1.

Table No. MJV-10

Risk Positioning Cost of Equity of the US Electric Sample

Panel A: Using Value Line Betas and the Long-Term Risk-Free Rate

Company	US Long-Term Risk-Free Rate [1]	Value Line Betas [2]	Long-Term Market Risk Premium [3]	CAPM Cost of Equity [4]	ECAPM (0.5%) Cost of Equity [5]	ECAPM (1.5%) Cost of Equity [6]
Cleco Corp	4.9%	1.30	6.50%	13.4%	13.2%	12.9%
Consolidated Edison Inc	4.9%	0.75	6.50%	9.8%	9.9%	10.2%
Empire District Electric Co/The	4.9%	0.80	6.50%	10.1%	10.2%	10.4%
Entergy Corp	4.9%	0.85	6.50%	10.4%	10.5%	10.7%
MGE Energy Inc	4.9%	0.75	6.50%	9.8%	9.9%	10.2%
NSTAR	4.9%	0.80	6.50%	10.1%	10.2%	10.4%
Pinnacle West Capital Corp	4.9%	1.00	6.50%	11.4%	11.4%	11.4%
PPL Corp	4.9%	0.95	6.50%	11.1%	11.1%	11.2%
Southern Co	4.9%	0.70	6.50%	9.5%	9.6%	9.9%

Sources and Notes:
[1]: Table No. MJV-9 - Interest Rate Forecasts, Panel A, Row [A].
[2]: Workpaper # 1 to Table No. MJV-10, column [1].
[3]: Vilbert Written Evidence, Appendix B.
[4]: [1] + ([2] x [3]).
[5]: ([1] + 0.5%) + [2] x ([3] - 0.5%).
[6]: ([1] + 1.5%) + [2] x ([3] - 1.5%).

Table No. MJV-10

Risk Positioning Cost of Equity of the US Electric Sample

Panel B: Using Value Line Betas and the Short-Term Risk-Free Rate.

Company	US Short-Term Risk-Free Rate [1]	Value Line Betas [2]	Short-Term Market Risk Premium [3]	CAPM Cost of Equity [4]	ECAPM (1%) Cost of Equity [5]	ECAPM (2%) Cost of Equity [6]	ECAPM (3%) Cost of Equity [7]
Cleco Corp	3.8%	1.30	8.0%	14.2%	13.9%	13.6%	13.3%
Consolidated Edison Inc	3.8%	0.75	8.0%	9.8%	10.1%	10.3%	10.6%
Empire District Electric Co/The	3.8%	0.80	8.0%	10.2%	10.4%	10.6%	10.8%
Entergy Corp	3.8%	0.85	8.0%	10.6%	10.8%	10.9%	11.1%
MGE Energy Inc	3.8%	0.75	8.0%	9.8%	10.1%	10.3%	10.6%
NSTAR	3.8%	0.80	8.0%	10.2%	10.4%	10.6%	10.8%
Pinnacle West Capital Corp	3.8%	1.00	8.0%	11.8%	11.8%	11.8%	11.8%
PPL Corp	3.8%	0.95	8.0%	11.4%	11.5%	11.5%	11.6%
Southern Co	3.8%	0.70	8.0%	9.4%	9.7%	10.0%	10.3%

Sources and Notes:
[1]: Table No. MJV-9 - Interest Rate Forecasts, Panel B, Row [I].
[2]: Workpaper # 1 to Table No. MJV-10, column [1].
[3]: Vilbert Written Evidence, Appendix B.
[4]: [1] + ([2] x [3]).
[5]: ([1] + 1%) + [2] x ([3] - 1%).
[6]: ([1] + 2%) + [2] x ([3] - 2%).
[7]: ([1] + 3%) + [2] x ([3] - 3%).

Table No. MJV-11

Overall Cost of Capital of the US Electric Sample

Panel A: CAPM Cost of Equity Based on Value Line Betas and a Long-Term Risk-Free Rate

Company	CAPM Cost of Equity [1]	5-Year Average Common Equity to Market Value Ratio [2]	Weighted - Average Cost of Preferred Equity [3]	5-Year Average Preferred Equity to Market Value Ratio [4]	Weighted Average Cost of Debt [5]	5-Year Average Debt to Market Value Ratio [6]	Wisconsin Electric Co.'s Income Tax Rate [7]	Overall After- Tax Cost of Capital [8]
Cleco Corp	13.4%	0.54	6.0%	0.01	6.1%	0.45	39.8%	8.9%
Consolidated Edison Inc	9.8%	0.58	5.9%	0.01	5.9%	0.41	39.8%	7.2%
Empire District Electric Co/The	10.1%	0.56	6.0%	0.01	6.1%	0.42	39.8%	7.3%
Entergy Corp	10.4%	0.62	6.0%	0.02	6.1%	0.37	39.8%	7.9%
MGE Energy Inc	9.8%	0.74	-	-	5.7%	0.26	39.8%	8.1%
NSTAR	10.1%	0.52	5.9%	0.00	5.9%	0.47	39.8%	7.0%
Pinnacle West Capital Corp	11.4%	0.55	-	-	6.1%	0.45	39.8%	7.9%
PPL Corp	11.1%	0.53	6.0%	0.01	6.1%	0.46	39.8%	7.6%
Southern Co	9.5%	0.63	5.9%	0.01	5.9%	0.36	39.8%	7.3%
Average	10.6%	0.58	6.0%	0.01	6.0%	0.41	39.8%	7.7%

Sources and Notes:
[1]: Table No. MJV-10; Panel A, [4].
[2]: Table No. MJV-4, [4].
[3]: Workpaper #2 to Table No. MJV-11 ; Panel B, [1].
[4]: Table No. MJV-4, [5].
[5]: Workpaper #2 to Table No. MJV-11 ; Panel A, [1].
[6]: Table No. MJV-4, [6].
[7]: Provided by Wisconsin Electric Co..
[8]: ([1] x [2]) + ([3] x [4]) + {[5] x [6] x (1 - [7])}.

Average over all companies with a CAPM Cost of Equity greater than Cost of Debt plus 25 bps.

Table No. MJV-11

Overall Cost of Capital of the US Electric Sample

Panel B: ECAPM (0.5%) Cost of Equity Based on Value Line Betas and a Long-Term Risk-Free Rate

Company	ECAPM (0.5%) Cost of Equity [1]	5-Year Average Common Equity to Market Value Ratio [2]	Weighted - Average Cost of Preferred Equity [3]	5-Year Average Preferred Equity to Market Value Ratio [4]	Weighted Average Cost of Debt [5]	5-Year Average Debt to Market Value Ratio [6]	Wisconsin Electric Co.'s Income Tax Rate [7]	Overall After- Tax Cost of Capital [8]
Cleco Corp	13.2%	0.54	6.0%	0.01	6.1%	0.45	39.8%	8.8%
Consolidated Edison Inc	9.9%	0.58	5.9%	0.01	5.9%	0.41	39.8%	7.3%
Empire District Electric Co/The	10.2%	0.56	6.0%	0.01	6.1%	0.42	39.8%	7.4%
Entergy Corp	10.5%	0.62	6.0%	0.02	6.1%	0.37	39.8%	7.9%
MGE Energy Inc	9.9%	0.74	-	-	5.7%	0.26	39.8%	8.2%
NSTAR	10.2%	0.52	5.9%	0.00	5.9%	0.47	39.8%	7.0%
Pinnacle West Capital Corp	11.4%	0.55	-	-	6.1%	0.45	39.8%	7.9%
PPL Corp	11.1%	0.53	6.0%	0.01	6.1%	0.46	39.8%	7.6%
Southern Co	9.6%	0.63	5.9%	0.01	5.9%	0.36	39.8%	7.4%
Average	10.7%	0.58	6.0%	0.01	6.0%	0.41	39.8%	7.7%

Sources and Notes:
[1]: Table No. MJV-10; Panel A, [5].
[2]: Table No. MJV-4, [4].
[3]: Workpaper #2 to Table No. MJV-11 ; Panel B, [1].
[4]: Table No. MJV-4, [5].
[5]: Workpaper #2 to Table No. MJV-11 ; Panel A, [1].
[6]: Table No. MJV-4, [6].
[7]: Provided by Wisconsin Electric Co..
[8]: ([1] x [2]) + ([3] x [4]) + {[5] x [6] x (1 - [7])}.

Average over all companies with a CAPM Cost of Equity greater than Cost of Debt plus 25 bps.

Table No. MJV-11

Overall Cost of Capital of the US Electric Sample

Panel C: ECAPM (1.5%) Cost of Equity Based on Value Line Betas and a Long-Term Risk-Free Rate

Company	ECAPM (1.5%) Cost of Equity [1]	5-Year Average Common Equity to Market Value Ratio [2]	Weighted - Average Cost of Preferred Equity [3]	5-Year Average Preferred Equity to Market Value Ratio [4]	Weighted Average Cost of Debt [5]	5-Year Average Debt to Market Value Ratio [6]	Wisconsin Electric Co.'s Income Tax Rate [7]	Overall After- Tax Cost of Capital [8]
Cleco Corp	12.9%	0.54	6.0%	0.01	6.1%	0.45	39.8%	8.7%
Consolidated Edison Inc	10.2%	0.58	5.9%	0.01	5.9%	0.41	39.8%	7.4%
Empire District Electric Co/The	10.4%	0.56	6.0%	0.01	6.1%	0.42	39.8%	7.5%
Entergy Corp	10.7%	0.62	6.0%	0.02	6.1%	0.37	39.8%	8.0%
MGE Energy Inc	10.2%	0.74	-	-	5.7%	0.26	39.8%	8.4%
NSTAR	10.4%	0.52	5.9%	0.00	5.9%	0.47	39.8%	7.1%
Pinnacle West Capital Corp	11.4%	0.55	-	-	6.1%	0.45	39.8%	7.9%
PPL Corp	11.2%	0.53	6.0%	0.01	6.1%	0.46	39.8%	7.7%
Southern Co	9.9%	0.63	5.9%	0.01	5.9%	0.36	39.8%	7.6%
Average	10.8%	0.58	6.0%	0.01	6.0%	0.41	39.8%	7.8%

Sources and Notes:
[1]: Table No. MJV-10; Panel A, [6].
[2]: Table No. MJV-4, [4].
[3]: Workpaper #2 to Table No. MJV-11 ; Panel B, [1].
[4]: Table No. MJV-4, [5].
[5]: Workpaper #2 to Table No. MJV-11 ; Panel A, [1].
[6]: Table No. MJV-4, [6].
[7]: Provided by Wisconsin Electric Co..
[8]: ([1] x [2]) + ([3] x [4]) + {[5] x [6] x (1 - [7])}.

Average over all companies with a CAPM Cost of Equity greater than Cost of Debt plus 25 bps.

Table No. MJV-11

Overall Cost of Capital of the US Electric Sample

Panel D: CAPM Cost of Equity Based on Value Line Betas and a Short-Term Risk-Free Rate

Company	CAPM Cost of Equity [1]	5-Year Average Common Equity to Market Value Ratio [2]	Weighted - Average Cost of Preferred Equity [3]	5-Year Average Preferred Equity to Market Value Ratio [4]	Weighted Average Cost of Debt [5]	5-Year Average Debt to Market Value Ratio [6]	Wisconsin Electric Co.'s Income Tax Rate [7]	Overall After- Tax Cost of Capital [8]
Cleco Corp	14.2%	0.54	6.0%	0.01	6.1%	0.45	39.8%	9.4%
Consolidated Edison Inc	9.8%	0.58	5.9%	0.01	5.9%	0.41	39.8%	7.2%
Empire District Electric Co/The	10.2%	0.56	6.0%	0.01	6.1%	0.42	39.8%	7.4%
Entergy Corp	10.6%	0.62	6.0%	0.02	6.1%	0.37	39.8%	8.0%
MGE Energy Inc	9.8%	0.74	-	-	5.7%	0.26	39.8%	8.1%
NSTAR	10.2%	0.52	5.9%	0.00	5.9%	0.47	39.8%	7.0%
Pinnacle West Capital Corp	11.8%	0.55	-	-	6.1%	0.45	39.8%	8.1%
PPL Corp	11.4%	0.53	6.0%	0.01	6.1%	0.46	39.8%	7.8%
Southern Co	9.4%	0.63	5.9%	0.01	5.9%	0.36	39.8%	7.2%
Average	10.8%	0.58	6.0%	0.01	6.0%	0.41	39.8%	7.8%

Sources and Notes:
[1]: Table No. MJV-10; Panel B, [4].
[2]: Table No. MJV-4, [4].
[3]: Workpaper #2 to Table No. MJV-11 ; Panel B, [1].
[4]: Table No. MJV-4, [5].
[5]: Workpaper #2 to Table No. MJV-11 ; Panel A, [1].
[6]: Table No. MJV-4, [6].
[7]: Provided by Wisconsin Electric Co..
[8]: ([1] x [2]) + ([3] x [4]) + {[5] x [6] x (1 - [7])}.

Average over all companies with a CAPM Cost of Equity greater than Cost of Debt plus 25 bps.

Table No. MJV-11

Overall Cost of Capital of the US Electric Sample

Panel E: ECAPM (1%) Cost of Equity Based on Value Line Betas and a Short-Term Risk-Free Rate

Company	ECAPM (1%) Cost of Equity [1]	5-Year Average Common Equity to Market Value Ratio [2]	Weighted - Average Cost of Preferred Equity [3]	5-Year Average Preferred Equity to Market Value Ratio [4]	Weighted Average Cost of Debt [5]	5-Year Average Debt to Market Value Ratio [6]	Wisconsin Electric Co.'s Income Tax Rate [7]	Overall After- Tax Cost of Capital [8]
Cleco Corp	13.9%	0.54	6.0%	0.01	6.1%	0.45	39.8%	9.2%
Consolidated Edison Inc	10.1%	0.58	5.9%	0.01	5.9%	0.41	39.8%	7.3%
Empire District Electric Co/The	10.4%	0.56	6.0%	0.01	6.1%	0.42	39.8%	7.5%
Entergy Corp	10.8%	0.62	6.0%	0.02	6.1%	0.37	39.8%	8.1%
MGE Energy Inc	10.1%	0.74	-	-	5.7%	0.26	39.8%	8.3%
NSTAR	10.4%	0.52	5.9%	0.00	5.9%	0.47	39.8%	7.1%
Pinnacle West Capital Corp	11.8%	0.55	-	-	6.1%	0.45	39.8%	8.1%
PPL Corp	11.5%	0.53	6.0%	0.01	6.1%	0.46	39.8%	7.8%
Southern Co	9.7%	0.63	5.9%	0.01	5.9%	0.36	39.8%	7.4%
Average	10.9%	0.58	6.0%	0.01	6.0%	0.41	39.8%	7.9%

Sources and Notes:
[1]: Table No. MJV-10; Panel B, [5].
[2]: Table No. MJV-4, [4].
[3]: Workpaper #2 to Table No. MJV-11 ; Panel B, [1].
[4]: Table No. MJV-4, [5].
[5]: Workpaper #2 to Table No. MJV-11 ; Panel A, [1].
[6]: Table No. MJV-4, [6].
[7]: Provided by Wisconsin Electric Co..
[8]: ([1] x [2]) + ([3] x [4]) + {[5] x [6] x (1 - [7])}.

Average over all companies with a CAPM Cost of Equity greater than Cost of Debt plus 25 bps.

Table No. MJV-11

Overall Cost of Capital of the US Electric Sample

Panel F: ECAPM (2%) Cost of Equity Based on Value Line Betas and a Short-Term Risk-Free Rate

Company	ECAPM (2%) Cost of Equity [1]	5-Year Average Common Equity to Market Value Ratio [2]	Weighted - Average Cost of Preferred Equity [3]	5-Year Average Preferred Equity to Market Value Ratio [4]	Weighted Average Cost of Debt [5]	5-Year Average Debt to Market Value Ratio [6]	Wisconsin Electric Co.'s Income Tax Rate [7]	Overall After- Tax Cost of Capital [8]
Cleco Corp	13.6%	0.54	6.0%	0.01	6.1%	0.45	39.8%	9.0%
Consolidated Edison Inc	10.3%	0.58	5.9%	0.01	5.9%	0.41	39.8%	7.5%
Empire District Electric Co/The	10.6%	0.56	6.0%	0.01	6.1%	0.42	39.8%	7.6%
Entergy Corp	10.9%	0.62	6.0%	0.02	6.1%	0.37	39.8%	8.2%
MGE Energy Inc	10.3%	0.74	-	-	5.7%	0.26	39.8%	8.5%
NSTAR	10.6%	0.52	5.9%	0.00	5.9%	0.47	39.8%	7.2%
Pinnacle West Capital Corp	11.8%	0.55	-	-	6.1%	0.45	39.8%	8.1%
PPL Corp	11.5%	0.53	6.0%	0.01	6.1%	0.46	39.8%	7.8%
Southern Co	10.0%	0.63	5.9%	0.01	5.9%	0.36	39.8%	7.6%
Average	11.1%	0.58	6.0%	0.01	6.0%	0.41	39.8%	8.0%

Sources and Notes:
[1]: Table No. MJV-10; Panel B, [6].
[2]: Table No. MJV-4, [4].
[3]: Workpaper #2 to Table No. MJV-11 ; Panel B, [1].
[4]: Table No. MJV-4, [5].
[5]: Workpaper #2 to Table No. MJV-11 ; Panel A, [1].
[6]: Table No. MJV-4, [6].
[7]: Provided by Wisconsin Electric Co..
[8]: ([1] x [2]) + ([3] x [4]) + {[5] x [6] x (1 - [7])}.

Average over all companies with a CAPM Cost of Equity greater than Cost of Debt plus 25 bps.

Table No. MJV-11

Overall Cost of Capital of the US Electric Sample

Panel G: ECAPM (3%) Cost of Equity Based on Value Line Betas and a Short-Term Risk-Free Rate

Company	ECAPM (3%) Cost of Equity [1]	5-Year Average Common Equity to Market Value Ratio [2]	Weighted - Average Cost of Preferred Equity [3]	5-Year Average Preferred Equity to Market Value Ratio [4]	Weighted Average Cost of Debt [5]	5-Year Average Debt to Market Value Ratio [6]	Wisconsin Electric Co.'s Income Tax Rate [7]	Overall After- Tax Cost of Capital [8]
Cleco Corp	13.3%	0.54	6.0%	0.01	6.1%	0.45	39.8%	8.9%
Consolidated Edison Inc	10.6%	0.58	5.9%	0.01	5.9%	0.41	39.8%	7.6%
Empire District Electric Co/The	10.8%	0.56	6.0%	0.01	6.1%	0.42	39.8%	7.7%
Entergy Corp	11.1%	0.62	6.0%	0.02	6.1%	0.37	39.8%	8.3%
MGE Energy Inc	10.6%	0.74	-	-	5.7%	0.26	39.8%	8.7%
NSTAR	10.8%	0.52	5.9%	0.00	5.9%	0.47	39.8%	7.3%
Pinnacle West Capital Corp	11.8%	0.55	-	-	6.1%	0.45	39.8%	8.1%
PPL Corp	11.6%	0.53	6.0%	0.01	6.1%	0.46	39.8%	7.9%
Southern Co	10.3%	0.63	5.9%	0.01	5.9%	0.36	39.8%	7.8%
Average	11.2%	0.58	6.0%	0.01	6.0%	0.41	39.8%	8.0%

Sources and Notes:
[1]: Table No. MJV-10; Panel B, [7].
[2]: Table No. MJV-4, [4].
[3]: Workpaper #2 to Table No. MJV-11 ; Panel B, [1].
[4]: Table No. MJV-4, [5].
[5]: Workpaper #2 to Table No. MJV-11 ; Panel A, [1].
[6]: Table No. MJV-4, [6].
[7]: Provided by Wisconsin Electric Co..
[8]: ([1] x [2]) + ([3] x [4]) + {[5] x [6] x (1 - [7])}.

Average over all companies with a CAPM Cost of Equity greater than Cost of Debt plus 25 bps.

Table No. MJV-12

Risk Positioning Cost of Equity at Wisconsin Electric Co.'s Capital Structure

US Electric Sample

Using Captial Structure w/o Imputed Debt and Value Line Betas

	Overall Cost of Capital [1]	Wisconsin Electric Co.'s Regulatory % Debt [2]	Wisconsin Electric Co.'s Cost of Debt [3]	Wisconsin Electric Co.'s Income Tax Rate [4]	Wisconsin Electric Co.'s Regulatory % Preferred Equity [5]	Wisconsin Electric Co.'s Cost of Preferred Equity [6]	Wisconsin Electric Co.'s Regulatory % Equity [7]	Estimated Return on Equity [8]
Using Long-Term Risk-Free Rates:								
CAPM using Value Line Betas	7.7%	0.44	5.9%	39.8%	0.7%	5.9%	0.55	11.0%
ECAPM (0.50%) using Value Line Betas	7.7%	0.44	5.9%	39.8%	0.7%	5.9%	0.55	11.1%
ECAPM (1.50) using Value Line Betas	7.8%	0.44	5.9%	39.8%	0.7%	5.9%	0.55	11.2%
Using Short-Term Risk-Free Rates:								
CAPM using Value Line Betas	7.8%	0.44	5.9%	39.8%	0.7%	5.9%	0.55	11.2%
ECAPM (1%) using Value Line Betas	7.9%	0.44	5.9%	39.8%	0.7%	5.9%	0.55	11.4%
ECAPM (2%) using Value Line Betas	8.0%	0.44	5.9%	39.8%	0.7%	5.9%	0.55	11.5%
ECAPM (3%) using Value Line Betas	8.0%	0.44	5.9%	39.8%	0.7%	5.9%	0.55	11.6%

Sources and Notes:
[1]: Table No. MJV-11; Panels A - G, [8].
[2]: Workpaper #4 to Table No. MJV-4.
[3]: Based off an A rating, as provided by Wisconsin Electric Co.. Yield pulled from Bloomberg as of March 27, 2007.
[4]: Provided by Wisconsin Electric Co..
[5]: Workpaper #4 to Table No. MJV-4.
[6]: Based off an A rating, as provided by Wisconsin Electric Co. Yield from March 2007 Mergent Bond Record.
[7]: Workpaper #4 to Table No. MJV-4.
[8]: {[1] - ([2] x [3] x (1 - [4]) + [5] x [6])} / [7].

Table No. MJV-13

MJV US Gas LDC Sample

Percentage of Regulated Assets

Company		Company Category
Atmos Energy Corp		R
Laclede Group Inc/The	*	R
Northwest Natural Gas Co	*	R
Piedmont Natural Gas Co	*	R
South Jersey Industries Inc		MR
Southwest Gas Corp		R
WGL Holdings Inc	*	R
AGL Resources Inc		MR
Vectren Corp		R
New Jersey Resources Corp		MR

Sources and Notes:
Workpaper #1 to Table No. MJV-2, Panels A-I.
* Represents companies included in the subsample.
R = Regulated (greater than 80 percent of total assets are regulated).
MR-- Mostly Regulated (50 to 80 percent of total assets are regulated).

Table No. MJV-14

Market Value of the MJV US Gas LDC Sample

Panel A: Atmos Energy Corp

($MM)

	DCF Capital Structure	Year End, 2006	Year End, 2005	Year End, 2004	Year End, 2003	Year End, 2002	Notes
MARKET VALUE OF COMMON EQUITY							
Book Value, Common Shareholder's Equity	$1,648	$1,648	$1,602	$1,133	$858	$573	[a]
Shares Outstanding (in millions) - Common	82	82	81	63	51	42	[b]
Price per Share - Common	$32	$32	$26	$27	$25	$23	[c]
Market Value of Common Equity	$2,584	$2,622	$2,105	$1,714	$1,273	$974	[d] = [b] x [c].
Market to Book Value of Common Equity	1.57	1.59	1.31	1.51	1.48	1.70	[e] = [d] / [a].
MARKET VALUE OF PREFERRED EQUITY							
Book Value of Preferred Equity	$0	$0	$0	$0	$0	$0	[f]
Market Value of Preferred Equity	$0	$0	$0	$0	$0	$0	[g] = [f].
MARKET VALUE OF DEBT							
Current Assets	$1,118	$1,118	$1,264	$677	$458	$331	[h]
Current Liabilities	$1,119	$1,119	$1,113	$414	$442	$464	[i]
Current Portion of Long-Term Debt	$3	$3	$3	$6	$9	$22	[j]
Net Working Capital	$2	$2	$155	$269	$26	($111)	[k] = [h] - ([i] - [j]).
Notes Payable (Short-Term Debt)	$382	$382	$145	$0	$119	$146	[l]
Adjusted Short-Term Debt	$0	$0	$0	$0	$0	$111	[m] = See Sources and Notes.
Long-Term Debt	$2,180	$2,180	$2,183	$861	$863	$670	[n]
Book Value of Long-Term Debt	$2,184	$2,184	$2,186	$867	$872	$804	[o] = [n] + [j] + [m].
Adjustment to Book Value of Long-Term Debt	($126)	($126)	($105)	$75	$141	$105	[p] = See Sources and Notes.
Market Value of Long-Term Debt	$2,057	$2,057	$2,082	$943	$1,013	$909	[q] = [p] + [o].
Market Value of Debt	$2,057	$2,057	$2,082	$943	$1,013	$909	[r] = [q].
MARKET VALUE OF FIRM	$4,641	$4,679	$4,186	$2,657	$2,286	$1,882	[s] = [d] + [g] + [r].
DEBT AND EQUITY TO MARKET VALUE RATIOS							
Common Equity - Market Value Ratio	55.68%	56.04%	50.28%	64.52%	55.68%	51.73%	[t] = [d] / [s].
Preferred Equity - Market Value Ratio	-	-	-	-	-	-	[u] = [g] / [s].
Debt - Market Value Ratio	44.32%	43.96%	49.72%	35.48%	44.32%	48.27%	[v] = [r] / [s].

Sources and Notes:
Bloomberg as of April 09, 2007
Capital structure from Year End, 2006 calculated using respective balance sheet information and 5-day average prices ending at period end.
The DCF Capital structure is calculated using 4th Quarter, 2006 balance sheet information and a 15-trading day average closing price ending on 4/9/2007.
Prices are reported in Workpaper #1 to Table No. MJV-17.
[m] =
(1): 0 if [k] > 0.
(2): The absolute value of [k] if [k] < 0 and |[k]| < [l].
(3): [l] if [k] < 0 and |[k]| > [l].
[p]: Difference between fair value of Long-Term debt and carrying amount of Long-Term debt per company 10-K. Data for adjustment is from 2006 10-K.

Table No. MJV-14

Market Value of the MJV US Gas LDC Sample

Panel B: Laclede Group Inc/The

($MM)

	DCF Capital Structure	Year End, 2006	Year End, 2005	Year End, 2004	Year End, 2003	Year End, 2002	Notes
MARKET VALUE OF COMMON EQUITY							
Book Value, Common Shareholder's Equity	$403	$403	$367	$356	$299	$286	[a]
Shares Outstanding (in millions) - Common	21	21	21	21	19	19	[b]
Price per Share - Common	$31	$35	$29	$31	$29	$24	[c]
Market Value of Common Equity	$666	$753	$624	$654	$560	$458	[d] = [b] x [c].
Market to Book Value of Common Equity	1.65	1.87	1.70	1.84	1.87	1.60	[e] = [d] / [a].
MARKET VALUE OF PREFERRED EQUITY							
Book Value of Preferred Equity	$1	$1	$1	$1	$1	$1	[f]
Market Value of Preferred Equity	$1	$1	$1	$1	$1	$1	[g] = [f].
MARKET VALUE OF DEBT							
Current Assets	$460	$460	$424	$338	$288	$222	[h]
Current Liabilities	$431	$431	$366	$263	$366	$337	[i]
Current Portion of Long-Term Debt	$0	$0	$40	$25	$0	$25	[j]
Net Working Capital	$29	$29	$99	$100	($78)	($89)	[k] = [h] - ([i] - [j]).
Notes Payable (Short-Term Debt)	$207	$207	$71	$71	$218	$162	[l]
Adjusted Short-Term Debt	$0	$0	$0	$0	$78	$89	[m] = See Sources and Notes.
Long-Term Debt	$395	$395	$340	$380	$305	$260	[n]
Book Value of Long-Term Debt	$396	$396	$380	$405	$383	$374	[o] = [n] + [j] + [m].
Adjustment to Book Value of Long-Term Debt	$18	$18	$31	$35	$31	$31	[p] = See Sources and Notes.
Market Value of Long-Term Debt	$414	$414	$412	$440	$414	$405	[q] = [p] + [o].
Market Value of Debt	$414	$414	$412	$440	$414	$405	[r] = [q].
MARKET VALUE OF FIRM	$1,081	$1,168	$1,037	$1,096	$975	$864	[s] = [d] + [g] + [r].
DEBT AND EQUITY TO MARKET VALUE RATIOS							
Common Equity - Market Value Ratio	61.62%	64.48%	60.21%	59.72%	57.39%	53.01%	[t] = [d] / [s].
Preferred Equity - Market Value Ratio	0.07%	0.07%	0.09%	0.10%	0.13%	0.15%	[u] = [g] / [s].
Debt - Market Value Ratio	38.31%	35.45%	39.70%	40.18%	42.48%	46.85%	[v] = [r] / [s].

Sources and Notes:
Bloomberg as of April 09, 2007
Capital structure from Year End, 2006 calculated using respective balance sheet information and 5-day average prices ending at period end.
The DCF Capital structure is calculated using 4th Quarter, 2006 balance sheet information and a 15-trading day average closing price ending on 4/9/2007.
Prices are reported in Workpaper #1 to Table No. MJV-17.
[m] =
(1): 0 if [k] > 0.
(2): The absolute value of [k] if [k] < 0 and |[k]| < [l].
(3): [l] if [k] < 0 and |[k]| > [l].
[p]: Difference between fair value of Long-Term debt and carrying amount of Long-Term debt per company 10-K. Data for adjustment is from 2006 10-K.

Table No. MJV-14

Market Value of the MJV US Gas LDC Sample

Panel C: Northwest Natural Gas Co

($MM)

	DCF Capital Structure	Year End, 2006	Year End, 2005	Year End, 2004	Year End, 2003	Year End, 2002	Notes
MARKET VALUE OF COMMON EQUITY							
Book Value, Common Shareholder's Equity	$600	$600	$587	$569	$506	$482	[a]
Shares Outstanding (in millions) - Common	27	27	28	27	26	26	[b]
Price per Share - Common	$46	$43	$35	$34	$31	$27	[c]
Market Value of Common Equity	$1,252	$1,161	$953	$910	$806	$695	[d] = [b] x [c].
Market to Book Value of Common Equity	2.09	1.94	1.62	1.60	1.59	1.44	[e] = [d] / [a].
MARKET VALUE OF PREFERRED EQUITY							
Book Value of Preferred Equity	$0	$0	$0	$0	$0	$8	[f]
Market Value of Preferred Equity	$0	$0	$0	$0	$0	$8	[g] = [f].
MARKET VALUE OF DEBT							
Current Assets	$309	$309	$324	$237	$200	$193	[h]
Current Liabilities	$339	$339	$327	$267	$214	$205	[i]
Current Portion of Long-Term Debt	$30	$30	$8	$15	$0	$20	[j]
Net Working Capital	($1)	($1)	$5	($15)	($15)	$8	[k] = [h] - ([i] - [j]).
Notes Payable (Short-Term Debt)	$100	$100	$127	$103	$85	$70	[l]
Adjusted Short-Term Debt	$1	$1	$0	$15	$15	$0	[m] = See Sources and Notes.
Long-Term Debt	$517	$517	$522	$484	$500	$446	[n]
Book Value of Long-Term Debt	$548	$548	$530	$514	$515	$466	[o] = [n] + [j] + [m].
Adjustment to Book Value of Long-Term Debt	$49	$49	$50	$69	$62	$53	[p] = See Sources and Notes.
Market Value of Long-Term Debt	$597	$597	$579	$583	$578	$518	[q] = [p] + [o].
Market Value of Debt	$597	$597	$579	$583	$578	$518	[r] = [q].
MARKET VALUE OF FIRM							
	$1,849	$1,757	$1,532	$1,493	$1,383	$1,222	[s] = [d] + [g] + [r].
DEBT AND EQUITY TO MARKET VALUE RATIOS							
Common Equity - Market Value Ratio	67.73%	66.04%	62.18%	60.94%	58.25%	56.90%	[t] = [d] / [s].
Preferred Equity - Market Value Ratio	-	-	-	-	-	0.67%	[u] = [g] / [s].
Debt - Market Value Ratio	32.27%	33.96%	37.82%	39.06%	41.75%	42.42%	[v] = [r] / [s].

Sources and Notes:
Bloomberg as of April 09, 2007
Capital structure from Year End, 2006 calculated using respective balance sheet information and 5-day average prices ending at period end.
The DCF Capital structure is calculated using 4th Quarter, 2006 balance sheet information and a 15-trading day average closing price ending on 4/9/2007.
Prices are reported in Workpaper #1 to Table No. MJV-17.
[m] =
(1): 0 if [k] > 0.
(2): The absolute value of [k] if [k] < 0 and |[k]| < [l].
(3): [l] if [k] < 0 and |[k]| > [l].
[p]: Difference between fair value of Long-Term debt and carrying amount of Long-Term debt per company 10-K. Data for adjustment is from 2006 10-K.

Table No. MJV-14

Market Value of the MJV US Gas LDC Sample

Panel D: Piedmont Natural Gas Co

($MM)

	DCF Capital Structure	Year End, 2006	Year End, 2005	Year End, 2004	Year End, 2003	Year End, 2002	Notes
MARKET VALUE OF COMMON EQUITY							
Book Value, Common Shareholder's Equity	$883	$883	$884	$855	$630	$590	[a]
Shares Outstanding (in millions) - Common	75	75	77	77	67	66	[b]
Price per Share - Common	$27	$27	$24	$23	$22	$18	[c]
Market Value of Common Equity	$1,994	$2,022	$1,842	$1,784	$1,459	$1,187	[d] = [b] x [c].
Market to Book Value of Common Equity	2.26	2.29	2.08	2.09	2.31	2.01	[e] = [d] / [a].
MARKET VALUE OF PREFERRED EQUITY							
Book Value of Preferred Equity	$0	$0	$0	$0	$0	$0	[f]
Market Value of Preferred Equity	$0	$0	$0	$0	$0	$0	[g] = [f].
MARKET VALUE OF DEBT							
Current Assets	$476	$476	$505	$391	$323	$176	[h]
Current Liabilities	$400	$400	$529	$336	$740	$205	[i]
Current Portion of Long-Term Debt	$0	$0	$35	$0	$2	$47	[j]
Net Working Capital	$76	$76	$11	$55	($414)	$18	[k] = [h] - ([i] - [j]).
Notes Payable (Short-Term Debt)	$170	$170	$159	$110	$555	$47	[l]
Adjusted Short-Term Debt	$0	$0	$0	$0	$414	$0	[m] = See Sources and Notes.
Long-Term Debt	$825	$825	$625	$660	$460	$462	[n]
Book Value of Long-Term Debt	$825	$825	$660	$660	$876	$509	[o] = [n] + [j] + [m].
Adjustment to Book Value of Long-Term Debt	$89	$89	$93	$115	$45	$81	[p] = See Sources and Notes.
Market Value of Long-Term Debt	$914	$914	$753	$775	$921	$590	[q] = [p] + [o].
Market Value of Debt	$914	$914	$753	$775	$921	$590	[r] = [q].
MARKET VALUE OF FIRM	$2,907	$2,935	$2,595	$2,559	$2,380	$1,776	[s] = [d] + [g] + [r].
DEBT AND EQUITY TO MARKET VALUE RATIOS							
Common Equity - Market Value Ratio	68.57%	68.87%	70.98%	69.71%	61.29%	66.81%	[t] = [d] / [s].
Preferred Equity - Market Value Ratio	-	-	-	-	-	-	[u] = [g] / [s].
Debt - Market Value Ratio	31.43%	31.13%	29.02%	30.29%	38.71%	33.19%	[v] = [r] / [s].

Sources and Notes:
Bloomberg as of April 09, 2007
Capital structure from Year End, 2006 calculated using respective balance sheet information and 5-day average prices ending at period end.
The DCF Capital structure is calculated using 4th Quarter, 2006 balance sheet information and a 15-trading day average closing price ending on 4/9/2007.
Prices are reported in Workpaper #1 to Table No. MJV-17.
[m] =
(1): 0 if [k] > 0.
(2): The absolute value of [k] if [k] < 0 and |[k]| < [l].
(3): [l] if [k] < 0 and |[k]| > [l].
[p]: Difference between fair value of Long-Term debt and carrying amount of Long-Term debt per company 10-K. Data for adjustment is from 2006 10-K.

Table No. MJV-14

Market Value of the MJV US Gas LDC Sample

Panel E: South Jersey Industries Inc

($MM)

	DCF Capital Structure	Year End, 2006	Year End, 2005	Year End, 2004	Year End, 2003	Year End, 2002	Notes
MARKET VALUE OF COMMON EQUITY							
Book Value, Common Shareholder's Equity	$443	$443	$394	$343	$298	$238	[a]
Shares Outstanding (in millions) - Common	29	29	29	28	26	24	[b]
Price per Share - Common	$38	$33	$29	$26	$20	$17	[c]
Market Value of Common Equity	$1,116	$981	$854	$728	$535	$404	[d] = [b] x [c].
Market to Book Value of Common Equity	2.52	2.21	2.17	2.12	1.79	1.70	[e] = [d] / [a].
MARKET VALUE OF PREFERRED EQUITY							
Book Value of Preferred Equity	$0	$0	$0	$2	$2	$2	[f]
Market Value of Preferred Equity	$0	$0	$0	$2	$2	$2	[g] = [f].
MARKET VALUE OF DEBT							
Current Assets	$372	$372	$362	$284	$266	$212	[h]
Current Liabilities	$423	$423	$406	$285	$268	$316	[i]
Current Portion of Long-Term Debt	$2	$2	$2	$5	$5	$11	[j]
Net Working Capital	($49)	($49)	($42)	$4	$3	($93)	[k] = [h] - ([i] - [j]).
Notes Payable (Short-Term Debt)	$195	$195	$147	$92	$113	$167	[l]
Adjusted Short-Term Debt	$49	$49	$42	$0	$0	$93	[m] = See Sources and Notes.
Long-Term Debt	$358	$358	$319	$329	$309	$274	[n]
Book Value of Long-Term Debt	$409	$409	$363	$334	$314	$378	[o] = [n] + [j] + [m].
Adjustment to Book Value of Long-Term Debt	$21	$21	$13	$16	$25	$43	[p] = See Sources and Notes.
Market Value of Long-Term Debt	$430	$430	$376	$350	$339	$421	[q] = [p] + [o].
Market Value of Debt	$430	$430	$376	$350	$339	$421	[r] = [q].
MARKET VALUE OF FIRM	$1,546	$1,411	$1,230	$1,080	$875	$826	[s] = [d] + [g] + [r].
DEBT AND EQUITY TO MARKET VALUE RATIOS							
Common Equity - Market Value Ratio	72.20%	69.54%	69.42%	67.42%	61.11%	48.85%	[t] = [d] / [s].
Preferred Equity - Market Value Ratio	-	-	-	0.16%	0.19%	0.20%	[u] = [g] / [s].
Debt - Market Value Ratio	27.80%	30.46%	30.58%	32.42%	38.70%	50.95%	[v] = [r] / [s].

Sources and Notes:
Bloomberg as of April 09, 2007
Capital structure from Year End, 2006 calculated using respective balance sheet information and 5-day average prices ending at period end.
The DCF Capital structure is calculated using 4th Quarter, 2006 balance sheet information and a 15-trading day average closing price ending on 4/9/2007.
Prices are reported in Workpaper #1 to Table No. MJV-17.
[m] =
(1): 0 if [k] > 0.
(2): The absolute value of [k] if [k] < 0 and |[k]| < [l].
(3): [l] if [k] < 0 and |[k]| > [l].
[p]: Difference between fair value of Long-Term debt and carrying amount of Long-Term debt per company 10-K. Data for adjustment is from 2006 10-K.

Table No. MJV-14

Market Value of the MJV US Gas LDC Sample

Panel F: Southwest Gas Corp

($MM)

	DCF Capital Structure	Year End, 2006	Year End, 2005	Year End, 2004	Year End, 2003	Year End, 2002	Notes
MARKET VALUE OF COMMON EQUITY							
Book Value, Common Shareholder's Equity	$901	$901	$751	$706	$630	$596	[a]
Shares Outstanding (in millions) - Common	42	42	39	37	34	33	[b]
Price per Share - Common	$39	$39	$27	$25	$23	$23	[c]
Market Value of Common Equity	$1,626	$1,613	$1,042	$938	$784	$770	[d] = [b] x [c].
Market to Book Value of Common Equity	1.80	1.79	1.39	1.33	1.24	1.29	[e] = [d] / [a].
MARKET VALUE OF PREFERRED EQUITY							
Book Value of Preferred Equity	$0	$0	$0	$0	$0	$0	[f]
Market Value of Preferred Equity	$0	$0	$0	$0	$0	$0	[g] = [f].
MARKET VALUE OF DEBT							
Current Assets	$502	$502	$543	$432	$281	$262	[h]
Current Liabilities	$496	$496	$621	$483	$310	$313	[i]
Current Portion of Long-Term Debt	$28	$28	$83	$30	$6	$9	[j]
Net Working Capital	$33	$33	$5	($21)	($23)	($43)	[k] = [h] - ([i] - [j]).
Notes Payable (Short-Term Debt)	$24	$24	$24	$100	$52	$53	[l]
Adjusted Short-Term Debt	$0	$0	$0	$21	$23	$43	[m] = See Sources and Notes.
Long-Term Debt	$1,386	$1,386	$1,325	$1,263	$1,221	$1,152	[n]
Book Value of Long-Term Debt	$1,414	$1,414	$1,408	$1,314	$1,250	$1,204	[o] = [n] + [j] + [m].
Adjustment to Book Value of Long-Term Debt	$80	$80	$145	$154	$126	$66	[p] = See Sources and Notes.
Market Value of Long-Term Debt	$1,494	$1,494	$1,553	$1,468	$1,377	$1,269	[q] = [p] + [o].
Market Value of Debt	$1,494	$1,494	$1,553	$1,468	$1,377	$1,269	[r] = [q].
MARKET VALUE OF FIRM	$3,121	$3,107	$2,596	$2,406	$2,160	$2,039	[s] = [d] + [g] + [r].
DEBT AND EQUITY TO MARKET VALUE RATIOS							
Common Equity - Market Value Ratio	52.12%	51.91%	40.16%	38.97%	36.28%	37.77%	[t] = [d] / [s].
Preferred Equity - Market Value Ratio	-	-	-	-	-	-	[u] = [g] / [s].
Debt - Market Value Ratio	47.88%	48.09%	59.84%	61.03%	63.72%	62.23%	[v] = [r] / [s].

Sources and Notes:
Bloomberg as of April 09, 2007
Capital structure from Year End, 2006 calculated using respective balance sheet information and 5-day average prices ending at period end.
The DCF Capital structure is calculated using 4th Quarter, 2006 balance sheet information and a 15-trading day average closing price ending on 4/9/2007.
Prices are reported in Workpaper #1 to Table No. MJV-17.
[m] =
(1): 0 if [k] > 0.
(2): The absolute value of [k] if [k] < 0 and |[k]| < [l].
(3): [l] if [k] < 0 and |[k]| > [l].
[p]: Difference between fair value of Long-Term debt and carrying amount of Long-Term debt per company 10-K. Data for adjustment is from 2006 10-K.

Table No. MJV-14

Market Value of the MJV US Gas LDC Sample

Panel G: WGL Holdings Inc

($MM)

	DCF Capital Structure	Year End, 2006	Year End, 2005	Year End, 2004	Year End, 2003	Year End, 2002	Notes
MARKET VALUE OF COMMON EQUITY							
Book Value, Common Shareholder's Equity	$922	$922	$894	$853	$818	$766	[a]
Shares Outstanding (in millions) - Common	49	49	49	49	49	49	[b]
Price per Share - Common	$32	$33	$30	$31	$28	$24	[c]
Market Value of Common Equity	$1,573	$1,603	$1,470	$1,509	$1,366	$1,166	[d] = [b] x [c].
Market to Book Value of Common Equity	1.71	1.74	1.64	1.77	1.67	1.52	[e] = [d] / [a].
MARKET VALUE OF PREFERRED EQUITY							
Book Value of Preferred Equity	$28	$28	$28	$28	$28	$28	[f]
Market Value of Preferred Equity	$28	$28	$28	$28	$28	$28	[g] = [f].
MARKET VALUE OF DEBT							
Current Assets	$562	$562	$481	$433	$409	$341	[h]
Current Liabilities	$561	$561	$412	$413	$386	$338	[i]
Current Portion of Long-Term Debt	$61	$61	$50	$61	$12	$42	[j]
Net Working Capital	$62	$62	$120	$81	$35	$46	[k] = [h] - ([i] - [j]).
Notes Payable (Short-Term Debt)	$177	$177	$41	$96	$167	$91	[l]
Adjusted Short-Term Debt	$0	$0	$0	$0	$0	$0	[m] = See Sources and Notes.
Long-Term Debt	$576	$576	$584	$590	$637	$668	[n]
Book Value of Long-Term Debt	$637	$637	$634	$651	$649	$710	[o] = [n] + [j] + [m].
Adjustment to Book Value of Long-Term Debt	$17	$17	$43	$56	$86	$58	[p] = See Sources and Notes.
Market Value of Long-Term Debt	$654	$654	$677	$707	$735	$768	[q] = [p] + [o].
Market Value of Debt	$654	$654	$677	$707	$735	$768	[r] = [q].
MARKET VALUE OF FIRM	$2,256	$2,285	$2,175	$2,244	$2,128	$1,962	[s] = [d] + [g] + [r].
DEBT AND EQUITY TO MARKET VALUE RATIOS							
Common Equity - Market Value Ratio	69.75%	70.14%	67.58%	67.23%	64.16%	59.43%	[t] = [d] / [s].
Preferred Equity - Market Value Ratio	1.25%	1.23%	1.30%	1.26%	1.32%	1.44%	[u] = [g] / [s].
Debt - Market Value Ratio	29.00%	28.63%	31.12%	31.52%	34.52%	39.13%	[v] = [r] / [s].

Sources and Notes:
Bloomberg as of April 09, 2007
Capital structure from Year End, 2006 calculated using respective balance sheet information and 5-day average prices ending at period end.
The DCF Capital structure is calculated using 4th Quarter, 2006 balance sheet information and a 15-trading day average closing price ending on 4/9/2007.
Prices are reported in Workpaper #1 to Table No. MJV-17.
[m] =
(1): 0 if [k] > 0.
(2): The absolute value of [k] if [k] < 0 and |[k]| < [l].
(3): [l] if [k] < 0 and |[k]| > [l].
[p]: Difference between fair value of Long-Term debt and carrying amount of Long-Term debt per company 10-K. Data for adjustment is from 2006 10-K.

Table No. MJV-14

Market Value of the MJV US Gas LDC Sample

Panel H: AGL Resources Inc

($MM)

	DCF Capital Structure	Year End, 2006	Year End, 2005	Year End, 2004	Year End, 2003	Year End, 2002	Notes
MARKET VALUE OF COMMON EQUITY							
Book Value, Common Shareholder's Equity	$1,609	$1,609	$1,499	$1,385	$945	$710	[a]
Shares Outstanding (in millions) - Common	78	78	78	77	65	57	[b]
Price per Share - Common	$43	$39	$35	$33	$29	$24	[c]
Market Value of Common Equity	$3,310	$3,042	$2,708	$2,546	$1,879	$1,381	[d] = [b] x [c].
Market to Book Value of Common Equity	2.06	1.89	1.81	1.84	1.99	1.94	[e] = [d] / [a].
MARKET VALUE OF PREFERRED EQUITY							
Book Value of Preferred Equity	$0	$0	$0	$0	$0	$227	[f]
Market Value of Preferred Equity	$0	$0	$0	$0	$0	$227	[g] = [f].
MARKET VALUE OF DEBT							
Current Assets	$1,822	$1,822	$2,041	$1,457	$742	$586	[h]
Current Liabilities	$1,627	$1,627	$1,968	$1,477	$1,048	$1,016	[i]
Current Portion of Long-Term Debt	$0	$0	$0	$0	$77	$30	[j]
Net Working Capital	$195	$195	$73	($20)	($229)	($399)	[k] = [h] - ([i] - [j]).
Notes Payable (Short-Term Debt)	$539	$539	$522	$334	$306	$389	[l]
Adjusted Short-Term Debt	$0	$0	$0	$20	$229	$389	[m] = See Sources and Notes.
Long-Term Debt	$1,622	$1,622	$1,615	$1,623	$956	$767	[n]
Book Value of Long-Term Debt	$1,622	$1,622	$1,615	$1,643	$1,262	$1,186	[o] = [n] + [j] + [m].
Adjustment to Book Value of Long-Term Debt	$83	$83	$169	$193	$133	$87	[p] = See Sources and Notes.
Market Value of Long-Term Debt	$1,705	$1,705	$1,784	$1,836	$1,395	$1,273	[q] = [p] + [o].
Market Value of Debt	$1,705	$1,705	$1,784	$1,836	$1,395	$1,273	[r] = [q].
MARKET VALUE OF FIRM	$5,015	$4,747	$4,492	$4,382	$3,274	$2,881	[s] = [d] + [g] + [r].
DEBT AND EQUITY TO MARKET VALUE RATIOS							
Common Equity - Market Value Ratio	66.00%	64.09%	60.29%	58.10%	57.39%	47.93%	[t] = [d] / [s].
Preferred Equity - Market Value Ratio	-	-	-	-	-	7.89%	[u] = [g] / [s].
Debt - Market Value Ratio	34.00%	35.91%	39.71%	41.90%	42.61%	44.18%	[v] = [r] / [s].

Sources and Notes:
Bloomberg as of April 09, 2007
Capital structure from Year End, 2006 calculated using respective balance sheet information and 5-day average prices ending at period end.
The DCF Capital structure is calculated using 4th Quarter, 2006 balance sheet information and a 15-trading day average closing price ending on 4/9/2007.
Prices are reported in Workpaper #1 to Table No. MJV-17.
[m] =
(1): 0 if [k] > 0.
(2): The absolute value of [k] if [k] < 0 and |[k]| < [l].
(3): [l] if [k] < 0 and |[k]| > [l].
[p]: Difference between fair value of Long-Term debt and carrying amount of Long-Term debt per company 10-K. Data for adjustment is from 2006 10-K.

Table No. MJV-14

Market Value of the MJV US Gas LDC Sample

Panel I: Vectren Corp

($MM)

	DCF Capital Structure	Year End, 2006	Year End, 2005	Year End, 2004	Year End, 2003	Year End, 2002	Notes
MARKET VALUE OF COMMON EQUITY							
Book Value, Common Shareholder's Equity	$1,174	$1,174	$1,143	$1,095	$1,072	$870	[a]
Shares Outstanding (in millions) - Common	76	76	76	76	76	68	[b]
Price per Share - Common	$28	$28	$27	$27	$25	$23	[c]
Market Value of Common Equity	$2,168	$2,156	$2,063	$2,040	$1,859	$1,548	[d] = [b] x [c].
Market to Book Value of Common Equity	1.85	1.84	1.80	1.86	1.73	1.78	[e] = [d] / [a].
MARKET VALUE OF PREFERRED EQUITY							
Book Value of Preferred Equity	$0	$0	$0	$0	$0	$0	[f]
Market Value of Preferred Equity	$0	$0	$0	$0	$0	$0	[g] = [f].
MARKET VALUE OF DEBT							
Current Assets	$716	$716	$725	$586	$512	$465	[h]
Current Liabilities	$961	$961	$840	$826	$584	$774	[i]
Current Portion of Long-Term Debt	$44	$44	$54	$49	$29	$66	[j]
Net Working Capital	($201)	($201)	($60)	($191)	($44)	($242)	[k] = [h] - ([i] - [j]).
Notes Payable (Short-Term Debt)	$465	$465	$300	$412	$275	$400	[l]
Adjusted Short-Term Debt	$201	$201	$60	$191	$44	$242	[m] = See Sources and Notes.
Long-Term Debt	$1,208	$1,208	$1,198	$1,017	$1,073	$954	[n]
Book Value of Long-Term Debt	$1,454	$1,454	$1,312	$1,256	$1,145	$1,263	[o] = [n] + [j] + [m].
Adjustment to Book Value of Long-Term Debt	$20	$20	$56	$76	$78	$70	[p] = See Sources and Notes.
Market Value of Long-Term Debt	$1,473	$1,473	$1,368	$1,332	$1,223	$1,333	[q] = [p] + [o].
Market Value of Debt	$1,473	$1,473	$1,368	$1,332	$1,223	$1,333	[r] = [q].
MARKET VALUE OF FIRM	$3,641	$3,629	$3,431	$3,373	$3,082	$2,882	[s] = [d] + [g] + [r].
DEBT AND EQUITY TO MARKET VALUE RATIOS							
Common Equity - Market Value Ratio	59.54%	59.40%	60.12%	60.49%	60.30%	53.73%	[t] = [d] / [s].
Preferred Equity - Market Value Ratio	-	-	-	0.00%	0.01%	0.01%	[u] = [g] / [s].
Debt - Market Value Ratio	40.46%	40.60%	39.88%	39.51%	39.69%	46.26%	[v] = [r] / [s].

Sources and Notes:
Bloomberg as of April 09, 2007
Capital structure from Year End, 2006 calculated using respective balance sheet information and 5-day average prices ending at period end.
The DCF Capital structure is calculated using 4th Quarter, 2006 balance sheet information and a 15-trading day average closing price ending on 4/9/2007.
Prices are reported in Workpaper #1 to Table No. MJV-17.
[m] =
(1): 0 if [k] > 0.
(2): The absolute value of [k] if [k] < 0 and |[k]| < [l].
(3): [l] if [k] < 0 and |[k]| > [l].
[p]: Difference between fair value of Long-Term debt and carrying amount of Long-Term debt per company 10-K. Data for adjustment is from 2006 10-K.

Table No. MJV-14

Market Value of the MJV US Gas LDC Sample

Panel J: New Jersey Resources Corp

($MM)

	DCF Capital Structure	Year End, 2006	Year End, 2005	Year End, 2004	Year End, 2003	Year End, 2002	Notes
MARKET VALUE OF COMMON EQUITY							
Book Value, Common Shareholder's Equity	$622	$622	$438	$468	$419	$361	[a]
Shares Outstanding (in millions) - Common	28	28	28	28	27	27	[b]
Price per Share - Common	$50	$49	$42	$43	$39	$32	[c]
Market Value of Common Equity	$1,381	$1,353	$1,188	$1,206	$1,059	$856	[d] = [b] x [c].
Market to Book Value of Common Equity	2.22	2.18	2.71	2.58	2.53	2.37	[e] = [d] / [a].
MARKET VALUE OF PREFERRED EQUITY							
Book Value of Preferred Equity	$0	$0	$0	$0	$0	$0	[f]
Market Value of Preferred Equity	$0	$0	$0	$0	$0	$0	[g] = [f].
MARKET VALUE OF DEBT							
Current Assets	$966	$966	$1,073	$686	$450	$434	[h]
Current Liabilities	$897	$897	$1,097	$688	$524	$436	[i]
Current Portion of Long-Term Debt	$4	$4	$3	$28	$2	$27	[j]
Net Working Capital	$72	$72	($20)	$26	($71)	$25	[k] = [h] - ([i] - [j]).
Notes Payable (Short-Term Debt)	$281	$281	$174	$260	$186	$60	[l]
Adjusted Short-Term Debt	$0	$0	$20	$0	$71	$0	[m] = See Sources and Notes.
Long-Term Debt	$332	$332	$317	$316	$258	$371	[n]
Book Value of Long-Term Debt	$336	$336	$341	$344	$332	$398	[o] = [n] + [j] + [m].
Adjustment to Book Value of Long-Term Debt	$2	$2	$2	$6	$9	$10	[p] = See Sources and Notes.
Market Value of Long-Term Debt	$338	$338	$343	$349	$341	$407	[q] = [p] + [o].
Market Value of Debt	$338	$338	$343	$349	$341	$407	[r] = [q].
MARKET VALUE OF FIRM	$1,719	$1,691	$1,530	$1,555	$1,400	$1,263	[s] = [d] + [g] + [r].
DEBT AND EQUITY TO MARKET VALUE RATIOS							
Common Equity - Market Value Ratio	80.33%	80.01%	77.61%	77.54%	75.64%	67.73%	[t] = [d] / [s].
Preferred Equity - Market Value Ratio	-	-	-	-	-	0.02%	[u] = [g] / [s].
Debt - Market Value Ratio	19.67%	19.99%	22.39%	22.46%	24.36%	32.25%	[v] = [r] / [s].

Sources and Notes:
Bloomberg as of April 09, 2007
Capital structure from Year End, 2006 calculated using respective balance sheet information and 5-day average prices ending at period end.
The DCF Capital structure is calculated using 4th Quarter, 2006 balance sheet information and a 15-trading day average closing price ending on 4/9/2007.
Prices are reported in Workpaper #1 to Table No. MJV-17.
[m] =
(1): 0 if [k] > 0.
(2): The absolute value of [k] if [k] < 0 and |[k]| < [l].
(3): [l] if [k] < 0 and |[k]| > [l].
[p]: Difference between fair value of Long-Term debt and carrying amount of Long-Term debt per company 10-K. Data for adjustment is from 2006 10-K.

Table No. MJV-15

MJV US Gas LDC Sample

Capital Structure Summary

Company		DCF Capital Structure			5-Year Average Capital Structure		
		Common Equity - Value Ratio [1]	Preferred Equity - Value Ratio [2]	Debt - Value Ratio [3]	Common Equity - Value Ratio [4]	Preferred Equity - Value Ratio [5]	Debt - Value Ratio [6]
Atmos Energy Corp		0.56	-	0.44	0.56	-	0.44
Laclede Group Inc/The	*	0.62	0.00	0.38	0.59	0.00	0.41
Northwest Natural Gas Co	*	0.68	-	0.32	0.61	0.00	0.39
Piedmont Natural Gas Co	*	0.69	-	0.31	0.68	-	0.32
South Jersey Industries Inc		0.72	-	0.28	0.63	0.00	0.37
Southwest Gas Corp		0.52	-	0.48	0.41	-	0.59
WGL Holdings Inc	*	0.70	0.01	0.29	0.66	0.01	0.33
AGL Resources Inc		0.66	-	0.34	0.58	0.02	0.41
Vectren Corp		0.60	-	0.40	0.59	0.00	0.41
New Jersey Resources Corp		0.80	-	0.20	0.76	0.00	0.24
Average		0.65	0.00	0.35	0.61	0.00	0.39
Subsample Average		0.67	0.00	0.33	0.63	0.00	0.36

Sources and Notes:
[1], [4]:Workpaper #1 to Table No. MJV-15.
[2], [5]:Workpaper #2 to Table No. MJV-15.
[3], [6]:Workpaper #3 to Table No. MJV-15.
Values in this table may not add up exactly to 1.0 because of rounding.

*Represents companies in the subsample.

Table No. MJV-16

MJV US Gas LDC Sample

Combined Bloomberg Estimated and Value Line Estimated Growth Rates

Company	Bloomberg Estimate		Value Line			Combined BEst and Value Line Growth Rate
	BEst Long-Term Growth Rate	Number of Estimates	EPS Year 2008 Estimate	EPS Year 2010 - 2012 Estimate	Annualized Growth Rate	
	[1]	[2]	[3]	[4]	[5]	[6]
Atmos Energy Corp	5.8%	4	$2.10	$2.50	6.0%	5.8%
Laclede Group Inc/The	3.0%	1	$2.00	$2.35	5.5%	4.3%
Northwest Natural Gas Co	4.8%	3	$2.55	$2.95	5.0%	4.9%
Piedmont Natural Gas Co	5.0%	2	$1.45	$1.55	2.2%	4.1%
South Jersey Industries Inc	6.3%	3	$2.90	$3.30	4.4%	5.9%
Southwest Gas Corp	5.5%	2	$2.25	$2.60	4.9%	5.3%
WGL Holdings Inc	3.7%	3	$2.05	$2.20	2.4%	3.3%
AGL Resources Inc	4.5%	3	$2.90	$3.10	2.2%	3.9%
Vectren Corp	2.2%	1	$1.90	$2.00	1.7%	2.0%
New Jersey Resources Corp	5.7%	3	$3.00	$3.15	1.6%	4.7%

Sources and Notes:
[1] - [2]: Bloomberg as of April 09, 2007.
[3] - [4]: Most recent Value Line Standard Edition dated as of March 16, 2007, except for Vectren which is as of March 30, 2007..
[5]: ([4] / [3]) ^ (1/3) - 1.
[6]: ([1] x [2] + [5]) / ([2] + 1).

Table No. MJV-17

DCF Cost of Equity of the MJV US Gas LDC Sample

Panel A: Simple DCF Method (Quarterly)

Company	Stock Price [1]	Quarterly Dividend Q4, 2006 [2]	Combined BEst and Value Line Long-Term Growth Rate [3]	Quarterly Growth Rate [4]	DCF Cost of Equity [5]
Atmos Energy Corp	$31.61	$0.32	5.8%	1.4%	10.1%
Laclede Group Inc/The	$31.18	$0.37	4.3%	1.0%	9.2%
Northwest Natural Gas Co	$45.94	$0.36	4.9%	1.2%	8.1%
Piedmont Natural Gas Co	$26.72	$0.24	4.1%	1.0%	7.9%
South Jersey Industries Inc	$38.06	$0.25	5.9%	1.4%	8.6%
Southwest Gas Corp	$38.94	$0.21	5.3%	1.3%	7.5%
WGL Holdings Inc	$32.19	$0.34	3.3%	0.8%	7.7%
AGL Resources Inc	$42.60	$0.37	3.9%	1.0%	7.6%
Vectren Corp	$28.49	$0.32	2.0%	0.5%	6.5%
New Jersey Resources Corp	$49.99	$0.38	4.7%	1.1%	7.9%

Sources and Notes:
[1]: Workpaper #1 to Table No. MJV-17.
[2]: Workpaper #2 to Table No. MJV-17.
[3]: Table No. MJV-16, [6].
[4]: {(1 + [3]) ^ (1/4)} - 1.
[5]: {(([2] / [1]) x (1 + [4]) + [4] + 1) ^ 4} - 1.

Table No. MJV-17

DCF Cost of Equity of the MJV US Gas LDC Sample

Panel B: Multi-Stage DCF (Using Blue Chip Long-Term GDP Growth Forecast as the Perpetual Rate)

Company	Stock Price [1]	Quarterly Dividend Q4, 2006 [2]	Combined BEst and *Value Line* Long-Term Growth Rate [3]	Growth Rate: FY 2012 [4]	Growth Rate: FY 2013 [5]	Growth Rate: FY 2014 [6]	Growth Rate: FY 2015 [7]	Growth Rate: FY 2016 [8]	GDP Long-Term Growth Rate [9]	DCF Cost of Equity [10]
Atmos Energy Corp	$31.61	$0.32	5.8%	5.7%	5.6%	5.4%	5.3%	5.2%	5.1%	9.6%
Laclede Group Inc/The	$31.18	$0.37	4.3%	4.4%	4.5%	4.7%	4.8%	5.0%	5.1%	9.8%
Northwest Natural Gas Co	$45.94	$0.36	4.9%	4.9%	4.9%	5.0%	5.0%	5.1%	5.1%	8.3%
Piedmont Natural Gas Co	$26.72	$0.24	4.1%	4.3%	4.4%	4.6%	4.8%	4.9%	5.1%	8.7%
South Jersey Industries Inc	$38.06	$0.25	5.9%	5.7%	5.6%	5.5%	5.4%	5.2%	5.1%	8.0%
Southwest Gas Corp	$38.94	$0.21	5.3%	5.3%	5.2%	5.2%	5.2%	5.1%	5.1%	7.4%
WGL Holdings Inc	$32.19	$0.34	3.3%	3.6%	3.9%	4.2%	4.5%	4.8%	5.1%	9.1%
AGL Resources Inc	$42.60	$0.37	3.9%	4.1%	4.3%	4.5%	4.7%	4.9%	5.1%	8.5%
Vectren Corp	$28.49	$0.32	2.0%	2.5%	3.0%	3.5%	4.1%	4.6%	5.1%	8.9%
New Jersey Resources Corp	$49.99	$0.38	4.7%	4.7%	4.8%	4.9%	5.0%	5.0%	5.1%	8.2%

Sources and Notes:
[1]: Workpaper #1 to Table No. MJV-17.
[2]: Workpaper #2 to Table No. MJV-17.
[3]: Table No. MJV-16, [6].
[4]: [3] - {([3] - [9])/ 6}.
[5]: [4] - {([3] - [9])/ 6}.
[6]: [5] - {([3] - [9])/ 6}.
[7]: [6] - {([3] - [9])/ 6}.
[8]: [7] - {([3] - [9])/ 6}.
[9]: Blue Chip Economic Indicators published March 10, 2007. This number is assumed to be the perpetual growth rate. (See Appendix E).
[10]: Workpaper #3 to Table No. MJV-17.

Table No. MJV-18

Overall Cost of Capital of the MJV US Gas LDC Sample

Panel A: Simple DCF Method (Quarterly)

Company		4th Quarter, 2006 Bond Rating [1]	4th Quarter, 2006 Preferred Equity Rating [2]	DCF Cost of Equity [3]	DCF Common Equity to Market Value Ratio [4]	Cost of Preferred Equity [5]	DCF Preferred Equity to Market Value Ratio [6]	DCF Cost of Debt [7]	DCF Debt to Market Value Ratio [8]	Wisconsin Gas's Income Tax Rate [9]	Overall After- Tax Cost of Capital [10]
Atmos Energy Corp		BBB	-	10.1%	0.56	-	-	6.1%	0.44	40.0%	7.3%
Laclede Group Inc/The	*	A	A	9.2%	0.62	5.9%	0.00	5.9%	0.38	40.0%	7.0%
Northwest Natural Gas Co	*	AA	-	8.1%	0.68	-	-	5.7%	0.32	40.0%	6.6%
Piedmont Natural Gas Co	*	A	-	7.9%	0.69	-	-	5.9%	0.31	40.0%	6.5%
South Jersey Industries Inc		BBB	-	8.6%	0.72	-	-	6.1%	0.28	40.0%	7.2%
Southwest Gas Corp		BBB	-	7.5%	0.52	-	-	6.1%	0.48	40.0%	5.7%
WGL Holdings Inc	*	AA	AA	7.7%	0.70	5.8%	0.01	5.7%	0.29	40.0%	6.5%
AGL Resources Inc		A	-	7.6%	0.66	-	-	5.9%	0.34	40.0%	6.2%
Vectren Corp		A	-	6.5%	0.60	-	-	5.9%	0.40	40.0%	5.3%
New Jersey Resources Corp		A	-	7.9%	0.80	-	-	5.9%	0.20	40.0%	7.0%
Average				8.1%	0.65	5.8%	0.00	5.9%	0.35	40.0%	6.5%
Subsample Average				8.2%	0.67	5.8%	0.00	5.8%	0.33	40.0%	6.7%

Sources and Notes:
[1]: Bloomberg as of April 09, 2007.
[2]: Preferred ratings were assumed equal to debt ratings.
[3]: Table No. MJV-17; Panel A, [5].
[4]: Table No. MJV-15, [1].
[5]: Workpaper #2 to Table No. MJV-11, Panel B, [6].
[6]: Table No. MJV-15, [2].
[7]: Workpaper #2 toTable No. MJV-11, Panel A, [6].
[8]: Table No. MJV-15, [3].
[9]: Provided by Wisconsin Gas.
[10]: ([3] x [4]) + ([5] x [6]) + {[7] x [8] x (1 - [9])}.

*Represents companies in the subsample.

Table No. MJV-18

Overall Cost of Capital of the MJV US Gas LDC Sample

Panel B: Multi-Stage DCF (Using Blue Chip Long-Term GDP Growth Forecast as the Perpetual Rate)

Company		4th Quarter, 2006 Bond Rating [1]	4th Quarter, 2006 Preferred Equity Rating [2]	DCF Cost of Equity [3]	DCF Common Equity to Market Value Ratio [4]	Cost of Preferred Equity [5]	DCF Preferred Equity to Market Value Ratio [6]	DCF Cost of Debt [7]	DCF Debt to Market Value Ratio [8]	Wisconsin Gas's Income Tax Rate [9]	Overall After- Tax Cost of Capital [10]
Atmos Energy Corp		BBB	-	9.6%	0.56	-	-	6.1%	0.44	40.0%	7.0%
Laclede Group Inc/The	*	A	A	9.8%	0.62	5.9%	0.00	5.9%	0.38	40.0%	7.4%
Northwest Natural Gas Co	*	AA	-	8.3%	0.68	-	-	5.7%	0.32	40.0%	6.7%
Piedmont Natural Gas Co	*	A	-	8.7%	0.69	-	-	5.9%	0.31	40.0%	7.0%
South Jersey Industries Inc		BBB	-	8.0%	0.72	-	-	6.1%	0.28	40.0%	6.8%
Southwest Gas Corp		BBB	-	7.4%	0.52	-	-	6.1%	0.48	40.0%	5.6%
WGL Holdings Inc	*	AA	AA	9.1%	0.70	5.8%	0.01	5.7%	0.29	40.0%	7.4%
AGL Resources Inc		A	-	8.5%	0.66	-	-	5.9%	0.34	40.0%	6.8%
Vectren Corp		A	-	8.9%	0.60	-	-	5.9%	0.40	40.0%	6.7%
New Jersey Resources Corp		A	-	8.2%	0.80	-	-	5.9%	0.20	40.0%	7.3%
Average				8.6%	0.65	5.8%	0.00	5.9%	0.35	40.0%	6.9%
Subsample Average				9.0%	0.67	5.8%	0.00	5.8%	0.33	40.0%	7.1%

Sources and Notes:
[1]: Bloomberg as of April 09, 2007.
[2]: Preferred ratings were assumed equal to debt ratings.
[3]: Table No. MJV-17; Panel B, [10].
[4]: Table No. MJV-15, [1].
[5]: Workpaper #2 to Table No. MJV-11, Panel B, [6].
[6]: Table No. MJV-15, [2].
[7]: Workpaper #2 toTable No. MJV-11, Panel A, [6].
[8]: Table No. MJV-15, [3].
[9]: Provided by Wisconsin Gas.
[10]: ([3] x [4]) + ([5] x [6]) + {[7] x [8] x (1 - [9])}.

*Represents companies in the subsample.

Table No. MJV-19

DCF Cost of Equity at Wisconsin Gas Capital Structure

MJV US Gas LDC Sample

	Overall Cost of Capital [1]	Wisconsin Gas's Regulatory % Debt [2]	Wisconsin Gas's Cost of Debt [3]	Wisconsin Gas's Income Tax Rate [4]	Wisconsin Gas's Regulatory % Equity [5]	Estimated Return on Equity [6]
Using All Companies with Bloomberg Forecast						
Simple DCF Quarterly	6.5%	0.48	5.9%	40.0%	0.52	9.3%
Multi-Stage DCF - Using the Blue Chip Economic Indicator Long-Term GDP as the Perpetual Rate	6.9%	0.48	5.9%	40.0%	0.52	10.0%
Using Subsample with Bloomberg Forecast						
Simple DCF Quarterly	6.7%	0.48	5.9%	40.0%	0.52	9.5%
Multi-Stage DCF - Using the Blue Chip Economic Indicator Long-Term GDP as the Perpetual Rate	7.1%	0.48	5.9%	40.0%	0.52	10.5%

Sources and Notes:
[1]: Table No. MJV-18; Panels A-B, [10].
[2]: Provided by Wisconsin Gas.
[3]: Based off an A rating, as provided by Wisconsin Gas. Yield pulled from Bloomberg as of March 27, 2007.
[4]: Provided by Wisconsin Gas.
[5]: Provided by Wisconsin Gas.
[6]: {[1] - ([2] x [3] x (1 - [4]))} / [5].

Table No. MJV-20

Risk Positioning Cost of Equity of the MJV US Gas LDC Sample

Panel A: Using Value Line Betas and the Long-Term Risk-Free Rate

Company	US Long-Term Risk-Free Rate [1]	Value Line Betas [2]	Long-Term Market Risk Premium [3]	CAPM Cost of Equity [4]	ECAPM (0.5%) Cost of Equity [5]	ECAPM (1.5%) Cost of Equity [6]
Atmos Energy Corp	4.9%	0.80	6.50%	10.1%	10.2%	10.4%
Laclede Group Inc/The	4.9%	0.85	6.50%	10.4%	10.5%	10.7%
Northwest Natural Gas Co	4.9%	0.75	6.50%	9.8%	9.9%	10.2%
Piedmont Natural Gas Co	4.9%	0.80	6.50%	10.1%	10.2%	10.4%
South Jersey Industries Inc	4.9%	0.70	6.50%	9.5%	9.6%	9.9%
Southwest Gas Corp	4.9%	0.85	6.50%	10.4%	10.5%	10.7%
WGL Holdings Inc	4.9%	0.85	6.50%	10.4%	10.5%	10.7%
AGL Resources Inc	4.9%	0.95	6.50%	11.1%	11.1%	11.2%
Vectren Corp	4.9%	0.95	6.50%	11.1%	11.1%	11.2%
New Jersey Resources Corp	4.9%	0.80	6.50%	10.1%	10.2%	10.4%

Sources and Notes:
[1]: Table No. MJV-9 - Interest Rate Forecasts, Panel A, Row [A].
[2]: Workpaper # 1 to Table No. MJV-20, column [1].
[3]: Vilbert Written Evidence, Appendix B.
[4]: [1] + ([2] x [3]).
[5]: ([1] + 0.5%) + [2] x ([3] - 0.5%).
[6]: ([1] + 1.5%) + [2] x ([3] - 1.5%).

Table No. MJV-20

Risk Positioning Cost of Equity of the MJV US Gas LDC Sample

Panel B: Using Value Line Betas and the Short-Term Risk-Free Rate.

Company	US Short-Term Risk-Free Rate [1]	Value Line Betas [2]	Short-Term Market Risk Premium [3]	CAPM Cost of Equity [4]	ECAPM (1%) Cost of Equity [5]	ECAPM (2%) Cost of Equity [6]	ECAPM (3%) Cost of Equity [7]
Atmos Energy Corp	3.8%	0.80	8.0%	10.2%	10.4%	10.6%	10.8%
Laclede Group Inc/The	3.8%	0.85	8.0%	10.6%	10.8%	10.9%	11.1%
Northwest Natural Gas Co	3.8%	0.75	8.0%	9.8%	10.1%	10.3%	10.6%
Piedmont Natural Gas Co	3.8%	0.80	8.0%	10.2%	10.4%	10.6%	10.8%
South Jersey Industries Inc	3.8%	0.70	8.0%	9.4%	9.7%	10.0%	10.3%
Southwest Gas Corp	3.8%	0.85	8.0%	10.6%	10.8%	10.9%	11.1%
WGL Holdings Inc	3.8%	0.85	8.0%	10.6%	10.8%	10.9%	11.1%
AGL Resources Inc	3.8%	0.95	8.0%	11.4%	11.5%	11.5%	11.6%
Vectren Corp	3.8%	0.95	8.0%	11.4%	11.5%	11.5%	11.6%
New Jersey Resources Corp	3.8%	0.80	8.0%	10.2%	10.4%	10.6%	10.8%

Sources and Notes:
[1]: Table No. MJV-9 - Interest Rate Forecasts, Panel B, Row [I].
[2]: Workpaper # 1 to Table No. MJV-20, column [1].
[3]: Vilbert Written Evidence, Appendix B.
[4]: [1] + ([2] x [3]).
[5]: ([1] + 1%) + [2] x ([3] - 1%).
[6]: ([1] + 2%) + [2] x ([3] - 2%).
[7]: ([1] + 3%) + [2] x ([3] - 3%).

Table No. MJV-21

Overall Cost of Capital of the MJV US Gas LDC Sample

Panel A: CAPM Cost of Equity Based on Value Line Betas and a Long-Term Risk-Free Rate

Company		CAPM Cost of Equity [1]	5-Year Average Common Equity to Market Value Ratio [2]	Weighted - Average Cost of Preferred Equity [3]	5-Year Average Preferred Equity to Market Value Ratio [4]	Weighted Average Cost of Debt [5]	5-Year Average Debt to Market Value Ratio [6]	Wisconsin Gas's Income Tax Rate [7]	Overall After- Tax Cost of Capital [8]
Atmos Energy Corp		10.1%	0.56	-	-	6.0%	0.44	40.0%	7.2%
Laclede Group Inc/The	*	10.4%	0.59	5.9%	0.00	5.9%	0.41	40.0%	7.6%
Northwest Natural Gas Co	*	9.8%	0.61	5.8%	0.00	5.8%	0.39	40.0%	7.3%
Piedmont Natural Gas Co	*	10.1%	0.68	-	-	5.9%	0.32	40.0%	8.0%
South Jersey Industries Inc		9.5%	0.63	6.0%	0.00	6.1%	0.37	40.0%	7.3%
Southwest Gas Corp		10.4%	0.41	-	-	6.1%	0.59	40.0%	6.4%
WGL Holdings Inc	*	10.4%	0.66	5.8%	0.01	5.7%	0.33	40.0%	8.1%
AGL Resources Inc		11.1%	0.58	5.9%	0.02	5.9%	0.41	40.0%	7.9%
Vectren Corp		11.1%	0.59	5.9%	0.00	5.9%	0.41	40.0%	8.0%
New Jersey Resources Corp		10.1%	0.76	5.9%	0.00	5.9%	0.24	40.0%	8.5%
Average		10.3%	0.61	5.9%	0.00	5.9%	0.39	40.0%	7.6%
Subsample Average		10.2%	0.63	5.8%	0.00	5.8%	0.36	40.0%	7.7%

Sources and Notes:
[1]: Table No. MJV-20; Panel A, [4].
[2]: Table No. MJV-15, [4].
[3]: Workpaper #2 to Table No. MJV-21 ; Panel B, [1].
[4]: Table No. MJV-15, [5].
[5]: Workpaper #2 to Table No. MJV-21 ; Panel A, [1].
[6]: Table No. MJV-15, [6].
[7]: Provided by Wisconsin Gas.
[8]: ([1] x [2]) + ([3] x [4]) + {[5] x [6] x (1 - [7])}.

*Represents companies in the subsample.

Table No. MJV-21

Overall Cost of Capital of the MJV US Gas LDC Sample

Panel B: ECAPM (0.5%) Cost of Equity Based on Value Line Betas and a Long-Term Risk-Free Rate

Company		ECAPM (0.5%) Cost of Equity [1]	5-Year Average Common Equity to Market Value Ratio [2]	Weighted - Average Cost of Preferred Equity [3]	5-Year Average Preferred Equity to Market Value Ratio [4]	Weighted Average Cost of Debt [5]	5-Year Average Debt to Market Value Ratio [6]	Wisconsin Gas's Income Tax Rate [7]	Overall After- Tax Cost of Capital [8]
Atmos Energy Corp		10.2%	0.56	-	-	6.0%	0.44	40.0%	7.3%
Laclede Group Inc/The	*	10.5%	0.59	5.9%	0.00	5.9%	0.41	40.0%	7.6%
Northwest Natural Gas Co	*	9.9%	0.61	5.8%	0.00	5.8%	0.39	40.0%	7.4%
Piedmont Natural Gas Co	*	10.2%	0.68	-	-	5.9%	0.32	40.0%	8.0%
South Jersey Industries Inc		9.6%	0.63	6.0%	0.00	6.1%	0.37	40.0%	7.4%
Southwest Gas Corp		10.5%	0.41	-	-	6.1%	0.59	40.0%	6.5%
WGL Holdings Inc	*	10.5%	0.66	5.8%	0.01	5.7%	0.33	40.0%	8.1%
AGL Resources Inc		11.1%	0.58	5.9%	0.02	5.9%	0.41	40.0%	7.9%
Vectren Corp		11.1%	0.59	5.9%	0.00	5.9%	0.41	40.0%	8.0%
New Jersey Resources Corp		10.2%	0.76	5.9%	0.00	5.9%	0.24	40.0%	8.6%
Average		10.4%	0.61	5.9%	0.00	5.9%	0.39	40.0%	7.7%
Subsample Average		10.3%	0.63	5.8%	0.00	5.8%	0.36	40.0%	7.8%

Sources and Notes:
[1]: Table No. MJV-20; Panel A, [5].
[2]: Table No. MJV-15, [4].
[3]: Workpaper #2 to Table No. MJV-21 ; Panel B, [1].
[4]: Table No. MJV-15, [5].
[5]: Workpaper #2 to Table No. MJV-21 ; Panel A, [1].
[6]: Table No. MJV-15, [6].
[7]: Provided by Wisconsin Gas.
[8]: ([1] x [2]) + ([3] x [4]) + {[5] x [6] x (1 - [7])}.

*Represents companies in the subsample.

Table No. MJV-21

Overall Cost of Capital of the MJV US Gas LDC Sample

Panel C: ECAPM (1.5%) Cost of Equity Based on Value Line Betas and a Long-Term Risk-Free Rate

Company		ECAPM (1.5%) Cost of Equity [1]	5-Year Average Common Equity to Market Value Ratio [2]	Weighted - Average Cost of Preferred Equity [3]	5-Year Average Preferred Equity to Market Value Ratio [4]	Weighted Average Cost of Debt [5]	5-Year Average Debt to Market Value Ratio [6]	Wisconsin Gas's Income Tax Rate [7]	Overall After- Tax Cost of Capital [8]
Atmos Energy Corp		10.4%	0.56	-	-	6.0%	0.44	40.0%	7.4%
Laclede Group Inc/The	*	10.7%	0.59	5.9%	0.00	5.9%	0.41	40.0%	7.7%
Northwest Natural Gas Co	*	10.2%	0.61	5.8%	0.00	5.8%	0.39	40.0%	7.5%
Piedmont Natural Gas Co	*	10.4%	0.68	-	-	5.9%	0.32	40.0%	8.2%
South Jersey Industries Inc		9.9%	0.63	6.0%	0.00	6.1%	0.37	40.0%	7.6%
Southwest Gas Corp		10.7%	0.41	-	-	6.1%	0.59	40.0%	6.5%
WGL Holdings Inc	*	10.7%	0.66	5.8%	0.01	5.7%	0.33	40.0%	8.2%
AGL Resources Inc		11.2%	0.58	5.9%	0.02	5.9%	0.41	40.0%	7.9%
Vectren Corp		11.2%	0.59	5.9%	0.00	5.9%	0.41	40.0%	8.0%
New Jersey Resources Corp		10.4%	0.76	5.9%	0.00	5.9%	0.24	40.0%	8.7%
Average		10.6%	0.61	5.9%	0.00	5.9%	0.39	40.0%	7.8%
Subsample Average		10.5%	0.63	5.8%	0.00	5.8%	0.36	40.0%	7.9%

Sources and Notes:
[1]: Table No. MJV-20; Panel A, [6].
[2]: Table No. MJV-15, [4].
[3]: Workpaper #2 to Table No. MJV-21 ; Panel B, [1].
[4]: Table No. MJV-15, [5].
[5]: Workpaper #2 to Table No. MJV-21 ; Panel A, [1].
[6]: Table No. MJV-15, [6].
[7]: Provided by Wisconsin Gas.
[8]: ([1] x [2]) + ([3] x [4]) + {[5] x [6] x (1 - [7])}.

*Represents companies in the subsample.

Table No. MJV-21

Overall Cost of Capital of the MJV US Gas LDC Sample

Panel D: CAPM Cost of Equity Based on Value Line Betas and a Short-Term Risk-Free Rate

Company		CAPM Cost of Equity [1]	5-Year Average Common Equity to Market Value Ratio [2]	Weighted - Average Cost of Preferred Equity [3]	5-Year Average Preferred Equity to Market Value Ratio [4]	Weighted Average Cost of Debt [5]	5-Year Average Debt to Market Value Ratio [6]	Wisconsin Gas's Income Tax Rate [7]	Overall After- Tax Cost of Capital [8]
Atmos Energy Corp		10.2%	0.56	-	-	6.0%	0.44	40.0%	7.3%
Laclede Group Inc/The	*	10.6%	0.59	5.9%	0.00	5.9%	0.41	40.0%	7.7%
Northwest Natural Gas Co	*	9.8%	0.61	5.8%	0.00	5.8%	0.39	40.0%	7.3%
Piedmont Natural Gas Co	*	10.2%	0.68	-	-	5.9%	0.32	40.0%	8.0%
South Jersey Industries Inc		9.4%	0.63	6.0%	0.00	6.1%	0.37	40.0%	7.3%
Southwest Gas Corp		10.6%	0.41	-	-	6.1%	0.59	40.0%	6.5%
WGL Holdings Inc	*	10.6%	0.66	5.8%	0.01	5.7%	0.33	40.0%	8.2%
AGL Resources Inc		11.4%	0.58	5.9%	0.02	5.9%	0.41	40.0%	8.1%
Vectren Corp		11.4%	0.59	5.9%	0.00	5.9%	0.41	40.0%	8.1%
New Jersey Resources Corp		10.2%	0.76	5.9%	0.00	5.9%	0.24	40.0%	8.6%
Average		10.4%	0.61	5.9%	0.00	5.9%	0.39	40.0%	7.7%
Subsample Average		10.3%	0.63	5.8%	0.00	5.8%	0.36	40.0%	7.8%

Sources and Notes:
[1]: Table No. MJV-20; Panel B, [4].
[2]: Table No. MJV-15, [4].
[3]: Workpaper #2 to Table No. MJV-21 ; Panel B, [1].
[4]: Table No. MJV-15, [5].
[5]: Workpaper #2 to Table No. MJV-21 ; Panel A, [1].
[6]: Table No. MJV-15, [6].
[7]: Provided by Wisconsin Gas.
[8]: ([1] x [2]) + ([3] x [4]) + {[5] x [6] x (1 - [7])}.

*Represents companies in the subsample.

Table No. MJV-21

Overall Cost of Capital of the MJV US Gas LDC Sample

Panel E: ECAPM (1%) Cost of Equity Based on Value Line Betas and a Short-Term Risk-Free Rate

Company		ECAPM (1%) Cost of Equity [1]	5-Year Average Common Equity to Market Value Ratio [2]	Weighted - Average Cost of Preferred Equity [3]	5-Year Average Preferred Equity to Market Value Ratio [4]	Weighted Average Cost of Debt [5]	5-Year Average Debt to Market Value Ratio [6]	Wisconsin Gas's Income Tax Rate [7]	Overall After- Tax Cost of Capital [8]
Atmos Energy Corp		10.4%	0.56	-	-	6.0%	0.44	40.0%	7.4%
Laclede Group Inc/The	*	10.8%	0.59	5.9%	0.00	5.9%	0.41	40.0%	7.8%
Northwest Natural Gas Co	*	10.1%	0.61	5.8%	0.00	5.8%	0.39	40.0%	7.5%
Piedmont Natural Gas Co	*	10.4%	0.68	-	-	5.9%	0.32	40.0%	8.2%
South Jersey Industries Inc		9.7%	0.63	6.0%	0.00	6.1%	0.37	40.0%	7.5%
Southwest Gas Corp		10.8%	0.41	-	-	6.1%	0.59	40.0%	6.6%
WGL Holdings Inc	*	10.8%	0.66	5.8%	0.01	5.7%	0.33	40.0%	8.3%
AGL Resources Inc		11.5%	0.58	5.9%	0.02	5.9%	0.41	40.0%	8.1%
Vectren Corp		11.5%	0.59	5.9%	0.00	5.9%	0.41	40.0%	8.2%
New Jersey Resources Corp		10.4%	0.76	5.9%	0.00	5.9%	0.24	40.0%	8.7%
Average		10.6%	0.61	5.9%	0.00	5.9%	0.39	40.0%	7.8%
Subsample Average		10.5%	0.63	5.8%	0.00	5.8%	0.36	40.0%	7.9%

Sources and Notes:
[1]: Table No. MJV-20; Panel B, [5].
[2]: Table No. MJV-15, [4].
[3]: Workpaper #2 to Table No. MJV-21 ; Panel B, [1].
[4]: Table No. MJV-15, [5].
[5]: Workpaper #2 to Table No. MJV-21 ; Panel A, [1].
[6]: Table No. MJV-15, [6].
[7]: Provided by Wisconsin Gas.
[8]: ([1] x [2]) + ([3] x [4]) + {[5] x [6] x (1 - [7])}.

*Represents companies in the subsample.

Table No. MJV-21

Overall Cost of Capital of the MJV US Gas LDC Sample

Panel F: ECAPM (2%) Cost of Equity Based on Value Line Betas and a Short-Term Risk-Free Rate

Company		ECAPM (2%) Cost of Equity [1]	5-Year Average Common Equity to Market Value Ratio [2]	Weighted - Average Cost of Preferred Equity [3]	5-Year Average Preferred Equity to Market Value Ratio [4]	Weighted Average Cost of Debt [5]	5-Year Average Debt to Market Value Ratio [6]	Wisconsin Gas's Income Tax Rate [7]	Overall After- Tax Cost of Capital [8]
Atmos Energy Corp		10.6%	0.56	-	-	6.0%	0.44	40.0%	7.5%
Laclede Group Inc/The	*	10.9%	0.59	5.9%	0.00	5.9%	0.41	40.0%	7.9%
Northwest Natural Gas Co	*	10.3%	0.61	5.8%	0.00	5.8%	0.39	40.0%	7.6%
Piedmont Natural Gas Co	*	10.6%	0.68	-	-	5.9%	0.32	40.0%	8.3%
South Jersey Industries Inc		10.0%	0.63	6.0%	0.00	6.1%	0.37	40.0%	7.7%
Southwest Gas Corp		10.9%	0.41	-	-	6.1%	0.59	40.0%	6.6%
WGL Holdings Inc	*	10.9%	0.66	5.8%	0.01	5.7%	0.33	40.0%	8.4%
AGL Resources Inc		11.5%	0.58	5.9%	0.02	5.9%	0.41	40.0%	8.1%
Vectren Corp		11.5%	0.59	5.9%	0.00	5.9%	0.41	40.0%	8.2%
New Jersey Resources Corp		10.6%	0.76	5.9%	0.00	5.9%	0.24	40.0%	8.9%
Average		10.8%	0.61	5.9%	0.00	5.9%	0.39	40.0%	7.9%
Subsample Average		10.7%	0.63	5.8%	0.00	5.8%	0.36	40.0%	8.0%

Sources and Notes:
[1]: Table No. MJV-20; Panel B, [6].
[2]: Table No. MJV-15, [4].
[3]: Workpaper #2 to Table No. MJV-21 ; Panel B, [1].
[4]: Table No. MJV-15, [5].
[5]: Workpaper #2 to Table No. MJV-21 ; Panel A, [1].
[6]: Table No. MJV-15, [6].
[7]: Provided by Wisconsin Gas.
[8]: ([1] x [2]) + ([3] x [4]) + {[5] x [6] x (1 - [7])}.

*Represents companies in the subsample.

Table No. MJV-21

Overall Cost of Capital of the MJV US Gas LDC Sample

Panel G: ECAPM (3%) Cost of Equity Based on Value Line Betas and a Short-Term Risk-Free Rate

Company		ECAPM (3%) Cost of Equity [1]	5-Year Average Common Equity to Market Value Ratio [2]	Weighted - Average Cost of Preferred Equity [3]	5-Year Average Preferred Equity to Market Value Ratio [4]	Weighted Average Cost of Debt [5]	5-Year Average Debt to Market Value Ratio [6]	Wisconsin Gas's Income Tax Rate [7]	Overall After- Tax Cost of Capital [8]
Atmos Energy Corp		10.8%	0.56	-	-	6.0%	0.44	40.0%	7.6%
Laclede Group Inc/The	*	11.1%	0.59	5.9%	0.00	5.9%	0.41	40.0%	8.0%
Northwest Natural Gas Co	*	10.6%	0.61	5.8%	0.00	5.8%	0.39	40.0%	7.8%
Piedmont Natural Gas Co	*	10.8%	0.68	-	-	5.9%	0.32	40.0%	8.4%
South Jersey Industries Inc		10.3%	0.63	6.0%	0.00	6.1%	0.37	40.0%	7.9%
Southwest Gas Corp		11.1%	0.41	-	-	6.1%	0.59	40.0%	6.7%
WGL Holdings Inc	*	11.1%	0.66	5.8%	0.01	5.7%	0.33	40.0%	8.5%
AGL Resources Inc		11.6%	0.58	5.9%	0.02	5.9%	0.41	40.0%	8.2%
Vectren Corp		11.6%	0.59	5.9%	0.00	5.9%	0.41	40.0%	8.2%
New Jersey Resources Corp		10.8%	0.76	5.9%	0.00	5.9%	0.24	40.0%	9.0%
Average		11.0%	0.61	5.9%	0.00	5.9%	0.39	40.0%	8.0%
Subsample Average		10.9%	0.63	5.8%	0.00	5.8%	0.36	40.0%	8.2%

Sources and Notes:
[1]: Table No. MJV-20; Panel B, [7].
[2]: Table No. MJV-15, [4].
[3]: Workpaper #2 to Table No. MJV-21 ; Panel B, [1].
[4]: Table No. MJV-15, [5].
[5]: Workpaper #2 to Table No. MJV-21 ; Panel A, [1].
[6]: Table No. MJV-15, [6].
[7]: Provided by Wisconsin Gas.
[8]: ([1] x [2]) + ([3] x [4]) + {[5] x [6] x (1 - [7])}.

*Represents companies in the subsample.

Table No. MJV-22

Risk Positioning Cost of Equity at Wisconsin Gas's Capital Structure

MJV US Gas LDC Sample

Panel A: Using Value Line Betas

	Overall Cost of Capital [1]	Wisconsin Gas's Regulatory % Debt [2]	Wisconsin Gas's Cost of Debt [3]	Wisconsin Gas's Income Tax Rate [4]	Wisconsin Gas's Regulatory % Equity [5]	Estimated Return on Equity [6]
Using Long-Term Risk-Free Rates:						
CAPM using Value Line Betas	7.6%	0.48	5.9%	40.0%	0.52	11.4%
ECAPM (0.50%) using Value Line Betas	7.7%	0.48	5.9%	40.0%	0.52	11.5%
ECAPM (1.50) using Value Line Betas	7.8%	0.48	5.9%	40.0%	0.52	11.7%
Using Short-Term Risk-Free Rates:						
CAPM using Value Line Betas	7.7%	0.48	5.9%	40.0%	0.52	11.6%
ECAPM (1%) using Value Line Betas	7.8%	0.48	5.9%	40.0%	0.52	11.8%
ECAPM (2%) using Value Line Betas	7.9%	0.48	5.9%	40.0%	0.52	12.0%
ECAPM (3%) using Value Line Betas	8.0%	0.48	5.9%	40.0%	0.52	12.2%

Sources and Notes:
[1]: Table No. MJV-21; Panels A - G, [8].
[2]: Provided by Wisconsin Gas.
[3]: Based off an A rating, as provided by Wisconsin Gas. Yield pulled from Bloomberg as of March 27, 2007.
[4]: Provided by Wisconsin Gas.
[5]: Provided by Wisconsin Gas.
[6]: {[1] - ([2] x [3] x (1 - [4]))} / [5].

Table No. MJV-22

Risk Positioning Cost of Equity at Wisconsin Gas's Capital Structure

MJV US Gas LDC Sample

Panel B: Using Subsample and Value Line Betas

	Overall Cost of Capital [1]	Wisconsin Gas's Regulatory % Debt [2]	Wisconsin Gas's Cost of Debt [3]	Wisconsin Gas's Income Tax Rate [4]	Wisconsin Gas's Regulatory % Equity [5]	Estimated Return on Equity [6]
Using Long-Term Risk-Free Rates:						
CAPM using Value Line Betas	7.7%	0.48	5.9%	40.0%	0.52	11.6%
ECAPM (0.50%) using Value Line Betas	7.8%	0.48	5.9%	40.0%	0.52	11.7%
ECAPM (1.50) using Value Line Betas	7.9%	0.48	5.9%	40.0%	0.52	11.9%
Using Short-Term Risk-Free Rates:						
CAPM using Value Line Betas	7.8%	0.48	5.9%	40.0%	0.52	11.7%
ECAPM (1%) using Value Line Betas	7.9%	0.48	5.9%	40.0%	0.52	12.0%
ECAPM (2%) using Value Line Betas	8.0%	0.48	5.9%	40.0%	0.52	12.2%
ECAPM (3%) using Value Line Betas	8.2%	0.48	5.9%	40.0%	0.52	12.4%

Sources and Notes:
[1]: Table No. MJV-21; Panels A - G, [8].
[2]: Provided by Wisconsin Gas.
[3]: Based off an A rating, as provided by Wisconsin Gas. Yield pulled from Bloomberg as of March 27, 2007.
[4]: Provided by Wisconsin Gas.
[5]: Provided by Wisconsin Gas.
[6]: {[1] - ([2] x [3] x (1 - [4]))} / [5].

BEFORE THE
PUBLIC SERVICE COMMISSION OF WISCONSIN

Joint Application of Wisconsin Electric Power Company and Wisconsin Gas LLC, both d/b/a We Energies, for Wisconsin Electric Power Company to Increase Its Electric, Natural Gas, and Steam Rates and for Wisconsin Gas LLC to Increase its Natural Gas Rates	)))))	Docket No. 05-UR-103

REBUTTAL TESTIMONY OF MICHAEL J. VILBERT ON BEHALF OF WISCONSIN ELECTRIC POWER COMPANY AND WISCONSIN GAS LLC

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I. INTRODUCTION AND SUMMARY

Q1. Please state your name and address for the record.

A1. My name is Michael J. Vilbert. My business address is *The Brattle Group*, 44 Brattle Street, Cambridge, MA 02138, USA.

Q2. Did you previously file testimony in this proceeding?

A2. Yes, I filed Direct Testimony ("Vilbert Direct") on behalf of Wisconsin Electric Power Company ("Wisconsin Electric" or "WEPCO") and Wisconsin Gas LLC ("Wisconsin Gas" or "WG"), jointly the Applicants, in May 2007 regarding return on equity that the Applicants should be allowed an opportunity to earn on the equity financed portion of their operations.

Q3. What is the purpose of your rebuttal testimony?

A3. I have been asked by the Applicants to respond to the Direct Testimony of Ms. Lois J. Hubert ("Hubert Direct") on behalf of Staff of the Public Service Commission of Wisconsin and to the Direct Testimony of Mr. Richard A. Baudino ("Baudino Direct") on behalf of the Wisconsin Industrial Energy Group, Inc. regarding their recommendations for the allowed return on equity for the Applicants.

Q4. What rates of return on equity do the Hubert Direct and Baudino Direct recommend?

A4. The Baudino Direct addresses only the return for WEPCO and recommends a return of 9.70 percent on a capital structure with a reduced percentage of equity of 53.5 percent compared to the filed percentage of 56.14 percent. Both capital structures include short-term debt.[1] The Hubert Direct recommends an equity return of 10.75 percent for both of the Applicants, but reduces the equity percentage in the regulatory capital structure for both Applicants. The Hubert Direct recommends a relatively small reduction to a 54.36 equity percentage for WEPCO but recommends a major reduction for WG to 44.10

[1] The Baudino Direct relies on the testimony of Mr. Lane Kollen ("Kollen Direct") for the recommended capital structure for WEPCO. See Kollen Direct, Exhibit LK-10, pp. 1-2.

percent compared to the filed percentage of 52.16 percent.[2] The recommended reduction in both equity return and equity thickness represents a substantial decrease in earnings for the Applicants, but particularly for WG. Although each testimony recognizes the importance of considering financial risk, neither actually considers differences in financial risk between the sample companies and the regulated companies. Furthermore, there is no consideration of the change in financial risk from a change in the recommended regulatory capital structures. Each testimony expresses concern with the ATWACC approach to making this adjustment due to a misunderstanding of the method; however, there are other well recognized methodologies that each witness could have utilized to try to account for the financial risk they note as important. Failure to recognize financial risk represents a material error in their approaches.

II. CAPITAL STRUCTURE AND THE COST OF EQUITY

Q5. What does this section of your rebuttal testimony address?

A5. This section describes the primary source of the differences in the recommended return on equity in the Vilbert Direct compared to the recommendations of the Hubert Direct and the Baudino Direct. Although there are differences in the implementation of the two standard estimation models, the primary source of the differences lies in the recognition of differences in financial risk among the sample companies and between the samples and the regulated companies. The Vilbert Direct uses the after-tax weighted-average cost of capital ("ATWACC") approach to capture the differences in financial risk, but both the Hubert Direct and the Baudino Direct ignore financial risk in arriving at their recommended return on equity. In addition, in their critique of the ATWACC method both of the testimonies demonstrate a fundamental a misunderstanding of the ATWACC approach. If the Hubert Direct and Baudino Direct had considered financial risk, their recommended returns on equity would have been very similar to the Vilbert Direct's 11.2 percent recommendation. The section concludes with a comparison of the off-balance sheet debt of the companies in the electric sample compared to the imputed debt of WEPCO, a fair point raised in the Hubert direct. However, computed on a comparable

[2] See Hubert Direct, Exhibit LJH-1, Schedule 1, pp. 1-2.

basis, the average percentage of off-balance sheet debt of the electric sample is approximately the same as for WEPCO, resulting in almost no change to the estimates and no change to my recommendation.

A. The Use of the ATWACC Approach

Q6. Is it appropriate to estimate the cost of equity for the sample companies using market data?

A6. Yes. The Hubert Direct, the Baudino Direct and the Vilbert Direct all estimate the cost of equity for the sample companies using market information. The alternative is to rely on accounting information on the return on equity realized on book value assets as is done in the comparable earnings approach. The Dividend Valuation Model ("DCF" model) and the risk positioning model rely upon market information, and the cost of equity estimates derived from those estimation models reflect the business risk and financial risk of the sample companies at their *market value* capital structures. The returns on equity recommended by both the Hubert Direct and the Baudino Direct are derived from these models, but the Baudino Direct completely ignores any differences in financial risk. The Hubert Direct acknowledges financial risk resulting from off-balance sheet debt, but it also ignores differences in financial risk among the sample companies and the regulated companies. This omission is contrary to basic financial theory and real world economics. In addition, both testimonies demonstrate a misunderstanding of the ATWACC approach and its adjustment for financial risk.

Q7. Please review the ATWACC approach.

A7. The fundamental premise of the ATWACC approach is that the risk of the assets of a company is divided between the debt holders and equity holders, i.e., the company's investors.[3] The more debt that is used in the company's capital structure, the more risk the equity holders bear because debt holders are paid first, but the total risk of the assets is unchanged. The additional risk to equity holders from the use of debt is called financial risk. Both the Hubert Direct and the Baudino Direct acknowledge financial

[3] Preferred equity is ignored for simplicity, but the principles do not change with the addition of preferred stock to the capital structure.

risk,[4] but neither seems to acknowledge that the cost of equity estimated by both the DCF model and the risk positioning model reflects not only each sample company's level of business risk but also its level of financial risk. Two otherwise identical companies but with different market value capital structures would have different estimates of the cost of equity (estimation errors aside) because of differences in financial risk, but their overall cost of capital, i.e., their ATWACCs would be the same. This is why the ATWACC approach is the best way of approaching the cost of equity estimation problem – it is the only cost common to all companies of similar business risk and can therefore provide the only reliable anchor point. Moreover, a company's financial risk depends upon its market value capital structure not its book value capital structure.[5] The ATWACC approach estimates the overall cost of capital for the sample company's assets as the weighted-average of the market costs of debt and equity where the weights are the percentages of debt and equity in the market value capital structure.

Q8. The Hubert Direct claims that the purpose of the ATWACC is "to maintain current earnings/market-to-book ratios", and the Baudino Direct claims that it should not be used to "prop up high market-to-book ratios".[6] Are these statements an accurate assessment of the ATWACC approach?

A8. No. Both the Hubert Direct and the Baudino Direct focus on the claim that the ATWACC approach is an attempt to maintain a particular ratio of the market value of equity to the book value of equity (the "market-to-book value"), but this is incorrect.[7] The market-to-book value is irrelevant to the ATWACC approach. These statements represent a fundamental misunderstanding of the ATWACC concept.

Q9. Please explain why the market-to-book ratio is irrelevant to the ATWACC approach?

A9. Note that in the calculation of the ATWACC book values are not considered; therefore, there is no way that it can anchor the market-to-book ratio. What matters is the

[4] Hubert Direct pp. 31-32; Baudino Direct p. 9.

[5] This is all well accepted financial theory. See, for example, Richard A. Brealey, Stewart C. Myers, and Franklin Allen, *Principles of Corporate Finance*, New York: McGraw-Hill/Irwin 8th ed. (2006) pp. 503-06.

[6] Hubert Direct, p. 36, and Baudino Direct, p. 32.

[7] Hubert Direct pp. 32-33; Baudino Direct pp. 30-31.

percentage of the market value capital structure that is equity relative to the percentage that is debt. In particular, the market-to-book ratio can be anything.

Q10. Please explain the source of the misunderstanding of the ATWACC approach.

A10. The source of the misunderstanding is that the ATWACC is a *rate of return* not a dollar amount of return. The flaw in reasoning can be illustrated in the following simplified example. Suppose that the cost of equity estimated using the DCF or the risk positioning method is 10 percent for a regulated company with a market value capital structure with 66.6 percent equity and 33.3 percent debt. (See Step 1 in Figure 1 below.) Suppose that the book value capital structure is 50 percent equity and 50 percent debt and that the ATWACC adjusted return on equity is 12.1 percent. (See Step 2 in Figure 1 below.) Does this mean that if the Commission allows a 12.1 percent return on equity that the return on the market value of equity will be 12.1 percent? The answer, of course, is no. The reason is that the estimated return on equity is applied to the *book value* of equity in the rate base not the market value of equity. In this example, the market-to-book ratio is 2.0, the market return on equity would be about 6 percent, ½ of the allowed return on the equity financed portion of the rate base, which would likely be less than the company's current market cost of debt. (See Step 3 in Figure 1 below.)

Figure 1: Example of ATWACC approach, and the resulting return on the market value of equity.

Step 1: Compute ATWACC using market values

	Market Values		Return	Tax Rate	Wt. Average
Equity	1000	67%	10.0%		0.067
Debt	500	33%	6.0%	40%	0.012
	1500	100%		ATWACC	**0.079**

Step 2: Using book value capital structure, compute allowed return on equity that yields the ATWACC determined in Step 1

	Book Values		Return	Tax Rate	Wt. Average
Equity	500	50%	12.1%		0.061
Debt	500	50%	6.0%	40%	0.018
	1000	100%		ATWACC	**0.079**

Step 3: Implied allowed equity return on market value of equity

	Dollar amount	Rate of Return
Equity Return	60.7	**6.07%**

Q11. If the allowed return on equity is 12 percent instead of 10 percent are you saying that this will or will not maintain the current market-to-book ratio?

A11. The ATWACC approach does not say anything about this. Instead, the ATWACC approach simply says that the estimated return on investments of comparable business risk to the regulated company is equal to the ATWACC. Therefore the regulated assets should be allowed a *rate of return* equal to the ATWACC on the *book value* rate base. Moreover, the dollar amount of equity return is unlikely to justify the market-to-book ratio of 2.0 in the example.

Q12. But isn't a market-to-book ratio of 2.0 prima facie evidence that the allowed return on equity has been too high?

A12. No, but it does say that we don't have a complete theory of the determination of security prices, a point that Hubert Direct acknowledges in the quotation on p. 43 from Professor Andrei Shleifer:

> Despite considerable progress, our knowledge of determination of security prices remains limited. Although we may reject the null hypothesis of market efficiency with more confidence than before, we still know relatively little about such key determinants of prices as expectations about fundamentals, discount rates, and simple movements of demand. Behavioral finance, and the finance of the determination of valuations more generally, has many years to grow.

We simply don't have complete explanations of the level of stock prices in the market.

Q13. The Baudino Direct seems to imply that the ATWACC method is incompatible with the use of a book value rate base.[8] Is this true?

A13. No. The use of book value rate base is perfectly consistent with the use of a rate of return calculated from market data using the ATWACC method. The book value rate base is merely a historical record of the amount of assets purchased by investors to provide service to customers. All rate-of-return analysts estimate a market cost of capital to apply to that investment, and as noted above, all three testimonies use market data to estimate the cost of equity for the sample companies. The only difference is that the Vilbert

[8] Baudino Direct, p. 30-31.

Direct calculates the overall market rate of return on assets and applies that overall rate of return to the rate base. Because the regulated capital structure differs from the market value capital structures of the sample companies, the allowed return on equity must be adjusted so that the weighted-average cost of capital used to set rates is equal to the market-determined overall cost of capital from the sample of companies with comparable business risk.

B. Off-Balance Sheet Debt

Q14. The Hubert Direct notes that the Vilbert Direct did not attempt to capture the off balance sheet debt of the electric sample[9] used to estimate WEPCO's cost of capital. How do you respond?

A14. The Hubert Direct's point is well taken. It would be inconsistent to consider the imputed debt of WEPCO[10] without also having considered the imputed debt of the sample companies; however, three points are relevant here.

First, the Vilbert Direct's recommendation for the allowed return on equity for WEPCO is based upon the regulatory capital structure of the Wisconsin Electric, not the financial capital structure including imputed debt. If imputed debt had been considered in developing the return on equity recommendation, the return on equity would have been higher. Second, neglecting to consider the imputed debt of the sample companies would be of greatest concern if the relative amount of imputed debt of the sample companies was substantially greater than the amount of imputed debt of WEPCO. I have estimated the percentages of imputed debt of the companies in the electric sample, and on average it is not different than the amount of imputed debt estimated for WEPCO. Finally, if imputed debt had been considered in estimating the electric sample's ATWACC as well as for developing the return on equity recommendation for WEPCO, the net change would nearly be zero. The estimated ATWACCs for the sample would be lower, but the increased financial risk inherent in the financial capital structure, instead of the regulatory capital structure, would increase the return on equity for WEPCO. On balance, the return

[9] Hubert Direct, p. 32.

on equity recommended in the Vilbert Direct would not change if all of WEPCO's off-balance sheet debt were considered. This point is illustrated in the tables attached to this rebuttal (labeled Table No. MJV-R1 to Table No. MJV-R12) which are modifications of the original tables for the electric sample in the Vilbert Direct.

1. The Sample's Imputed Debt

Q15. What does this section of your rebuttal testimony address?

A15. This section discusses the calculation of the imputed debt of the companies in the Vilbert Direct's electric sample. The magnitude of the sample companies' off-balance sheet obligations stemming from operating leases, power purchase agreements, unfunded pension obligations, and possibly other off-balance sheet obligations is determined by reviewing the companies' annual 10-K filings.

Q16. Please summarize the issues involved with imputed debt.

A16. The financial community, rating agencies, as well as the Public Service Commission of Wisconsin recognize that there are risks involved in entering into Power Purchase Agreements ("PPA").[11] This means that signing a long-term PPA increases the financial risk of the purchasing utility commensurate with the size and length of the fixed-cost obligations in the contract. The financial risk inherent in signing a long-term PPA is measured by the credit rating agencies and is known as "imputed debt" or "debt equivalence".[12] For example, Standard & Poor's (S&P), has clearly stated its view for many years that long-term PPAs impose financial risk on the utility and has developed

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[10] WG has no off-balance sheet debt in its filed financial capital structure so this section focuses only on WEPCO.

[11] For example, S&P's, Fuel and Purchased Power Cost Recovery in the Wake of Volatile Gas and Power Markets – U.S. Utilities to Watch, Report, March 22, 2006 and S&P, "Request For Comments: Imputing Debt To Purchased Power Obligations," November 1, 2006.

[12] Credit rating agencies have generally treated long-term PPA contracts differently from short-term power contracts. In the past, credit rating agencies did not believe that short-term contracts (in particular those signed in retail access states for Provider of Last Resort ("POLR") service, which are generally three-month to three-year contracts and are rebid periodically to keep prices closer to the spot market), carried the same negative financial impact as a long-term PPAs. However, S&P recently announced that it is will impute debt from most such "evergreen" contracts going forward. See, *Imputed Debt Calculation for U.S. Utilities' Power Purchase Agreements*, S&P RatingsDirect, March 30, 2007. S&P excludes PPAs in which the utility merely acts as a conduit for delivery of power. See *Standard & Poor's Encyclopedia Of Analytical Adjustments for Corporate Entities*, July 9, 2007 p. 24.

and publicized a standard procedure for calculating imputed debt and its impact on the financial ratios used to measure a utility's creditworthiness.[13] In the electric industry, major commitments for which S&P imputes debt are purchased power contracts, operating leases, and the unfunded portion of post-retirement obligations. These are the focus of my approximation of the amount of imputed debt.

2. Standard and Poor's Imputed Debt Methodology

Q17. Please describe your estimation of imputed debt for the sample companies.

A17. For each sample company in the electric sample, I estimate the imputed debt associated with operating leases, PPAs, unfunded pension obligations and nuclear decommissioning trusts (if applicable). In doing so, I attempted to follow the procedures relied upon by S&P as precisely as possible given the data available. For operating leases, S&P calculates the present value of future minimum lease payments using the utility's average embedded interest rates. Using the disclosed information about the lease payments over the next five years, I estimated the present value of operating lease payments using a discount rate that corresponds to the bond yield on bonds of comparable rating to that of the utility.[14] For PPAs, S&P calculates the present value of the fixed (capacity) payments of the PPA using the utility's embedded cost of debt. If capacity payments are not specified, S&P usually assumes that 50% of the total payment is for capacity.[15] Lastly, S&P applies a so-called risk-factor to the present value which is a company specific measure that takes the company's specific recovery-risks into account. The benchmark is 25% for capacity payments that are recovered through fuel adjustment clauses.[16] I

[13] Fitch Ratings and Moody's have been less forthcoming with specifics regarding their treatment of imputed debt but both credit agencies acknowledge that it may impact creditworthiness. See, for example, FitchRatings, *Corporate Finance*, "Operating Leases: Updated Implications for Lessees," *Credit*, December 20, 2006.

[14] Note that capital leases are recognized on companies' balance sheet and included in the long-term debt amount reported in Table No. MJV-3. However, operating leases are not part of the balance sheet and not included in Table No. MJV-3. In calculating credit ratios, S&P includes the imputed debt as a liability and as an asset (S&P also makes adjustments to income).

[15] "Imputed Debt Calculations for U.S. Utilities' Power Purchase Agreements," *Standard & Poor's*, March 30, 2007.

[16] See "Imputed Debt Calculations for U.S. Utilities' Power Purchase Agreements," *Standard & Poor's*, March 30, 2007 and "Request for Comments: Imputing Debt to Purchased Power Obligations," *Standard & Poor's,* November 1, 2006.

followed this approach using the four year disclosure in the sample companies' 10-Ks to estimate the magnitude of their PPAs.[17] As for operating leases, the discount rate was set equal to the yield on a bond index of the same rating as that the target company. As a benchmark, the capacity payment was assumed to equal 50% of the total PPA payment and the risk-factor was set equal to 25%. S&P also includes pension obligations in its calculation. Specifically, S&P includes the postretirement benefit obligation as a long-term liability and the fair value of the plan assets as part of equity.[18] To implement this, I included the difference between the obligation and the funding as a long-term debt when the amount was negative (e.g., an unfunded plan) and as part of assets when the fair value was larger than the benefit obligation.[19] Finally, I included any nuclear decommissioning trust obligations as a long-term obligation in the determination of imputed debt. The result of these adjustments is that the electric sample's debt percentage increases from an average of 41% to about 44%.[20]

Q18. What is the amount of imputed debt for Wisconsin Electric?

A18. As of May 2007, Wisconsin Electric estimated imputed debt of $308 million.[21] This amount included the Point Beach PPA but not any unfunded pension obligations. The amount of imputed debt determined by the rating agencies could change if the "risk factor" used by S&P were changed from the 25 percent value used in the current estimate to a 40 percent value.[22] As of year-end, Wisconsin Electric reported approximately $294.6 million in unfunded pension obligations.[23]

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[17] NSTAR has significant "buy-out obligations" which are related to former power purchase agreements. Therefore, these obligations were treated as if they were power purchase obligations. According to NSTAR 2006 10-K p. 48, these "payment obligations do not affect NSTAR's overall cash flow."

[18] "Credit FAQ: S&P Introduces Reconciliation Tables to Show Analytical Adjustments to Global Utilities' Financial Statements," *Standard & Poor's*, October 11, 2006.

[19] The only company for which the benefit obligation is lower than the fair value of the plan's assets was Southern Company.

[20] See Table No. MJV-R4 compared to Table No. MJV-4 in the Vilbert Direct.

[21] See Workpaper #4 to Table No. MJV-4.

[22] The risk factor is a rating used by S&P to measure the likelihood of a company's full recovery of the PPA payments.

[23] Wisconsin Electric 2006 10-K p. 93.

Q19. How did you use this information?

A19. Having estimated the magnitude of the imputed debt among the sample companies, I adjusted the sample companies' market value capital structure. In doing so, I rely on four years of data rather than five years as was done in the Vilbert Direct. This choice is necessary to avoid potential inconsistencies with data reported before and after January 1, 2003 due to changes in reporting requirements. To approximate the impact of off-balance sheet debt and assets, I added the estimated imputed debt to the market value of debt **and** added operating leases as well as pension funding in excess of obligations to the company's assets. The market value of equity was not changed as the companies' stock price is already expected to reflect all publicly available information. Having determined the impact of the imputed debt on the companies' capital structures, I estimated the sample's ATWACC using the revised capital structures. I then determined the cost of equity that would result from relying on the sample's revised ATWACC including imputed debt and Wisconsin Electric's regulatory capital structure including imputed debt (as reported in Workpaper #4 to Table No. MJV-4).

Q20. What were the results of this analysis?

A20. Taking the imputed debt of the sample companies and Wisconsin Electric into account does not substantially change the cost of equity estimate. If Wisconsin Electric's unfunded pension liability is considered (as it is for the sample companies), the return on equity estimates from the sample would increase slightly (about 3 bps), but this is not enough to change my recommended return on equity for Wisconsin Electric. As shown in Table 1 below, the resulting cost of equity estimates from the sample are indistinguishable from those provided in the Vilbert Direct.[24]

[24] See Table 3, p. 30 of the Vilbert Direct.

Table 1: Electric Sample Estimates (including imputed debt)

Wisconsin Electric Co.'s Regulatory Capital Structure: 51.9% Equity 47.5% Debt 00.6% Pref. Debt 2008 Tax Rate: 39.8%

	METHODS								
	RISK POSITIONING (using Long-Term Risk-Free Rate)			RISK POSITIONING (using Short-Term Risk-Free Rate)				DCF	
	CAPM	α = 0.5%	α = 1.5%	CAPM	α = 1%	α = 2%	α = 3%	Simple	Multi
Electric Sample*									
Cost of Equity	11.0%	11.1%	11.2%	11.2%	11.4%	11.5%	11.7%	12.4%	10.5%
Average ATWACC	7.4%	7.5%	7.5%	7.5%	7.6%	7.7%	7.8%	8.1%	7.1%

Risk Positioning Security Market Line Parameters:

Short-Term		*Long-Term*	
Risk Free Rate Estimate:	3.8%	Risk Free Rate Estimate:	4.9%
Estimated Market Risk Premium:	8.0%	Estimated Market Risk Premium:	6.5%

Sources and Notes:

* For the US Electric Sample (Including Imputed Debt) , Risk Positioning data from Table No. MJV-R12 and DCF data from Table No. MJV-R8.

[1] Electric sample consists of Cleco Corp, Consolidated Edison, Empire District Electric, Entergy Corp, MGE Energy, NSTAR, Pinnacle West Capital Corp, PPL Corp, and Southern Co.

[2] See Appendix B to Vilbert Direct Testimony.

III. PROBLEMS WITH STAFF'S AND WIEG'S ESTIMATION METHODOLOGY

Q21. What does this section of your rebuttal address?

A21. This section addresses issues with the implementation of the DCF model and the risk positioning model by the Hubert Direct and the Baudino Direct.

A. ISSUES WITH IMPLEMENTING THE DCF MODEL

Q22. Please start with the DCF model. What are your criticisms of the approaches used by the Hubert Direct and the Baudino Direct?

A22. My criticisms center on the importance of the earnings growth rate forecasts and the estimate of the dividend yield in the model.

1. Problems with Estimating the Dividend Growth Rate

Q23. Please review the underlying theory of the DCF model.

A23. The DCF model assumes that that the price of a stock is equal to the present value of all future dividends discounted at a single cost of capital. The simple DCF model illustrated in equation (6) of the Vilbert Direct and reproduced as Equation (1) below assumes that dividends grow a constant rate literally forever. The same formula is on p. 11 of the

Baudino Direct and is discussed on p. 24 of the Hubert Direct.[25] As discussed in the Vilbert Direct[26], the simple DCF model relies on very strong assumptions to arrive at the very simple formula. In particular, not only must dividends grow as a constant rate forever, so must earnings, stock prices, and book values, because that is the basis of the development of the model. The DCF model is conceptually sound if its assumptions are met, but frequently the assumptions are not met and this presents a major problem for analysts who rely on the DCF model.

$$P = \frac{D_1}{(1+k)} + \frac{D_2}{(1+k)^2} + \frac{D_3}{(1+k)^3} + \cdots + \frac{D_T}{(1+k)^T} \quad (1)$$

Q24. The Baudino Direct criticizes the Vilbert Direct's implementation of the DCF model because it relied exclusively on earnings growth forecasts and not on dividend growth rate forecasts. How do you respond?

A24. Dividends are the quantity in the model, but dividends are paid from earnings. Therefore earnings are the more fundamental input. In addition, the Baudino Direct's criticism is misplaced, because a difference in growth rates between earnings and dividends is a violation of the assumptions underlying the model. The two growth rates may vary for short periods, but over the long term horizon of the model, they must grow at the same rate, as is acknowledged in the Hubert Direct.[27] If dividends and earnings are expected to grow at different rates for extended periods of time, it would be appropriate to question the applicability of the model to the industry in question.

Q25. Both the Vilbert Direct and the Hubert Direct utilize a two-stage DCF model. Doesn't such an approach solve the problem with the variation in short-term dividend growth rates?

A25. No. Both testimonies *assume* a pattern of growth rates in earnings (and dividends) for the period beyond year 6 because there is no other alternative. The longest forecast period

[25] There is an error is the presentation of the formula on p. 24 of the Hubert Direct. The model is developed on the assumption that the most recent dividend has just been paid. In other words, D_0 should be removed from the formula for the current price, P_0.

[26] Vilbert Direct, p. 22.

[27] Hubert Direct, p. 25.

for earnings growth rates is 5 years, so all growth rate estimates beyond year 5 are by necessity based upon assumptions; however, the cost-of-equity estimates depend critically upon the assumed growth in earnings (and dividends). In general, an increase (decrease) in the assumed growth rate results in a comparable increase (decrease) in the estimated cost of equity. In other words, if the growth rate is assumed to be five percent instead of four percent, the cost of equity will increase by slightly more than one percentage point because the assumed growth rate affects the dividend yield as well.

Q26. The Baudino Direct does not use a two-stage DCF model. How does the Baudino Direct deal with the issue of long-term growth rates?

A26. The Baudino Direct says that the DCF model "could easily handle varying growth rates **if we knew what they were** [emphasis added]."[28] Of course, the problem is that we don't know what the growth rates truly are. As a result, the Baudino Direct is forced to analyze the individual company earnings forecasts and make judgments as to which estimate seems to be too high or too low to be sustainable. Companies with growth rates "judged" by the witness to be inappropriate are eliminated from the Baudino Direct's sample.[29]

Q27. How does the lack of information on long-term growth rates affect the Hubert Direct DCF estimates?

A27. The Hubert Direct assumes that the growth in earnings and dividends is 2.5 percent, equal to a forecast of inflation, beginning either five or 10 years in the future. If that assumed growth rate were any other value, the estimated cost of equity would be higher or lower by approximately the change in the forecast growth rate. There is no information on the growth rate of earnings after year five so not only is this estimate arbitrary, but it is also critical to the outcome of the model. For example, changing the assumed long-term growth rate from 2.5 to 5.5 percent increases the DCF estimates from 7.12 to 7.71 percent to 9.66 to 9.74 percent for the Hubert Direct's energy utilities sample.[30]

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[28] Baudino Direct, p. 11.

[29] Baudino Direct, p. 13.

[30] Hubert Direct, p. 26.

Q28. Doesn't the Vilbert Direct use a terminal growth in earnings in the DCF model equal to the forecast growth rate of GDP?

A28. Yes, but this is also an assumption. Alternative assumptions could be justified precisely because there is no information on earnings and dividend growth rates beyond year 5. This lack of growth rate information is one of the biggest weaknesses of the DCF model. As noted in the Vilbert Direct, the DCF model is only reliable for an industry in stable conditions because only then are the five-year growth rates likely to be equal to the long-term growth rates.

In addition, the use of the forecast growth in GDP as a terminal growth rate in the DCF model is an attempt, in part, to address the concern raised by the Baudino Direct that earnings forecasts may be overstated.[31] The use of the GDP growth rate moderates the effect of either high or low short-term (5-year) analysts' earnings forecasts.

Q29. Please summarize your criticisms of estimating the growth rate for use in the DCF model.

A29. The results of the DCF model depend critically on the forecast of dividend growth rates, but analysts generally have no information on the forecast growth rates of earnings or dividends for periods longer than five years. All analysts are forced to assume a pattern of dividend growth for years 6 through infinity for the model, but those assumptions determine the results. As a consequence, the DCF model is unreliable unless it is being applied to an industry that is in a stable growth path for the foreseeable future. I do not believe that either the regulated electric utility industry or the gas LDC industry could currently be characterized as stable. As a result, the DCF estimates for these two industries are not reliable at this time.

Q30. Baudino Direct asserts that the regulated electric industry is "entering a more stable, less risky environment than it experienced during the last few years."[32] Do you agree that this is an accurate assessment of the state of the industry?

A30. No. The Baudino Direct quotes the August 31, 2007 *Value Line Investment Survey* which says that "electric utilities are traditionally safe-harbor investments".[33] Regulated

[31] Baudino Direct, p. 38.

[32] Baudino Direct, p. 6. The same idea is repeated on p. 26 and p. 34 of the Baudino Direct.

companies are of lower risk compared to the average company in the market, but that does not imply that the industry is entering a period of stability going forward. For example, the Baudino Direct acknowledges the recent fall in electric utility stock prices,[34] but does not seem to believe that this may be a potential sign of higher risks in the future.

There are several reasons why uncertainty about the industry's future is not likely to have decreased as the Baudino Direct assumes. First, the September 28, 2007 *Value Line* report cited by Baudino Direct points to the need for substantial investment in generation and transmission,[35] a point also mentioned in several reports commissioned by the *Edison Electric Institute.*[36,37] The prices of fossil fuels have increased dramatically over the last few years. Construction prices have also recently increased rapidly, and uncertainties exist about how the rise in prices will affect the infrastructure investment strategy:

> However, rising construction costs will put additional upward pressure on retail rates over time, and may alter the pace and composition of investments going forward. The overall impact on the industry and on customers, however, will be borne out in various ways, depending on how utilities, markets and regulators respond to these cost increases.[38]

According to the most recent *Value Line* report,[39] Wisconsin Energy itself has "[a] lot of generating projects under way," including generating plants, environmental upgrades, transmission spending, and a wind project. Full recovery of rapidly increasing costs is always uncertain for a regulated company.

Second, public concern with environmental sustainability and the need for renewable sources of energy has led to the adoption in many states, including Wisconsin, of

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[33] Baudino Direct, p. 5, line 20.

[34] Baudino Direct, pp. 5-6.

[35] Baudino Direct, p. 6, line 12.

[36] Basheda, Gregory et al., "*Why Are Electricity Prices Increasing: An Industry-Wide Perspective*", report prepared for *The Edison Foundation* (June 2006).

[37] Chupka, Mark and Gregory Basheda, *Rising Utility Construction Costs: Sources and Impacts*, report prepared for *The Edison Foundation* (September 2007).

[38] *Ibid.*, p. 31.

[39] Wisconsin Energy's *Value Line* sheet as of September 28, 2007.

renewable generation requirements.[40] It seems certain that environmental concerns will increase in the future, but the impact of these concerns on renewable energy requirements and restrictions on green house gases is uncertain, and this uncertainty is a clear source of risk for electric utility investors. For example, at the Federal level, the House passed a bill this summer proposing a 15 percent renewable energy requirement by 2020, while an earlier Senate bill on energy did not include a similar requirement.[41] For Wisconsin Energy the "construction of the coal plants has prompted environmental challenges that have increased the company's costs by $50 million - $55 million."[42] Clearly, environmental issues are an important source of uncertainty about future costs and regulation, and increase the risk of regulated electric utilities.

Q31. Please summarize your conclusions regarding the stability of the electric utility industry at this time.

A31. The future structure of the electric utility industry is far from certain. The industry faces the need for substantial capital investment going forward to meet the challenges of new environmental and safety standards as well as the need for conservation. Acquiring the capital necessary for the required investments will require a supportive regulatory environment including an adequate return on equity. These challenges and the resulting uncertainty mean that the industry is not in the stable, low risk environment envisioned in the Baudino Direct and which is required for the reliable estimation of cost of equity using the DCF model.

2. Inconsistency in Estimating the Dividend Yield

Q32. What are your comments on the estimation of the dividend yield?

A32. The calculation of the dividend yield in the Baudino Direct with reference to a 6-month average price destroys one of the primary advantages of the DCF model in that it is

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[40] Wisconsin Statutes, Chapter 196, Section 378, available at http://nxt.legis.state.wi.us/nxt/gateway.dll?f=templates&fn=default.htm&vid=WI:Default&d=stats&jd=top.

[41] These pieces of legislation have been widely reported in the national press. For a specific reference, see *Edison Electric Institute* press release of August 4, 2007, available at http://www.eei.org/newsroom/press_releases/070804.htm.

[42] Wisconsin Energy *Value Line* sheet as of September 28, 2007.

forward looking model.[43] The simple DCF model shown below says that the return is equal to the dividend yield plus expected growth in dividends (and earnings):[44]

$$\begin{aligned} k &= \frac{D_1}{P} + g \\ &= \frac{D_0 \times (1+g)}{P} + g \end{aligned} \qquad (2)$$

The current market price reflects investors' expectation regarding changes in interest rates, expected growth rates for the company and developments in the economy as a whole. Stock prices from over a period of 6 months include the payment of at least two quarterly dividends and reflect stale and out of date information. For example, the Baudino Direct recognizes that the Federal Reserve cut the Federal Funds rate by 50 basis points ("bps") on September 18, 2007.[45] Stock prices from April to August do not reflect this development or any other current development in the economy, but current forecast growth rates do consider this and other economic developments. Although it is important to guard against unusual fluctuations in stock prices, as the Vilbert Direct has done by averaging the price over the three week period prior to the release of the earnings growth forecasts, use of a 6-month average is unjustified and may bias the results.

Q33. What is the effect of relying on a 6-month average stock price for the Baudino Direct's DCF results?

A33. Exhibit 1, Schedule 3, page 2 of 3 displays the results of using a 6-month average dividend yield. Because dividend yields generally increased from April through about August 2007 before declining slightly in September, the 6-month average dividend yield underestimates the dividend yield for September. Note that whether the technique underestimates or overestimates the dividend yield in this particular instance is not the point. Rather the point is that the method seriously weakens one the primary advantages of the DCF model in that it is capable of rapidly reflecting changing market conditions.

[43] The Hubert Direct is not specific as to how the dividend yield for the sample companies was calculated.

[44] This is equation (6) from the Vilbert Direct.

[45] Baudino Direct, p. 4.

Q34. The Baudino Direct also criticizes the Vilbert Direct for use of quarterly compounding asserting that it is already captured in the market price?[46] What is your response?

A34. The Baudino Direct is simply incorrect on this point. The criticism assumes that the Vilbert Direct annualizes the quarterly dividend (multiplies by 4) before compounding, but this is incorrect. The Vilbert Direct uses the most recent quarterly dividend and the quarterly forecast growth rate in earnings to estimate the required quarterly return on equity. The quarterly return on equity is then annualized to produce the cost of equity estimate on an annual basis. This approach is precisely how the DCF model, upon which both testimonies rely, is developed as shown in Equation (1) above. It would be an underestimate of the cost of equity estimate not to acknowledge the quarterly payment of dividends.

Q35. Do you have any other comments on the Baudino Direct's implementation of the DCF model?

A35. Yes. The Baudino Direct provides an alternative estimate of the DCF growth rate called the sustainable growth rate, but the formula used ignores the growth in earnings that results from the issuance of additional stock at a price greater than its book value. Ignoring this source of growth biases the growth estimates downward. The alternative to the equation on p. 16 of the Baudino Direct is shown below in Equation 3, where growth from new share issues depends on the percentage of new shares being issued, *s*, and the equity accretion ratio $v = \left[1 - \frac{1}{Market\text{-}to\text{-}Book\ Ratio}\right]$. Together, the implied sustainable growth rate is given as shown in Equation **(3)**:

$$g = br + sv \qquad \textbf{(3)}$$

Q36. Please summarize your comments on the DCF model

A36. Both the Hubert Direct and the Baudino Direct seem to believe that the DCF model provides more reliable estimates of the cost of capital for the sample companies than the risk positioning model does at this time, but that belief is highly debatable at best. The

[46] Baudino Direct, p. 40.

future development of the electric industry is uncertain at this time, and the natural gas industry must deal with rapidly increasing commodity prices and decreasing average consumption so the stable conditions necessary for the reliable implementation of the DCF model are not present at this time for either industry. Consider the following examples from both testimonies. Each is concerned with forecast growth rates that are either too high or too low to be sustainable and eliminate companies from the sample for that reason alone. As noted above, all DCF models require a rate of dividend growth for the years after year five, but there is no generally available information on these growth rates so all analysts must assume a rate. Unfortunately, that rate is critical to the DCF estimate of the cost of equity. Finally, it is not unusual for a company to have a DCF cost of equity estimate less than its own cost of debt, an outcome contrary to any reasonable risk-return tradeoff. As noted in the Vilbert Direct,[47] the DCF model can be a useful model if its assumptions are fully met, but those assumptions are so strong (and have such a large effect on the estimated cost of equity) that it is unusual for the conditions necessary for the completely reliable implementation of the model to be present.

B. Issues with the Implementation of the Risk Positioning Model

Q37. How does the Hubert Direct use the risk positioning model?

A37. The Hubert Direct acknowledges that it does not use the risk positioning model to forecast the required cost of capital, but instead uses historical averages of the spread between past interest rates and past allowed rates of return on equity for the Companies as a measure of the reasonableness of the recommended rates of return in this proceeding.[48]

Q38. Is the reliance on the historical spread between past allowed rates of return and past interest rates reasonable?

A38. No. First, reliance on the allowed rate of return for the rate regulated companies leads to circularity in the rate making process. This is especially true when the allowed rates of

[47] Vilbert Direct, p. 23.

[48] Hubert Direct, pp. 27-29.

return pertain to the companies for which rates are being set.[49] Second, the Hubert Direct includes data from five years: 1989, 1991, 1992, 1993, and 2006. This is too few observations to conclude what the interest rate premium should be and especially so because the interest rates relied upon (30-year T-Bond, 10-year T-bond, and AA utility bond yields) have dropped significantly during the period. The 10-year T-bond yield dropped 467 basis points during the period while the corresponding interest rate premium increased 197 basis points.[50] For each interest rate measure, the lowest interest premium measured occurs in 1989 while the highest premium measured occurs in 2006. Third, to the extent that the increase in the allowed interest rate spread for the more recent period represents a recognition of changed circumstances for the Companies, the 1989 interest rate spread would not be representative of those changed circumstances.

Q39. What are the implications of these observations?

A39. There is a danger of circularity in relying on allowed rates of return for utilities for which the Commission is currently setting rates. Moreover, because interest rates as well as other features of the regulatory and economic environment have changed dramatically the more recent 2006 observation is more likely to be in line with today's changed economic and regulatory environment. Relying on the 2006 interest rate spread results in a return on equity estimate of 11.19 to 12.24 percent[51] which is consistent with the estimate in the Vilbert Direct of 10½ to 11½ percent for Wisconsin Electric and 11 to 12 percent for Wisconsin Gas.[52]

Q40. Please turn to the Baudino Direct's implementation of the CAPM. In your judgment, does the Baudino Direct contain a number of incorrect or misleading statements regarding the risk positioning model?

A40. Yes. The Baudino Direct begins by describing the CAPM in a standard and generally correct way, but then makes a series of statements contrary to the Baudino Direct's own

[49] See Roger A. Morin (2006), *New Regulatory Finance*, Public Utilities Reports, Inc., pp. 306-307 for a discussion of circularity.

[50] Hubert Direct, Schedule 8, p. 2.

[51] Hubert Direct, Schedule 8, p. 2.

[52] Vilbert Direct p. 5.

description of the model. I will first list the statements and then describe why the statement is misleading or incorrect. [53]

1. "There is evidence that beta is not the primary factor in determining the risk of a security."
2. "Beta coefficients usually describe only a small amount of total investment risk."
3. "Finally, a considerable amount of judgment must be employed to in determining the risk-free rate and the market return portions of the CAPM equation."

Q41. Please discuss the first statement that there is evidence that beta is not the primary factor in determining the risk of a security.

A41. The statement is true but materially misleading. The Baudino Direct is correct that the CAPM has been challenged with regard to whether beta is the *sole* measure of investment risk for a security. In the alternative models, such as the Fama-French model, beta has been supplemented by other risk factors, but beta retains a central role in explaining expected stock returns.

Q42. What about the second statement?

A42. With regard to the second statement that beta coefficients measure only a small amount of total risk, the statement is also technically correct but also materially misleading. By theory beta only measures the portion of risk that affects a company's expected return. This portion of risk is generally labeled market risk or systematic risk. This is in contrast to the risk that does not affect the cost of capital which is labeled diversifiable risk. Because investors can avoid diversifiable risk, they do not expect to earn a rate of return on such risk. This is the result of standard portfolio theory. Beta does measure only a part of a company's total risk, but importantly it measures only the part that determines the company's cost of capital which is what is required for the model.

Q43. What about the last statement?

A43. Finally, it is a matter of judgment as to how difficult it is to estimate the risk-free interest rate and the market risk premium ("MRP"), but there is a great deal of data to use to estimate both parameters compared to little to no data upon which to forecast the growth rate in the DCF model for the period after year five. Daily data on the current yields of

[53] Each of these statements is from the Baudino Direct, p. 21.

Treasury bills and Treasury notes is widely available so estimating the risk-free interest rate requires only deciding which series to use.

On the other hand, estimating the MRP does indeed require judgment. As noted in the Vilbert Direct, its current value is controversial but reliable data on the realized market premium is also widely available since 1926 through publications such as Ibbotson Associates, *Stock, Bonds, Bills and Inflation, Valuation Edition*, 2007 Yearbook**.** In addition, the academic literature on the magnitude of the MRP is voluminous. These articles and the available data provide the basis upon which to make an informed judgment on the MRP once again in contrast to the lack of information on the long-term growth rate in the DCF model.

1. The Risk-Free Interest Rate

Q44. Please discuss the details of the Baudino Direct's implementation of the CAPM.

A44. I will first discuss the Baudino Direct's estimate of the risk-free interest rate and then the estimate of the MRP.

Q45. How did the Baudino Direct estimate the risk-free interest rate?

A45. The Baudino Direct uses two measures of the risk-free interest rate, the yields on 20-year Treasury bonds and on five-year Treasury notes, but as the Baudino Direct did in the implementation of the DCF model, the Baudino Direct seriously weakens one of the strengths of the model by averaging the yields over a six-month period, April through September 2007. Beta estimates change slowly as would be expected of a measure of a company's systematic risk, but interest rates change much more rapidly. Use of current interest rates results in expected returns from the model that incorporate the most recent developments in the market, but that advantage is damaged by use of interest rates from as long as six months ago.

2. The Market Risk Premium

Q46. What does this section of your rebuttal address?

A46. This section addresses the estimation of the MRP for use in the risk positioning model. The estimate of the MRP is frequently controversial, but some of the controversy stems

from not maintaining consistency of terminology with regard to the findings of the literature. It is important to note whether the MRP is being measured relative to the short-term risk-free interest rate or a long-term risk-free interest rate. It is also important to distinguish between estimates that are based upon the arithmetic mean versus the geometric mean of the data series.

Q47. Is it appropriate to use the geometric mean to estimate the expected return from the risk positioning model?

A47. No. While the geometric mean return is appropriate for consideration of achieved returns over a period of time, it is well established that the geometric mean is not correct for estimating the expected return, especially in a regulatory setting. This is well understood in the broader finance community, and the Baudino Direct is simply in error to raise it here.[54] For example, Ibbotson Associates state

> The equity risk premium data presented in this book are arithmetic average risk premia as opposed to geometric average risk premia. The arithmetic average equity risk premium can be demonstrated to be most appropriate when discounting future cash flows. For use as the expected equity risk premium in either the CAPM or the building block approach, the arithmetic mean or the simple difference of the arithmetic means of stock market returns and riskless rates is the relevant number. This is because both the CAPM and the building block approach are additive models, in which the cost of capital is the sum of its parts. The geometric average is more appropriate for the reporting past performance, since it represents the compound average return.[55]

Similarly, the *New Regulatory Finance* text by Roger A. Morin (2006) argues that

> Only arithmetic means are correct for forecasting purposes and for estimating the cost of capital. There is no theoretical or empirical justification for the use of geometric mean rates of returns as a measure of the appropriate discount rate in computing the cost of capital or in computing present values. There is no dispute in academic circles as to whether the arithmetic or geometric average should be used for purposes of computing the cost of capital.[56]

Finally, the text by Bodie, Kane, and Marcus (2005) states,

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[54] Baudino Direct, p. 36.

[55] Ibbotson Associates, *Stock, Bonds, Bills and Inflation, Valuation Edition*, 2007 Yearbook, p. 77.

[56] Roger A. Morin (2006), *New Regulatory Finance*, Public Utilities Reports, Inc., pp. 116-117.

> [I]f our focus is on future performance, then the arithmetic average is the statistic of interest because it is an unbiased estimate of the portfolio's expected return (assuming, of course, that the expected return does not change over time). In contrast, because the geometric return over a sample period is always less than the arithmetic mean, it constitutes a downward-biased estimator of the stock's expected return in any future year.[57,58]

Based on the academic and other literature, the geometric average based MRP is not appropriate for estimating cost of capital in a regulatory setting.

Q48. Did the Baudino Direct rely upon the geometric mean in evaluating the results estimating the risk positioning model?

A48. Yes. Consider Exhibit (RAB-1), Schedule 6 in which the Ibbotson historical geometric mean of 5.20 percent and the Ibbotson and Chen geometric mean estimate of 3.55 percent is used in the first column to estimate the cost of equity for WEPCO. As an estimate of the expected return for WEPCO, these estimates are in error and should be disregarded completely.

Q49. How did the Baudino Direct estimate the arithmetic MRP?

A49. The Baudino Direct estimates the market risk premium by applying the DCF model to stocks followed by *Value Line* that pay dividends and then subtracting either the average yield on 20-year Treasury bonds or five-year Treasury notes. The MRP estimates are 7.81 percent and 8.22 percent.[59] This is in contrast the Vilbert Direct's estimate of 6.5 percent for the long-term MRP which illogically the Baudino Direct characterizes as "overstated"[60] even though less than the estimates used in the Baudino Direct.

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[57] Zvi Bodie, Alex Kane, and Alan J. Marcus (2005), *Investments*, 6th Edition, McGraw-Hill, p. 865.

[58] See also Richard A. Brealey, Stewart C. Myers, and Franklin Allen (2006), *Principles of Corporate Finance*, 8th Edition, McGraw-Hill, p. 150-151.

[59] Baudino Direct, p. 23.

[60] Baudino Direct, p. 35.

Q50. The Baudino Direct uses two sets of beta estimates, one from *Value Line* and one from First Call/Thompson financial. Were you able to replicate the beta estimates from First Call?

A50. No. Some of the First Call beta estimates are quite low. For example Public Service Enterprise Group has an estimated *Value Line* beta of 0.95 but has a First Call estimated beta of 0.13.[61] I do not have access to First Call, but I was able to use comparable data from Bloomberg to estimate the betas. Bloomberg's 152-week beta estimate for Public Service Enterprise Group is 1.009 very similar to that of *Value Line* over the same 152-week period used in the Baudino Direct. This result leads me to believe that the First Call estimate for Public Service Enterprise Group is an error, so I also estimated the betas for the rest of the sample. Over the 152-week period ending September 28, 2007, the Bloomberg sample average beta estimate is 0.77 unadjusted and 0.84 adjusted compared to 0.49 unadjusted average sample estimate from First Call. Note that the Bloomberg sample average estimate is very similar to the *Value Line* sample average estimate reported in Schedule 5 of the Baudino Direct.

Q51. What is your conclusion from the results of the risk positioning models?

A51. A simple average of the estimates relying on the arithmetic mean MRP is greater than 10 percent even if the First Call betas are assumed to be correct. If the Bloomberg estimates betas are substituted for the First Call betas, the results would be similar to those from *Value Line*, with a resulting range of values in Schedule 5 of 11.49 percent to 10.28 percent. These estimates are substantially higher than the 9.70 percent recommended by the Baudino Direct.

C. Misuse of S&P Rating Information

Q52. What does this section of your rebuttal testimony address?

A52. This section addresses the misuse of the S&P business risk profile rankings and the misuse of a subset of the metrics used by the rating agencies to determine a company's credit rating as justification for reducing the regulatory equity thickness of WG.

[61] Baudino Direct, Schedule 5.

1. S&P Business Risk

Q53. The Hubert Direct asserts that differences in the S&P business risk profile of the companies included in the Vilbert Direct's samples demonstrated that the sample companies are not of comparable business risk to WEPCO and WG.[62] Is this correct?

A53. No. The S&P business risk profile is a *qualitative* index of business characteristics, as described, for example, in a June 2007 S&P Commentary Report:

> To determine a utility's business profile, Standard & Poor's analyzes the following **qualitative** business or operating characteristics typical of a utility: markets and service area economy; competitive position; fuel and power supply; operations; asset concentration; regulation; and management (emphasis added).[63]

In its 2006 Corporate Ratings Criteria, the rating agency lists the following factors as underlying the business risk rating: "country risk, industry characteristics, company position, product portfolio/marketing, technology, cost efficiency, strategic and operational management competence, [and] profitability/peer group comparison."[64]

Nowhere in the documentation does S&P state or imply that the business risk profile is meant to measure, or can be interpreted as measuring, the systematic risk of a company's equity. S&P business risk profile ratings are developed for the purpose of evaluating a company's credit risk, i.e. the likelihood that it will repay its debt, and as such incorporate factors that do not have an impact on the expected return on equity. The proof of this is that the business risk profile is used to help characterize the company's financial ratios as being consistent with a particular bond rating.

In particular, the business risk rating considers some characteristics of the company that, while a source of total risk, are diversifiable and therefore do not affect the expected return on equity (e.g. management strategy, competitive position etc.). As is well

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[62] Hubert Direct, pp. 37-38.

[63] "U.S. Utility and Power Companies, Strongest to Weakest," Standard & Poor's Commentary Report, June 22, 2007, p. 1.

[64] Standard & Poor's Corporate Ratings Criteria 2006, p. 20 (available at http://www.corporatecriteria.standardandpoors.com)

understood in financial theory, and explained in Vilbert Direct,[65] it is only the risks that investors cannot eliminate by diversification that affect a company's expected return on equity. In the context of selecting a sample of companies of similar business risk, it is the similarity of *non-diversifiable* business risk that should be considered, and not the similarity of total risk.

Q54. Have you tested whether a company's systematic risk is related to its S&P business risk profile?

A54. Yes. Consider the results of the following table, which shows the average beta of utilities within each S&P business risk profile, for the sample of utilities listed on Schedule 7 of Exhibit ____(LJH – 1) in Hubert Direct:[66]

S&P business risk profile	1	2	3	4	5	6	7	8
Bloomberg adjusted beta	0.73	0.71	0.84	0.75	0.87	0.88	0.77	0.82

The beta estimates do not increase consistently with an increase in the S&P business risk profile as it should if the business profile rating were a measure of equity risk. Indeed, a formal test of the relationship between the two measures, performed by means of a linear regression of beta on the S&P risk rating, does not yield a statistically significant relationship for the sample of utilities listed by Hubert Direct in Schedule 7.[67]

Q55. What do you conclude from these results?

A55. These results show that the Hubert Direct's conclusion that the Vilbert Direct's samples are not of similar business risk to WEPCO and WG for the purpose of estimating the return on equity is without foundation.[68] The Hubert Direct misinterprets the S&P business risk profile ratings as a measure of a company's systematic or business risk, which is not consistent with the rating agency's description of how the business risk ratings are calculated and has no empirical support in the sample of utilities used by Hubert Direct.

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[65] Vilbert Direct, Appendix C, pp. C-9 – C-10.

[66] This analysis is based upon 60 of the 70 companies in Schedule 7. I found no S&P business risk profile for eight companies and no Bloomberg beta estimate for 2 companies.

[67] A similar test of unlevered betas also did not show a relationship between the S&P business risk profile and beta.

2. Financial Ratios and Capital Structure

Q56. The Hubert Direct calculates the financial ratios used as one input to a company's credit rating and concludes that the percentage of equity in the regulatory capital structure is higher than necessary to qualify for an A-rating.[69] Do you agree that this is evidence that the equity percentage is too high?

A56. No. The conclusion that the equity ratio in WG's regulatory capital structure is higher than required to maintain an A credit rating does not follow from the Hubert Direct's analysis. Financial ratios are important, but they are only one of many inputs considered by the rating agencies in the determination of the credit rating to award. Focusing strictly on the financial ratios without consideration of the other factors leading to the rating achieved is unwarranted, as is documented by reference to statements by the rating agencies themselves.[70] Moreover, before considering any reduction in the regulatory equity ratio based upon the prospective financial ratios, it would be important to understand why WG does not have a higher credit rating today given that the same financial ratio analysis could have been done in the years past.

Q57. Do you have any evidence on the factors that may have prevented a higher credit rating for WG?

A57. It is always wise to be cautious when specifying how the rating agencies arrive at a particular rating, but in October 2006, Moody's published a report on the ratings factors of the companies in the gas LDC industry.[71] WG is covered in the report which is included as Exhibit No. MJV-R1 to this rebuttal. As shown in the report, historical financial ratios would indicate a higher rating than has been awarded to WG, but a number of other factors indicate a lower rating than has been awarded. Presumably, it is these other factors that prevented a higher credit rating.

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[68] Hubert Direct, p. 38.

[69] Hubert Direct pp. 15-17, 31.

[70] S&P's Ratings Direct, June 02, 2004, Research: New Business Profile Scores Assigned for U.S. Utility and Power Companies; Financial Guidelines Revised, page 3: "…ratings analysis is not driven solely by these financial ratios, nor has it ever been. In fact, the new financial guidelines that Standard & Poor's is incorporating for the specified rating categories reinforce the analytical framework whereby other factors can outweigh the achievement of otherwise acceptable financial ratios."

[71] Ratings Methodology, "North American Regulated Gas Distribution Industry (Local Distribution Companies)", October 2006.

Q58. What is the danger of reducing WG's regulatory equity ratio from the filed 52.2 percent to the Hubert Direct's recommended 44.1 percent?

A58. The Hubert Direct suggests that reducing the equity thickness would "allow WG to remain within S&P's guidelines based on an A-rating"[72], but decreasing the regulatory equity ratio risks a larger credit downgrade for WG than anticipated because of the difficulty of knowing precisely how the current rating has been determined. A lower credit rating translates into higher costs for debt and reduces the WG's financial flexibility. Reduced financial flexibility translates into less ability to issue low cost debt during all portions of the business cycle. Finally, decreasing the equity ratio, increases financial risk for WG and would require an increase in the allowed return on equity to compensate.

IV. CONCLUSIONS

Q59. Please summarize your conclusions.

A59. This rebuttal makes three main points.

1. Although the implementation of the standard models differs, the failure to consider financial risk is the primary source of the differences in the recommended costs of equity between the Vilbert Direct and the Hubert Direct and the Baudino Direct. The ATWACC approach used in the Vilbert Direct is not an attempt to target or maintain any market-to-book ratio. Instead it simply adjusts the return on equity so that the market determined overall cost of capital rate of return on companies of similar business risk is applied to the book value rate base. Moreover, it is difficult for anyone to argue that the actual dollars of equity return would be sufficient to maintain the market-to-book ratio. Putting aside the larger problem of ignoring financial risk, there are material problems with their different implementations as well. The Hubert Direct and Baudino Direct make several assumptions in their implementation of the cost of capital implementation methods that lead to an underestimation of the cost of equity for the Applicants.

[72] Hubert Direct, p. 15.

2. Consideration of the off-balance sheet debt of the companies in the electric sample relative to WEPCO does not change the recommended cost of equity for the Company. The sample companies have about the same percentage of imputed debt as does WEPCO.

3. The S&P Business Risk Profile is a measure of the total risk of a company, not its systematic or market risk that would measure its cost of capital. Therefore, screening companies in the same industry out of a sample because of different S&P Business Risk Profiles would be an inappropriate use of the Business Risk Profile. Similarly, relying solely on estimated financial ratios to determine the regulatory capital structure gives more weight to the ratios than the ratings agencies would do.

Q60. Does this complete your rebuttal testimony?

A60. Yes.

Table No. MJV-R1

Index to Tables for the Written Evidence of Michael J. Vilbert

Table No. MJV-R1	Table of Contents
Table No. MJV-R2	Percentage of Regulated Assets for US Electric Sample (Including Imputed Debt)
Table No. MJV-R3	Market Value of the US Electric Sample (Including Imputed Debt)
Table No. MJV-R4	Capital Structure Summary of the US Electric Sample (Including Imputed Debt)
Table No. MJV-R5	Estimated Growth Rates of the US Electric Sample (Including Imputed Debt)
Table No. MJV-R6	DCF Cost of Equity of the US Electric Sample (Including Imputed Debt)
Table No. MJV-R7	Overall After Tax DCF Cost of Equity of the US Electric Sample (Including Imputed Debt)
Table No. MJV-R8	DCF Cost of Equity at Wisconsin Electric Co.'s Capital Structure
Table No. MJV-R9	Normalized Risk-Free Rates
Table No. MJV-R10	Risk Positioning Cost of Equity of theUS Electric Sample (Including Imputed Debt)
Table No. MJV-R11	Overall Risk Positioning Cost of Equity of the US Electric Sample (Including Imputed Debt)
Table No. MJV-R12	Risk Positioning Cost of Equity at Wisconsin Electric Co.'s Capital Structure

Table No. MJV-R2

US Electric Sample (Including Imputed Debt)

Percentage of Regulated Assets

Company	Company Category
Cleco Corp	R
Consolidated Edison Inc	R
Empire District Electric Co/The	R
Entergy Corp	R
MGE Energy Inc	MR
NSTAR	R
Pinnacle West Capital Corp	R
PPL Corp	MR
Southern Co	R

Sources and Notes:
R = Regulated (greater than 80 percent of total assets are regulated).
MR-- Mostly Regulated (50 to 80 percent of total assets are regulated).
EEI 2006 Financial Review.

Table No. MJV-R3

Market Value of the US Electric Sample (Including Imputed Debt)

Panel A: Cleco Corp

($MM)

	DCF Capital Structure	Year End, 2006	Year End, 2005	Year End, 2004	Year End, 2003	Notes
MARKET VALUE OF COMMON EQUITY						
Book Value, Common Shareholder's Equity	$876	$876	$684	$538	$483	[a]
Shares Outstanding (in millions) - Common	58	58	50	50	47	[b]
Price per Share - Common	$26	$25	$21	$20	$18	[c]
Market Value of Common Equity	$1,507	$1,463	$1,037	$1,007	$853	[d] = [b] x [c].
Market to Book Value of Common Equity	1.72	1.67	1.52	1.87	1.77	[e] = [d] / [a].
MARKET VALUE OF PREFERRED EQUITY						
Book Value of Preferred Equity	$20	$20	$22	$23	$19	[f]
Market Value of Preferred Equity	$20	$20	$22	$23	$19	[g] = [f].
MARKET VALUE OF DEBT						
Current Assets	$537	$537	$434	$288	$253	[h]
Operating Lease Assets	$26	$26	$29	$22	$21	[i]: See Sources and Notes.
Current Liabilities	$389	$389	$294	$338	$346	[j]
Current Portion of Long-Term Debt	$50	$50	$40	$160	$5	[k]
Net Working Capital	$224	$224	$209	$132	($66)	[l] = [h] + [i] - ([j] - [k]).
Notes Payable (Short-Term Debt)	$0	$0	$0	$9	$201	[m]
Adjusted Short-Term Debt	$0	$0	$0	$0	$66	[n] = See Sources and Notes.
Long-Term Debt	$619	$619	$610	$451	$907	[o]
Imputed Debt	275	$275	$317	$105	$177	[p]: See Sources and Notes.
Book Value of Long-Term Debt	$945	$945	$966	$716	$1,155	[q] = [k] + [n] + [o] + [p].
Adjustment to Book Value of Long-Term Debt	$11	$11	$14	$34	$35	[r] = See Sources and Notes.
Market Value of Long-Term Debt	$955	$955	$980	$749	$1,190	[s] = [q] + [r].
Market Value of Debt	$955	$955	$980	$749	$1,190	[t] = [s].
MARKET VALUE OF FIRM	$2,483	$2,439	$2,039	$1,779	$2,062	[u] = [d] + [g] + [t].
DEBT AND EQUITY TO MARKET VALUE RATIOS						
Common Equity - Market Value Ratio	60.71%	60.01%	50.86%	56.58%	41.36%	[v] = [d] / [t].
Preferred Equity - Market Value Ratio	0.81%	0.82%	1.07%	1.32%	0.91%	[w] = [g] / [t].
Debt - Market Value Ratio	38.48%	39.17%	48.07%	42.11%	57.73%	[x] = [r] / [t].

Sources and Notes:
Bloomberg as of April 09, 2007
Capital structure from Year End, 2006 calculated using respective balance sheet information and 5-day average prices ending at period end.
The DCF Capital structure is calculated using 4th Quarter, 2006 balance sheet information and a 15-trading day average closing price ending on April 09, 2007.
Prices are reported in Workpaper #1 to Table No. MJV-R6.
[i] and [p]: See Workpaper #5 to Table No. MJV-R4.
[n] =
(1): 0 if [k] > 0.
(2): The absolute value of [k] if [k] < 0 and |[k]| < [l].
(3): [l] if [k] < 0 and |[k]| > [l].
[r]: Difference between fair value of Long-Term debt and carrying amount of Long-Term debt per company 10-K. Data for adjustment is from the 2002-2006 10-K's.

Table No. MJV-R3

Market Value of the US Electric Sample (Including Imputed Debt)

Panel B: Consolidated Edison Inc

($MM)

	DCF Capital Structure	Year End, 2006	Year End, 2005	Year End, 2004	Year End, 2003	Notes
MARKET VALUE OF COMMON EQUITY						
Book Value, Common Shareholder's Equity	$8,004	$8,004	$7,310	$7,054	$6,423	[a]
Shares Outstanding (in millions) - Common	257	257	245	243	226	[b]
Price per Share - Common	$51	$48	$47	$44	$43	[c]
Market Value of Common Equity	$13,122	$12,362	$11,462	$10,662	$9,729	[d] = [b] x [c].
Market to Book Value of Common Equity	1.64	1.54	1.57	1.51	1.51	[e] = [d] / [a].
MARKET VALUE OF PREFERRED EQUITY						
Book Value of Preferred Equity	$213	$213	$213	$213	$213	[f]
Market Value of Preferred Equity	$213	$213	$213	$213	$213	[g] = [f].
MARKET VALUE OF DEBT						
Current Assets	$2,937	$2,937	$3,072	$1,715	$1,592	[h]
Operating Lease Assets	$285	$285	$316	$97	$134	[i]: See Sources and Notes.
Current Liabilities	$2,917	$2,917	$3,321	$2,224	$1,911	[j]
Current Portion of Long-Term Debt	$374	$374	$22	$469	$166	[k]
Net Working Capital	$679	$679	$89	$57	($19)	[l] = [h] + [i] - ([j] - [k]).
Notes Payable (Short-Term Debt)	$117	$117	$755	$156	$159	[m]
Adjusted Short-Term Debt	$0	$0	$0	$0	$19	[n] = See Sources and Notes.
Long-Term Debt	$8,324	$8,324	$7,428	$6,594	$6,769	[o]
Imputed Debt	$2,826	$2,826	$3,073	$2,489	$1,320	[p]: See Sources and Notes.
Book Value of Long-Term Debt	$11,524	$11,524	$10,523	$9,552	$8,275	[q] = [k] + [n] + [o] + [p].
Adjustment to Book Value of Long-Term Debt	$0	$0	$0	$0	$0	[r] = See Sources and Notes.
Market Value of Long-Term Debt	$11,524	$11,524	$10,523	$9,552	$8,275	[s] = [q] + [r].
Market Value of Debt	$11,524	$11,524	$10,523	$9,552	$8,275	[t] = [s].
MARKET VALUE OF FIRM	$24,859	$24,099	$22,198	$20,427	$18,216	[u] = [d] + [g] + [t].
DEBT AND EQUITY TO MARKET VALUE RATIOS						
Common Equity - Market Value Ratio	52.79%	51.30%	51.64%	52.20%	53.41%	[v] = [d] / [t].
Preferred Equity - Market Value Ratio	0.86%	0.88%	0.96%	1.04%	1.17%	[w] = [g] / [t].
Debt - Market Value Ratio	46.36%	47.82%	47.40%	46.76%	45.42%	[x] = [r] / [t].

Sources and Notes:
Bloomberg as of April 09, 2007
Capital structure from Year End, 2006 calculated using respective balance sheet information and 5-day average prices ending at period end.
The DCF Capital structure is calculated using 4th Quarter, 2006 balance sheet information and a 15-trading day average closing price ending on April 09, 2007.
Prices are reported in Workpaper #1 to Table No. MJV-R6.
[i] and [p]: See Workpaper #5 to Table No. MJV-R4.
[n] =
(1): 0 if [k] > 0.
(2): The absolute value of [k] if [k] < 0 and |[k]| < [l].
(3): [l] if [k] < 0 and |[k]| > [l].
[r]: Difference between fair value of Long-Term debt and carrying amount of Long-Term debt per company 10-K. Data for adjustment is from the 2002-2006 10-K's.

Table No. MJV-R3

Market Value of the US Electric Sample (Including Imputed Debt)

Panel C: Empire District Electric Co/The

($MM)

	DCF Capital Structure	Year End, 2006	Year End, 2005	Year End, 2004	Year End, 2003	Notes
MARKET VALUE OF COMMON EQUITY						
Book Value, Common Shareholder's Equity	$469	$469	$393	$379	$379	[a]
Shares Outstanding (in millions) - Common	30	30	26	26	25	[b]
Price per Share - Common	$25	$25	$20	$23	$22	[c]
Market Value of Common Equity	$749	$750	$534	$585	$543	[d] = [b] x [c].
Market to Book Value of Common Equity	1.60	1.60	1.36	1.54	1.43	[e] = [d] / [a].
MARKET VALUE OF PREFERRED EQUITY						
Book Value of Preferred Equity	$0	$0	$0	$0	$0	[f]
Market Value of Preferred Equity	$0	$0	$0	$0	$0	[g] = [f].
MARKET VALUE OF DEBT						
Current Assets	$128	$128	$116	$90	$94	[h]
Operating Lease Assets	$4	$4	$235	$2	$1	[i]: See Sources and Notes.
Current Liabilities	$146	$146	$108	$58	$56	[j]
Current Portion of Long-Term Debt	$0	$0	$0	$11	$0	[k]
Net Working Capital	($13)	($13)	$244	$45	$39	[l] = [h] + [i] - ([j] - [k]).
Notes Payable (Short-Term Debt)	$77	$77	$31	$0	$13	[m]
Adjusted Short-Term Debt	$13	$13	$0	$0	$0	[n] = See Sources and Notes.
Long-Term Debt	$462	$462	$408	$400	$410	[o]
Imputed Debt	$55	$55	$281	$45	$33	[p]: See Sources and Notes.
Book Value of Long-Term Debt	$531	$531	$689	$456	$444	[q] = [k] + [n] + [o] + [p].
Adjustment to Book Value of Long-Term Debt	$0	$0	$0	$14	$10	[r] = See Sources and Notes.
Market Value of Long-Term Debt	$531	$531	$689	$470	$453	[s] = [q] + [r].
Market Value of Debt	$531	$531	$689	$470	$453	[t] = [s].
MARKET VALUE OF FIRM	$1,280	$1,281	$1,223	$1,055	$996	[u] = [d] + [g] + [t].
DEBT AND EQUITY TO MARKET VALUE RATIOS						
Common Equity - Market Value Ratio	58.49%	58.54%	43.65%	55.45%	54.50%	[v] = [d] / [t].
Preferred Equity - Market Value Ratio	-	-	-	-	-	[w] = [g] / [t].
Debt - Market Value Ratio	41.51%	41.46%	56.35%	44.55%	45.50%	[x] = [r] / [t].

Sources and Notes:
Bloomberg as of April 09, 2007
Capital structure from Year End, 2006 calculated using respective balance sheet information and 5-day average prices ending at period end.
The DCF Capital structure is calculated using 4th Quarter, 2006 balance sheet information and a 15-trading day average closing price ending on April 09, 2007.
Prices are reported in Workpaper #1 to Table No. MJV-R6.
[i] and [p]: See Workpaper #5 to Table No. MJV-R4.
[n] =
(1): 0 if [k] > 0.
(2): The absolute value of [k] if [k] < 0 and |[k]| < [l].
(3): [l] if [k] < 0 and |[k]| > [l].
[r]: Difference between fair value of Long-Term debt and carrying amount of Long-Term debt per company 10-K. Data for adjustment is from the 2002-2006 10-K's.

Table No. MJV-R3

Market Value of the US Electric Sample (Including Imputed Debt)

Panel D: Entergy Corp

($MM)

	DCF Capital Structure	Year End, 2006	Year End, 2005	Year End, 2004	Year End, 2003	Notes
MARKET VALUE OF COMMON EQUITY						
Book Value, Common Shareholder's Equity	$8,198	$8,198	$7,748	$8,297	$8,704	[a]
Shares Outstanding (in millions) - Common	203	203	208	217	229	[b]
Price per Share - Common	$106	$93	$69	$68	$57	[c]
Market Value of Common Equity	$21,383	$18,786	$14,323	$14,669	$13,008	[d] = [b] x [c].
Market to Book Value of Common Equity	2.61	2.29	1.85	1.77	1.49	[e] = [d] / [a].
MARKET VALUE OF PREFERRED EQUITY						
Book Value of Preferred Equity	$345	$345	$446	$365	$334	[f]
Market Value of Preferred Equity	$345	$345	$446	$365	$334	[g] = [f].
MARKET VALUE OF DEBT						
Current Assets	$3,325	$3,325	$4,063	$3,000	$2,919	[h]
Operating Lease Assets	$433	$433	$427	$464	$488	[i]: See Sources and Notes.
Current Liabilities	$2,465	$2,465	$3,112	$2,332	$2,282	[j]
Current Portion of Long-Term Debt	$335	$335	$234	$626	$684	[k]
Net Working Capital	$1,628	$1,628	$1,612	$1,758	$1,809	[l] = [h] + [i] - ([j] - [k]).
Notes Payable (Short-Term Debt)	$25	$25	$40	$0	$0	[m]
Adjusted Short-Term Debt	$0	$0	$0	$0	$0	[n] = See Sources and Notes.
Long-Term Debt	$8,997	$8,997	$9,013	$7,180	$7,498	[o]
Imputed Debt	$1,888	$1,888	$1,727	$1,672	$1,500	[p]: See Sources and Notes.
Book Value of Long-Term Debt	$11,219	$11,219	$10,975	$9,479	$9,682	[q] = [k] + [n] + [o] + [p].
Adjustment to Book Value of Long-Term Debt	($692)	($692)	($815)	($403)	($199)	[r] = See Sources and Notes.
Market Value of Long-Term Debt	$10,528	$10,528	$10,160	$9,077	$9,483	[s] = [q] + [r].
Market Value of Debt	$10,528	$10,528	$10,160	$9,077	$9,483	[t] = [s].
MARKET VALUE OF FIRM						
	$32,256	$29,659	$24,928	$24,111	$22,825	[u] = [d] + [g] + [t].
DEBT AND EQUITY TO MARKET VALUE RATIOS						
Common Equity - Market Value Ratio	66.29%	63.34%	57.46%	60.84%	56.99%	[v] = [d] / [t].
Preferred Equity - Market Value Ratio	1.07%	1.16%	1.79%	1.52%	1.46%	[w] = [g] / [t].
Debt - Market Value Ratio	32.64%	35.50%	40.76%	37.64%	41.54%	[x] = [r] / [t].

Sources and Notes:
Bloomberg as of April 09, 2007
Capital structure from Year End, 2006 calculated using respective balance sheet information and 5-day average prices ending at period end.
The DCF Capital structure is calculated using 4th Quarter, 2006 balance sheet information and a 15-trading day average closing price ending on April 09, 2007.
Prices are reported in Workpaper #1 to Table No. MJV-R6.
[i] and [p]: See Workpaper #5 to Table No. MJV-R4.
[n] =
(1): 0 if [k] > 0.
(2): The absolute value of [k] if [k] < 0 and |[k]| < [l].
(3): [l] if [k] < 0 and |[k]| > [l].
[r]: Difference between fair value of Long-Term debt and carrying amount of Long-Term debt per company 10-K. Data for adjustment is from the 2002-2006 10-K's.

Table No. MJV-R3

Market Value of the US Electric Sample (Including Imputed Debt)

Panel E: MGE Energy Inc

($MM)

	DCF Capital Structure	Year End, 2006	Year End, 2005	Year End, 2004	Year End, 2003	Notes
MARKET VALUE OF COMMON EQUITY						
Book Value, Common Shareholder's Equity	$375	$375	$344	$338	$263	[a]
Shares Outstanding (in millions) - Common	21	21	20	20	18	[b]
Price per Share - Common	$36	$36	$34	$36	$32	[c]
Market Value of Common Equity	$745	$764	$700	$735	$584	[d] = [b] x [c].
Market to Book Value of Common Equity	1.99	2.04	2.04	2.17	2.22	[e] = [d] / [a].
MARKET VALUE OF PREFERRED EQUITY						
Book Value of Preferred Equity	$0	$0	$0	$0	$0	[f]
Market Value of Preferred Equity	$0	$0	$0	$0	$0	[g] = [f].
MARKET VALUE OF DEBT						
Current Assets	$149	$149	$161	$144	$112	[h]
Operating Lease Assets	$19	$19	$17	$13	$7	[i]: See Sources and Notes.
Current Liabilities	$144	$144	$153	$118	$106	[j]
Current Portion of Long-Term Debt	$15	$15	$0	$0	$20	[k]
Net Working Capital	$39	$39	$25	$39	$34	[l] = [h] + [i] - ([j] - [k]).
Notes Payable (Short-Term Debt)	$57	$57	$83	$53	$32	[m]
Adjusted Short-Term Debt	$0	$0	$0	$0	$0	[n] = See Sources and Notes.
Long-Term Debt	$237	$237	$222	$202	$202	[o]
Imputed Debt	$114	$114	$140	$115	$103	[p]: See Sources and Notes.
Book Value of Long-Term Debt	$366	$366	$362	$317	$325	[q] = [k] + [n] + [o] + [p].
Adjustment to Book Value of Long-Term Debt	$8	$8	$13	$15	$13	[r] = See Sources and Notes.
Market Value of Long-Term Debt	$374	$374	$375	$332	$338	[s] = [q] + [r].
Market Value of Debt	$374	$374	$375	$332	$338	[t] = [s].
MARKET VALUE OF FIRM	$1,120	$1,139	$1,075	$1,067	$922	[u] = [d] + [g] + [t].
DEBT AND EQUITY TO MARKET VALUE RATIOS						
Common Equity - Market Value Ratio	66.57%	67.12%	65.14%	68.91%	63.33%	[v] = [d] / [t].
Preferred Equity - Market Value Ratio	-	-	-	-	-	[w] = [g] / [t].
Debt - Market Value Ratio	33.43%	32.88%	34.86%	31.09%	36.67%	[x] = [r] / [t].

Sources and Notes:
Bloomberg as of April 09, 2007
Capital structure from Year End, 2006 calculated using respective balance sheet information and 5-day average prices ending at period end.
The DCF Capital structure is calculated using 4th Quarter, 2006 balance sheet information and a 15-trading day average closing price ending on April 09, 2007.
Prices are reported in Workpaper #1 to Table No. MJV-R6.
[i] and [p]: See Workpaper #5 to Table No. MJV-R4.
[n] =
(1): 0 if [k] > 0.
(2): The absolute value of [k] if [k] < 0 and |[k]| < [l].
(3): [l] if [k] < 0 and |[k]| > [l].
[r]: Difference between fair value of Long-Term debt and carrying amount of Long-Term debt per company 10-K. Data for adjustment is from the 2002-2006 10-K's.

Table No. MJV-R3

Market Value of the US Electric Sample (Including Imputed Debt)

Panel F: NSTAR

($MM)

	DCF Capital Structure	Year End, 2006	Year End, 2005	Year End, 2004	Year End, 2003	Notes
MARKET VALUE OF COMMON EQUITY						
Book Value, Common Shareholder's Equity	$1,583	$1,583	$1,535	$1,441	$1,362	[a]
Shares Outstanding (in millions) - Common	107	107	107	107	106	[b]
Price per Share - Common	$35	$35	$29	$27	$24	[c]
Market Value of Common Equity	$3,779	$3,689	$3,055	$2,883	$2,576	[d] = [b] x [c].
Market to Book Value of Common Equity	2.39	2.33	1.99	2.00	1.89	[e] = [d] / [a].
MARKET VALUE OF PREFERRED EQUITY						
Book Value of Preferred Equity	$0	$0	$0	$43	$43	[f]
Market Value of Preferred Equity	$0	$0	$0	$43	$43	[g] = [f].
MARKET VALUE OF DEBT						
Current Assets	$960	$960	$1,021	$798	$643	[h]
Operating Lease Assets	$82	$82	$82	$79	$82	[i]: See Sources and Notes.
Current Liabilities	$1,240	$1,240	$1,162	$898	$956	[j]
Current Portion of Long-Term Debt	$176	$176	$123	$149	$230	[k]
Net Working Capital	($22)	($22)	$64	$128	($1)	[l] = [h] + [i] - ([j] - [k]).
Notes Payable (Short-Term Debt)	$436	$436	$418	$161	$239	[m]
Adjusted Short-Term Debt	$22	$22	$0	$0	$1	[n] = See Sources and Notes.
Long-Term Debt	$2,404	$2,404	$2,445	$2,101	$1,980	[o]
Imputed Debt	$350	$350	$338	$518	$490	[p]: See Sources and Notes.
Book Value of Long-Term Debt	$2,952	$2,952	$2,907	$2,768	$2,700	[q] = [k] + [n] + [o] + [p].
Adjustment to Book Value of Long-Term Debt	$86	$86	$117	$233	$276	[r] = See Sources and Notes.
Market Value of Long-Term Debt	$3,038	$3,038	$3,024	$3,001	$2,976	[s] = [q] + [r].
Market Value of Debt	$3,038	$3,038	$3,024	$3,001	$2,976	[t] = [s].
MARKET VALUE OF FIRM	$6,817	$6,727	$6,079	$5,927	$5,595	[u] = [d] + [g] + [t].
DEBT AND EQUITY TO MARKET VALUE RATIOS						
Common Equity - Market Value Ratio	55.43%	54.84%	50.26%	48.64%	46.04%	[v] = [d] / [t].
Preferred Equity - Market Value Ratio	-	-	-	0.73%	0.77%	[w] = [g] / [t].
Debt - Market Value Ratio	44.57%	45.16%	49.74%	50.64%	53.19%	[x] = [r] / [t].

Sources and Notes:
Bloomberg as of April 09, 2007
Capital structure from Year End, 2006 calculated using respective balance sheet information and 5-day average prices ending at period end.
The DCF Capital structure is calculated using 4th Quarter, 2006 balance sheet information and a 15-trading day average closing price ending on April 09, 2007.
Prices are reported in Workpaper #1 to Table No. MJV-R6.
[i] and [p]: See Workpaper #5 to Table No. MJV-R4.
[n] =
(1): 0 if [k] > 0.
(2): The absolute value of [k] if [k] < 0 and |[k]| < [l].
(3): [l] if [k] < 0 and |[k]| > [l].
[r]: Difference between fair value of Long-Term debt and carrying amount of Long-Term debt per company 10-K. Data for adjustment is from the 2002-2006 10-K's.

Table No. MJV-R3

Market Value of the US Electric Sample (Including Imputed Debt)

Panel G: Pinnacle West Capital Corp

($MM)

	DCF Capital Structure	Year End, 2006	Year End, 2005	Year End, 2004	Year End, 2003	Notes
MARKET VALUE OF COMMON EQUITY						
Book Value, Common Shareholder's Equity	$3,446	$3,446	$3,425	$2,950	$2,830	[a]
Shares Outstanding (in millions) - Common	100	100	99	92	91	[b]
Price per Share - Common	$49	$51	$42	$44	$40	[c]
Market Value of Common Equity	$4,859	$5,061	$4,160	$4,072	$3,615	[d] = [b] x [c].
Market to Book Value of Common Equity	1.41	1.47	1.21	1.38	1.28	[e] = [d] / [a].
MARKET VALUE OF PREFERRED EQUITY						
Book Value of Preferred Equity	$0	$0	$0	$0	$0	[f]
Market Value of Preferred Equity	$0	$0	$0	$0	$0	[g] = [f].
MARKET VALUE OF DEBT						
Current Assets	$1,480	$1,480	$1,891	$1,137	$984	[h]
Operating Lease Assets	$496	$496	$525	$567	$606	[i]: See Sources and Notes.
Current Liabilities	$1,459	$1,459	$2,272	$1,626	$1,433	[j]
Current Portion of Long-Term Debt	$2	$2	$385	$617	$705	[k]
Net Working Capital	$519	$519	$529	$695	$862	[l] = [h] + [i] - ([j] - [k]).
Notes Payable (Short-Term Debt)	$36	$36	$16	$71	$86	[m]
Adjusted Short-Term Debt	$0	$0	$0	$0	$0	[n] = See Sources and Notes.
Long-Term Debt	$3,233	$3,233	$2,608	$2,585	$2,617	[o]
Imputed Debt	$1,374	$1,374	$1,528	$1,388	$1,447	[p]: See Sources and Notes.
Book Value of Long-Term Debt	$4,608	$4,608	$4,522	$4,590	$4,768	[q] = [k] + [n] + [o] + [p].
Adjustment to Book Value of Long-Term Debt	($40)	($40)	$10	$110	$150	[r] = See Sources and Notes.
Market Value of Long-Term Debt	$4,568	$4,568	$4,532	$4,700	$4,918	[s] = [q] + [r].
Market Value of Debt	$4,568	$4,568	$4,532	$4,700	$4,918	[t] = [s].
MARKET VALUE OF FIRM	$9,427	$9,629	$8,692	$8,772	$8,533	[u] = [d] + [g] + [t].
DEBT AND EQUITY TO MARKET VALUE RATIOS						
Common Equity - Market Value Ratio	51.54%	52.56%	47.86%	46.42%	42.36%	[v] = [d] / [t].
Preferred Equity - Market Value Ratio	-	-	-	-	-	[w] = [g] / [t].
Debt - Market Value Ratio	48.46%	47.44%	52.14%	53.58%	57.64%	[x] = [r] / [t].

Sources and Notes:
Bloomberg as of April 09, 2007
Capital structure from Year End, 2006 calculated using respective balance sheet information and 5-day average prices ending at period end.
The DCF Capital structure is calculated using 4th Quarter, 2006 balance sheet information and a 15-trading day average closing price ending on April 09, 2007.
Prices are reported in Workpaper #1 to Table No. MJV-R6.
[i] and [p]: See Workpaper #5 to Table No. MJV-R4.
[n] =
(1): 0 if [k] > 0.
(2): The absolute value of [k] if [k] < 0 and |[k]| < [l].
(3): [l] if [k] < 0 and |[k]| > [l].
[r]: Difference between fair value of Long-Term debt and carrying amount of Long-Term debt per company 10-K. Data for adjustment is from the 2002-2006 10-K's.

Table No. MJV-R3

Market Value of the US Electric Sample (Including Imputed Debt)

Panel H: PPL Corp

($MM)

	DCF Capital Structure	Year End, 2006	Year End, 2005	Year End, 2004	Year End, 2003	Notes
MARKET VALUE OF COMMON EQUITY						
Book Value, Common Shareholder's Equity	$5,122	$5,122	$4,418	$4,239	$3,259	[a]
Shares Outstanding (in millions) - Common	385	385	380	378	355	[b]
Price per Share - Common	$41	$36	$30	$27	$22	[c]
Market Value of Common Equity	$15,742	$13,855	$11,291	$10,088	$7,711	[d] = [b] x [c].
Market to Book Value of Common Equity	3.07	2.71	2.56	2.38	2.37	[e] = [d] / [a].
MARKET VALUE OF PREFERRED EQUITY						
Book Value of Preferred Equity	$301	$301	$51	$51	$51	[f]
Market Value of Preferred Equity	$301	$301	$51	$51	$51	[g] = [f].
MARKET VALUE OF DEBT						
Current Assets	$3,630	$3,630	$2,906	$2,276	$2,039	[h]
Operating Lease Assets	$479	$479	$601	$620	$652	[i]: See Sources and Notes.
Current Liabilities	$3,348	$3,348	$3,354	$2,295	$1,773	[j]
Current Portion of Long-Term Debt	$1,107	$1,107	$1,126	$866	$395	[k]
Net Working Capital	$1,868	$1,868	$1,279	$1,467	$1,313	[l] = [h] + [i] - ([j] - [k]).
Notes Payable (Short-Term Debt)	$42	$42	$214	$42	$56	[m]
Adjusted Short-Term Debt	$0	$0	$0	$0	$0	[n] = See Sources and Notes.
Long-Term Debt	$6,728	$6,728	$6,044	$6,881	$8,145	[o]
Imputed Debt	$1,637	$1,637	$1,866	$1,801	$1,673	[p]: See Sources and Notes.
Book Value of Long-Term Debt	$9,472	$9,472	$9,036	$9,548	$10,213	[q] = [k] + [n] + [o] + [p].
Adjustment to Book Value of Long-Term Debt	$123	$123	$504	$483	$584	[r] = See Sources and Notes.
Market Value of Long-Term Debt	$9,595	$9,595	$9,540	$10,031	$10,797	[s] = [q] + [r].
Market Value of Debt	$9,595	$9,595	$9,540	$10,031	$10,797	[t] = [s].
MARKET VALUE OF FIRM	$25,638	$23,751	$20,882	$20,171	$18,559	[u] = [d] + [g] + [t].
DEBT AND EQUITY TO MARKET VALUE RATIOS						
Common Equity - Market Value Ratio	61.40%	58.33%	54.07%	50.02%	41.55%	[v] = [d] / [t].
Preferred Equity - Market Value Ratio	1.17%	1.27%	0.24%	0.25%	0.27%	[w] = [g] / [t].
Debt - Market Value Ratio	37.43%	40.40%	45.69%	49.73%	58.18%	[x] = [r] / [t].

Sources and Notes:
Bloomberg as of April 09, 2007
Capital structure from Year End, 2006 calculated using respective balance sheet information and 5-day average prices ending at period end.
The DCF Capital structure is calculated using 4th Quarter, 2006 balance sheet information and a 15-trading day average closing price ending on April 09, 2007.
Prices are reported in Workpaper #1 to Table No. MJV-R6.
[i] and [p]: See Workpaper #5 to Table No. MJV-R4.
[n] =
(1): 0 if [k] > 0.
(2): The absolute value of [k] if [k] < 0 and |[k]| < [l].
(3): [l] if [k] < 0 and |[k]| > [l].
[r]: Difference between fair value of Long-Term debt and carrying amount of Long-Term debt per company 10-K. Data for adjustment is from the 2002-2006 10-K's.

Table No. MJV-R3

Market Value of the US Electric Sample (Including Imputed Debt)

Panel I: Southern Co

($MM)

	DCF Capital Structure	Year End, 2006	Year End, 2005	Year End, 2004	Year End, 2003	Notes
MARKET VALUE OF COMMON EQUITY						
Book Value, Common Shareholder's Equity	$11,371	$11,371	$10,689	$10,278	$9,648	[a]
Shares Outstanding (in millions) - Common	746	746	742	742	735	[b]
Price per Share - Common	$37	$37	$35	$34	$30	[c]
Market Value of Common Equity	$27,483	$27,609	$25,879	$24,939	$22,142	[d] = [b] x [c].
Market to Book Value of Common Equity	2.42	2.43	2.42	2.43	2.30	[e] = [d] / [a].
MARKET VALUE OF PREFERRED EQUITY						
Book Value of Preferred Equity	$744	$744	$596	$561	$423	[f]
Market Value of Preferred Equity	$744	$744	$596	$561	$423	[g] = [f].
MARKET VALUE OF DEBT						
Current Assets	$4,019	$4,019	$4,205	$3,491	$3,060	[h]
Operating Lease Assets	$1,793	$1,793	$1,181	$992	$1,177	[i]: See Sources and Notes.
Current Liabilities	$6,353	$6,353	$5,240	$3,798	$3,505	[j]
Current Portion of Long-Term Debt	$1,418	$1,418	$901	$983	$741	[k]
Net Working Capital	$877	$877	$1,047	$1,668	$1,473	[l] = [h] + [i] - ([j] - [k]).
Notes Payable (Short-Term Debt)	$1,941	$1,941	$1,258	$426	$568	[m]
Adjusted Short-Term Debt	$0	$0	$0	$0	$0	[n] = See Sources and Notes.
Long-Term Debt	$12,503	$12,503	$12,846	$12,449	$12,064	[o]
Imputed Debt	$707	$707	$736	$972	$986	[p]: See Sources and Notes.
Book Value of Long-Term Debt	$14,628	$14,628	$14,483	$14,404	$13,791	[q] = [k] + [n] + [o] + [p].
Adjustment to Book Value of Long-Term Debt	($122)	($122)	$10	$243	$212	[r] = See Sources and Notes.
Market Value of Long-Term Debt	$14,506	$14,506	$14,493	$14,647	$14,003	[s] = [q] + [r].
Market Value of Debt	$14,506	$14,506	$14,493	$14,647	$14,003	[t] = [s].
MARKET VALUE OF FIRM	$42,733	$42,859	$40,968	$40,147	$36,569	[u] = [d] + [g] + [t].
DEBT AND EQUITY TO MARKET VALUE RATIOS						
Common Equity - Market Value Ratio	64.31%	64.42%	63.17%	62.12%	60.55%	[v] = [d] / [t].
Preferred Equity - Market Value Ratio	1.74%	1.74%	1.45%	1.40%	1.16%	[w] = [g] / [t].
Debt - Market Value Ratio	33.95%	33.85%	35.38%	36.48%	38.29%	[x] = [r] / [t].

Sources and Notes:
Bloomberg as of April 09, 2007
Capital structure from Year End, 2006 calculated using respective balance sheet information and 5-day average prices ending at period end.
The DCF Capital structure is calculated using 4th Quarter, 2006 balance sheet information and a 15-trading day average closing price ending on April 09, 2007.
Prices are reported in Workpaper #1 to Table No. MJV-R6.
[i] and [p]: See Workpaper #5 to Table No. MJV-R4.
[n] =
(1): 0 if [k] > 0.
(2): The absolute value of [k] if [k] < 0 and |[k]| < [l].
(3): [l] if [k] < 0 and |[k]| > [l].
[r]: Difference between fair value of Long-Term debt and carrying amount of Long-Term debt per company 10-K. Data for adjustment is from the 2002-2006 10-K's.

Table No. MJV-R4

US Electric Sample (Including Imputed Debt)

Capital Structure Summary with Imputed Debt

Company	DCF Capital Structure			4-Year Average Capital Structure		
	Common Equity - Value Ratio [1]	Preferred Equity - Value Ratio [2]	Debt - Value Ratio [3]	Common Equity - Value Ratio [4]	Preferred Equity - Value Ratio [5]	Debt - Value Ratio [6]
Cleco Corp	0.61	0.01	0.38	0.52	0.01	0.47
Consolidated Edison Inc	0.53	0.01	0.46	0.52	0.01	0.47
Empire District Electric Co/The	0.58	-	0.42	0.53	-	0.47
Entergy Corp	0.66	0.01	0.33	0.60	0.01	0.39
MGE Energy Inc	0.67	-	0.33	0.66	-	0.34
NSTAR	0.55	-	0.45	0.50	0.00	0.50
Pinnacle West Capital Corp	0.52	-	0.48	0.47	-	0.53
PPL Corp	0.61	0.01	0.37	0.51	0.01	0.48
Southern Co	0.64	0.02	0.34	0.63	0.01	0.36
Average	0.60	0.01	0.40	0.55	0.01	0.44

Sources and Notes:
[1], [4]:Workpaper #1 to Table No. MJV-R4.
[2], [5]:Workpaper #2 to Table No. MJV-R4.
[3], [6]:Workpaper #3 to Table No. MJV-R4.
Values in this table may not add up exactly to 1.0 because of rounding.

Workpaper #1 to Table No. MJV-R4

US Electric Sample (Including Imputed Debt)

Calculation of the Average Common Equity - Market Value Ratio

Company	DCF Capital Structure [1]	Year End, 2006 [2]	2005 [3]	2004 [4]	2003 [5]	4-Year Average [6]
Cleco Corp	0.61	0.60	0.51	0.57	0.41	0.52
Consolidated Edison Inc	0.53	0.51	0.52	0.52	0.53	0.52
Empire District Electric Co/The	0.58	0.59	0.44	0.55	0.55	0.53
Entergy Corp	0.66	0.63	0.57	0.61	0.57	0.60
MGE Energy Inc	0.67	0.67	0.65	0.69	0.63	0.66
NSTAR	0.55	0.55	0.50	0.49	0.46	0.50
Pinnacle West Capital Corp	0.52	0.53	0.48	0.46	0.42	0.47
PPL Corp	0.61	0.58	0.54	0.50	0.42	0.51
Southern Co	0.64	0.64	0.63	0.62	0.61	0.63

Sources and Notes:
[1] - [5]: Table No. MJV-R3; Panels A - I, [v].
[6]: {[2] + [3] + [4] + [5]} / 4.

Workpaper #2 to Table No. MJV-R4

US Electric Sample (Including Imputed Debt)

Calculation of the Average Preferred Equity - Market Value Ratio

Company	DCF Capital Structure [1]	Year End, 2006 [2]	2005 [3]	2004 [4]	2003 [5]	4-Year Average [6]
Cleco Corp	0.01	0.01	0.01	0.01	0.01	0.01
Consolidated Edison Inc	0.01	0.01	0.01	0.01	0.01	0.01
Empire District Electric Co/The	-	-	-	-	-	-
Entergy Corp	0.01	0.01	0.02	0.02	0.01	0.01
MGE Energy Inc	-	-	-	-	-	-
NSTAR	-	-	-	0.01	0.01	0.00
Pinnacle West Capital Corp	-	-	-	-	-	-
PPL Corp	0.01	0.01	0.00	0.00	0.00	0.01
Southern Co	0.02	0.02	0.01	0.01	0.01	0.01

Sources and Notes:
[1] - [5]: Table No. MJV-R3; Panels A - I, [w].
[6]: {[2] + [3] + [4] + [5]} / 4.

Workpaper #3 to Table No. MJV-R4

US Electric Sample (Including Imputed Debt)

Calculation of the Average Debt - Market Value Ratio

Company	DCF Capital Structure [1]	Year End, 2006 [2]	2005 [3]	2004 [4]	2003 [5]	4-Year Average [6]
Cleco Corp	0.38	0.39	0.48	0.42	0.58	0.47
Consolidated Edison Inc	0.46	0.48	0.47	0.47	0.45	0.47
Empire District Electric Co/The	0.42	0.41	0.56	0.45	0.45	0.47
Entergy Corp	0.33	0.35	0.41	0.38	0.42	0.39
MGE Energy Inc	0.33	0.33	0.35	0.31	0.37	0.34
NSTAR	0.45	0.45	0.50	0.51	0.53	0.50
Pinnacle West Capital Corp	0.48	0.47	0.52	0.54	0.58	0.53
PPL Corp	0.37	0.40	0.46	0.50	0.58	0.48
Southern Co	0.34	0.34	0.35	0.36	0.38	0.36

Sources and Notes:
[1] - [5]: Table No. MJV-R3; Panels A - I, [x].
[6]: {[2] + [3] + [4] + [5]} / 4.

Workpaper #4 to Table No. MJV-R4

US Electric Sample (Including Imputed Debt)

Wisconsin Electric Co.'s Adjusted Regulatory Capital Structure

		Capital Structure as Filed	Capital Structure w/o Imputed Debt	Capital Structure w/ Imputed Debt
[A]	Adjusted Common Equity	2,526,265	2,526,265	2,526,265
[B]	Preferred Stock	30,450	30,450	30,450
Regulatory Debt Calculation				
[C]	Long-Term Debt	1,849,350	1,849,350	1,849,350
[D]	Short-Term Debt	94,226	-	-
[E]	Capital Leases & Imputed Debt	464,019	464,019	464,019
[F]	Imputed Debt	-	(308,496)	-
[G]	Total Adjusted Debt	2,407,595	2,004,873	2,313,369
[H]	Total Adjusted Capitalization	4,964,310	4,561,588	4,870,084
[I]	Equity Ratio	50.89%	**55.38%**	51.87%
[J]	Preferred Ratio	0.61%	**0.67%**	0.63%
[K]	Debt Ratio	48.50%	**43.95%**	47.50%

Sources and Notes:
[A] - [F]: Exhbit MLW-2, page 3 of 5.
[G]: [C] + [D] + [E] +[F].
[H]: [A] + [B] + [G].
[I]: [A] / [H].
[J]: [B] / [H].
[K]: ([G] / [H]). For Capital Structure w/o Imputed Debt: ([C] + [E] + [F])/ [H].

Workpaper #5 to Table No. MJV-R4

US Electric Sample (Included Imputed Debt)

Present Value Summary of Imputed Debt for MJV Electric Sample

	Cleco Corp	Consolidated Edison Inc	Empire District Electric Co/The	Entergy Corp	MGE Energy Inc	NSTAR	Pinnacle West Capital Corp	PPL Corp	Southern Co
Operating Leases:									
2006	25.5	284.7	4.4	433.0	18.9	82.1	495.9	478.8	591.3
2005	28.9	316.0	234.8	427.0	16.7	81.8	524.8	601.1	614.8
2004	22.3	97.5	2.3	463.7	12.8	78.8	567.0	620.1	605.9
2003	21.3	133.7	0.8	487.9	7.3	81.7	605.5	652.1	614.4
Purchased Power Agreements:									
2006	203.3	2,011.4	41.9	913.6	22.6	160.7	16.8	589.2	2.9
2005	228.0	2,150.5	33.2	452.5	25.9	185.7	17.9	461.2	3.0
2004	26.6	1,982.2	26.3	491.9	19.5	274.3	9.8	346.0	9.1
2003	97.2	809.7	24.8	442.0	21.6	276.0	10.4	340.9	9.2
Nuclear Decommissioning Trusts (if applicable):									
2006	-	-	-	-	-	61.3	268.7	-	112.7
2005	-	-	-	-	-	-	284.9	-	118.0
2004	-	-	-	-	-	-	155.3	-	356.9
2003	-	-	-	-	-	-	164.2	-	362.6
Pension Funded Status:									
2006	46.4	530.0	8.9	541.0	72.5	45.9	592.4	569.2	-
2005	59.8	606.5	13.0	847.4	97.0	70.9	700.7	803.9	-
2004	56.1	409.1	16.8	716.9	82.4	164.6	656.1	835.0	-
2003	58.8	376.9	7.2	569.8	73.9	131.9	666.4	680.5	-
Annual Totals:									
2006	275.3	2,826.1	55.2	1,887.6	114.0	350.1	1,373.9	1,637.2	706.9
2005	316.7	3,073.0	281.0	1,726.9	139.6	338.4	1,528.4	1,866.2	735.9
2004	105.0	2,488.7	45.4	1,672.5	114.7	517.8	1,388.2	1,801.1	971.9
2003	177.3	1,320.3	32.9	1,499.7	102.8	489.5	1,446.6	1,673.5	986.3

Sources and Notes: Estimates based on Company Annual Reports for 2003-2006.

Table No. MJV-R5

US Electric Sample (Including Imputed Debt)

Combined Bloomberg Estimated and Value Line Estimated Growth Rates

Company	Bloomberg Estimate		Value Line			Combined BEst and Value Line Growth Rate
	BEst Long-Term Growth Rate	Number of Estimates	EPS Year 2008 Estimate	EPS Year 2010 - 2012 Estimate	Annualized Growth Rate	
	[1]	[2]	[3]	[4]	[5]	[6]
Cleco Corp	12.0%	1	$1.40	$2.00	12.6%	12.3%
Consolidated Edison Inc	4.0%	5	$3.20	$3.30	1.0%	3.5%
Empire District Electric Co/The	3.0%	1	$1.45	$1.75	6.5%	4.7%
Entergy Corp	9.0%	5	$5.45	$6.20	4.4%	8.2%
MGE Energy Inc	n/a	n/a	$2.00	$2.45	7.0%	7.0%
NSTAR	5.0%	3	$2.30	$3.00	9.3%	6.1%
Pinnacle West Capital Corp	3.0%	2	$3.00	$3.25	2.7%	2.9%
PPL Corp	12.5%	5	$2.35	$3.75	16.9%	13.2%
Southern Co	5.3%	4	$2.25	$2.50	3.6%	4.9%

Sources and Notes:
[1] - [2]: Bloomberg as of April 09, 2007.
[3] - [4]: Value Line Standard Edition as of March 20, 2007. Dated as of December 29, 2006, February 9, 2007 and March 2, 2007.
[5]: ([4] / [3]) ^ (1/3) - 1.
[6]: ([1] x [2] + [5]) / ([2] + 1).

Table No. MJV-R6

DCF Cost of Equity of the US Electric Sample (Including Imputed Debt)

Panel A: Simple DCF Method (Quarterly)

Company	Stock Price [1]	Quarterly Dividend Q4, 2006 [2]	Combined BEst and Value Line Long-Term Growth Rate [3]	Quarterly Growth Rate [4]	DCF Cost of Equity [5]
Cleco Corp	$26.20	$0.23	12.3%	2.9%	16.2%
Consolidated Edison Inc	$50.97	$0.58	3.5%	0.9%	8.3%
Empire District Electric Co/The	$24.74	$0.32	4.7%	1.2%	10.3%
Entergy Corp	$105.51	$0.54	8.2%	2.0%	10.5%
MGE Energy Inc	$35.54	$0.35	7.0%	1.7%	11.3%
NSTAR	$35.38	$0.30	6.1%	1.5%	9.7%
Pinnacle West Capital Corp	$48.61	$0.53	2.9%	0.7%	7.4%
PPL Corp	$40.88	$0.28	13.2%	3.2%	16.3%
Southern Co	$36.82	$0.39	4.9%	1.2%	9.4%

Sources and Notes:
[1]: Workpaper #1 to Table No. MJV-R6.
[2]: Workpaper #2 to Table No. MJV-R6.
[3]: Table No. MJV-R5, [6].
[4]: {(1 + [3]) ^ (1/4)} - 1.
[5]: {(([2] / [1]) x (1 + [4]) + [4] + 1) ^ 4} - 1.

Table No. MJV-R6

DCF Cost of Equity of the US Electric Sample (Including Imputed Debt)

Panel B: Multi-Stage DCF (Using Blue Chip Long-Term GDP Growth Forecast as the Perpetual Rate)

Company	Stock Price [1]	Quarterly Dividend Q4, 2006 [2]	Combined BEst and *Value Line* Long-Term Growth Rate [3]	Growth Rate: FY 2012 [4]	Growth Rate: FY 2013 [5]	Growth Rate: FY 2014 [6]	Growth Rate: FY 2015 [7]	Growth Rate: FY 2016 [8]	GDP Long-Term Growth Rate [9]	DCF Cost of Equity [10]
Cleco Corp	$26.20	$0.23	12.3%	11.1%	9.9%	8.7%	7.5%	6.3%	5.1%	10.7%
Consolidated Edison Inc	$50.97	$0.58	3.5%	3.8%	4.0%	4.3%	4.6%	4.8%	5.1%	9.5%
Empire District Electric Co/The	$24.74	$0.32	4.7%	4.8%	4.9%	4.9%	5.0%	5.0%	5.1%	10.5%
Entergy Corp	$105.51	$0.54	8.2%	7.7%	7.2%	6.7%	6.1%	5.6%	5.1%	7.7%
MGE Energy Inc	$35.54	$0.35	7.0%	6.7%	6.4%	6.0%	5.7%	5.4%	5.1%	9.8%
NSTAR	$35.38	$0.30	6.1%	5.9%	5.7%	5.6%	5.4%	5.3%	5.1%	9.2%
Pinnacle West Capital Corp	$48.61	$0.53	2.9%	3.3%	3.6%	4.0%	4.4%	4.7%	5.1%	9.1%
PPL Corp	$40.88	$0.28	13.2%	11.9%	10.5%	9.2%	7.8%	6.5%	5.1%	9.8%
Southern Co	$36.82	$0.39	4.9%	4.9%	5.0%	5.0%	5.0%	5.1%	5.1%	9.5%

Sources and Notes:
[1]: Workpaper #1 to Table No. MJV-R6.
[2]: Workpaper #2 to Table No. MJV-R6.
[3]: Table No. MJV-R5, [6].
[4]: [3] - {([3] - [9])/ 6}.
[5]: [4] - {([3] - [9])/ 6}.
[6]: [5] - {([3] - [9])/ 6}.
[7]: [6] - {([3] - [9])/ 6}.
[8]: [7] - {([3] - [9])/ 6}.
[9]: Blue Chip Economic Indicators published March 10, 2007 This number is assumed to be the perpetual growth rate. (See Appendix E).
[10]: Workpaper #3 to Table No. MJV-R6.

Workpaper #1 to Table No. MJV-R6

US Electric Sample (Including Imputed Debt)

Common Stock Prices from March 19, 2007 to April 9, 2007

Company	4/9/2007	4/5/2007	4/4/2007	4/3/2007	4/2/2007	3/30/2007	3/29/2007	3/28/2007	3/27/2007	3/26/2007	3/23/2007	3/22/2007	3/21/2007	3/20/2007	3/19/2007	Average
Cleco Corp	$26.55	$26.26	$26.25	$25.99	$26.16	$25.83	$26.09	$26.01	$26.12	$26.37	$26.49	$26.54	$26.34	$26.15	$25.90	$26.20
Consolidated Edison Inc	$52.14	$52.05	$51.84	$52.00	$51.72	$51.06	$51.25	$50.92	$50.96	$50.93	$50.42	$50.23	$50.19	$49.75	$49.05	$50.97
Empire District Electric Co/The	$25.14	$24.86	$24.77	$24.71	$24.84	$24.80	$24.58	$24.65	$24.69	$24.86	$24.78	$24.79	$24.85	$24.51	$24.33	$24.74
Entergy Corp	$110.35	$109.30	$108.47	$108.66	$107.64	$104.92	$105.16	$104.12	$104.68	$104.24	$104.06	$104.14	$104.17	$102.09	$100.65	$105.51
MGE Energy Inc	$36.05	$36.02	$35.92	$36.09	$35.82	$35.46	$35.72	$35.73	$35.87	$35.99	$35.43	$35.39	$35.13	$34.32	$34.18	$35.54
NSTAR	$36.27	$36.09	$36.26	$36.41	$35.75	$35.12	$35.06	$34.87	$34.99	$35.27	$35.26	$35.21	$35.20	$34.81	$34.14	$35.38
Pinnacle West Capital Corp	$49.61	$49.50	$49.37	$49.30	$49.27	$48.25	$48.62	$48.45	$48.51	$48.25	$48.32	$47.92	$48.42	$48.07	$47.23	$48.61
PPL Corp	$43.10	$42.83	$42.67	$42.49	$42.08	$40.90	$41.23	$41.05	$41.14	$40.05	$39.64	$39.20	$39.40	$38.92	$38.55	$40.88
Southern Co	$37.31	$37.20	$37.10	$37.19	$37.08	$36.65	$36.91	$36.64	$36.80	$37.04	$36.85	$36.68	$36.76	$36.28	$35.82	$36.82

Sources and Notes:
Bloomberg as of April 09, 2007.
The prices chosen are the daily closing prices from Bloomberg starting from the most recent prices available in Bloomberg as of April 09, 2007 and ending fifteen trading days before.

Workpaper #2 to Table No. MJV-R6

US Electric Sample (Including Imputed Debt)

4th Quarter, 2006 Dividend Payments

Company	Q4, 2006
Cleco Corp	$0.23
Consolidated Edison Inc	$0.58
Empire District Electric Co/The	$0.32
Entergy Corp	$0.54
MGE Energy Inc	$0.35
NSTAR	$0.30
Pinnacle West Capital Corp	$0.53
PPL Corp	$0.28
Southern Co	$0.39

Sources and Notes:
Bloomberg as of April 09, 2007.

Workpaper #3 to Table No. MJV-R6

DCF Cost of Equity of the US Electric Sample (Including Imputed Debt)

Multi - Stage DCF (using Blue Chip Economic Indicator Long-Term GDP as the Perpetual Growth Rate)

Year	Company	Cleco Corp	Consolidated Edison Inc	Empire District Electric Co/The	Entergy Corp	MGE Energy Inc	NSTAR	Pinnacle West Capital Corp	PPL Corp	Southern Co
	Current Stock Price	($26.20)	($50.97)	($24.74)	($105.51)	($35.54)	($35.38)	($48.61)	($40.88)	($36.82)
YEAR 2007	Dividend Q1 Estimate	$0.23	$0.59	$0.32	$0.55	$0.35	$0.33	$0.53	$0.28	$0.39
YEAR 2007	Dividend Q2 Estimate	$0.24	$0.59	$0.33	$0.56	$0.36	$0.33	$0.53	$0.29	$0.40
YEAR 2007	Dividend Q3 Estimate	$0.25	$0.60	$0.33	$0.57	$0.37	$0.34	$0.54	$0.30	$0.40
YEAR 2007	Dividend Q4 Estimate	$0.25	$0.60	$0.34	$0.58	$0.37	$0.34	$0.54	$0.31	$0.41
YEAR 2008	Dividend Q1 Estimate	$0.26	$0.61	$0.34	$0.60	$0.38	$0.35	$0.54	$0.32	$0.41
YEAR 2008	Dividend Q2 Estimate	$0.27	$0.61	$0.34	$0.61	$0.39	$0.36	$0.55	$0.33	$0.42
YEAR 2008	Dividend Q3 Estimate	$0.28	$0.62	$0.35	$0.62	$0.39	$0.36	$0.55	$0.34	$0.42
YEAR 2008	Dividend Q4 Estimate	$0.28	$0.62	$0.35	$0.63	$0.40	$0.37	$0.56	$0.35	$0.43
YEAR 2009	Dividend Q1 Estimate	$0.29	$0.63	$0.36	$0.65	$0.41	$0.37	$0.56	$0.36	$0.43
YEAR 2009	Dividend Q2 Estimate	$0.30	$0.63	$0.36	$0.66	$0.41	$0.38	$0.56	$0.38	$0.44
YEAR 2009	Dividend Q3 Estimate	$0.31	$0.64	$0.36	$0.67	$0.42	$0.38	$0.57	$0.39	$0.44
YEAR 2009	Dividend Q4 Estimate	$0.32	$0.64	$0.37	$0.68	$0.43	$0.39	$0.57	$0.40	$0.45
YEAR 2010	Dividend Q1 Estimate	$0.33	$0.65	$0.37	$0.70	$0.43	$0.39	$0.58	$0.41	$0.45
YEAR 2010	Dividend Q2 Estimate	$0.34	$0.65	$0.38	$0.71	$0.44	$0.40	$0.58	$0.42	$0.46
YEAR 2010	Dividend Q3 Estimate	$0.35	$0.66	$0.38	$0.73	$0.45	$0.41	$0.58	$0.44	$0.46
YEAR 2010	Dividend Q4 Estimate	$0.36	$0.67	$0.39	$0.74	$0.46	$0.41	$0.59	$0.45	$0.47
YEAR 2011	Dividend Q1 Estimate	$0.37	$0.67	$0.39	$0.76	$0.46	$0.42	$0.59	$0.47	$0.48
YEAR 2011	Dividend Q2 Estimate	$0.38	$0.68	$0.39	$0.77	$0.47	$0.42	$0.60	$0.48	$0.48
YEAR 2011	Dividend Q3 Estimate	$0.39	$0.68	$0.40	$0.79	$0.48	$0.43	$0.60	$0.50	$0.49
YEAR 2011	Dividend Q4 Estimate	$0.40	$0.69	$0.40	$0.80	$0.49	$0.44	$0.61	$0.51	$0.49
YEAR 2012	Dividend Q1 Estimate	$0.41	$0.70	$0.41	$0.82	$0.50	$0.44	$0.61	$0.53	$0.50
YEAR 2012	Dividend Q2 Estimate	$0.42	$0.70	$0.41	$0.83	$0.50	$0.45	$0.62	$0.54	$0.50
YEAR 2012	Dividend Q3 Estimate	$0.44	$0.71	$0.42	$0.85	$0.51	$0.46	$0.62	$0.56	$0.51
YEAR 2012	Dividend Q4 Estimate	$0.45	$0.72	$0.42	$0.86	$0.52	$0.46	$0.63	$0.57	$0.52
YEAR 2013	Dividend Q1 Estimate	$0.46	$0.72	$0.43	$0.88	$0.53	$0.47	$0.63	$0.59	$0.52
YEAR 2013	Dividend Q2 Estimate	$0.47	$0.73	$0.43	$0.89	$0.54	$0.48	$0.64	$0.60	$0.53
YEAR 2013	Dividend Q3 Estimate	$0.48	$0.74	$0.44	$0.91	$0.55	$0.48	$0.64	$0.62	$0.54
YEAR 2013	Dividend Q4 Estimate	$0.49	$0.74	$0.44	$0.93	$0.55	$0.49	$0.65	$0.63	$0.54
YEAR 2014	Dividend Q1 Estimate	$0.50	$0.75	$0.45	$0.94	$0.56	$0.50	$0.65	$0.65	$0.55
YEAR 2014	Dividend Q2 Estimate	$0.51	$0.76	$0.45	$0.96	$0.57	$0.50	$0.66	$0.66	$0.56
YEAR 2014	Dividend Q3 Estimate	$0.52	$0.77	$0.46	$0.97	$0.58	$0.51	$0.67	$0.68	$0.56
YEAR 2014	Dividend Q4 Estimate	$0.53	$0.78	$0.46	$0.99	$0.59	$0.52	$0.67	$0.69	$0.57
YEAR 2015	Dividend Q1 Estimate	$0.54	$0.78	$0.47	$1.00	$0.60	$0.52	$0.68	$0.70	$0.58
YEAR 2015	Dividend Q2 Estimate	$0.55	$0.79	$0.48	$1.02	$0.60	$0.53	$0.69	$0.72	$0.58
YEAR 2015	Dividend Q3 Estimate	$0.56	$0.80	$0.48	$1.03	$0.61	$0.54	$0.70	$0.73	$0.59
YEAR 2015	Dividend Q4 Estimate	$0.57	$0.81	$0.49	$1.05	$0.62	$0.54	$0.70	$0.74	$0.60
YEAR 2016	Dividend Q1 Estimate	$0.58	$0.82	$0.49	$1.06	$0.63	$0.55	$0.71	$0.76	$0.61
YEAR 2016	Dividend Q2 Estimate	$0.59	$0.83	$0.50	$1.08	$0.64	$0.56	$0.72	$0.77	$0.61
YEAR 2016	Dividend Q3 Estimate	$0.60	$0.84	$0.51	$1.09	$0.65	$0.57	$0.73	$0.78	$0.62
YEAR 2016	Dividend Q4 Estimate	$0.61	$0.85	$0.51	$1.11	$0.66	$0.57	$0.74	$0.79	$0.63
YEAR 2017 Q1	Year 10 Stock Price	$47.51	$84.03	$41.33	$179.84	$60.76	$59.84	$79.73	$73.74	$61.61
	Trial COE: Quarterly Rate	2.6%	2.3%	2.5%	1.9%	2.4%	2.2%	2.2%	2.4%	2.3%
	Trial COE: Annual Rate	10.7%	9.5%	10.5%	7.7%	9.8%	9.2%	9.1%	9.8%	9.5%
	Cost of Equity	10.7%	9.5%	10.5%	7.7%	9.8%	9.2%	9.1%	9.8%	9.5%
	(Trial COE - COE) x 100	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Sources and Notes:
All Growth Rate Estimates: Table No. MJV-R6; Panel B.
Stock Prices and Dividends are from Bloomberg as of April 09, 2007.

1. See Workpaper #1 to Table No. MJV-R6 for the average closing stock price obtained from Bloomberg.
2. See Workpaper #2 to Table No. MJV-R6 for the for the quarterly dividend obtained from Bloomberg.
3. The Blue Chip Economic Indicator Long-Term GDP Growth Rate is used to calculate the Year 10 Stock Price.
   {(the Dividend Year 2016 Q4 Estimate) x ((1 + the Perpetual Growth Rate) ^ (1/2))} /
   {(Trial COE - Quarterly Rate) - ((1 + the Perpetual Growth Rate) ^ (1/4) -1)}.

Table No. MJV-R7

Overall Cost of Capital of the US Electric Sample (Including Imputed Debt)

Panel A: Simple DCF Method (Quarterly)

Company			4th Quarter, 2006 Bond Rating [1]	4th Quarter, 2006 Preferred Equity Rating [2]	DCF Cost of Equity [3]	DCF Common Equity to Market Value Ratio [4]	Cost of Preferred Equity [5]	DCF Preferred Equity to Market Value Ratio [6]	DCF Cost of Debt [7]	DCF Debt to Market Value Ratio [8]	Wisconsin Electric Co.'s Income Tax Rate [9]	Overall After- Tax Cost of Capital [10]
Cleco Corp	*	*	BBB	BBB	16.2%	0.61	6.0%	0.01	6.1%	0.38	39.8%	11.3%
Consolidated Edison Inc	*	*	A	A	8.3%	0.53	5.9%	0.01	5.9%	0.46	39.8%	6.0%
Empire District Electric Co/The	*	*	BBB	-	10.3%	0.58	-	-	6.1%	0.42	39.8%	7.5%
Entergy Corp	*	*	BBB	BBB	10.5%	0.66	6.0%	0.01	6.1%	0.33	39.8%	8.2%
MGE Energy Inc	*		AA	-	11.3%	0.67	-	-	5.7%	0.33	39.8%	8.6%
NSTAR	*	*	A	-	9.7%	0.55	-	-	5.9%	0.45	39.8%	7.0%
Pinnacle West Capital Corp	*	*	BBB	-	7.4%	0.52	-	-	6.1%	0.48	39.8%	5.6%
PPL Corp	*	*	BBB	BBB	16.3%	0.61	6.0%	0.01	6.1%	0.37	39.8%	11.5%
Southern Co	*	*	A	A	9.4%	0.64	5.9%	0.02	5.9%	0.34	39.8%	7.3%
Average					11.0%	0.60	6.0%	0.01	6.0%	0.40	39.8%	8.1%

Sources and Notes:
[1]: Bloomberg as of April 09, 2007.
[2]: Preferred ratings were assumed equal to debt ratings.
[3]: Table No. MJV-R6; Panel A, [5].
[4]: Table No. MJV-R4, [1].
[5]: Workpaper #2 to Table No. MJV-R11, Panel B, [6].
[6]: Table No. MJV-R4, [2].
[7]: Workpaper #2 toTable No. MJV-R11, Panel A, [6].
[8]: Table No. MJV-R4, [3].
[9]: Provided by Wisconsin Electric Co..
[10]: ([3] x [4]) + ([5] x [6]) + {[7] x [8] x (1 - [9])}.

Table No. MJV-R7

Overall Cost of Capital of the US Electric Sample (Including Imputed Debt)

Panel B: Multi-Stage DCF (Using Blue Chip Long-Term GDP Growth Forecast as the Perpetual Rate)

Company			4th Quarter, 2006 Bond Rating [1]	4th Quarter, 2006 Preferred Equity Rating [2]	DCF Cost of Equity [3]	DCF Common Equity to Market Value Ratio [4]	Cost of Preferred Equity [5]	DCF Preferred Equity to Market Value Ratio [6]	DCF Cost of Debt [7]	DCF Debt to Market Value Ratio [8]	Wisconsin Electric Co.'s Income Tax Rate [9]	Overall After- Tax Cost of Capital [10]
Cleco Corp	*	*	BBB	BBB	10.7%	0.61	6.0%	0.01	6.1%	0.38	39.8%	7.9%
Consolidated Edison Inc	*	*	A	A	9.5%	0.53	5.9%	0.01	5.9%	0.46	39.8%	6.7%
Empire District Electric Co/The	*	*	BBB	-	10.5%	0.58	-	-	6.1%	0.42	39.8%	7.7%
Entergy Corp	*	*	BBB	BBB	7.7%	0.66	6.0%	0.01	6.1%	0.33	39.8%	6.4%
MGE Energy Inc	*		AA	-	9.8%	0.67	-	-	5.7%	0.33	39.8%	7.7%
NSTAR	*	*	A	-	9.2%	0.55	-	-	5.9%	0.45	39.8%	6.7%
Pinnacle West Capital Corp	*	*	BBB	-	9.1%	0.52	-	-	6.1%	0.48	39.8%	6.5%
PPL Corp	*	*	BBB	BBB	9.8%	0.61	6.0%	0.01	6.1%	0.37	39.8%	7.4%
Southern Co	*	*	A	A	9.5%	0.64	5.9%	0.02	5.9%	0.34	39.8%	7.4%
Average					9.5%	0.60	6.0%	0.01	6.0%	0.40	39.8%	7.1%

Sources and Notes:
[1]: Bloomberg as of April 09, 2007.
[2]: Preferred ratings were assumed equal to debt ratings.
[3]: Table No. MJV-R6; Panel B, [10].
[4]: Table No. MJV-R4, [1].
[5]: Workpaper #2 to Table No. MJV-R11, Panel B, [6].
[6]: Table No. MJV-R4, [2].
[7]: Workpaper #2 toTable No. MJV-R11, Panel A, [6].
[8]: Table No. MJV-R4, [3].
[9]: Provided by Wisconsin Electric Co..
[10]: ([3] x [4]) + ([5] x [6]) + {[7] x [8] x (1 - [9])}.

Table No. MJV-R8

DCF Cost of Equity at Wisconsin Electric Co. Capital Structure

US Electric Sample (Including Imputed Debt)

Using Capital Structure w/o Imputed Debt

	Overall Cost of Capital [1]	Wisconsin Electric Co.'s Regulatory % Debt [2]	Wisconsin Electric Co.'s Cost of Debt [3]	Wisconsin Electric Co.'s Income Tax Rate [4]	Wisconsin Electric Co.'s Regulatory % Preferred Equity [5]	Wisconsin Electric Co.'s Cost of Preferred Equity [6]	Wisconsin Electric Co.'s Regulatory % Equity [7]	Estimated Return on Equity [8]
Using All Companies with Bloomberg Forecast								
Simple DCF Quarterly	8.1%	0.48	5.9%	39.8%	0.6%	5.9%	0.52	12.4%
Multi-Stage DCF - Using the Blue Chip Economic Indicator Long-Term GDP as the Perpetual Rate	7.1%	0.48	5.9%	39.8%	0.6%	5.9%	0.52	10.5%

Sources and Notes:
[1]: Table No. MJV-R7; Panels A-B, [10].
[2]: Workpaper #4 to Table No. MJV-R4.
[3]: Based off an A rating, as provided by Wisconsin Electric Co.. Yield pulled from Bloomberg as of March 27, 2007.
[4]: Provided by Wisconsin Electric Co.
[5]: Workpaper #4 to Table No. MJV-R4.
[6]: Based off an A rating, as provided by Wisconsin Electric Co. Yield from March 2007 Mergent Bond Record.
[7]: Workpaper #4 to Table No. MJV-R4.
[8]: {[1] - ([2] x [3] x (1 - [4]) + [5] x [6])} / [7].

Table No. MJV-R9 - Interest Rate Forecasts

US Electric Sample (Including Imputed Debt)

Panel A: US Interest Rate Series (All Constant Maturity Series)

	Trading Date	30 Day	90 Day	180 Day	1 Year	2 Year	3 Year	5 Year	7 Year	10 Year	Long Term
	3/20/2007	5.22%	5.06%	5.12%	4.94%	4.60%	4.51%	4.47%	4.49%	4.56%	4.79%
	3/21/2007	5.24%	5.05%	5.08%	4.89%	4.51%	4.44%	4.43%	4.45%	4.53%	4.78%
	3/22/2007	5.23%	5.06%	5.08%	4.91%	4.58%	4.51%	4.49%	4.52%	4.60%	4.86%
	3/23/2007	5.24%	5.08%	5.10%	4.93%	4.60%	4.54%	4.52%	4.54%	4.62%	4.88%
	3/26/2007	5.22%	5.06%	5.09%	4.91%	4.56%	4.50%	4.48%	4.51%	4.60%	4.86%
	3/27/2007	5.20%	5.08%	5.09%	4.91%	4.58%	4.51%	4.50%	4.53%	4.62%	4.89%
	3/28/2007	5.18%	5.06%	5.08%	4.90%	4.53%	4.49%	4.50%	4.53%	4.62%	4.90%
	3/29/2007	5.05%	5.05%	5.06%	4.90%	4.58%	4.52%	4.53%	4.55%	4.64%	4.90%
	3/30/2007	5.07%	5.04%	5.06%	4.90%	4.58%	4.54%	4.54%	4.58%	4.65%	4.92%
	4/2/2007	5.12%	5.04%	5.09%	4.92%	4.60%	4.53%	4.54%	4.57%	4.65%	4.92%
	4/3/2007	5.15%	5.05%	5.09%	4.93%	4.63%	4.57%	4.56%	4.59%	4.67%	4.93%
	4/4/2007	5.16%	5.07%	5.08%	4.92%	4.61%	4.55%	4.55%	4.58%	4.66%	4.92%
	4/5/2007	5.10%	5.04%	5.07%	4.93%	4.63%	4.57%	4.57%	4.60%	4.68%	4.95%
	4/6/2007	5.10%	5.05%	5.10%	4.98%	4.75%	4.68%	4.67%	4.69%	4.76%	5.00%
	4/9/2007	5.08%	5.02%	5.11%	4.98%	4.73%	4.67%	4.66%	4.68%	4.75%	5.00%
[A]	Average:	5.16%	5.05%	5.09%	4.92%	4.60%	4.54%	4.53%	4.56%	4.64%	4.90%
[B]	Maturity Premium:	0.00%	0.10%	0.20%	0.33%	0.59%	0.75%	1.00%	1.15%	1.27%	1.50%
[C]	Implied Short-Term Yield:	5.16%	4.95%	4.89%	4.59%	4.01%	3.79%	3.53%	3.41%	3.37%	3.40%

Sources and Notes:

[A]: Average over the last 15 trading days.

[B]: Workpaper #1 to Table No. MJV-R9, Panel C, [2].

[C]: [A] - [B].

St. Louis Federal Reserve Bank. {http://research.stlouisfed.org/fred2/}. The most recent 15 trading days are used.

Table No. MJV-R9 - Interest Rate Forecasts

US Electric Sample (Including Imputed Debt)

Panel B: Forecasted Short-Term Interest Rates

		30 Day [1]	90 Day [2]	180 Day [3]	1 Year [4]	2 Year [5]	3 Year [6]	5 Year [7]	7 Year [8]	10 Year [9]	Total Days [10]	Implicit Short-Term Rate [11]
[A]	Implied Short-Term Yield:	5.16%	4.95%	4.89%	4.59%	4.01%	3.79%	3.53%	3.41%	3.37%		
[B]	Days Remaining in 2007	30	60	90	86						266	4.84%
[C]	Days Remaining in 2008				99	266					365	4.17%
[D]	Days Remaining in 2009					99	266				365	3.85%
[E]	Days Remaining in 2010						99	266			365	3.60%
[F]	Days Remaining in 2011							99	266		365	3.44%
[G]	Days Remaining in 2012								99	266	365	3.38%
[H]	Total Days	30	60	90	185	365	365	730	730	1095		
[I]	Implicit Short-Term Rate for 2008-2011										1460	3.77%
[J]	Implicit Short-Term Rate for 2008-2012										1825	3.69%

Sources and Notes:

[A]: Table No. MJV-R9 - Interest Rate Forecasts Panel A, [C].

[B] - [G]: Total number of days remaining for each period, beginning with March 20, 2007.

[H]: Sum of [B] through [G] for the respective period.

[11]: [(1+ Implied Short-Term Yield$_1$)^(days remaining in period$_1$)x…x(1+Implied Short-Term Yield$_n$)^(days remaining in period$_n$)]^(1/[9])-1.

This formula is applied to all periods from 1 to n in each year.

[I]: ((1+[10][C])^[9][C]x…x(1+10[F])^[9][F]))^(1/[9][I])-1.

[J]: ((1+[10][C])^[9][C]x…x(1+10[G])^[9][G]))^(1/[9][J])-1.

Workpaper #1 to Table No. MJV-R9 - Risk Premium Forecast

US Electric Sample (Including Imputed Debt)

Panel A: Historical Bond Yield Averages

	Treasury Bill Yield [1]	Intermediate-Term Government Bond Yield [2]	Long-Term Government Bond Yield [3]	Long-Term Corporate Bonds (Total Return) [4]
1926	3.27%	3.61%	3.54%	7.37%
1927	3.12%	3.40%	3.17%	7.44%
1928	3.56%	4.01%	3.40%	2.84%
1929	4.75%	3.62%	3.40%	3.27%
1930	2.41%	2.91%	3.30%	7.98%
1931	1.07%	4.12%	4.07%	-1.85%
1932	0.96%	3.04%	3.15%	10.82%
1933	0.30%	3.25%	3.36%	10.38%
1934	0.16%	2.49%	2.93%	13.84%
1935	0.17%	1.63%	2.76%	9.61%
1936	0.18%	1.29%	2.55%	6.74%
1937	0.31%	1.14%	2.73%	2.75%
1938	-0.02%	1.52%	2.52%	6.13%
1939	0.02%	0.98%	2.26%	3.97%
1940	0.00%	0.57%	1.94%	3.39%
1941	0.06%	0.82%	2.04%	2.73%
1942	0.27%	0.72%	2.46%	2.60%
1943	0.35%	1.45%	2.48%	2.83%
1944	0.33%	1.40%	2.46%	4.73%
1945	0.33%	1.03%	1.99%	4.08%
1946	0.35%	1.12%	2.12%	1.72%
1947	0.50%	1.34%	2.43%	-2.34%
1948	0.81%	1.51%	2.37%	4.14%
1949	1.10%	1.23%	2.09%	3.31%
1950	1.20%	1.62%	2.24%	2.12%
1951	1.49%	2.17%	2.69%	-2.69%
1952	1.66%	2.35%	2.79%	3.52%
1953	1.82%	2.18%	2.74%	3.41%
1954	0.86%	1.72%	2.72%	5.39%
1955	1.57%	2.80%	2.95%	0.48%
1956	2.46%	3.63%	3.45%	-6.81%
1957	3.14%	2.84%	3.23%	8.71%
1958	1.54%	3.81%	3.82%	-2.22%
1959	2.95%	4.98%	4.47%	-0.97%
1960	2.66%	3.31%	3.80%	9.07%
1961	2.13%	3.84%	4.15%	4.82%
1962	2.73%	3.50%	3.95%	7.95%
1963	3.12%	4.04%	4.17%	2.19%
1964	3.54%	4.03%	4.23%	4.77%
1965	3.93%	4.90%	4.50%	-0.46%
1966	4.76%	4.79%	4.55%	0.20%
1967	4.21%	5.77%	5.56%	-4.95%
1968	5.21%	5.96%	5.98%	2.57%
1969	6.58%	8.29%	6.87%	-8.09%
1970	6.52%	5.90%	6.48%	18.37%
1971	4.39%	5.25%	5.97%	11.01%
1972	3.84%	5.85%	5.99%	7.26%
1973	6.93%	6.75%	7.26%	1.14%
1974	8.00%	7.12%	7.60%	-3.06%
1975	5.80%	7.19%	8.05%	14.64%
1976	5.08%	6.00%	7.21%	18.65%
1977	5.12%	7.51%	8.03%	1.71%
1978	7.18%	8.83%	8.98%	-0.07%
1979	10.38%	10.33%	10.12%	-4.18%
1980	11.24%	12.45%	11.99%	-2.62%
1981	14.71%	13.96%	13.34%	-0.96%
1982	10.54%	9.90%	10.95%	43.79%
1983	8.80%	11.41%	11.97%	4.70%
1984	9.85%	11.04%	11.70%	16.39%
1985	7.72%	8.55%	9.56%	30.90%
1986	6.16%	6.85%	7.89%	19.85%
1987	5.47%	8.32%	9.20%	-0.27%
1988	6.35%	9.17%	9.19%	10.70%
1989	8.37%	7.94%	8.16%	16.23%
1990	7.81%	7.70%	8.44%	6.78%
1991	5.60%	5.97%	7.30%	19.89%
1992	3.51%	6.11%	7.26%	9.39%
1993	2.90%	5.22%	6.54%	13.19%
1994	3.90%	7.80%	7.99%	-5.76%
1995	5.60%	5.38%	6.03%	27.20%
1996	5.21%	6.16%	6.73%	1.40%
1997	5.26%	5.73%	6.02%	12.95%
1998	4.86%	4.68%	5.42%	10.76%
1999	4.68%	6.45%	6.82%	-7.45%
2000	5.89%	5.07%	5.58%	12.87%
2001	3.83%	4.42%	5.75%	10.65%
2002	1.65%	2.61%	4.84%	16.33%
2003	1.02%	2.97%	5.11%	5.27%
2004	1.20%	3.47%	4.84%	8.72%
2005	2.98%	4.34%	4.61%	5.87%
2006	4.80%	4.65%	4.91%	3.24%

[1] - [4]: Ibbotson Associates Stocks Bonds Bills (SBBI) and Inflation monthly paper reports.

Workpaper #1 to Table No. MJV-R9

US Electric Sample (Including Imputed Debt)

Panel B: Calculation of Maturity Premia for Different Bond Series

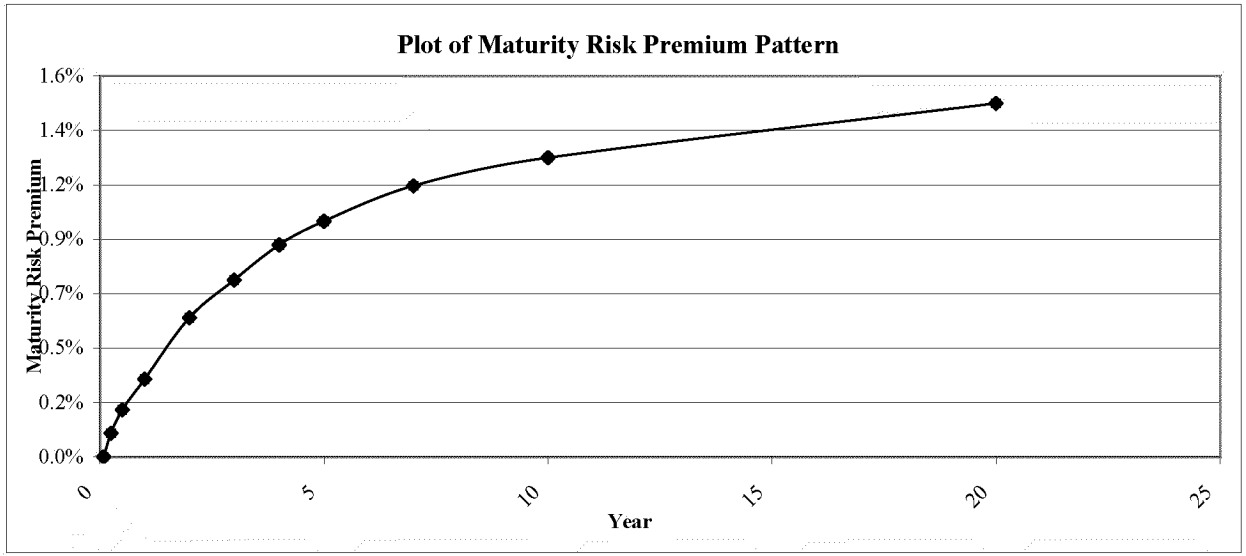
	Annual Historical Average			Maturity Premium Calculation		
	T-Bill Total Return [1]	Intermediate Term Bond Yields [2]	Long-Term Government Bond Yield [3]	T-Bill Total Return [4]	Intermediate Term Bond Yields [5]	Long-Term Government Bond Yield [6]
1926 - 2006	3.77%	4.74%	5.29%	0.00%	0.97%	1.52%
1947 - 2006	4.72%	5.66%	6.16%	0.00%	0.94%	1.44%
1947 - 1966	2.20%	3.03%	3.37%	0.00%	0.83%	1.17%
1967 - 1986	7.41%	8.25%	8.57%	0.00%	0.83%	1.16%
1987 - 2006	4.54%	5.71%	6.54%	0.00%	1.16%	1.99%
Current	5.16%	4.53%	4.90%	0.00%	-0.62%	-0.26%

Sources and Notes:
[1] - [3] : Workpaper #1 to Table No. MJV-9, Panel A.
Maturity Premium is defined as the Average Bond Yield (for each series) less Risk Free Total Return.
[4]: [1] - [1].
[5]: [2] - [1].
[6]: [3] - [1].
Current data from Table No. MJV-9, Panel A.

Workpaper #1 to Table No. MJV-R9

US Electric Sample (Including Imputed Debt)

Panel C: Maturity Premium Graph and Calculations (Using Annual Series Data)



Maturity of Bond (Years) [1]	Maturity Risk Premium [2]	Annualized Difference [3]
0.083	0.00%	
0.25	0.10%	0.60%
0.5	0.20%	0.40%
1	0.33%	0.26%
2	0.59%	0.26%
3	0.75%	0.16%
4	0.90%	0.15%
5	1.00%	0.10%
7	1.15%	0.08%
10	1.27%	0.04%
20	1.50%	0.02%

Sources and Notes:
[1]: The maturity of a bond in years.
[2]: Workpaper #1 to Table No. MJV-9, Panel B; [4] - [6] and MJV Testimony.
[3]: MJV Testimony.

Table No. MJV-R10

Risk Positioning Cost of Equity of the US Electric Sample (Including Imputed Debt)

Panel A: Using Value Line Betas and the Long-Term Risk-Free Rate

Company	US Long-Term Risk-Free Rate [1]	Value Line Betas [2]	Long-Term Market Risk Premium [3]	CAPM Cost of Equity [4]	ECAPM (0.5%) Cost of Equity [5]	ECAPM (1.5%) Cost of Equity [6]
Cleco Corp	4.9%	1.30	6.50%	13.4%	13.2%	12.9%
Consolidated Edison Inc	4.9%	0.75	6.50%	9.8%	9.9%	10.2%
Empire District Electric Co/The	4.9%	0.80	6.50%	10.1%	10.2%	10.4%
Entergy Corp	4.9%	0.85	6.50%	10.4%	10.5%	10.7%
MGE Energy Inc	4.9%	0.75	6.50%	9.8%	9.9%	10.2%
NSTAR	4.9%	0.80	6.50%	10.1%	10.2%	10.4%
Pinnacle West Capital Corp	4.9%	1.00	6.50%	11.4%	11.4%	11.4%
PPL Corp	4.9%	0.95	6.50%	11.1%	11.1%	11.2%
Southern Co	4.9%	0.70	6.50%	9.5%	9.6%	9.9%

Sources and Notes:
[1]: Table No. MJV-R9 - Interest Rate Forecasts, Panel A, Row [A].
[2]: Workpaper # 1 to Table No. MJV-R10, column [1].
[3]: Vilbert Written Evidence, Appendix B.
[4]: [1] + ([2] x [3]).
[5]: ([1] + 0.5%) + [2] x ([3] - 0.5%).
[6]: ([1] + 1.5%) + [2] x ([3] - 1.5%).

Table No. MJV-R10

Risk Positioning Cost of Equity of the US Electric Sample (Including Imputed Debt)

Panel B: Using Value Line Betas and the Short-Term Risk-Free Rate.

Company	US Short-Term Risk-Free Rate [1]	Value Line Betas [2]	Short-Term Market Risk Premium [3]	CAPM Cost of Equity [4]	ECAPM (1%) Cost of Equity [5]	ECAPM (2%) Cost of Equity [6]	ECAPM (3%) Cost of Equity [7]
Cleco Corp	3.8%	1.30	8.0%	14.2%	13.9%	13.6%	13.3%
Consolidated Edison Inc	3.8%	0.75	8.0%	9.8%	10.1%	10.3%	10.6%
Empire District Electric Co/The	3.8%	0.80	8.0%	10.2%	10.4%	10.6%	10.8%
Entergy Corp	3.8%	0.85	8.0%	10.6%	10.8%	10.9%	11.1%
MGE Energy Inc	3.8%	0.75	8.0%	9.8%	10.1%	10.3%	10.6%
NSTAR	3.8%	0.80	8.0%	10.2%	10.4%	10.6%	10.8%
Pinnacle West Capital Corp	3.8%	1.00	8.0%	11.8%	11.8%	11.8%	11.8%
PPL Corp	3.8%	0.95	8.0%	11.4%	11.5%	11.5%	11.6%
Southern Co	3.8%	0.70	8.0%	9.4%	9.7%	10.0%	10.3%

Sources and Notes:
[1]: Table No. MJV-R9 - Interest Rate Forecasts, Panel B, Row [I].
[2]: Workpaper # 1 to Table No. MJV-R10, column [1].
[3]: Vilbert Written Evidence, Appendix B.
[4]: [1] + ([2] x [3]).
[5]: ([1] + 1%) + [2] x ([3] - 1%).
[6]: ([1] + 2%) + [2] x ([3] - 2%).
[7]: ([1] + 3%) + [2] x ([3] - 3%).

Workpaper # 1 to Table No. MJV-R10

US Electric Sample (Including Imputed Debt)

Value Line Betas

Company	Value Line Betas [1]
Cleco Corp	1.30
Consolidated Edison Inc	0.75
Empire District Electric Co/The	0.80
Entergy Corp	0.85
MGE Energy Inc	0.75
NSTAR	0.80
Pinnacle West Capital Corp	1.00
PPL Corp	0.95
Southern Co	0.70
Average:	0.88

Sources and Notes:
[1]: Value Line Standard Edition as of March 20, 2007. Dated as of December 29, 2006, February 9, 2007 and March 2, 2007.

Table No. MJV-R11

Overall Cost of Capital of the US Electric Sample (Including Imputed Debt)

Panel A: CAPM Cost of Equity Based on Value Line Betas and a Long-Term Risk-Free Rate

Company	CAPM Cost of Equity [1]	4-Year Average Common Equity to Market Value Ratio [2]	Weighted - Average Cost of Preferred Equity [3]	4-Year Average Preferred Equity to Market Value Ratio [4]	Weighted Average Cost of Debt [5]	4-Year Average Debt to Market Value Ratio [6]	Wisconsin Electric Co.'s Income Tax Rate [7]	Overall After- Tax Cost of Capital [8]
Cleco Corp	13.4%	0.52	6.0%	0.01	6.1%	0.47	39.8%	8.7%
Consolidated Edison Inc	9.8%	0.52	5.9%	0.01	5.9%	0.47	39.8%	6.8%
Empire District Electric Co/The	10.1%	0.53	-	-	6.1%	0.47	39.8%	7.1%
Entergy Corp	10.4%	0.60	6.0%	0.01	6.1%	0.39	39.8%	7.7%
MGE Energy Inc	9.8%	0.66	-	-	5.7%	0.34	39.8%	7.6%
NSTAR	10.1%	0.50	5.9%	0.00	5.9%	0.50	39.8%	6.8%
Pinnacle West Capital Corp	11.4%	0.47	-	-	6.1%	0.53	39.8%	7.3%
PPL Corp	11.1%	0.51	6.0%	0.01	6.1%	0.48	39.8%	7.5%
Southern Co	9.5%	0.63	5.9%	0.01	5.9%	0.36	39.8%	7.3%
Average	10.6%	0.55	5.9%	0.01	6.0%	0.44	39.8%	7.4%

Sources and Notes:
[1]: Table No. MJV-R10; Panel A, [4].
[2]: Table No. MJV-R4, [4].
[3]: Workpaper #2 to Table No. MJV-R11 ; Panel B, [1].
[4]: Table No. MJV-R4, [5].
[5]: Workpaper #2 to Table No. MJV-R11 ; Panel A, [1].
[6]: Table No. MJV-R4, [6].
[7]: Provided by Wisconsin Electric Co..
[8]: ([1] x [2]) + ([3] x [4]) + {[5] x [6] x (1 - [7])}.

Average over all companies with a CAPM Cost of Equity greater than Cost of Debt plus 25 bps.

Table No. MJV-R11

Overall Cost of Capital of the US Electric Sample (Including Imputed Debt)

Panel B: ECAPM (0.5%) Cost of Equity Based on Value Line Betas and a Long-Term Risk-Free Rate

Company	ECAPM (0.5%) Cost of Equity [1]	4-Year Average Common Equity to Market Value Ratio [2]	Weighted - Average Cost of Preferred Equity [3]	4-Year Average Preferred Equity to Market Value Ratio [4]	Weighted Average Cost of Debt [5]	4-Year Average Debt to Market Value Ratio [6]	Wisconsin Electric Co.'s Income Tax Rate [7]	Overall After- Tax Cost of Capital [8]
Cleco Corp	13.2%	0.52	6.0%	0.01	6.1%	0.47	39.8%	8.7%
Consolidated Edison Inc	9.9%	0.52	5.9%	0.01	5.9%	0.47	39.8%	6.9%
Empire District Electric Co/The	10.2%	0.53	-	-	6.1%	0.47	39.8%	7.1%
Entergy Corp	10.5%	0.60	6.0%	0.01	6.1%	0.39	39.8%	7.8%
MGE Energy Inc	9.9%	0.66	-	-	5.7%	0.34	39.8%	7.7%
NSTAR	10.2%	0.50	5.9%	0.00	5.9%	0.50	39.8%	6.9%
Pinnacle West Capital Corp	11.4%	0.47	-	-	6.1%	0.53	39.8%	7.3%
PPL Corp	11.1%	0.51	6.0%	0.01	6.1%	0.48	39.8%	7.5%
Southern Co	9.6%	0.63	5.9%	0.01	5.9%	0.36	39.8%	7.4%
Average	10.7%	0.55	5.9%	0.01	6.0%	0.44	39.8%	7.5%

Sources and Notes:
[1]: Table No. MJV-R10; Panel A, [5].
[2]: Table No. MJV-R4, [4].
[3]: Workpaper #2 to Table No. MJV-R11 ; Panel B, [1].
[4]: Table No. MJV-R4, [5].
[5]: Workpaper #2 to Table No. MJV-R11 ; Panel A, [1].
[6]: Table No. MJV-R4, [6].
[7]: Provided by Wisconsin Electric Co..
[8]: ([1] x [2]) + ([3] x [4]) + {[5] x [6] x (1 - [7])}.

Average over all companies with a CAPM Cost of Equity greater than Cost of Debt plus 25 bps.

Table No. MJV-R11

Overall Cost of Capital of the US Electric Sample (Including Imputed Debt)

Panel C: ECAPM (1.5%) Cost of Equity Based on Value Line Betas and a Long-Term Risk-Free Rate

Company	ECAPM (1.5%) Cost of Equity [1]	4-Year Average Common Equity to Market Value Ratio [2]	Weighted - Average Cost of Preferred Equity [3]	4-Year Average Preferred Equity to Market Value Ratio [4]	Weighted Average Cost of Debt [5]	4-Year Average Debt to Market Value Ratio [6]	Wisconsin Electric Co.'s Income Tax Rate [7]	Overall After- Tax Cost of Capital [8]
Cleco Corp	12.9%	0.52	6.0%	0.01	6.1%	0.47	39.8%	8.5%
Consolidated Edison Inc	10.2%	0.52	5.9%	0.01	5.9%	0.47	39.8%	7.0%
Empire District Electric Co/The	10.4%	0.53	-	-	6.1%	0.47	39.8%	7.2%
Entergy Corp	10.7%	0.60	6.0%	0.01	6.1%	0.39	39.8%	7.9%
MGE Energy Inc	10.2%	0.66	-	-	5.7%	0.34	39.8%	7.9%
NSTAR	10.4%	0.50	5.9%	0.00	5.9%	0.50	39.8%	7.0%
Pinnacle West Capital Corp	11.4%	0.47	-	-	6.1%	0.53	39.8%	7.3%
PPL Corp	11.2%	0.51	6.0%	0.01	6.1%	0.48	39.8%	7.5%
Southern Co	9.9%	0.63	5.9%	0.01	5.9%	0.36	39.8%	7.5%
Average	10.8%	0.55	5.9%	0.01	6.0%	0.44	39.8%	7.5%

Sources and Notes:
[1]: Table No. MJV-R10; Panel A, [6].
[2]: Table No. MJV-R4, [4].
[3]: Workpaper #2 to Table No. MJV-R11 ; Panel B, [1].
[4]: Table No. MJV-R4, [5].
[5]: Workpaper #2 to Table No. MJV-R11 ; Panel A, [1].
[6]: Table No. MJV-R4, [6].
[7]: Provided by Wisconsin Electric Co..
[8]: ([1] x [2]) + ([3] x [4]) + {[5] x [6] x (1 - [7])}.

Average over all companies with a CAPM Cost of Equity greater than Cost of Debt plus 25 bps.

Table No. MJV-R11

Overall Cost of Capital of the US Electric Sample (Including Imputed Debt)

Panel D: CAPM Cost of Equity Based on Value Line Betas and a Short-Term Risk-Free Rate

Company	CAPM Cost of Equity [1]	4-Year Average Common Equity to Market Value Ratio [2]	Weighted - Average Cost of Preferred Equity [3]	4-Year Average Preferred Equity to Market Value Ratio [4]	Weighted Average Cost of Debt [5]	5-Year Average Debt to Market Value Ratio [6]	Wisconsin Electric Co.'s Income Tax Rate [7]	Overall After- Tax Cost of Capital [8]
Cleco Corp	14.2%	0.52	6.0%	0.01	6.1%	0.47	39.8%	9.2%
Consolidated Edison Inc	9.8%	0.52	5.9%	0.01	5.9%	0.47	39.8%	6.8%
Empire District Electric Co/The	10.2%	0.53	-	-	6.1%	0.47	39.8%	7.1%
Entergy Corp	10.6%	0.60	6.0%	0.01	6.1%	0.39	39.8%	7.8%
MGE Energy Inc	9.8%	0.66	-	-	5.7%	0.34	39.8%	7.6%
NSTAR	10.2%	0.50	5.9%	0.00	5.9%	0.50	39.8%	6.9%
Pinnacle West Capital Corp	11.8%	0.47	-	-	6.1%	0.53	39.8%	7.5%
PPL Corp	11.4%	0.51	6.0%	0.01	6.1%	0.48	39.8%	7.6%
Southern Co	9.4%	0.63	5.9%	0.01	5.9%	0.36	39.8%	7.2%
Average	10.8%	0.55	5.9%	0.01	6.0%	0.44	39.8%	7.5%

Sources and Notes:
[1]: Table No. MJV-R10; Panel B, [4].
[2]: Table No. MJV-R4, [4].
[3]: Workpaper #2 to Table No. MJV-R11 ; Panel B, [1].
[4]: Table No. MJV-R4, [5].
[5]: Workpaper #2 to Table No. MJV-R11 ; Panel A, [1].
[6]: Table No. MJV-R4, [6].
[7]: Provided by Wisconsin Electric Co..
[8]: ([1] x [2]) + ([3] x [4]) + {[5] x [6] x (1 - [7])}.

Average over all companies with a CAPM Cost of Equity greater than Cost of Debt plus 25 bps.

Table No. MJV-R11

Overall Cost of Capital of the US Electric Sample (Including Imputed Debt)

Panel E: ECAPM (1%) Cost of Equity Based on Value Line Betas and a Short-Term Risk-Free Rate

Company	ECAPM (1%) Cost of Equity [1]	4-Year Average Common Equity to Market Value Ratio [2]	Weighted - Average Cost of Preferred Equity [3]	4-Year Average Preferred Equity to Market Value Ratio [4]	Weighted Average Cost of Debt [5]	5-Year Average Debt to Market Value Ratio [6]	Wisconsin Electric Co.'s Income Tax Rate [7]	Overall After- Tax Cost of Capital [8]
Cleco Corp	13.9%	0.52	6.0%	0.01	6.1%	0.47	39.8%	9.0%
Consolidated Edison Inc	10.1%	0.52	5.9%	0.01	5.9%	0.47	39.8%	6.9%
Empire District Electric Co/The	10.4%	0.53	-	-	6.1%	0.47	39.8%	7.2%
Entergy Corp	10.8%	0.60	6.0%	0.01	6.1%	0.39	39.8%	7.9%
MGE Energy Inc	10.1%	0.66	-	-	5.7%	0.34	39.8%	7.8%
NSTAR	10.4%	0.50	5.9%	0.00	5.9%	0.50	39.8%	7.0%
Pinnacle West Capital Corp	11.8%	0.47	-	-	6.1%	0.53	39.8%	7.5%
PPL Corp	11.5%	0.51	6.0%	0.01	6.1%	0.48	39.8%	7.7%
Southern Co	9.7%	0.63	5.9%	0.01	5.9%	0.36	39.8%	7.4%
Average	10.9%	0.55	5.9%	0.01	6.0%	0.44	39.8%	7.6%

Sources and Notes:
[1]: Table No. MJV-R10; Panel B, [5].
[2]: Table No. MJV-R4, [4].
[3]: Workpaper #2 to Table No. MJV-R11 ; Panel B, [1].
[4]: Table No. MJV-R4, [5].
[5]: Workpaper #2 to Table No. MJV-R11 ; Panel A, [1].
[6]: Table No. MJV-R4, [6].
[7]: Provided by Wisconsin Electric Co..
[8]: ([1] x [2]) + ([3] x [4]) + {[5] x [6] x (1 - [7])}.

Average over all companies with a CAPM Cost of Equity greater than Cost of Debt plus 25 bps.

Table No. MJV-R11

Overall Cost of Capital of the US Electric Sample (Including Imputed Debt)

Panel F: ECAPM (2%) Cost of Equity Based on Value Line Betas and a Short-Term Risk-Free Rate

Company	ECAPM (2%) Cost of Equity [1]	4-Year Average Common Equity to Market Value Ratio [2]	Weighted - Average Cost of Preferred Equity [3]	4-Year Average Preferred Equity to Market Value Ratio [4]	Weighted Average Cost of Debt [5]	5-Year Average Debt to Market Value Ratio [6]	Wisconsin Electric Co.'s Income Tax Rate [7]	Overall After- Tax Cost of Capital [8]
Cleco Corp	13.6%	0.52	6.0%	0.01	6.1%	0.47	39.8%	8.9%
Consolidated Edison Inc	10.3%	0.52	5.9%	0.01	5.9%	0.47	39.8%	7.1%
Empire District Electric Co/The	10.6%	0.53	-	-	6.1%	0.47	39.8%	7.3%
Entergy Corp	10.9%	0.60	6.0%	0.01	6.1%	0.39	39.8%	8.0%
MGE Energy Inc	10.3%	0.66	-	-	5.7%	0.34	39.8%	8.0%
NSTAR	10.6%	0.50	5.9%	0.00	5.9%	0.50	39.8%	7.1%
Pinnacle West Capital Corp	11.8%	0.47	-	-	6.1%	0.53	39.8%	7.5%
PPL Corp	11.5%	0.51	6.0%	0.01	6.1%	0.48	39.8%	7.7%
Southern Co	10.0%	0.63	5.9%	0.01	5.9%	0.36	39.8%	7.6%
Average	11.1%	0.55	5.9%	0.01	6.0%	0.44	39.8%	7.7%

Sources and Notes:
[1]: Table No. MJV-R10; Panel B, [6].
[2]: Table No. MJV-R4, [4].
[3]: Workpaper #2 to Table No. MJV-R11 ; Panel B, [1].
[4]: Table No. MJV-R4, [5].
[5]: Workpaper #2 to Table No. MJV-R11 ; Panel A, [1].
[6]: Table No. MJV-R4, [6].
[7]: Provided by Wisconsin Electric Co..
[8]: ([1] x [2]) + ([3] x [4]) + {[5] x [6] x (1 - [7])}.

Average over all companies with a CAPM Cost of Equity greater than Cost of Debt plus 25 bps.

Table No. MJV-R11

Overall Cost of Capital of the US Electric Sample (Including Imputed Debt)

Panel G: ECAPM (3%) Cost of Equity Based on Value Line Betas and a Short-Term Risk-Free Rate

Company	ECAPM (3%) Cost of Equity [1]	4-Year Average Common Equity to Market Value Ratio [2]	Weighted - Average Cost of Preferred Equity [3]	4-Year Average Preferred Equity to Market Value Ratio [4]	Weighted Average Cost of Debt [5]	5-Year Average Debt to Market Value Ratio [6]	Wisconsin Electric Co.'s Income Tax Rate [7]	Overall After- Tax Cost of Capital [8]
Cleco Corp	13.3%	0.52	6.0%	0.01	6.1%	0.47	39.8%	8.7%
Consolidated Edison Inc	10.6%	0.52	5.9%	0.01	5.9%	0.47	39.8%	7.2%
Empire District Electric Co/The	10.8%	0.53	-	-	6.1%	0.47	39.8%	7.5%
Entergy Corp	11.1%	0.60	6.0%	0.01	6.1%	0.39	39.8%	8.1%
MGE Energy Inc	10.6%	0.66	-	-	5.7%	0.34	39.8%	8.1%
NSTAR	10.8%	0.50	5.9%	0.00	5.9%	0.50	39.8%	7.2%
Pinnacle West Capital Corp	11.8%	0.47	-	-	6.1%	0.53	39.8%	7.5%
PPL Corp	11.6%	0.51	6.0%	0.01	6.1%	0.48	39.8%	7.7%
Southern Co	10.3%	0.63	5.9%	0.01	5.9%	0.36	39.8%	7.8%
Average	11.2%	0.55	5.9%	0.01	6.0%	0.44	39.8%	7.8%

Sources and Notes:
[1]: Table No. MJV-R10; Panel B, [7].
[2]: Table No. MJV-R4, [4].
[3]: Workpaper #2 to Table No. MJV-R11 ; Panel B, [1].
[4]: Table No. MJV-R4, [5].
[5]: Workpaper #2 to Table No. MJV-R11 ; Panel A, [1].
[6]: Table No. MJV-R4, [6].
[7]: Provided by Wisconsin Electric Co..
[8]: ([1] x [2]) + ([3] x [4]) + {[5] x [6] x (1 - [7])}.

Average over all companies with a CAPM Cost of Equity greater than Cost of Debt plus 25 bps.

Workpaper #1 to Table No. MJV-R11

US Electric Sample (Including Imputed Debt)

Panel A: Bond Rating Summary

Company	Year End, 2006 [1]	2005 [2]	2004 [3]	2003 [4]
Cleco Corp	BBB	BBB	BBB	BBB
Consolidated Edison Inc	A	A	A	A
Empire District Electric Co/The	BBB	BBB	BBB	BBB
Entergy Corp	BBB	BBB	BBB	BBB
MGE Energy Inc	AA	AA	AA	AA
NSTAR	A	A	A	A
Pinnacle West Capital Corp	BBB	BBB	BBB	BBB
PPL Corp	BBB	BBB	BBB	BBB
Southern Co	A	A	A	A

Sources and Notes:
[1] - [4]: Bloomberg as of April 09, 2007.

Workpaper #1 to Table No. MJV-R11

US Electric Sample (Including Imputed Debt)

Panel B: Preferred Equity Rating Summary

Company	Year End, 2006 [1]	2005 [2]	2004 [3]	2003 [4]
Cleco Corp	BBB	BBB	BBB	BBB
Consolidated Edison Inc	A	A	A	A
Empire District Electric Co/The	-	-	-	-
Entergy Corp	BBB	BBB	BBB	BBB
MGE Energy Inc	-	-	-	-
NSTAR	-	-	A	A
Pinnacle West Capital Corp	-	-	-	-
PPL Corp	BBB	BBB	BBB	BBB
Southern Co	A	A	A	A

Sources and Notes:
[1] - [4]: Preferred equity ratings are assumed equal to the company's bond ratings reported in Workpaper #1 to Table No. MJV-R11, Panels A and B.

Workpaper #1 to Table No. MJV-R11

US Electric Sample (Including Imputed Debt)

Panel C: Rating to Yield Conversion

Rating	Bond Yield	Preferred Yield
AA	5.72%	5.76%
A	5.85%	5.85%
BBB	6.11%	6.04%

Sources and Notes:
Bond Yields from Bloomberg as of March 27, 2007.
Preferred Yields from Mergent Bond Record, as of
AA estimated as A - 0.5 * (BBB - A).

Workpaper #2 to Table No. MJV-R11

US Electric Sample (Including Imputed Debt)

Panel A: Bond Yield Summary

Company	Year End, 2006 [1]	2005 [2]	2004 [3]	2003 [4]	4-Year Weighted Average [5]
Cleco Corp	6.11%	6.11%	6.11%	6.11%	6.11%
Consolidated Edison Inc	5.85%	5.85%	5.85%	5.85%	5.85%
Empire District Electric Co/The	6.11%	6.11%	6.11%	6.11%	6.11%
Entergy Corp	6.11%	6.11%	6.11%	6.11%	6.11%
MGE Energy Inc	5.72%	5.72%	5.72%	5.72%	5.72%
NSTAR	5.85%	5.85%	5.85%	5.85%	5.85%
Pinnacle West Capital Corp	6.11%	6.11%	6.11%	6.11%	6.11%
PPL Corp	6.11%	6.11%	6.11%	6.11%	6.11%
Southern Co	5.85%	5.85%	5.85%	5.85%	5.85%

Sources and Notes:
[1] - [4]: Ratings based on Workpaper #1 to Table No. MJV-R11, Panel A and bond yields from Bloomberg as of March 27, 2007.
[5]: {[1] + [2] + [3] + [4]} / 4.

Workpaper #2 to Table No. MJV-R11

US Electric Sample (Including Imputed Debt)

Panel B: Preferred Equity Yield Summary

Company	Year End, 2006 [1]	2005 [2]	2004 [3]	2003 [4]	4-Year Weighted Average [5]
Cleco Corp	6.04%	6.04%	6.04%	6.04%	6.04%
Consolidated Edison Inc	5.85%	5.85%	5.85%	5.85%	5.85%
Empire District Electric Co/The	-	-	-	-	-
Entergy Corp	6.04%	6.04%	6.04%	6.04%	6.04%
MGE Energy Inc	-	-	-	-	-
NSTAR	-	-	5.85%	5.85%	5.85%
Pinnacle West Capital Corp	-	-	-	-	-
PPL Corp	6.04%	6.04%	6.04%	6.04%	6.04%
Southern Co	5.85%	5.85%	5.85%	5.85%	5.85%

Sources and Notes:

[1] - [4]: Ratings based on Workpaper #1 to Table No. MJV-R11, Panel A are assumed to equal preferred ratings. Preferred equity yields are from Mergent Bond Record, as of March 2007.
[5]: {[1] + [2] + [3] + [4]} / 4.

The report does not publish yield data for AA-rated preferred equity. Therefore, when there is a AA we assumed:
Yield on AA-rated preferred equity = Yield on A-rated bond - {(1/2) x (Yield on BBB-rated bond - Yield on A-rated

Table No. MJV-R12

Risk Positioning Cost of Equity at Wisconsin Electric Co.'s Capital Structure

US Electric Sample (Including Imputed Debt)

Using Captial Structure and Value Line Betas

	Overall Cost of Capital [1]	Wisconsin Electric Co.'s Regulatory % Debt [2]	Wisconsin Electric Co.'s Cost of Debt [3]	Wisconsin Electric Co.'s Income Tax Rate [4]	Wisconsin Electric Co.'s Regulatory % Preferred Equity [5]	Wisconsin Electric Co.'s Cost of Preferred Equity [6]	Wisconsin Electric Co.'s Regulatory % Equity [7]	Estimated Return on Equity [8]
Using Long-Term Risk-Free Rates:								
CAPM using Value Line Betas	7.4%	0.48	5.9%	39.8%	0.6%	5.9%	0.52	11.03%
ECAPM (0.50%) using Value Line Betas	7.5%	0.48	5.9%	39.8%	0.6%	5.9%	0.52	11.10%
ECAPM (1.50) using Value Line Betas	7.5%	0.48	5.9%	39.8%	0.6%	5.9%	0.52	11.24%
Using Short-Term Risk-Free Rates:								
CAPM using Value Line Betas	7.5%	0.48	5.9%	39.8%	0.6%	5.9%	0.52	11.24%
ECAPM (1%) using Value Line Betas	7.6%	0.48	5.9%	39.8%	0.6%	5.9%	0.52	11.38%
ECAPM (2%) using Value Line Betas	7.7%	0.48	5.9%	39.8%	0.6%	5.9%	0.52	11.52%
ECAPM (3%) using Value Line Betas	7.8%	0.48	5.9%	39.8%	0.6%	5.9%	0.52	11.66%

Sources and Notes:
[1]: Table No. MJV-R11; Panels A - G, [8].
[2]: Workpaper #4 to Table No. MJV-R4.
[3]: Based off an A rating, as provided by Wisconsin Electric Co.. Yield pulled from Bloomberg as of March 27, 2007.
[4]: Provided by Wisconsin Electric Co.
[5]: Workpaper #4 to Table No. MJV-R4.
[6]: Based off an A rating, as provided by Wisconsin Electric Co. Yield from March 2007 Mergent Bond Record.
[7]: Workpaper #4 to Table No. MJV-R4.
[8]: {[1] - ([2] x [3] x (1 - [4]) + [5] x [6])} / [7].

Rating Methodology

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North American Regulated Gas Distribution Industry (Local Distribution Companies)

Summary

The purpose of this methodology is to provide investors and other interested parties with a clear understanding of how Moody's assigns ratings to issuers and their obligations in the North American local gas distribution (LDC) sector. Our goal is to help the market understand the factors we consider most important for this sector and how they map to specific rating outcomes. Readers should be able to use this report to gauge a company's ratings within two notches.

This rating methodology covers 30 gas utilities in North America (Canada and the United States) all of whom are regulated by their provincial, state or municipal utility commissions. These are relatively small companies that are limited to a particular franchise territory and which ordinarily would not carry investment grade ratings were they not protected through regulation and assured the certainty of a positive gross margin in exchange for the public expectation of a reliable and safe gas distribution service.

Overall, Moody's analysis of gas utility companies focuses on the following core rating factors:

1. Sustainable Profitability
2. Regulatory Support
3. Ring Fencing
4. Financial Strength and Flexibility

In addition Moody's analyzes factors that are common across all industries such as liquidity, corporate governance, event risk, and legal structure.

About the Rated Universe

The focus of this rating methodology is on the "pure" gas LDCs in North America. We note that this methodology is concerned principally with operating utilities regulated by their local jurisdictions and not with gas utilities owned by parent holding companies that have other non-regulated businesses.

It is anticipated that a separate rating methodology will be forthcoming that would govern the ratings of such "diversified" gas companies including those that may have expanded through non-utility subsidiaries into other non-LDC businesses such as sales of unregulated electric power and gas contracts (energy marketing), gas pipeline transmission and storage, gas gathering and processing, exploration and production, energy trading or businesses that are non-energy related activities (e.g. real estate development or underground construction services).

Additionally, a third rating methodology would also be forthcoming for the gas pipeline companies, completing the three sub-sectors that make up the largely regulated natural gas transmission and distribution industry in North America.

In all Moody's rates 30 companies in the pure gas LDC sector in North America with EBITDA ranging from US$ 32 million to US$ 681 million and total assets ranging from US$ 382 million to US$ 5,974 million. The rated universe stretches from the east coast to the west and ranges in complexity from utilities with jurisdiction in a single state to those with multiple state jurisdictions (such as Atmos Energy Corporation, which has utility operations in 12 states).

Industry Overview

The guiding principle behind gas LDCs is that they are regulated entities within their jurisdictions and are expected to conform to the regulatory framework established by their regulators. The regulatory framework may specify a pre-approved level of capitalization, return on equity, the pass-through of certain cost components and the recognition of a specified level of regulated assets within the base rates established for customers, and the setting of a depreciation schedule based on the average life of plant and equipment. In Canada, regulators may operate at the provincial level. In the United States they might operate at the state or municipal level. As these companies are regulated by local authorities, there are tremendous variances in regulatory frameworks, some more favorable to the utility companies than others.

Allowed rates of return on equity are generally modest (ranging from 9%-12% in most cases depending on cost of capital). This creates certain tradeoffs that are meant to ensure a safe and reliable public service in return for stable and predictable levels of income and cash flow.

HIGHLY SEASONAL DEMAND AND WORKING CAPITAL REQUIREMENTS

The gas distribution business in North America is generally highly seasonal and sensitive to weather variations from one year to another. The vast majority of earnings are derived during the winter heating season (typically, the five months from November through March). In the summer months LDCs usually break even or lose money.

In addition, LDCs are typically subject to vast swings in working capital requirements, with the build-up of natural gas inventory in underground storages occurring during late spring and early summer, reaching a peak in November/December and falling during the course of the winter as gas is consumed. Accounts receivables begin to build in November and generally peak in late December or January. The buildup of short-term debt to meet seasonal working capital needs follows the same winter inventory build-up and accounts receivables financing pattern, with many LDCs completely out of short-term debt by April/May.

In an attempt to standardize the measure of heating days in the year, the industry has adopted the use of "heating degree days," commonly defined as the extent to which the daily average temperature falls below 65 degrees Fahrenheit, (generally assumed to be the point at which individuals would typically heat their homes). The number of heating degree days in a given year are compared against a historical "norm" specified by a regulatory commission in a specific jurisdiction to establish the degree of normalcy within a time frame. This time frame can range anywhere from 10 to 30 years, depending on the formulation approved by the utility regulators.

In some jurisdictions, the earnings impact of weather variations is neutralized through the establishment of weather mitigants as part of fundamental rate design. In its rate applications to the local regulatory commission, the local utility would request protection from weather that is warmer than normal for itself and for its customers when weather is colder than normal. Specifically, weather is compared with current deviations from historical norms as measured in heating degree days. The term often associated with this formal mechanism to compensate a utility for warmer than normal weather (or to compensate a consumer for colder than normal weather) is commonly referred to as a "weather normalization clause" or "WNC."

In jurisdictions that leave LDCs to their own devices, LDCs can either go "naked," or they can purchase weather derivatives or weather insurance to mitigate the effects of margin variations caused by fluctuating weather conditions.

PASS-THROUGH OF NATURAL GAS PRICES

In addition to the fact that gas LDCs are subject to regulation by local authorities, they also operate under the premise that their fixed and variable operatiing costs are borne by their firm demand customers (usually residential and commercial) who use gas for space heating, cooking, or a combination of both. Under the terms of the LDC operating structure, the LDC is not expected to assume the commodity risk of gas, but is able to pass this cost through to customers in monthly bills. Depending on the gas prices at any given time, the commodity price component of a residential customer's monthly bill could be as high as 80%. The remaining 20% would be the LDC's charge for operating and investing in the infrastructure of its gas distribution system (which are, primarily, its fixed costs of operation).

With the advent of third-party gas commodity marketers, this commodity charge is often provided by gas suppliers to consumers utilizing the LDC's gas delivery network. Under this mechanism of "distribution only" charges, the LDC can sometimes use the gas marketer to bill for its 20% of distribution charges, thereby transferring bad debt and risk of non-collection to the gas marketer. More often however, the LDC bills customers for both the gas marketer's commodity supply charges as well as its own delivery charge, retaining bad debt on its own books.

In several jurisdictions, utility regulators have granted LDCs a "bad debt" tracker, which allows them to recover the costs of non-collection via their customers' rate bases or as part of the PGA (purchase gas adjustment clause). Some states such as Pennsylvania and Tennessee have increased the amount of real-time bad debt that could be passed-through to the customer and are also allowing delivery termination for non-paying or delinquent customers to protect the margins of the LDC.

STABLE AND PREDICTABLE EARNINGS AND CASH FLOW

If weather variations are largely mitigated, cost of gas is a pass-though commodity cost, and regulators permit the company to recover its cost of investment and other operating costs for maintaining the gas distribution system, the earnings of the LDC should, theoretically, be largely predictable and cash flows should be stable year after year.

In reality however, LDCs' earnings are not stable, as customers continually find ways to conserve on heating bills, to purchase more efficient appliances or to build better insulated homes. All of these measures result in gas "conservation" and diminishing earnings (again, revenues are largely dependent on the volume of gas consumed). In areas of high growth — i.e. where the customer base is increasing at rates in excess of 3% p.a. — there is also the added pressure of rising operating and maintenance expenditures as well as the need to catch up with lagging capital investment recoveries. These pressures, coupled with rising cost structures and a volatile energy environment oftentimes require an LDC to file more frequent rate cases requesting cost recoveries or changes in fundamental rate design to account for secular changes in consumer behavior patterns that affect the operating margins of the gas utility.

Key Ratings Issues Going Into the Next Decade

The key rating issues affecting the near and medium term fall into three general areas:

- Rising gas prices
- The push for conservation
- The rise of mergers and acquisitions

RISING GAS PRICES

Gas prices follow many of the pressures that bear on oil prices, but also demonstrate characteristics of their own. Historically, North America was an abundant producer of natural gas. What the US could not supply from its own gas fields could be obtained reliably from Canada. Over the years, Canada has been consuming more of its gas, both to supply its own citizens' needs and to recover heavy oil lodged in sand formations where gas is burned underground to facilitate the oil recovery mechanism.

Also affecting the industry is a change in the pattern of the summer lull in gas prices. This is attributable to the fact that the electric power industry has been building new generation plants fueled by gas, mainly because of gas' clean-combustion characteristics. The vast majority of new electric generating plants built in the past few years have been fired by gas and these power plants burn more summer gas to generate electricity to meet cooling demands. As a consequence, the traditional lull in summer gas prices has become less reliable with the increased volatility in gas commodity pricing.

Rising demand for natural gas has also diminished the supply cushion to the point that hurricane disruptions such as those in the gas producing areas of the Gulf of Mexico in 2005 created logistical delivery disruptions to certain LDCs in the southeastern portion of the US. This confluence of increased gas demand and supply constraints is likely to maintain upward price pressure on natural gas prices over the medium term.

High gas prices have the undesirable effect of causing a rise in bad debt expenses and uncollectible receivables for many gas utilities, creating yet more need for rate design improvements.

THE PUSH FOR CONSERVATION

Another consequence of high gas prices is consumer motivation to burn less gas when possible. We have observed an impetus to reduce consumption in response to rising prices over the past decade. In North America this trend is most noticeable within the most rapidly growing home building areas, where homes are being built with better insulation. Another impetus for conservation is rising gas prices and warmer weather, where it is relatively easy for homeowners to turn-down the thermostat for extended periods of time, reducing gas margins earned by LDCs that are dependent on volumetric gas consumption for cost recoveries.

Conservation is an important component in balancing the region's gas supply and demand equation, but under traditional regulatory frameworks in many jurisdictions, few gas utilities have the incentive to encourage gas conservation or promote education in gas usage efficiencies among their customers. With the likelihood that gas prices will remain high and volatile, conservation will likely become a more formidable influence on gas consumption in the residential and commercial customer segments going forward.

In the US, utility commissioners in various states differ in their approaches to allowing their gas utilities to recover lost margins attributable to conservation-driven variations in consumption. Commissions with more supportive regulatory frameworks tend to allow mechanisms for revenue recoveries and their utilities generally have stronger financial profiles.

As more LDCs become aware of the impact that conservation initiatives have on their customers' gas usage and their own profitability, more are considering applying for the appropriate rate design changes. To do this, however, they must first build understanding and support at the grassroots level. Overall, utility rate designs that compensate gas LDCs for conservation-based margin losses (as with variations due to weather), should help to stabilize utilities' credit metrics and credit ratings. Utilities with these ratemaking mechanisms also tend to carry higher credit ratings.

THE RISE OF MERGERS AND ACQUISITIONS

With the repeal of the Public Utility Holding Company Act (PUHCA) in the US (February 2006) companies are finding fewer obstacles to mergers across state lines. Companies seeking to expand their service territories are now finding it easier to bid for companies seeking an opportunity to cash out (as price multiples are currently attractive for sellers in this industry).

The pace of industry consolidation as well as the introduction of new players could accelerate beyond 2006. From a credit standpoint, however, we note that mergers and acquisitions usually entail taking on more debt, attempts to create new operating synergies, and the need to apply for further rate relief from regulators. Previous periods of heightened mergers and acquisition activity were typically associated with increased numbers of ratings downgrades, as LDC debt levels and operating costs rose and rate recoveries lagged. While it is still early to predict whether past performance will repeat itself in the current merger-driven environment, the denigration of credit metrics remains a possibility.

In This Methodology

To explain Moody's approach to rating gas utility companies, we take the reader through the following steps:

IDENTIFICATION OF KEY RATING FACTORS

To determine the rating of a gas utility company we focus on the following factors:

1. Sustainable Profitability
   - Return on Equity
   - EBIT to Customer Base
2. Regulatory Support
   - Regulatory Support and Relationship
3. Ring Fencing
   - Ring Fencing
4. Financial Strength and Flexibility
   - EBIT/Interest
   - Retained Cash Flow/Debt
   - Debt to Book Capitalization (excluding goodwill)
   - Free Cash Flow/Funds from Operations

MEASUREMENT OF THE KEY RATING FACTORS

For each of the core factors cited, we present a set of metrics or "sub-factors" that enable the reader to determine exactly how we measure this factor. Each of the core factors is comprised of between one and four sub-factors, each of which are mapped to a rating or score. For example, we consider four different financial metrics within the Financial Strength and Flexibility Factor.

In total this rating methodology incorporates eight sub-factors. Where possible, we provide quantitative metrics derived from a company's financial statements. For some factors, however, non-statistical observation is necessary to determine the appropriate results. For each of the eight metrics, we assign a weight based on relative importance.[1]

Moody's applies a total weighting of 20% for non-financial observations and 80% for financial. (However, we weigh some sub-factors more heavily than others, as some sub-factors such as the ROE (return on equity) and the ones for Financial Strength and Flexibility weigh more heavily in determining the relative risk of a particular LDC in comparison with its peers). This is because, while regulatory design and support may differ from jurisdiction to jurisdiction, the financial metrics do not. This renders them more easily comparable across political boundaries and more quantifiable. Financial observations also tend to be lagging indicators, as they come at the end of a fiscal reporting period and serve as the final scorecard for the issuer. The two non-financial sub-factors tend to be less definitive and are more subject to interpretation. Applying the sub-factor weightings and scoring the rating assignment for each sub-factor in this manner results in ratings that track our assigned ratings within one or two notches in 93% of the cases.

While Moody's outlooks are forward looking, the rating process does make extensive use of historic financial statements. Historic results help us understand the pattern of a company's results and how it compares to peers. They also provide perspective, helping to ensure that estimated future results are grounded in reality. This document makes use of historic data primarily. However, if an LDC is undergoing a rate case or fundamental business transformation — negating the usefulness of past performance as a guide to future credit standing — we use projected financial results instead.

Where historical financial results are used, metrics are based on an average of the most recent three years. The 2003 through 2005 periods provide a good cross-section of the peaks and troughs that characterize individual company performance over a normalized period.

Where projected financial results are used, metrics are based on an average of the 2006 through 2008 periods, or in some cases, 2007 through 2009, depending on the implementation dates of rate increases or realization of expected merger combinations.

All measures incorporate Moody's standard adjustments to income statement, cash flow statement, and balance sheet amounts including under-funded pension obligations, recurring operating leases, and off-balance sheet commitments and contingencies.[2] Moody's Credit Opinion key indicator ratios will also incorporate these standard adjustments.

MAPPING OUR METRICS TO RATING CATEGORIES

After identifying the measurements for each factor, the potential outcomes for each of the eight factors/sub-factors are mapped to a Moody's rating category (i.e. Aaa, Aa, A, Baa, Ba, B, Caa). For example, we specify what level of ROE is generally acceptable for an Aa credit versus an A credit. We provide a range or description for each of the measurement criteria.[3]

COMPANY MAPPING/ OUTLIER DISCUSSION

We next assign a rating to each company in our rated universe for each factor. We also show how this rating compares to the company's actual assigned rating. The results of this mapping appear in a summary table located in Appendix B, as well as in the results section under each factor.

We recognize that any given company may perform higher or lower on a specific factor than its actual rating level. These companies are identified as "outliers" for that factor. A company whose performance on a specific factor is more than two rating notches higher than its actual rating is deemed a positive outlier for that factor. A company whose performance is more than two notches below is deemed a negative outlier. We highlight those companies whose factor mapping is more than two notches higher or lower than its rating and offer a discussion of the general reasons for outliers within a given factor.

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1. *See Appendices A and B for a summary of sub-factors and weightings for each sub-factor.*
2. Moody's Approach to Global Standard Adjustments in the Analysis of Financial Statements for Non-Financial Corporations — Part I *(US/Canadian GAAP, February, 2006).*
3. *See Appendix D for non-financial sub-factor definitions.*

DETERMINING THE FINAL RATING

To determine the overall rating, each of the eight assigned sub-factor ratings is converted into a numeric value based on the following scale.

1	3	6	9	12	15	18
Aaa	Aa	A	Baa	Ba	B	Caa

Each sub-factor's numeric value is multiplied by an assigned weight (refer to the table below and/or Appendices A and B, for weights), and then summed. For information purposes, the table below also shows sub-totals and how much weight is given to each broad rating factor.

Factor	Sub-Factor	Weighting	Cumulative Weighting of the Relevant Sub-Factors
Sustainable Profitability	ROE	15%	20%
	EBIT/Customer Base	5%	
Regulatory Support	Regulatory Support	10%	10%
Ring Fencing	Ring-Fencing	10%	10%
Financial Strength and Flexibility	EBIT/Interest	15%	60%
	RCF/Debt	15%	
	Debt/Book Capitalization	15%	
	Free Cash Flow/FFO	15%	
Total Weighting		100%	

The total is then mapped to the table below, and an overall alpha-numeric rating is assigned based on where the score falls in the range. The outcome provides a good correlation, with indicated ratings falling at or two notches away from actual ratings.

Indicated Rating	Overall Score
Aaa	= 1
Aa	> 1 < 4.5
A	>= 4.5 < 7.5
Baa	>= 7.5 < 10.5
Ba	>= 10.5 < 13.5
B	>= 13.5 < 16.5
Caa	>= 16.5

The entire array of scores and mappings for each of the LDC companies is shown in Appendix B.

Factor Discussions

FACTOR 1: SUSTAINABLE PROFITABILITY

Why It Matters

Two subfactors provide good indications of a firm's ability to remain profitable and efficient despite the inherent volatility associated with the sector:

- Return on equity (ROE), which is calculated for each year by taking a company's profitability in a given year and dividing it by an average equity of the current and previous year end. ROE serves as barometer of a company's general level of profitability — and when calculated over a period of years, serves as an indicator of its ability to sustain its profitability — and provides a good starting point for understanding the overall efficiency of the operations of the company.
- Operating Income (EBIT) relative to customer base provides another indicator of a gas utility's overall operating profitability relative to the number of customers being serviced. The higher this figure, the more each customer contributes to the company's "bottom-line." For purposes of this calculation, only firm demand customers of the residential and commercial categories are included, as industrial customers often have alternate

sources of fuel and are the first to be cut off by a utility in the event of gas pro-rationing (allocation as a percentage of available supply) or shortage.

The former calculates returns on a GAAP basis and the latter serves as a measure of overall operating efficiency. When an average of three years is used as the comparable period, these indicators reveal the company's relative profitability and ability to maintain this profitability and efficiency on a sustainable basis.

LDCs may differ in their rate design, the effectiveness, and the timeliness of rate design, but they ultimately culminate in an ROE scorecard that is an irrefutable indicator of the profitability that the firm has achieved (or in the case of projected figures resulting from a rate case filing or decision, projected profitability) given the business environment in which it operates. Similarly, the EBIT/customer base measures the relative operating efficiency of the company in achieving these operating results.

Among the risk factors reflected in ROE are the presence and effectiveness of the LDC's weather normalization clause (WNC), its ability to increase earnings despite customer gas conservation, the ability of the firm to pass through bad debt expenses, to true-up for underfunded pension liabilities, the frequency and degree of price adjustments for gas cost purchase adjustments, the ability to pass along financial and derivative hedging costs to consumers, to reimburse itself for environmental remediation expenditures, to use forward year test data in factoring in capital expenditure cost recoveries, and its ability to cover rising O&M (operating and maintenance) expenditures. The firm's effectiveness in dealing with these risks is distilled into an ROE calculation. Over time, this calculation provides a profile of the company's ability to generate consistent earnings that are capable of covering the cost of doing business and capable of doing so over an extended period of time. It also provides a benchmark measure of efficiency relative to other LDCs with similar business profiles.

It should be noted that in the use of ROE, the measure of profitability is indifferent as to whether an LDC employs multiple approaches to shielding itself from gas commodity price volatility (such as through use of various forms of financial derivatives) or if it relies primarily on underground gas inventory storage or long-term pipeline deliveries at fixed costs. Similarly, it does not impose a requirement that the LDC have a WNC in place to protect its gas margins against warmer than normal winters, as the company could achieve similar results by employing its own form of weather mitigants through the purchase of weather insurance or derivatives. The importance of achieving a desired target ROE is the fact that it signals management's effectiveness in employing all possible measures to achieve its business goals.

That said, the better the quality of an LDC's rate design or effectiveness in generating operating profits, the greater and more consistent its ROE. Very few businesses are assured a stable and consistent return on their capital by a regulatory body, but LDCs are (in theory, at least). To the extent they employ highly effective rate designs and business solutions in mitigating the known risk factors in the business, the better the ROE and efficiency of its operations.

Despite wide variations in individual utility rate designs therefore, ROE and EBIT/Customer Base appear to capture the level of profitability and efficiency in an LDC's operations and reflect its ability to generate profits over a sustainable period of time.

We note that profitability (ROE), operating income to customer base (EBIT/residential+commercial customers), interest coverage, retained cash flow to debt, debt to capital and free cash flow to funds from operation are the credit metrics that contribute the most to differentiating the stronger LDCs from the weaker ones. These also tend to be the "lagging" indicators as financial results are only available after the close of a fiscal quarter. Thus, they serve as a report card for the close of a given financial period, after all the events of the period have already transpired and all the initiatives of management are either completed or left undone.

Measurement metrics for this factor are as follows:

- ROE — profitability in a given year / average equity of the current and previous year.
  Weighting: 15%
- (EBIT) to Customer Base: For purposes of this calculation, only firm demand customers of the residential and commercial categories are included, as industrial customers often have alternate sources of fuel and are the first to be cut off by a utility in the event of gas pro-rationing (allocation as a percentage of available supply) or shortage.
  Weighting: 5%

Factor Mapping: Sustainable Profitability

	Weighting Ranges	Individual Weighting	Aaa	Aa	A	Baa	Ba	B	Caa
Return on Equity	20%	15%	> 19%	14 – 19%	9 – 14%	5 – 9%	2 – 5%	0 – 2%	< 0%
EBIT/# of Residential & Commercial Customers		5%	> $350	$250 - $350	$150 – $250	$100 – $150	$50 – $100	$0 – $50	< $0

Company Mapping Results: Sustainable Profitability

Issuer Name	Current Senior Unsecured Rating	ROE	Indicated Rating: ROE	EBIT/# of Residential & Commercial Customers	Indicated Rating: Operating Ratio
Alabama Gas Corporation	A1	14 – 19%	Aa	$150 – $250	A
New Jersey Natural Gas Company (Sec Aa3)	A1	9 – 14%	A	$150 – $250	A
Wisconsin Gas	A1	5 – 9%	Baa	$100 – $150	Baa
Boston Gas Company	A2	2 – 5 %	Ba	$150 – $250	A
Brooklyn Union Gas	A2	9 – 14%	A	$150 – $250	A
KeySpan Gas East Corporation	A2	9 – 14%	A	$250 – $350	Aa
Northern Illinois Gas	A2	5 – 9%	Baa	$50 – $100	Ba
North Shore Gas Company (Sec A1)	A2	5 – 9%	Baa	$50 – $100	Ba
Peoples Gas Light and Coke Compa (Sec A1)	A2	5 – 9%	Baa	$100 – $150	Baa
Public Service Co. of North Caro	A2	5 – 9%	Baa	$150 – $250	A
Questar Gas Company	A2	9 – 14%	A	$50 – $100	Ba
Southern California Gas Company	A2	14 – 19%	Aa	$50 – $100	Ba
Washington Gas Light Company	A2	9 – 14%	A	$150 – $250	A
Terasen Gas Inc.	A3	9 – 14%	A	>$350	Aaa
Colonial Gas Company (Sec A2)	A3	2 – 5 %	Ba	$250 – $350	Aa
Northwest Natural Gas Company	A3	9 – 14%	A	$150 – $250	A
Piedmont Natural Gas Company, In	A3	9 – 14%	A	$150 – $250	A
Connecticut Natural Gas	A3	2 – 5 %	Ba	$250 – $350	Aa
UGI Utilities, Inc.	A3	14 – 19%	Aa	$250 – $350	Aa
AGL Resources Inc.	Baa1	14 – 19%	Aa	$150 – $250	A
Cascade Natural Gas Corp.	Baa1	9 – 14%	A	$100 – $150	Baa
Indiana Gas Company, Inc.	Baa1	5 – 9%	Baa	$100 – $150	Baa
Laclede Gas Company	Baa1	9 – 14%	A	$100 – $150	Baa
Southern Connecticut Gas (Sec A3))	Baa1	2 – 5 %	Ba	$150 – $250	A
Laclede Group, Inc. (The)	Baa2	9 – 14%	A	$100 – $150	Baa
South Jersey Gas Company	Baa2	9 – 14%	A	$150 – $250	A
Yankee Gas	Baa2	2 – 5 %	Ba	$150 – $250	A
Atmos Energy Corporation	Baa3	9 – 14%	A	$50 – $100	Ba
Southwest Gas Corporation	Baa3	5 – 9%	Baa	$50 – $100	Ba
SEMCO Energy, Inc.	Ba2	<0%	Caa	$100 – $150	Baa

Positive Outlier
Negative Outlier

Observations and Outliers

ROE

Among the negative outliers are Boston Gas and Colonial Gas, two of six natural gas distribution companies owned by KeySpan Corp. Their low ROE reflects push down accounting relating to KeySpan's acquisition of Eastern Enterprises, whereby a portion of the acquisition debt and goodwill issued by the parent have been allocated to Boston Gas and Colonial Gas. The debt and parent financing of working capital and gas inventory through the utility money pool has resulted in noticeably increased debt and interest expense levels. Additionally, National Grid's recently announced plan to acquire Keyspan raises the possibility of an additional debt servicing burden being "pushed down" to these subsidiaries. The low ROE also reflects the lower efficiency of the rate design in these KeySpan subsidiaries. The lack of

weather mitigation and conservation in the company's rate design leaves it vulnerable to weather and conservation exposure, which are being mitigated in part through the purchase of weather derivatives.

The Connecticut LDCs of Connecticut Natural Gas, Southern Connecticut Gas and Yankee Gas also have low ROEs relative to their assigned ratings, reflecting relatively poor regulatory support from the state commission on weather and conservation protections, and the ability to pass financial hedging costs to rate-payers as a means to mitigate gas price volatility. These LDCs are also smaller subsidiaries within larger electric power utility operations that may require additional forms of parental support for the LDCs.

In the case of Wisconsin Gas the company was approved for a rate base increase, effective January 2006, for an approved ROE of 11.2%, but historical returns had eroded because of a five-year rate freeze.

Among the positive outliers are UGI Utilities, AGL Resources and Atmos. Although UGI has a high ROE relative to its peer group, the overall rating is suppressed because of its affiliation with non-investment grade subsidiaries of the parent.

In the case of AGL and Atmos, the diversified earnings of the group include income from operations such as energy services. These tend to boost the group's returns even though the combined risk may indicate a less stable and predictable earnings stream.

EBIT to Customer Base

Northern Illinois Gas and North Shore Gas Company are negative outliers in this operating efficiency ratio, as they have been suffering from regulatory lag. However, the recent rate increase in the case of Northern Illinois Gas could help narrow the gap in its performance going forward.

On the other extreme, UGI appears to be a very efficient operator and is a positive outlier from a customer base standpoint. Although UGI has strong operating income (being supported by a higher than average customer growth rate — mostly attributable to organic growth), the overall rating is suppressed because of its affiliation with non-investment grade subsidiaries of the parent.

FACTOR 2: REGULATORY SUPPORT

Why It Matters

The fact that LDCs are subject to regulation by local authorities has a direct bearing on the success of their business operations. It is difficult for utilities to function without good community relations, as they depend on their local regulators and on the public's understanding to obtain the rate relief and cost recovery necessary for a gas distribution system's investments.

Of particular importance, regulatory requirements are often delineated not by law or by prescribed statutory requirement or ruling but rather by the expectation that traditional practices will continue and that LDCs — particularly the older and more established ones — will continue to act within established boundaries and in accordance with past practice. This necessitates a strong relationship with regulators who are, ideally, supportive.

Thus, when the regulatory relationship is strong and cooperative, utilities are able to engage in active dialogue with regulatory commissioners and staff to find mutually acceptable solutions to utility problems (such as rising account delinquencies in periods of gas shortages and price increases) or to educate customers about key initiatives such as gas conservation. In a strong relationship, the commission staff might also serve as a technical advisor to the utility commission in facilitating constructive discussions with the company — as opposed to playing the role of "consumer advocate" and countering LDC initiatives.

One very important component of the utility/regulator relationship is the ability of the utility to recoup allowed expenses in a timely manner and its ability to earn its fully-allowed rate of return (without having to file continuously for new rate cases).

Within this metric we also include the utility's relationship — both perceived and actual with the public and its approach to issues of safety, reliability and integrity.

This metric thus helps to define credit impact of the established operational "norms" and the operating framework. It is conceivable for a utility to maintain an investment grade rating with only limited support from its regulators if it has capable management that is able to find alternatives and solutions for its business needs, but the support of regulators on most matters of economic importance enable a company to operate with far more effectiveness. We note that, included in the definition of "regulatory environment" are regulatory staff, commission, interveners, consumer advocates and the public at large.

Measurement metrics for this factor are as follows:

- Quality of Regulatory Support: The regulatory relationship is measured on a scale from "Exceptional/ Proactive" to "Inadequate/Weak." To assess the quality of the regulatory support we examine the strength of the regulatory relationship. This will include the speed and degree of willingness with which the regulatory commission approves requests for rate increases, approves and encourages rate design modifications that serve to help a utility recoup its operating and capital investment costs and whether regulators enable utilities to recoup such costs in a timely manner.
  Weighting: 10%

Notes on Measurement Criteria

This sub-factor is important and will have a direct bearing on the ultimate credit rating of the LDC, although it lacks the finality of the more formulaic financial sub-factors (regulatory decisions may be modified or reversed by future regulators or a court action, whereas ROE results, for example, cannot). Because regulatory support is often subject to interpretation and change over time as the actions and views of participants change, it is weighed less heavily than are financial metrics.

Factor Mapping: Regulatory Support

Weighting Ranges	Individual Weighting	Aaa	Aa	A	Baa	Ba	B	Caa
10%	10%	Exceptional Proactive Support by Utility Commission to allow LDCs to timely adjust rates to cover all costs of service; Utility commission alwayswilling to help LDC establish a cooperative framework for discussions, hearings and implementation of better rate design to help LDCs' shareholders and consumers alike. Utility Commission grants all rate design features to allow LDC to recover costs on a complete and timely basis.	Very Good Proactive Support by Utility Commission to allow LDCs to timely adjust rates to cover all costs of service; Utility commission highly willing to help LDC establish a cooperative framework for discussions, hearings and implementation of better rate design to help LDCs' shareholders and consumers alike. Rate design is near "bulletproof" cover for LDC risks. Requested rate increases tend to be approved in less than 9 months.	Good Support by Utility Commission to allow LDCs to amend rate designs. Company gets good support in proposing new solutions to deal with common utility problems such as conservation and weather variables; Differences between LDCs and utility commission are likely to be resolved. Rate filings tend to be approved under 12 months.	Reasonable support from Utility Commission to allow LDCs to recoup allowed expenses; Company gets some support in proposing new solutions to deal with common utility problems such as conservation and weather issues; Differences between LDCs and Utility Commission are reasonably resolved in a timely manner and rate cases tend to be approved in 12 – 15 months with at least 50% of LDC's target requests being granted.	Inadequate support from Utility Commission to allow LDCs to recoup allowed expenses; Utility commissioner and/or staff tends to play the role of "consumer advocate" that often counters proposals or initiatives advanced by the LDC. Cases often take over 15 months to resolve or LDC is frozen out of rate filings for over 18 months.	Inadequate support from Utility Commission to allow LDCs to recoup allowed expenses; Utility commissioner often plays the role of "consumer advocate" that tends to counter proposals or initiatives advanced by the LDC; Company is seldom involved with working on special task forces to deal with issues of rising account delinquencies or educating customers on conservation or warm weather issues. Utility suffers from increasing regulatory lag and lacks rate relief necessary to earn allowed ROE.	Inadequate and weak support from Utility Commission to allow LDCs to recoup allowed expenses. Utility commissioner always plays the role of "consumer advocate" that tends to counter proposals or initiatives advanced by the LDC; Company is hardly ever involved with working on special task forces to deal with issues of rising concern to utility or customers. Unsupportive commission/ state legislature or consumer base. Utility can't earn allowed ROE.

Company Mapping Results: Regulatory Support

Issuer Name	Current Senior Unsecured Rating	Indicated Rating: Regulatory Support
Alabama Gas Corporation	A1	Aaa
New Jersey Natural Gas Company (Sec Aa3)	A1	Aaa
Wisconsin Gas	A1	Baa
Boston Gas Company	A2	Baa
Brooklyn Union Gas	A2	Baa
KeySpan Gas East Corporation	A2	Baa
Northern Illinois Gas	A2	Baa
North Shore Gas Company (Sec A1)	A2	Ba
Peoples Gas Light and Coke Compa (Sec A1)	A2	Ba
Public Service Co. of North Caro	A2	Aaa
Questar Gas Company	A2	Ba
Southern California Gas Company	A2	A
Washington Gas Light Company	A2	Baa
Terasen Gas Inc.	A3	Aa
Colonial Gas Company (Sec A2)	A3	Baa
Northwest Natural Gas Company	A3	Aaa
Piedmont Natural Gas Company, In	A3	Aaa
Connecticut Natural Gas	A3	Ba
UGI Utilities, Inc.	A3	Baa
AGL Resources Inc.	Baa1	Baa
Cascade Natural Gas Corp.	Baa1	Baa
Indiana Gas Company, Inc.	Baa1	Aa
Laclede Gas Company	Baa1	Aa
Southern Connecticut Gas (Sec A3))	Baa1	Baa
Laclede Group, Inc. (The)	Baa2	Aa
South Jersey Gas Company	Baa2	Aa
Yankee Gas	Baa2	Ba
Atmos Energy Corporation	Baa3	Baa
Southwest Gas Corporation	Baa3	Ba
SEMCO Energy, Inc.	Ba2	Ba

Positive Outlier
Negative Outlier

FACTOR 3: RING FENCING

Why it Matters

- **Ring Fencing**: Many LDCs are owned by diversified energy companies engaged in non-regulated activities. For this reason, the degree to which an LDC is "ring-fenced" will have an impact on the quality and degree of protection afforded to the utility's assets and operating cash flows. Whether imposed by regulators, lenders, or by the parent company (self imposed) the ring-fencing must assure that the utility is self-standing and protected from non-regulatory businesses of the diversified parent group[4]. This is a common objective among regulators, lenders and consumers alike. Also, as in the case with weather mitigants, Moody's does not insist that there be explicit written statutes requiring the gas utility to be properly ring-fenced for the utility to be highly rated, as long as this is accomplished in an effective manner through other means.

  Among the contributors to a well ring-fenced utility are limitations on inter-company loans and advances to non-regulated affiliates or prohibitions on the commingling of funds through participation in diversified corporate money pools. These are important in ascertaining that the utility's operating assets and capital expenditures are justifiable to utility ratepayers.

  Other contributors to strong ring fencing are legal or regulatory requirements stipulating maximum leverage ratios for the LDC and requirements that an LDC remain investment-grade to preserve its service

4. *The expectation that non-regulated expenses incurred by affiliates engaged in other businesses will not be passed onto the utility (which would then attempt to seek recovery from its consumers) is intrinsic to the concept of ring fencing. For example, a diversified gas company with a gas trading operation is expected to deal with its regulated utility at arm's length. It is not expected that the company will allow the trading company to determine which entity should receive the best price quotes for gas purchase transactions or which should be chosen to book trading losses.*

franchise. By placing a limitation on leverage, regulators or lenders are implicitly limiting the level of dividends that a diversified parent company might extract from its utility, and discouraging the utility from using its balance sheet to raise debt for the benefit of non-utility affiliates or its diversified parent.

The utility's payment of dividends in excess of what the parent company may require for its public shareholders could also serve as an indication of poor ring fencing, as the surplus funds being paid as dividends by the utility could be viewed as a form of cash support for the parent company's non-utility affiliates. Well ring-fenced utilities typically raise their own funds and handle their own bank accounts, with non-utility affiliates establishing their own credit facilities and funding requirements separate and independent from the utility.

Weighting: 10%

- Less obvious, but also important are the proven resolve of management or a utility's board in erecting operating barriers that isolate the utility from its non-regulated affiliates. This might include, for example, dedicating separate utility gas purchasing agents from the group's energy trading arm or locating utility personnel at separate premises from those of the non-utility affiliates. These good corporate governance attributes are implied in having good ring-fencing measures.

  Utilities sometimes establish their own boards of directors, especially within a larger and more diversified company to ensure that their assets, cash flows and operating funds are properly separated and that attempts by the parent to distribute dividends to the holding company are fair and justified. Any weak corporate governance would typically become evident in reviewing a utility's ring fencing quality and manifest itself through lax policies and procedures in operations as well as in financial dealings, record-keeping and internal controls. Corporate governance therefore, is a related indicator for ring fencing quality.

  While such efforts as creating a permanent body to ensure the operating integrity of the utility could add to the strength of the ring fencing provisions, it is a further indicator that the utility stands on its own and is governed by a board that looks after its interest first rather than using the utility to advance the goals of the parent's diversified group. Ultimately, such efforts can enhance the utility's independent operating performance and credit rating.

  The utility's board may also require that it obtain its own credit facilities, issue its own bonds and only guaranty activities directly related to providing core utility services. Under this framework, the utility serves as its own profit center and allocates any expenses incurred on behalf of non-utility sister companies back to those affiliates for recovery, rather than burdening its own operating staff and the utility ratepayers.

Measurement metrics for this factor are as follows:

- Ring Fencing: This metric is assessed on a scale of "excellent ring fencing isolating utility from non-utility" to "inadequate and weak ring fencing: funds always commingled." In determining the degree of commingling of funds, LDCs range from having their own bank accounts and issuing their own debt and commercial paper to participating in combined cash money pools or engaging in making intercompany loans to non-utility affiliates on a frequent basis). Other indicators that we review for quality of ring fencing include: the level of dividends that are upstreamed by the utility to the parent vs. the parent to the public shareholders, the level of intercompany transactions, the ability of various operating entities to raise their own bank and public financing, the extent of any cross-default provisions or cross-guarantees, the presence of utility financial covenants that would enhance their ring fencing and signs of weak corporate governance.
  Weighting: 10%

Factor Mapping: Ring Fencing

Weighting Ranges	Individual Weighting	Aaa	Aa	A	Baa	Ba	B	Caa
10%	10%	Excellent ring-fencing provisions isolating Utility from Non-Utility; No commingling of funds; Utility cash accounts are separated from rest of company; Inter-company loans never permitted between utility and non-utility; No portion of Utility dividend payment to parent ever ends up being allocated to non-utility. Strong	Very Good ring-fencing provisions; Utility and Non-Utility highly unlikely to commingle funds; Separate cash program or own utility money pool; Inter-company loans not permitted between utility and non-utility; Utility dividend payment to parent never end up being allocated to non-utility.	Good ring-fencing provisions; Utility and Non-Utility are unlikely to commingle funds; Separate utility money pool or utility accounts; Inter-company loans not permitted between utility and non-utility; Utility dividend payment to parent unlikely to be allocated to non-utility.	Reasonable ring-fencing provisions; Utility and Non-Utility may need to commingle funds via consolidated corporate money pool; Bond indentures or bank credit agreements may reasonably restrict the utility from financial dealings with non utility; Inter-Company loans between utility and non-utility rare.	Inadequate ring-fencing provisions; Utility often participates in corporate cash money pool that includes non-utility and funds are often commingled; Regulators usually do not have a requirement that LDCs remain investment grade. Bond indentures or bank credit agreements may not restrict the utility financial dealings with non- utility.	Inadequate ring-fencing provisions; Utility often participates in corporate cash money pool that includes non-utility and funds are generally commingled; No requirement for LDCs to remain investment grade. Bond indentures or bank credit agreements usually do not restrict the utility financial dealings with non- utility. Inter-company loans between utility and non-utility common place.	Inadequate and weak ring-fencing provisions; Utility and Non-Utility generally always commingle funds; No requirement for LDCs to remain investment grade; Bonds indentures/ bank agreements never restrict utility financial dealing with non-utility. Inter-company loans between utility and non-utility are common place; Utility dividends to parent may fund non-utility needs.
		Corporate Governance protecting utility interests which are treated as core operation.	Very Good Corporate Governance. May lack formal regulatory or creditor leverage restrictions or IG requirement for utility, but company has strong policy of ring-fencing utility.	Good Corporate Governance of utility	Satisfactory Corporate Governance. Gas utility contributes less than 90% of consolidated group EBIT and may not be primary growth engine.	Inadequate Corporate Governance protection for utility as stand-alone entity.	Inadequate Corporate Governance for utility as a stand alone entity.	Inadequate and weak Corporate Governance of utility interests.

Company Mapping Results: Ring Fencing

Issuer Name	Current Senior Unsecured Rating	Indicated Rating: Ring Fencing
Alabama Gas Corporation	A1	Baa
New Jersey Natural Gas Company (Sec Aa3)	A1	Aaa
Wisconsin Gas	A1	Baa
Boston Gas Company	A2	Baa
Brooklyn Union Gas	A2	Aaa
KeySpan Gas East Corporation	A2	Aaa
Northern Illinois Gas	A2	Baa
North Shore Gas Company (Sec A1)	A2	Baa
Peoples Gas Light and Coke Compa (Sec A1)	A2	Baa
Public Service Co. of North Caro	A2	Aaa
Questar Gas Company	A2	A
Southern California Gas Company	A2	Aaa
Washington Gas Light Company	A2	Aaa
Terasen Gas Inc.	A3	Aa
Colonial Gas Company (Sec A2)	A3	Baa
Northwest Natural Gas Company	A3	Baa
Piedmont Natural Gas Company, In	A3	Aaa
Connecticut Natural Gas	A3	Baa
UGI Utilities, Inc.	A3	A
AGL Resources Inc.	Baa1	Baa
Cascade Natural Gas Corp.	Baa1	Aaa
Indiana Gas Company, Inc.	Baa1	Baa
Laclede Gas Company	Baa1	A
Southern Connecticut Gas (Sec A3))	Baa1	Baa
Laclede Group, Inc. (The)	Baa2	Baa
South Jersey Gas Company	Baa2	Aaa
Yankee Gas	Baa2	Baa
Atmos Energy Corporation	Baa3	Baa
Southwest Gas Corporation	Baa3	Aaa
SEMCO Energy, Inc.	Ba2	Baa

Positive Outlier
Negative Outlier

Observations and Outliers

Ring Fencing

Most of the indicated ring-fencing ratings are compatible with issuer assigned credit ratings. The "Aaa" ring-fencing indicators are typically reserved for those companies whose jurisdictions have established explicit requirements for separation of utility and non-utility businesses, maximum leverage, specific requirements that the LDC remain investment-grade or have placed limitations on dividends to their parent failing certain capitalization requirements. Exceptions might include Washington Gas Light Company, where despite the absence of specific regulatory requirements, the company has a strict policy of not commingling the gas utility funds with those of the non-regulated operations of the parent and the LDC only remits dividends to the parent that are required for distribution to public shareholders, prohibiting its LDC from assisting or supporting the business needs of its non-regulated affiliates.

In the case of Piedmont Natural Gas, Cascade Natural Gas and Southwest Gas Corporation, the utility is the parent company and there is no need for ring-fencing against a diversified non-regulated affiliate.

Negative outlier Alabama Gas results from the LDC having no explicit ring-fencing provisions from regulatory or financing agreements other than broad restrictions under an Alabama state statute.

Regulatory Support

Several "A" rated companies have outstanding regulatory relations and support "Aaa." Some examples include New Jersey Natural Gas Company, Northwest Natural Gas Company and Piedmont Natural Gas Company, where each one of these names have pioneered in the introduction of innovative service concepts and novel rate design concepts such as those for "conservation decoupling" in their respective jurisdictions and all have previously obtained WNC from their

regulators. The regulatory relationship for some of the "Baa" names have also improved to the point where they also scored high in this factor ("Aa"), such as Indiana Gas Company and Laclede Gas Company in Missouri, where these LDCs were the first companies to obtain weather protection mechanisms from their public utility commissions either in the form of formal WNC or through fixed demand charge rate design. Utilities that score high in this factor also tend to be leaders in scoring high on customer satisfaction responses to independent surveys, helping their utility commissioners forge solutions to common utility problems such as dealing with the cost of high gas prices, or providing safety and systems integrity solutions before major problems arise, while maintaining strong community relations.

FACTOR 4: FINANCIAL STRENGTH AND FLEXIBILITY

Why It Matters

Financial strength is an important indicator of an LDC's ability to meet its financial obligations, particularly in light of the volatile nature of the industry's performance[5]. The metrics we use to define this factor include the following:

- **Interest coverage** (EBIT/Interest) is a measure of financial flexibility in an LDC's credit agreement as some lenders require minimum coverage to maintain their credit lines (the concept being that a stable utility should, at a minimum, be able to pay its interest expenses if not amortize its debt over a reasonable time period).

  Interest coverage serves as an indicator of fixed charge coverage. We chose this coverage ratio as it is used in the financial covenants of many LDC bank credit agreements and bond indentures, and is, by extension, both conventional and accessible for comparative purposes. Naturally, the higher this fixed charge coverage, the greater the financial flexibility of the utility.
- **Retained Cash Flow to Debt** (RCF/Debt) is a measure of financial leverage as well as an indicator of the strength of a utility's funds from operations after dividend payments are made to service the debt. It serves as a measure of financial health as well as liquidity to cover debt obligations while also providing a measure of cash available for capital expenditures and to cover working capital needs. RCF/Debt also serves as a measure of leverage relative to operating cash available for debt service.

  The higher the level of retained cash flow relative to debt, the more cash the LDC has after paying dividends to support its capital expenditure programs. The stronger LDCs tend to have sufficient retained cash flow to cover capital expenditure needs, while the weaker ones tend to run cash "deficits" that must be covered through increased equity issuance or debt, or a combination of both. Usually, debt is issued first, followed by occasional equity issuance to meet specific project needs or to strengthen the balance sheet.
- **Debt to Book Capitalization (Excluding Goodwill)** is a more generic measure of financial leverage and has, in the past, been a good barometer with which to gauge the financial flexibility available for a utility to expand and grow in its operations when it has a debt load to service. This measure subtracts goodwill from capitalization because regulators typically do not give credit for premium paid on acquired assets.

  High leverage reduces a firm's operating flexibility not only because it raises interest expense but also because it limits the company's ability to raise additional capital to cushion the impact of poor business conditions. High leverage may also portend the approach of maximum allowed debt capacity under most bank credit agreements, which often set a 65% debt/capitalization borrowing limit for investment grade LDCs.
- **Free Cash Flow as a portion of Funds from Operations** (FCF/FFO) measures the amount of free cash flow as a percentage of funds from operations after dividends are paid, working capital changes are taken into account and capital expenditures are made. While this is a stringent indicator of a utility's cash flexibility, it is a good indicator of cash generating capability and flexibility to deal with unforeseen circumstances or emergencies (gas supply disruptions, production shortages, etc.) — and the accompanying side effect of rapidly rising gas commodity prices — while managing long-term dividend payouts, capital expenditure undertakings and possible upswings in working capital requirements.

  This ratio is generally negative for most LDCs, but it is nonetheless a measure of free cash generated from operating funds (net income + depreciation + deferred taxes +/- other non-cash charges). A ratio that is consistently positive would suggest that the LDC generates surplus cash from its operations. This is rare for LDCs to accomplish on a consistent basis (which is why there are few companies rated Aa or Aaa).

5. *To assess financial strength and flexibility Moody's "smoothes" credit metrics by averaging them over a three-year time horizon whenever possible. The three years chosen are usually in the past, unless the projected years incorporate highly probable events driven by rate changes.*

Measurement metrics for this factor are as follows:

- Interest Coverage: EBIT/interest
  Weighting: 15%
- Retained Cash Flow to Debt
  Weighting: 15%
- Debt to Capitalization (Excluding Goodwill)
  Weighting: 15%
- Free Cash Flow to Funds from Operations
  Weighting: 15%

Factor Mapping: Financial Strength and Flexibility

	Weighting Ranges	Individual Weighting	Aaa	Aa	A	Baa	Ba	B	Caa
EBIT/Interest		15%	> 7x	5 – 7x	3 – 5x	2 – 3x	1 – 2x	0 – 1x	< 0x
RCF/Debt		15%	> 26%	21 – 26%	15 – 21%	10 – 15%	5 – 10%	0 – 5%	< 0%
Debt / Book Capitalization (Excluding Goodwill)	60%	15%	< 30%	30 – 40%	40 – 50%	50 – 65%	65 – 85%	85 – 90%	> 90%
FCF/FFO		15%	> 10%	10% – (15%)	(15) – (30%)	(30%) – (45%)	(45%) – (60%)	(60%) – (75%)	< (75%)

Company Mapping Results: Financial Strength and Flexibility

Issuer Name	Current Senior Unsecured Rating	EBIT / Interest Expense	Indicated Rating: EBIT/ Interest Expense	RCF / Debt	Indicated Rating: RCF/Debt	Debt / Book Capitalization (Excluding Goodwill)	Indicated Rating: Debt/ Book Capitalization (Excluding Goodwill)	FCF/FFO	Indicated Rating: FCF/FFO
Alabama Gas Corporation	A1	3 – 5x	A	> 26%	Aaa	40 – 50%	A	(15%) – (30%)	A
New Jersey Natural Gas Company (Sec Aa3)	A1	> 7x	Aaa	10 – 15%	Baa	40 – 50%	A	> 10%	Aaa
Wisconsin Gas	A1	3 – 5x	A	10 – 15%	Baa	40 – 50%	A	10% – (15)%	Aa
Boston Gas Company	A2	1 – 2x	Ba	10 – 15%	Baa	65 – 85%	Ba	(15%) – (30%)	A
Brooklyn Union Gas	A2	5 – 7x	Aa	10 – 15%	Baa	40 – 50%	A	(45%) – (60%)	Ba
KeySpan Gas East Corporation	A2	2 – 3x	Baa	21 – 26%	Aa	40 – 50%	A	10% – (15)%	Aa
Northern Illinois Gas	A2	3 – 5x	A	10 – 15%	Baa	40 – 50%	A	(30%) – (45%)	Baa
North Shore Gas Company (Sec A1)	A2	3 – 5x	A	5 – 10%	Ba	30 – 40%	Aa	(15%) – (30%)	A
Peoples Gas Light and Coke Compa (Sec A1)	A2	2 – 3x	Baa	5 – 10%	Ba	30 – 40%	Aa	(15%) – (30%)	A
Public Service Co. of North Caro	A2	2 – 3x	Baa	15 – 21%	A	30 – 40%	Aa	(15%) – (30%)	A
Questar Gas Company	A2	3 – 5x	A	15 – 21%	A	40 – 50%	A	(15%) – (30%)	A
Southern California Gas Company	A2	5 – 7x	Aa	21 – 26%	Aa	50 – 65%	Baa	(15%) – (30%)	A
Washington Gas Light Company	A2	5 – 7x	Aa	15 – 21%	A	30 – 40%	Aa	10% – (15)%	Aa
Terasen Gas Inc.	A3	1 – 2x	Ba	5 – 10%	Ba	65 – 85%	Ba	(15%) – (30%)	A
Colonial Gas Company (Sec A2)	A3	3 – 5x	A	15 – 21%	A	50 – 65%	Baa	10% – (15)%	Aa
Northwest Natural Gas Company	A3	3 – 5x	A	10 – 15%	Baa	40 – 50%	A	(30%) – (45%)	Baa
Piedmont Natural Gas Company, In	A3	3 – 5x	A	10 – 15%	Baa	50 – 65%	Baa	(15%) – (30%)	A
Connecticut Natural Gas	A3	3 – 5x	A	15 – 21%	A	40 – 50%	A	(15%) – (30%)	A

Company Mapping Results: Financial Strength and Flexibility

Issuer Name	Current Senior Unsecured Rating	EBIT / Interest Expense	Indicated Rating: EBIT/ Interest Expense	RCF / Debt	Indicated Rating: RCF/ Debt	Debt / Book Capitalization (Excluding Goodwill)	Indicated Rating: Debt/ Book Capitalization (Excluding Goodwill)	FCF/ FFO	Indicated Rating: FCF/ FFO
UGI Utilities, Inc.	A3	3 – 5x	A	10 – 15%	Baa	50 – 65%	Baa	10% – (15)%	Aa
AGL Resources Inc.	Baa1	3 – 5x	A	10 – 15%	Baa	50 – 65%	Baa	(30%) – (45%)	Baa
Cascade Natural Gas Corp.	Baa1	2 – 3x	Baa	10 – 15%	Baa	50 – 65%	Baa	(15%) – (30%)	A
Indiana Gas Company, Inc.	Baa1	2 – 3x	Baa	5 – 10%	Ba	40 – 50%	A	(30%) – (45%)	Baa
Laclede Gas Company	Baa1	2 – 3x	Baa	5 – 10%	Ba	50 – 65%	Baa	(15%) – (30%)	A
Southern Connecticut Gas (Sec A3))	Baa1	2 – 3x	Baa	15 – 21%	A	50 – 65%	Baa	(15%) – (30%)	A
Laclede Group, Inc. (The)	Baa2	2 – 3x	Baa	5 – 10%	Ba	50 – 65%	Baa	(15%) – (30%)	A
South Jersey Gas Company	Baa2	3 – 5x	A	10 – 15%	Baa	50 – 65%	Baa	10% – (15)%	Aa
Yankee Gas	Baa2	1 – 2x	Ba	10 – 15%	Baa	50 – 65%	Baa	< (75%)	Caa
Atmos Energy Corporation	Baa3	2 – 3x	Baa	10 – 15%	Baa	50 – 65%	Baa	(15%) – (30%)	A
Southwest Gas Corporation	Baa3	1 – 2x	Ba	10 – 15%	Baa	65 – 85%	Ba	(45%) – (60%)	Ba
SEMCO Energy, Inc.	Ba2	1 – 2x	Ba	5 – 10%	Ba	> 90%	Caa	(45%) – (60%)	Ba

Positive Outlier
Negative Outlier

Observations and Outliers

Interest Coverage

This ratio is generally compatible with LDCs' assigned credit ratings. Among the positive outliers in the "A" rated names is New Jersey Natural Gas, whose credit measures have proven much stronger than those for most of its peers. During the past few years earnings and cash flow improvements have resulted in higher interest charge coverage and lower leverage for the company. On the other end of the spectrum, Boston Gas Company shows higher interest expense to service relative to other similarly-rated high names.

In the "Baa" rated category we find that South Jersey Gas Company is rated lower than its interest coverage might suggest. This reflects the transitional nature of the company as it contemplates the issuance of additional debt in the future to help fund its capital expenditure requirements.

RCF/Debt

A positive outlier in the "A" rated category is Boston Gas, which has been able to produce strong cash flow under a performance-based rate (PBR) formula approved by regulators in Massachusetts. Negative outliers in the "Baa" category include Laclede Gas Company, where retained cash flow has been negatively affected by a policy of increasing dividend payouts.

Debt to Book Capitalization (Exduding Goodwill)

Low leverage generally correlates with high credit ratings, but there are a few exceptions. The "Ba" leverage factor score for Boston Gas Company and Colonial Gas Company, both subsidiaries of KeySpan, could be explained by the parent's use of push-down accounting. Under this approach, the LDCs were assigned a proportionate share of the cost of their acquisition debt and goodwill when KeySpan purchased them in 2000. The effect of pushing down a portion of the parent company's acquisition debt and goodwill raised financial leverage for these LDCs. This occurred not only because of the added debt burden from the parent but also because the allocated portions of goodwill resulted in a lower capital base (Moody's practice is to subtract the goodwill from equity for the regulated gas sector).

FCF/FFO

The scores for the free cash flow ratio are generally compatible with those of the assigned company ratings. A notable outlier in the "A" category includes Brooklyn Union Gas, which scored a "Ba" in this factor. During the past three years this company has had its cash flows stressed by a combination of high capital expenditures, high working capital uses and high dividend remittances to its parent. Outliers in the "Baa" rated names include South Jersey Gas, which is in transition, and Yankee Gas, which is in need of further rate relief and rate design improvements despite its recent rate filings, especially as it makes capital outlays in advance of rate recovery as in its current capital expenditures for construction of an LNG facility.

Final Considerations

To determine the overall rating, each of the eight assigned sub-factor ratings is converted into a numeric value based on the following scale:

1	3	6	9	12	15	18
Aaa	Aa	A	Baa	Ba	B	Caa

Each sub-factor's numeric point value is then multiplied by an assigned weight (as shown in Appendix A), summed.

Factor	Sub-Factor	Weighting
Sustainable Profitability	ROE	15%
	EBIT/Customer Base	5%
Regulatory Support	Regulatory Support & Relationship	10%
Ring Fencing	Ring-Fencing	10%
Financial Strength and Flexibility	EBIT/Interest	15%
	RCF/Debt	15%
	Debt/Capitalization (Ex. Goodwill)	15%
	FCF/FFO	15%
Total		100%

The total is then mapped to the table below, and an overall alpha-numeric rating is assigned based on where the score falls in the range.

Indicated Rating	Overall Score
Aaa	= 1
Aa	> 1 < 4.5
A	>= 4.5 < 7.5
Baa	>= 7.5 < 10.5
Ba	>= 10.5 < 13.5
B	>= 13.5 < 16.5
Caa	>= 16.5

Sample Calculation

	Rating	Rating Score	% of Total	Factor Score
Factor 1: Sustainable Profitability				
Sub-Factor 1	Aa	3	15%	0.5
Sub-Factor 2	Baa	9	5%	0.5
Factor 2: Regulatory Support				
Sub-Factor 3	Baa	9	10%	0.9
Factor 3: Ring Fencing				
Sub-Factor 4	Aaa	a	10%	0.1
Factor 4: Financial Strength and Flexibility				
Sub-Factor 5	A	6	15%	0.9
Sub-Factor 6	Aaa	1	15%	0.2
Sub-Factor 7	A	6	15%	0.9
Sub-Factor 8	A	6	15%	0.9
			100%	4.8
				= A1

If an LDC'S sub-factors sum to a score of 4.8, as shown above, an overall rating of A1 would be assigned. On this scale, a lower score indicates a stronger credit profile than a higher score. If the LDC's sub-factors sum to a total score of 9.0, an overall rating of Baa would be assigned. The LDC would be considered to have an average Baa2 rating profile because it falls in the middle of that category range.

In this methodology we cover 30 gas utility companies. After placing these companies through the rating factor grid,

- 7 companies (23%) map to their assigned ratings
- 14 companies (47%; 70% cumulatively) fall within one notch of their existing ratings.
- 7 companies (23%; 93% cumulatively) have indicated ratings that are within two notches higher or lower than actual ratings
- All but two companies have actual ratings that fall within two notches of their ratings on the grid, with two companies' ratings — those of South Jersey Gas and Boston Gas — falling within three and four notches, respectively, outside of their factor summaries.[6]

South Jersey Gas currently has an assigned rating of Baa2, although the Moody's methodology suggests an A2 rating (reflecting, primarily, that recent past performance may differ from future results). When one factors the company's recent rate case capitalization assumptions with the appropriate adjustments made by Moody's, leverage rises, retained cash flows decline (on account of higher dividend payouts) and coverage ratios are reduced. The company remains solidly in the investment grade category. However, the financial metrics for this company are currently in transition as implied by the methodology and the ratings based on recent historical data may not be applicable for the future.

Boston Gas is rated A2 senior unsecured compared to the model rating of Baa3. This reflects the results of push-down accounting relating to KeySpan's acquisition of Eastern Enterprises, whereby a portion of the acquisition debt and goodwill issued by the parent was allocated to Boston Gas. Additionally, as KeySpan is currently under review for possible downgrade, following the announcement that it is being acquired by National Grid Plc, a UK gas and electricity transmission business, in a transaction valued at $7.3 Billion (£4.2 Billion). The transaction may put pressure on the regulated subsidiary to support the additional debt.

While there may be outliers from time to time under the gas LDC rating methodology, the vast majority of the companies rated by Moody's do fall within the two rating notches targeted by this methodology, and their credit ratings could be explained by the relevant factors. At any given time, we could assume that one or more issuers are in a state of transition and may therefore find themselves positioned as outliers relative to their assigned ratings when compared against the ratings implied under the gas LDC methodology (i.e. the deviations are either higher or lower by more than the two desirable notches).

6. *See Appendix C for Summary Chart on Moody's Public Rating versus Indicated Model Rating.*

Related Research

Special Comments:

Local Gas Distribution Companies: Update on Revenue Decoupling And Implications for Credit Ratings, June 2006 (98022)

Update On The Gas Supply and Liquidity Needs of Gas LDCs Post Hurricane Katrina, September 2005 (94440)

Impact Of Conservation On Gas Margins And Financial Stability In The Gas LDC Sector, June 2005 (92787)

Comparative ROE Attributes of US Local Gas Distribution Companies, July 2004 (87301)

Gas Utility Cash Management Practices Reflect the Diversity of their Credit Ratings, October 2003 (79828)

Negative Rating Trend For Local Gas Distribution Companies: Impact Of Diversification And Warm Weather, October 2002 (76344)

To access any of these reports, click on the entry above. Note that these references are current as of the date of publication of this report and that more recent reports may be available. All research may not be available to all clients.

Appendix A

CONSOLIDATED GAS UTILITY RATING GRID

		Weighting Ranges	Individual Weighting	Aaa	Aa	A	Baa	Ba	B	Caa
Sustainable Profitability	Return on Equity		15.0%	> 19%	14 – 19%	9 – 14%	5 – 9%	2 – 5%	0 – 2%	< 0%
	Ebit / # of Residential & Commercial Customers	20%	5.0%	> $350	$250 – $350	$150 – $250	$100 – $150	$50 – $100	$0 – $50	< $0
Regulatory Support	Regulatory Support and Relationship	10.0%	10.0%	Exceptional Proactive Support by Utility Commission to allow LDCs to timely adjust rates to cover all costs of service; Utility commission always willing to help LDC establish a cooperative framework for discussions, hearings and implementation of better rate design to help LDCs' shareholders and consumers alike. Utility Commission grants all rate design features to allow LDC to recover costs on a complete and timely basis.	Very Good Proactive Support by Utility Commission to allow LDCs to timely adjust rates to cover all costs of service; Utility commission highly willing to help LDC establish a cooperative framework for discussions, hearings and implementation of better rate design to help LDCs' shareholders and consumers alike. Rate design is near "bulletproof" cover for LDC risks. Requested rate increases tend to be approved in less than 9 months.	Good Support by Utility Commission to allow LDCs to amend rate designs. Company gets good support in proposing new solutions to deal with common utility problems such as conservation and weather variables; Differences between LDCs and utility commission are likely to be resolved. Rate filings tend to be approved under 12 months.	Reasonable support from Utility Commission to allow LDCs to recoup allowed expenses; Company gets some support in proposing new solutions to deal with common utility problems such as conservation and weather issues; Differences between LDCs and Utility Commission are reasonably resolved in a timely manner and rate cases tend to be approved in 12 – 15 months with at least 50% of LDC's target requests being granted.	Inadequate support from Utility Commission to allow LDCs to recoup allowed expenses; Utility commissioner and/or staff tends to play the role of "consumer advocate" that often counters proposals or initiatives advanced by the LDC. Cases often take over 15 months to resolve or LDC is frozen out of rate filings for over 18 months.	Inadequate support from Utility Commission to allow LDCs to recoup allowed expenses; Utility commissioner often plays the role of "consumer advocate" that tends to counter proposals or initiatives advanced by the LDC; Company is seldom involved with working on special task forces to deal with issues of rising account delinquencies or educating customers on conservation or warm weather issues. Utility suffers from increasing regulatory lag and lacks rate relief necessary to earn allowed ROE.	Inadequate and weak support from Utility Commission to allow LDCs to recoup allowed expenses. Utility commissioner always plays the role of "consumer advocate" that tends to counter proposals or initiatives advanced by the LDC; Company is hardly ever involved with working on special task forces to deal with issues of rising concern to utility or customers. Unsupportive commission/state legislature or consumer base. Utility can't earn allowed ROE.

		Weighting Ranges	Individual Weighting	Aaa	Aa	A	Baa	Ba	B	Caa
Ring-Fencing	Ring-Fencing Quality (regulated or self-imposed)	10.0%	10.0%	Excellent ring-fencing provisions isolating Utility from Non-Utility; No commingling of funds; Utility cash accounts are separated from rest of company; Inter-company loans never permitted between utility and non-utility; No portion of Utility dividend payment to parent ever ends up being allocated to non-utility. Strong	Very Good ring-fencing provisions; Utility and Non-Utility highly unlikely to commingle funds; Separate cash program or own utility money pool; Inter-company loans not permitted between utility and non-utility; Utility dividend payment to parent never end up being allocated to non-utility.	Good ring-fencing provisions; Utility and Non-Utility are unlikely to commingle funds; Separate utility money pool or utility accounts; Inter-company loans not permitted between utility and non-utility; Utility dividend payment to parent unlikely to be allocated to non-utility.	Reasonable ring-fencing provisions; Utility and Non-Utility may need to commingle funds via consolidated corporate money pool; Bond indentures or bank credit agreements may reasonably restrict the utility from financial dealings with non utility; Inter-Company loans between utility and non-utility rare.	Inadequate ring-fencing provisions; Utility often participates in corporate cash money pool that includes non-utility and funds are often commingled; Regulators usually do not have a requirement that LDCs remain investment grade. Bond indentures or bank credit agreements may not restrict the utility financial dealings with non- utility.	Inadequate ring-fencing provisions; Utility often participates in corporate cash money pool that includes non-utility and funds are generally commingled; No requirement for LDCs to remain investment grade. Bond indentures or bank credit agreements usually do not restrict the utility financial dealings with non- utility. Inter-company loans between utility and non-utility common place.	Inadequate and weak ring-fencing provisions; Utility and Non-Utility generally always commingle funds; No requirement for LDCs to remain investment grade; Bonds indentures/ bank agreements never restrict utility financial dealing with non-utility. Inter-company loans between utility and non-utility are common place; Utility dividends to parent may fund non-utility needs.
				Corporate Governance protecting utility interests which are treated as core operation.	Very Good Corporate Governance. May lack formal regulatory or creditor leverage restrictions or IG requirement for utility, but company has strong policy of ring-fencing utility.	Good Corporate Governance of utility	Satisfactory Corporate Governance. Gas utility contributes less than 90% of consolidated group EBIT and may not be primary growth engine.	Inadequate Corporate Governance protection for utility as stand-alone entity.	Inadequate Corporate Governance for utility as a stand alone entity.	Inadequate and weak Corporate Governance of utility interests.
Financial Strength & Flexibility	EBIT/Interest		15.0%	> 7x	5 – 7x	3 – 5x	2 – 3x	1 – 2x	0 – 1x	< 0x
	RCF/Dcbt		15.0%	> 26%	21 – 26%	15 – 21%	10 – 15%	5 – 10%	0 – 5%	< 0%
	Debt / Book Capitalization (Excluding Goodwill)	60.0%	15.0%	< 30%	30 – 40%	40 – 50%	50 – 65%	65 – 85%	85 – 90%	> 90%
	FCF/FFO		15.0%	> 10%	10% – (15%)	(15) – (30%)	(30%) – (45%)	(45%) – (60%)	(60%) – (75%)	< (75%)

Appendix B

CONSOLIDATED FACTOR MAPPING RESULTS

Issuer Name	Current Senior Unsecured Rating	ROE	Indicated Rating: ROE	EBIT/# of Residential & Commercial Customers	Indicated Rating: Operating Ratio	Indicated Rating: Regulatory Support	Indicated Rating: Ring Fencing	EBIT / Interest Expense	Indicated Rating: EBIT/ Interest Expense	RCF / Debt	Indicated Rating: RCF/ Debt	Debt / Book Capitalization (Excluding Goodwill)	Indicated Rating: Debt/Book Capitalization (Excluding Goodwill)	FCF/ FFO	Indicated Rating: FCF/FFO
Alabama Gas Corporation	A1	14 – 19%	Aa	$150 – $250	A	Aaa	Baa	3 – 5x	A	> 26%	Aaa	40 – 50%	A	(15%) – (30%)	A
New Jersey Natural Gas Company (Sec Aa3)	A1	9 – 14%	A	$150 – $250	A	Aaa	Aaa	> 7x	Aaa	10 – 15%	Baa	40 – 50%	A	> 10%	Aaa
Wisconsin Gas	A1	5 – 9%	Baa	$100 – $150	Baa	Baa	Baa	3 – 5x	A	10 – 15%	Baa	40 – 50%	A	10% – (15)%	Aa
Boston Gas Company	A2	2 – 5 %	Ba	$150 – $250	A	Baa	Baa	1 – 2x	Ba	10 – 15%	Baa	65 – 85%	Ba	(15%) – (30%)	A
Brooklyn Union Gas	A2	9 – 14%	A	$150 – $250	A	Baa	Aaa	5 – 7x	Aa	10 – 15%	Baa	40 – 50%	A	(45%) – (60%)	Ba
KeySpan Gas East Corporation	A2	9 – 14%	A	$250 – $350	Aa	Baa	Aaa	2 – 3x	Baa	21 – 26%	Aa	40 – 50%	A	10% – (15)%	Aa
Northern Illinois Gas	A2	5 – 9%	Baa	$50 – $100	Ba	Baa	Baa	3 – 5x	A	10 – 15%	Baa	40 – 50%	A	(30%) – (45%)	Baa
North Shore Gas Company (Sec A1)	A2	5 – 9%	Baa	$50 – $100	Ba	Ba	Baa	3 – 5x	A	5 – 10%	Ba	30 – 40%	Aa	(15%) – (30%)	A
Peoples Gas Light and Coke Compa (Sec A1)	A2	5 – 9%	Baa	$100 – $150	Baa	Ba	Baa	2 – 3x	Baa	5 – 10%	Ba	30 – 40%	Aa	(15%) – (30%)	A
Public Service Co. of North Caro	A2	5 – 9%	Baa	$150 – $250	A	Aaa	Aaa	2 – 3x	Baa	15 – 21%	A	30 – 40%	Aa	(15%) – (30%)	A
Questar Gas Company	A2	9 – 14%	A	$50 – $100	Ba	Ba	A	3 – 5x	A	15 – 21%	A	40 – 50%	A	(15%) – (30%)	A
Southern California Gas Company	A2	14 – 19%	Aa	$50 – $100	Ba	A	Aaa	5 – 7x	Aa	21 – 26%	Aa	50 – 65%	Baa	(15%) – (30%)	A
Washington Gas Light Company	A2	9 – 14%	A	$150 – $250	A	Baa	Aaa	5 – 7x	Aa	15 – 21%	A	30 – 40%	Aa	10% – (15)%	Aa
Terasen Gas Inc.	A3	9 – 14%	A	>$350	Aaa	Aa	Aa	1 – 2x	Ba	5 – 10%	Ba	65 – 85%	Ba	(15%) – (30%)	A
Colonial Gas Company (Sec A2)	A3	2 – 5 %	Ba	$250 – $350	Aa	Baa	Baa	3 – 5x	A	15 – 21%	A	50 – 65%	Baa	10% – (15)%	Aa
Northwest Natural Gas Company	A3	9 – 14%	A	$150 – $250	A	Aaa	Baa	3 – 5x	A	10 – 15%	Baa	40 – 50%	A	(30%) – (45%)	Baa
Piedmont Natural Gas Company, In	A3	9 – 14%	A	$150 – $250	A	Aaa	Aaa	3 – 5x	A	10 – 15%	Baa	50 – 65%	Baa	(15%) – (30%)	A
Connecticut Natural Gas	A3	2 – 5 %	Ba	$250 – $350	Aa	Ba	Baa	3 – 5x	A	15 – 21%	A	40 – 50%	A	(15%) – (30%)	A
UGI Utilities, Inc.	A3	14 – 19%	Aa	$250 – $350	Aa	Baa	A	3 – 5x	A	10 – 15%	Baa	50 – 65%	Baa	10% – (15)%	Aa
AGL Resources Inc.	Baa1	14 – 19%	Aa	$150 – $250	A	Baa	Baa	3 – 5x	A	10 – 15%	Baa	50 – 65%	Baa	(30%) – (45%)	Baa
Cascade Natural Gas Corp.	Baa1	9 – 14%	A	$100 – $150	Baa	Baa	Aaa	2 – 3x	Baa	10 – 15%	Baa	50 – 65%	Baa	(15%) – (30%)	A
Indiana Gas Company, Inc.	Baa1	5 – 9%	Baa	$100 – $150	Baa	Aa	Baa	2 – 3x	Baa	5 – 10%	Ba	40 – 50%	A	(30%) – (45%)	Baa

Issuer Name	Current Senior Unsecured Rating	ROE	Indicated Rating: ROE	EBIT/# of Residential & Commercial Customers	Indicated Rating: Operating Ratio	Indicated Rating: Regulatory Support	Indicated Rating: Ring Fencing	EBIT / Interest Expense	Indicated Rating: EBIT/ Interest Expense	RCF / Debt	Indicated Rating: RCF/ Debt	Debt / Book Capitalization (Excluding Goodwill)	Indicated Rating: Debt/Book Capitalization (Excluding Goodwill)	FCF/ FFO	Indicated Rating: FCF/FFO
Laclede Gas Company	Baa1	9 – 14%	A	$100 – $150	Baa	Aa	A	2 – 3x	Baa	5 – 10%	Ba	50 – 65%	Baa	(15%) – (30%)	A
Southern Connecticut Gas (Sec A3))	Baa1	2 – 5 %	Ba	$150 – $250	A	Baa	Baa	2 – 3x	Baa	15 – 21%	A	50 – 65%	Baa	(15%) – (30%)	A
Laclede Group, Inc. (The)	Baa2	9 – 14%	A	$100 – $150	Baa	Aa	Baa	2 – 3x	Baa	5 – 10%	Ba	50 – 65%	Baa	(15%) – (30%)	A
South Jersey Gas Company	Baa2	9 – 14%	A	$150 – $250	A	Aa	Aaa	3 – 5x	A	10 – 15%	Baa	50 – 65%	Baa	10% – (15)%	Aa
Yankee Gas	Baa2	2 – 5 %	Ba	$150 – $250	A	Ba	Baa	1 – 2x	Ba	10 – 15%	Baa	50 – 65%	Baa	< (75%)	Caa
Atmos Energy Corporation	Baa3	9 – 14%	A	$50 – $100	Ba	Baa	Baa	2 – 3x	Baa	10 – 15%	Baa	50 – 65%	Baa	(15%) – (30%)	A
Southwest Gas Corporation	Baa3	5 – 9%	Baa	$50 – $100	Ba	Ba	Aaa	1 – 2x	Ba	10 – 15%	Baa	65 – 85%	Ba	(45%) – (60%)	Ba
SEMCO Energy, Inc.	Ba2	<0%	Caa	$100 – $150	Baa	Ba	Baa	1 – 2x	Ba	5 – 10%	Ba	> 90%	Caa	(45%) – (60%)	Ba

Positive Outlier
Negative Outlier

Appendix C

MOODY'S PUBLIC RATING VS. INDICATED MODEL RATING

Summary of LDCs Notch Difference

		0 Notch Difference	7
ACCURACY:		1 Notch Difference	14
# of Companies in Methodology Study	30	2 Notch Difference	7
# of Companies within Notching Range	28	Outliers	2
% Companies within Notching Range	93%	Total Companies	30

Companies	Public Ratings	Model Ratings	Notch Difference
Alabama Gas	A1	A1	0
New Jersey Natural Gas	A1	Aa3	-1
Wisconsin Gas LLC	A1	A3	2
Boston Gas Company	A2	Baa3	4
Brooklyn Union Gas	A2	A3	1
KeySpan Gas East	A2	A1	-1
Northern Illinois Gas	A2	Baa1	2
NorthShore Gas	A2	Baa1	2
People Gas Light	A2	Baa1	2
Public Service Co of NC	A2	A1	-1
Questar Gas	A2	A3	1
Southern California Gas	A2	A1	-1
Washington Gas Light	A2	Aa3	-2
Colonial Gas	A3	A3	0
Northwest Natural Gas	A3	A3	0
Piedmont Natural Gas	A3	A2	-1
Connecticut Natural Gas	A3	Baa1	1
Terasen Gas Inc.	A3	Baa1	1
UGI Utilities Inc.	A3	A2	-1
AGL Resources Inc.	Baa1	A3	-1
Cascade Natural Gas	Baa1	A3	-1
Indiana Gas Company	Baa1	Baa1	0
Laclede Gas Company	Baa1	Baa1	0
Southern Connecticut Gas	Baa1	Baa1	0
Laclede group Inc	Baa2	Baa1	-1
South Jersey Gas	Baa2	A2	-3
Yankee Gas	Baa2	Ba1	2
Atmos Energy	Baa3	Baa1	-2
Southwest Gas Corp	Baa3	Baa3	0
SEMCO Energy Inc.	Ba2	Ba3	1

Positive Outlier
Negative Outlier

Appendix D

SUMMARY OF NON-FINANCIAL LDC SUB-FACTORS

1. **Regulatory Support & Relationship**: While factor No. 1 measures the adequacy and effectiveness of the LDC's business model, this factor measures both the **ability** and **willingness** of the utility regulatory commission to grant the necessary support and protection that the LDC requests in its business plans. The utility commission must be willing to help the LDC establish a cooperative framework for discussions, hearings and staff relations with its indigenous utilities as well as have the state constitutional powers to put the necessary regulations or rate designs in place. While the LDC is interested in obtaining flexibility in regulatory growth and risk protection, the commission is usually focused on ensuring a stable utility operation with reliable customer service under reasonable prices. Questions to consider include
   a. Does the Company have good working relationship with the state regulators to recoup allowed expenses and the necessary trust of its regulators that it is doing the right thing for its customers and shareholders alike?
   b. Does the Company maintain an active dialogue with the commissioners and staff in discussing and proposing new solutions to common utility problems and working on special task forces to deal with common industry issues of rising account delinquencies as gas shortages rise and prices increase, or in educating customers as to gas conservation or safety?
   c. What is the role of the commission staff, to serve as a technical advisor to the utility commission in facilitating constructive discussions with the company or does it play the role of "consumer advocate" that tends to counter proposals or initiatives advanced by the LDC in an adversarial atmosphere for dispute resolutions.
   d. How are differences between the LDC and its utility commission typically resolved, do they have a "settlement" approach where various interveners and interested parties are brought together for amicable solutions or do they resort to court actions and counter-actions to achieve their ends?
5. **Ring Fencing Quality**: We find that either regulators or creditors or the companies themselves impose certain ring-fencing parameters on the financial operations of the LDCs. Generally, ring-fencing is a desirable attribute as the utility is assured a certain financial insulation from the non-utility operations of the parent company and is not susceptible to supporting the business of its non-utility affiliates. The greater the degree of ring-fencing, the more separated is the utility from its non-utility affiliates. The strongest ring-fencing requirements tend to come from legislative statutes and regulators, followed by bond indentures and bank creditors. Occasionally, LDCs have self-imposed guidelines that could be just as rigid as those regulated, but this would depend on the analysts' confidence in the utility's strict adherence to its own firewall policies and practices. A utility's self-imposed restrictions on its own operations and its attempts at insulating itself from other non-regulated affiliates could also be evident in its corporate governance policies and practices. Issues to consider include
   a. Are inter-company loans or advances permitted between utility and non-utility operations of the same corporate family?
   b. Does the utility participate in a corporate cash money pool that includes non-utility subsidiaries, such that it is possible for the utility to deposit its surplus funds in general corporate money pool which ends being used by the non-utility affiliates for their WC needs?
   c. Does the utility dividend payment to its parent (perhaps in excess of what the parent needs to pay public shareholders) have a portion that ends up being allocated to non-utility affiliates for their operating or investment needs?
   d. Do the regulators stipulate maximum leverage ratios for the LDC or have a requirement that the LDC remain investment-grade in order to preserve its service franchise?
   e. What is the quality of the LDC's corporate governance?

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BEFORE THE
PUBLIC UTILITIES COMMISSION OF
THE STATE OF CALIFORNIA

REBUTTAL TESTIMONY OF

MICHAEL J. VILBERT

ON BEHALF OF

CALIFORNIA-AMERICAN WATER

DOCKET NO. A. 07-01-036-39

CONCERNING

COST OF CAPITAL

MAY 21, 2007

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I. INTRODUCTION AND SUMMARY

A. INTRODUCTION

Q1. Please state your name, address and position.

A1. My name is Michael J. Vilbert, and I am a Principal at *The Brattle Group*, 44 Brattle Street, Cambridge, MA 02138

Q2. Did you previously file testimony in this proceeding?

A2. No, I am adopting the Direct Testimony of Joel M. Reiker ("Reiker Direct") on behalf of California-American Water Company ("California-American" or the "Company") regarding return on equity that the Company should be allowed an opportunity to earn. He recommends a return on equity of 11.5 percent for a capital structure with 42 percent equity. I fully endorse that recommendation.

Q3. What is the purpose of your rebuttal testimony?

A3. I have been asked by California-American to respond to the Testimony of Mr. Cleason Willis ("Willis Testimony") on behalf of the Division of Ratepayer Advocates of the California Public Utilities Commission regarding the Willis Testimony's recommended return on equity for the Company. I have also been asked to respond to the Willis Testimony's criticism of the Reiker Direct.

B. SUMMARY

Q4. Please summarize your rebuttal testimony.

A4. This rebuttal testimony focuses on several topics stemming from the Willis Testimony. First, the Willis Testimony recognizes the importance of financial risk as a determinate of the cost of equity,[1] but makes no adjustment in the recommended return on equity based upon the higher financial risk of California-American compared to the companies in the

[1] Willis Testimony, p. 3-1.

water sample. If the Willis Testimony had recognized the differences in financial risk, the estimated return on equity would have been comparable to the 11.5 percent requested by the Company. Second, and most important, setting the allowed return on equity at 11.5 percent provides an overall cost of capital equal to the overall cost of capital authorized recently for other California water utilities, as demonstrated below.

II. ALLOWED RETURN ON EQUITY AND THE NEED FOR CAPITAL INVESTMENT IN THE WATER INDUSTRY

Q5. The Willis Testimony recommends that California-American be allowed an opportunity to earn a return on equity of 9.96 percent on a regulatory capital structure with 41.56 percent equity. Do you have any general comments?

A5. Yes. The Willis Testimony estimates an average of 9.41 percent cost of equity using the DCF model and an average of 10.51 percent using the risk positioning model[2] but makes no adjustment to the models' estimates even though the sample companies' average book-value capital structures average 53.21 percent equity compared to California-American's 41.56 percent[3] as displayed in Table 2-1 of the Willis Testimony and in Table 1 below. The difference in market-value capital structures is even larger as shown in Table 2.

Table 1: Water Sample Book Value Capital Structures

Company	2006	2005	2004	2003	2002	Company Average
American States Water Co	49.5%	48.8%	49.0%	44.3%	45.5%	47.4%
Aqua America Inc	46.2%	43.8%	45.2%	44.2%	40.2%	43.9%
California Water Service Group	56.0%	51.3%	50.7%	46.3%	40.6%	49.0%
Connecticut Water Service Inc	55.1%	53.9%	56.4%	54.5%	53.1%	54.6%
Middlesex Water Co	48.5%	42.2%	42.0%	41.8%	43.1%	43.5%
SJW Corp	58.2%	57.4%	56.2%	54.3%	57.2%	56.7%
AVERAGE	**52.3%**	**49.6%**	**49.9%**	**47.6%**	**46.6%**	**49.2%**

Source: End-of-year book values obtained from Bloomberg on April 9, 2007.

[2] Willis Testimony, p. 2-8, Table 2-8.

[3] California-American's equity percentage in its capital structure for 2008 is 41.84 percent. I use the 41.84 percent equity ratio in the analysis below.

Table 2: Water Sample Market Value Capital Structures

Company	2006	2005	2004	2003	2002	Company Average
American States Water Co	66.9%	62.4%	57.9%	54.9%	54.8%	59.4%
Aqua America Inc	73.9%	76.2%	71.1%	70.0%	64.3%	71.1%
California Water Service Group	72.2%	70.7%	69.2%	61.1%	51.2%	64.9%
Connecticut Water Service Inc	70.5%	72.0%	77.8%	73.8%	72.5%	73.3%
Middlesex Water Co	64.4%	59.9%	62.5%	66.2%	62.2%	63.0%
SJW Corp	83.0%	72.2%	66.6%	62.3%	66.0%	70.0%
AVERAGE	**71.8%**	**68.9%**	**67.5%**	**64.7%**	**61.8%**	**66.9%**

Source: End-of-year book values and market prices obtained from Bloomberg on April 9, 2007.

Q6. Does the Willis Testimony's justification for not recognizing the difference in financial risk make sense?

A6. No. The Willis Testimony claims that "Cal Am has managed to maintain a good credit rating and does not appear to have any problem attracting capital. Furthermore, maintaining their current level of leverage in their capital structure is a decision under the company's management's control."[4] The first statement is misleading and the second is true, but should not affect the overall return earned by the Company.

First, as the Willis Testimony acknowledges California-American does not have a credit rating nor does it issue its own debt. Instead, it relies upon investment from its parent company, American Water Company, who uses American Water Capital Corporation as its source of investment funds. Although American Water Capital currently has an A- credit rating, that credit rating cannot be sustained if each of American Water's subsidiaries is regulated as if there is no need to provide a rate of return on equity consistent with an A- rating.[5] If the rating is to be sustained, each subsidiary must provide support for the rating. As noted in the Willis Testimony, the forecast cost of debt for California-American is *less* than the DRI forecast cost of debt for A-rated utilities.[6]

[4] Willis Testimony, p. 3-3.

[5] The median return on book equity for A-rated utilities is 10.8 percent on a median equity ratio of 46.2 percent. See Standard & Poor's, *Corporate Ratings Criteria 2006*, p. 43.

[6] Willis Testimony, p. 3-4.

This is clearly in the interest of the customers, but this benefit is only possible if a strong credit rating is maintained by the entity issuing the debt.

Second, California-American has substantial investment needs that are necessary to maintain and improve the water infrastructure in its service territory, as well as comply with various government mandates and regulations. California-American's source of funds is its parent company, American Water, and California-American's request for investment funds is combined with the requests from the other American Water subsidiaries before an allocation is made of the available investment funds. To some extent the investment decisions by the parent will take into consideration the allowed return that is expected to be earned on those funds. Discretionary investment is likely to be lower for those subsidiaries receiving a lower allowed return on a risk-adjusted basis.

Third, as demonstrated below, California-American's request for 11.5 percent return on equity is consistent with the overall returns on capital recently awarded to other water utilities in California. The only difference is that California-American has less equity in its capital structure than the other utilities, but customers would pay no more for capital on average than they pay in other water districts. Note that this point is not a premium for differences in financial risk between the sample companies and California American, but merely a request to earn the same overall rate of return on investment as has been allowed for other California water utilities.

Q7. The Willis Testimony points out that California-American's equity thickness is a decision under the control of the Company and therefore no adjustment in the allowed return on equity is warranted? How do you respond?

A7. The capital structure of California-American is under the control of American Water's management, but that fact does not justify ignoring differences in financial risk. A company's capital structure at any point in time is a function of many factors, but capital structure does not affect the overall risk of the assets. Variations in capital structure merely result in a different allocation of those risks between debt and equity holders.

Ignoring differences in capital structure results in unequal treatment of similarly situated companies as demonstrated in *Section IV* below.

Q8. If the Willis Testimony had recognized the differences in financial risk between the sample companies and California-American, what would the model estimates have been?

A8. I will first illustrate the method I use to recognize the differences in financial risk, and then I will present the results using the Willis Testimony cost of equity estimates and the average capital structures of the sample companies.

The Reiker Direct used a financial risk adjustment based upon an article by Professor Hamada;[7] however, I typically use a slightly different approach to adjusting for differences in financial risk. Specifically, I use the overall after-tax weighted-average cost of capital ("ATWACC") for the sample derived from information on the estimated costs of debt and equity in the capital markets. I then determine the return on equity at the regulated company's capital structure that would provide the same ATWACC. This is the approach I use to illustrate the results from the Willis Testimony's cost of equity estimates if differences in financial risk had been recognized. Table 3 below shows the ATWACC resulting from the sample estimates provided in the Willis Testimony.

Q9. Should financial risk for the sample companies be measured on book-value or market-value capital structures?

A9. As discussed in Appendix B, the appropriate measure of financial risk of the sample is the market-value capital structure. However, in this case, I demonstrate in the tables below that even if only the differences in book-value capital structures were recognized, an 11.5 percent return on equity for California-American's would be justified.

[7] Reiker Direct, pp 34-35. Note that the Reiker Direct uses market value capital structure information to adjust for differences in financial risk.

Table 3: ATWACCs using Return on Equity Estimates from the Willis Testimony

	Willis Testimony's Cost of Equity [1]	Common Equity Equity Ratio [2]	Cost of Preferred Equity [3]	Preferred Equity Ratio [4]	Cost of Debt [5]	Debt Ratio [6]	American's Income Tax Rate [7]	Overall After-Tax Cost of Capital [8]
Average Market Value Capital Structure								
DCF	9.4%	0.719	5.85%	0.002	5.85%	0.278	40.7%	7.7%
Risk Positioning*	10.5%	0.670	5.85%	0.000	5.85%	0.330	40.7%	8.2%
Average Book Value Capital Structure								
DCF	9.4%	0.520	5.85%	0.000	5.85%	0.470	40.7%	6.5%
Risk Positioning*	10.5%	0.490	5.85%	0.010	5.85%	0.500	40.7%	6.9%

Sources and Notes:
[1]: Cleason D. Willis, expert witness for the Division of Ratepayer Advocates.
[2]: Workpaper #1 to Table No. MJV-R1, Panel's A and B.
[3]: Mergent Bond Rating, March 2007.
[4]: Workpaper #1 to Table No. MJV-R1, Panel's A and B.
[5]: Bloomberg as of March 27, 2007. Based on an A-rated public utility yield.
[6]: Workpaper #1 to Table No. MJV-R1, Panel's A and B.
[7]: California's 2007 marginal corporate tax rate for firms with income greater than $18.3 MM.
[8]: ([1] x [2]) + ([3] x [4]) + {[5] x [6] x (1 - [7])}.
* The Risk Positioning model takes a five-year average capital structure.

Table 4: Risk-Adjusted Returns on Equity

	Overall Cost of Capital [1]	Regulatory Debt [2]	Cost of Debt [3]	Marginal Income Tax Rate [4]	Regulatory Equity [5]	Estimated Return on Equity [6]
Average Market Value Capital Structure						
DCF	7.7%	0.582	5.85%	40.7%	0.418	13.7%
Risk Positioning*	8.2%	0.582	5.85%	40.7%	0.418	14.7%
Average Book Value Capital Structure						
DCF	6.5%	0.582	5.85%	40.7%	0.418	10.8%
Risk Positioning*	6.9%	0.582	5.85%	40.7%	0.418	11.8%

Sources and Notes:
[1]: Table No. MJV-R1, column [8].
[2]: Regulatory capital structure proposed by California-American and agreed to by the Division of Ratepayer Advocates.
[3]: Index yield on A-rated debt for a public utility. Bloomberg as of March 27, 2007.
[4]: California's 2007 marginal corporate tax rate for firms with income greater than $18.3 MM.
[5]: Regulatory capital structure proposed by California-American and agreed to by the Division of Ratepayer Advocates.
[6]: {[1] - ([2] x [3] x (1 - [4]))} / [5].
* The Risk Positioning model takes a five-year average capital structure.

Q10. Please describe the results displayed in Table 3 and in Table 4.

A10. Table 3 displays the calculation of the ATWACC for the water sample based upon the return on equity calculations in the Willis Testimony for the DCF and risk positioning models. It presents the results using both the market value and the book value capital

structures of the water sample companies. Table 4 uses the ATWACC calculated in Table 3 to determine the risk-adjusted return on equity inherent in the water sample information utilized in the Willis Testimony. As Table 4 illustrates, considering financial risk results in return on equity estimates that exceed California-American's requested 11.5 percent for all cases except for the DCF model using book value weights.

Q11. Can you provide a simple example of the calculation of the cost of equity consistent with the market-determined estimate of the sample's average overall cost of capital displayed in Table 3 and Table 4?

A11. Yes. Consider the following equation to calculate the ATWACC:[8]

$$ATWACC = r_D \times (1 - T_C) \times D + r_E \times E \qquad (1)$$

where r_D = market cost of debt,
r_E = market cost of equity,
T_C = corporate income tax rate,
D = percentage of debt in the capital structure, and
E = percentage of equity in capital structure.

The cost of equity consistent with overall cost of capital estimate (ATWACC) from the sample, the market cost of debt and equity, the marginal corporate income tax rate and the amount of debt and equity in the capital structure can be determined by solving equation (1) for r_E.

Q12. Please summarize your comments on the Willis Testimony's recommended return on equity at California-American's regulatory capital structure.

A12. The Willis Testimony's recommendations are consistent with the return on equity recommended in the Reiker Direct *when* differences in financial risk are considered. The Willis Testimony recognizes the importance of financial risk, but the reasons offered for not making any adjustment to the returns estimated from market data do not stand up to

[8] Note that this equation assumes that only debt and equity are in the capital structure, but it is simple to add preferred equity to the equation.

closer review. The financial risk of the sample companies is lower than for California-American and that difference in financial risk should be recognized.

The Company does not have a stand-alone credit rating and does not issue its own debt but relies on the financial strength of American Water to acquire the investment funds it needs. American Water will not be able to maintain its A- credit rating if its subsidiaries are not authorized a rate of return that would justify that rating. If American Water's credit rating weakens, it will cost customers more as new debt is issued in the future.

III. RISK OF THE WATER INDUSTRY

Q13. Has the risk of water utilities increased recently?

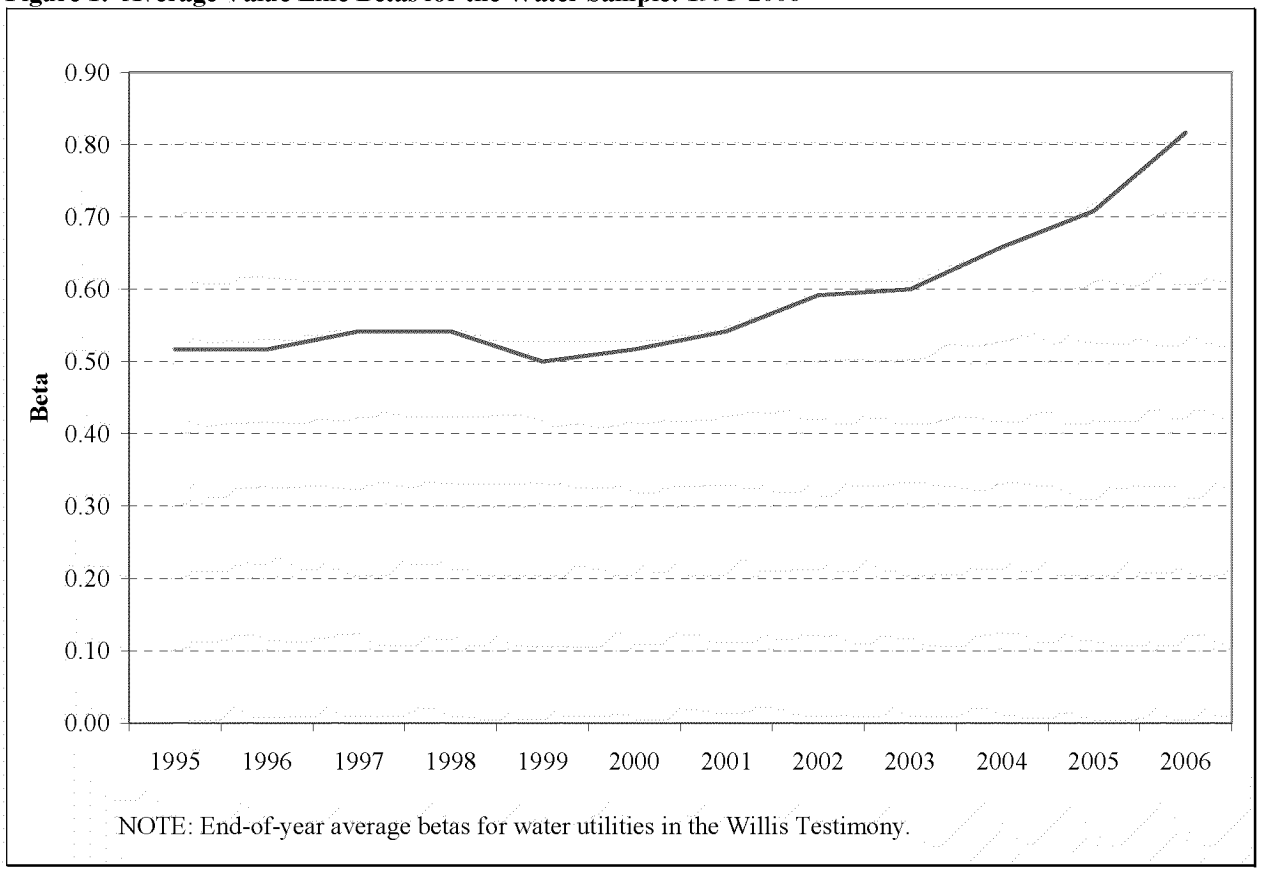
A13. In general, yes. While I recognize that water utilities traditionally have been viewed as relatively safe compared to many other industries, the risk of the water industry is increasing. Publicly traded water utilities in the U.S. generally have good credit ratings, but Moody's Investors Service ("Moody's") and S&P note the need for significant capital expenditure, the costs of complying with environmental and security regulation as sources of risk.[9] Fitch notes that the debt ratios are increasing.[10] At the same time the regulatory requirements for the water industry are evolving.[11] This increase in risk is documented by the increasing average estimated betas by *Value Line Investment Survey* ("*Value Line*") for the water sample which is shown below in Figure MJV-R1. *Value Line's* estimated betas for the water utility companies covered as of the last report for each year since 1995 have increased from an average of about 0.50 in 1995 to an average of about 0.70 in 2006. *Value Line's* beta estimates demonstrate that the average risk of the industry appears to be increasing.

[9] Moody's *Credit Risks Are Increasing for U.S. Investor Owned Water Utilities*, Special Comment, January 2004, S&P *Key Rating Factors for Water Companies Around the World*, July 17, 2006.

[10] Fitch Ratings, 2007 Median Ratios for Water and Sewer Revenue Bonds – Retail Systems.

[11] For example, the Ground Water Rule was signed in November 2006.

Figure 1: Average Value Line Betas for the Water Sample: 1995-2006



Q14. The market data seem to suggest that the water industry's risk has increased dramatically compared to other regulated industries. Do you have any concerns with the market information?

A14. Yes. The data from the capital markets are suggesting that the cost of capital for the water industry has substantially over the last few years, but I believe that the data should be interpreted with some caution. The water sample consists of companies that are smaller in general than the companies in the Reiker Direct's gas local distribution sample and electric sample. In addition, some of the companies in the water sample have recently been involved in mergers and acquisitions. These factors may be affecting the cost of capital estimates for the sample, and I believe that this is one reason that the Reiker Direct reported results for two other samples to serve as a check on the results from the water sample.

Q15. What do you recommend when interpreting the results from the water sample?

A15. In the past whenever any sample's cost of capital estimates seem to be either unusually high or low, I have considered the relative risk of the sample to that of other regulated industries as a check on the results. In this case, the comparison warrants caution in interpreting the resulting cost of equity estimates from a fully consistent application of financial principles to the water sample's results. In other words, I believe that the estimates in Table 4 above indicating a return on equity of more than 13 percent for California-American after recognition of differences in financial risk may not be completely reliable. However, I also believe that American-Water's requested 11.5 percent return on equity is fully justified by the evidence from all of the samples and from comparison to the returns allowed for other California water utilities as described in *Section IV* below.

Q16. Previously you stated that the water industry needs to undertake substantial capital expenditures going forward. Would you please elaborate?

A16. Yes. The Environmental Protection Agency ("EPA") has indicated that the water industry needs to invest capital of about $224 billion over the next two decades to meet the nation's need for clean drinking water and for waste water disposal.[12] Indeed, the American Society of Civil Engineers has estimated that drinking water infrastructure needed in California will be $17.5 billion over the next two decades, with an additional $14.4 billion for waste water infrastructure.[13] Similarly, *Value Line* notes the need for investment totaling "hundreds of millions of dollars over the next two decades" by the utilities it follows in the water industry as the EPA continues to increase its water purification standard. In addition, as noted by *Value Line*, the need to provide security against acts of terrorism and to replace aging water mains will add to the required investment.[14] This is a substantial investment requirement for a group of companies that

[12] www.epa.gov/waterinfrastructure/infrastructuregap.html

[13] See, 2005 Report Card for America's Infrastructure, available at www.asce.org.

[14] *Value Line Investment Survey*, Water Utility Industry, April 7, 2007, p. 1419.

Value Line estimates to have an annual profit of about $150 million.[15] *Value Line* also notes that "[m]any of the smaller companies in the industry do not have the resources to meet the capital expenditures that they are being saddled with. Some are deciding to merge with larger, more financially sound enterprises."[16]

Q17. Is the need for investment in California's water infrastructure recognized by the Commission?

A17. Yes. The Commission's *Water Action Plan* recognizes the need for and importance of additional investment in water infrastructure, as well as the goal of maintaining the highest standards or water quality.[17] Water conservation can play a role in reducing the total amount of water infrastructure investment required, but conservation alone will not eliminate the need for substantial investment going forward.

Q18. The Willis Testimony suggests that regulatory risk has virtually been eliminated for California American water.[18] Do the Commission's regulatory mechanisms result in a reduction in the cost of capital for California-American?

A18. The total risk faced by equity holders in a regulated company consists of business risk, financial risk and regulatory risk. A portion of total risk is can be avoided by investors through diversification and therefore that portion is not part of the risk reflected in the cost of capital. Only the part of total risk which is non-diversifiable affects the cost of capital. Decisions by the regulator can mitigate the effects of business and regulatory risk on the regulated company, but regulatory actions can also increase risk. To the extent that regulatory actions have truly reduced business and regulatory risk without creating new risks, the overall cost of capital would be reduced. However, it must also be kept in mind that although actions by regulators can indirectly affect stock prices, they cannot directly affect the prices investors will pay for a company's equity. This means that some risk will remain. To the extent that the proposed Water Revenue Adjustment

[15] *Ibid*, p. 1419.

[16] *Ibid*, p. 1419.

[17] *Water Action Plan*, California Public Utilities Commission, December 15, 2005.

[18] Willis Testimony at 3-3.

Mechanism is designed to remove weather related risk for California-American, it is important to note the weather risk is normally a diversifiable risk (i.e., investors can avoid it), and therefore, does not affect the cost of capital. Weather risk is part of total risk, and it does affect the likelihood that the company will earn its allowed rate of return, but because weather risk is diversifiable, it is not part of the risks affecting the cost of capital.[19] Removing weather risk would not therefore reduce the company's cost of capital. Finally, none of these actions removes financial risk although the risk to be shared between debt and equity may have been reduced.

Q19. What are the implications of the need for infrastructure investment and the increasing risks for the industry on the cost of capital?

A19. Financing the needed infrastructure investment means that the industry must attract investor capital. Investors choose to fund investments for which the expected return on their capital corresponds to the risk of the investment. The return on equity that investors require increases with the risks inherent in the investment. Maintaining a financially strong company will be essential if California-American is to acquire the capital it needs to fund the necessary investments to provide the high quality of service to its customers that is envisioned in the Commission's *Water Action Plan*.

IV. COMPARISON OF ALLOWED RETURNS FOR CALIFORNIA'S WATER UTILITIES

Q20. What does this section address?

A20. This section addresses the importance of considering capital structure when establishing the allowed return for regulated companies. Table 5 below shows the ATWACCs resulting from the allowed returns on equity and capital structures for a group of California water utilities. The ATWACC is calculated using formula (1) above. Table 5 shows that the allowed overall cost of capital (i.e., ATWACC) differs substantially

[19] The *cost of capital* is *the expected rate of return in capital markets on alternative investments of equivalent risk* and therefore an ex ante concept.

company-to-company even though the overall total business of the assets would be expected to be the same because the assets are all for the purpose of providing regulated water service.

Table 5: ATWACC's Derived from Approved Rates of Return for California Water Utilities

	Allowed ROE [1]	Equity Ratio [2]	Cost of Debt [3]	Debt Ratio [4]	California's Income Tax Rate [5]	Overall After-Tax Cost of Capital [6]
Privately Owned:						
Apple Valley	10.15%	0.58	5.85%	0.42	40.70%	7.34%
Greak Oaks	9.31%	0.66	5.85%	0.34	40.70%	7.32%
Park	10.20%	0.54	5.85%	0.46	40.70%	7.10%
Valencia	9.72%	0.68	5.85%	0.32	40.70%	7.72%
San Gabriel Valley	9.90%	0.80	5.85%	0.20	40.70%	8.61%
Average	9.86%	0.65	5.85%	0.35	40.70%	7.62%
Publicly Traded:						
Cal. Am. Sacramento	9.95%	0.41	5.85%	0.59	40.70%	6.13%
Cal. Am. Village	10.10%	0.41	5.85%	0.59	40.70%	6.19%
Cal. Am. Monterey	10.10%	0.41	5.85%	0.59	40.70%	6.19%
Average	10.05%	0.41	5.85%	0.59	40.70%	**6.17%**
California Water	10.20%	0.51	5.85%	0.49	40.70%	6.90%
Golden State	9.80%	0.51	5.85%	0.49	40.70%	6.70%
San Jose	9.90%	0.52	5.85%	0.48	40.70%	6.81%
Suburban	10.00%	0.55	5.85%	0.45	40.70%	7.06%
Average	9.98%	0.52	5.85%	0.48	40.70%	**6.87%**
Average All Companies	9.94%	0.55	5.85%	0.45	40.70%	7.01%
Average Publicly Traded	10.01%	0.47	5.85%	0.53	40.70%	6.57%

Sources and Notes:
[1] - [2]: Provided by California-American Water.
[3]: Bloomberg as of March 27, 2007. Based on an A-rated Utility Bond Yield.
[4]: Provided by California-American Water.
[5]: California's 2007 marginal corporate tax rate for firms with income greater than $18.3 MM.
[6]: [1] x [2] + ([3] x [4] x (1 - [5])).

Q21. What is the implication of Table 5?

A21. The difference in the overall cost of capital allowed for the various water utilities in California means that $1,000 invested by one utility costs customers more (provides more

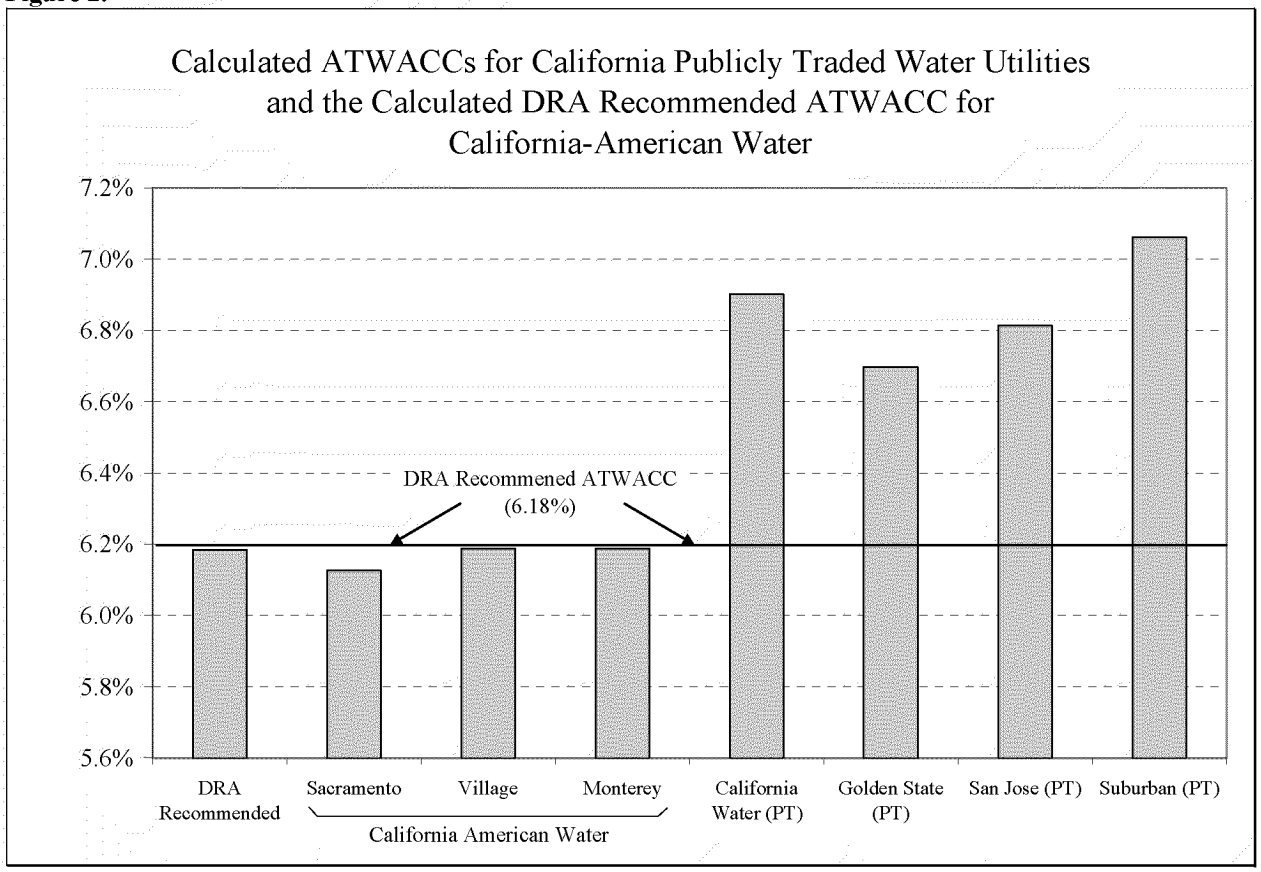
return to investors) than for another utility. For example, a privately owned water utility receives $76.20 after-tax for every $1,000 of investment in rate based whereas the California-American districts receive only $61.70 after-tax.[20] Note that the difference in the ATWACC is not due to differences in the cost of debt because this analysis assumes that each company has the same cost of debt. The difference is solely due to differences in the allowed returns on equity and the allowed capital structures. In other words, if capital structure is not considered when the allowed return on equity is established, companies that are otherwise very similar end up with different returns on investment.

Q22. Some of the companies in Table 5 are privately owned water companies. If only publicly traded companies are considered, what are the results?

A22. The results change somewhat because the allowed ATWACCs for the privately owned companies are higher on average than for the publicly traded companies, but the variation in overall cost of capital is still evident as shown in Figure 2 below.

[20] The cost per $1,000 of investment is estimated as the product of the ATWACC from Table 4 times $1,000.

Figure 2:



Note that California-American's water districts have been allowed an average ATWACC of 6.17 percent compared to an average of 6.87 percent for all other publicly traded water companies (See Table 5 above). The Willis Testimony's recommendation of 6.18 percent is comparable to that which has been allowed for the California-American districts in the past, but it is also substantially below the ATWACCs allowed for all of the other companies.

Q23. If California-American were allowed an ATWACC equal to the average of the other publicly traded companies, what would the allowed return on equity need to be?

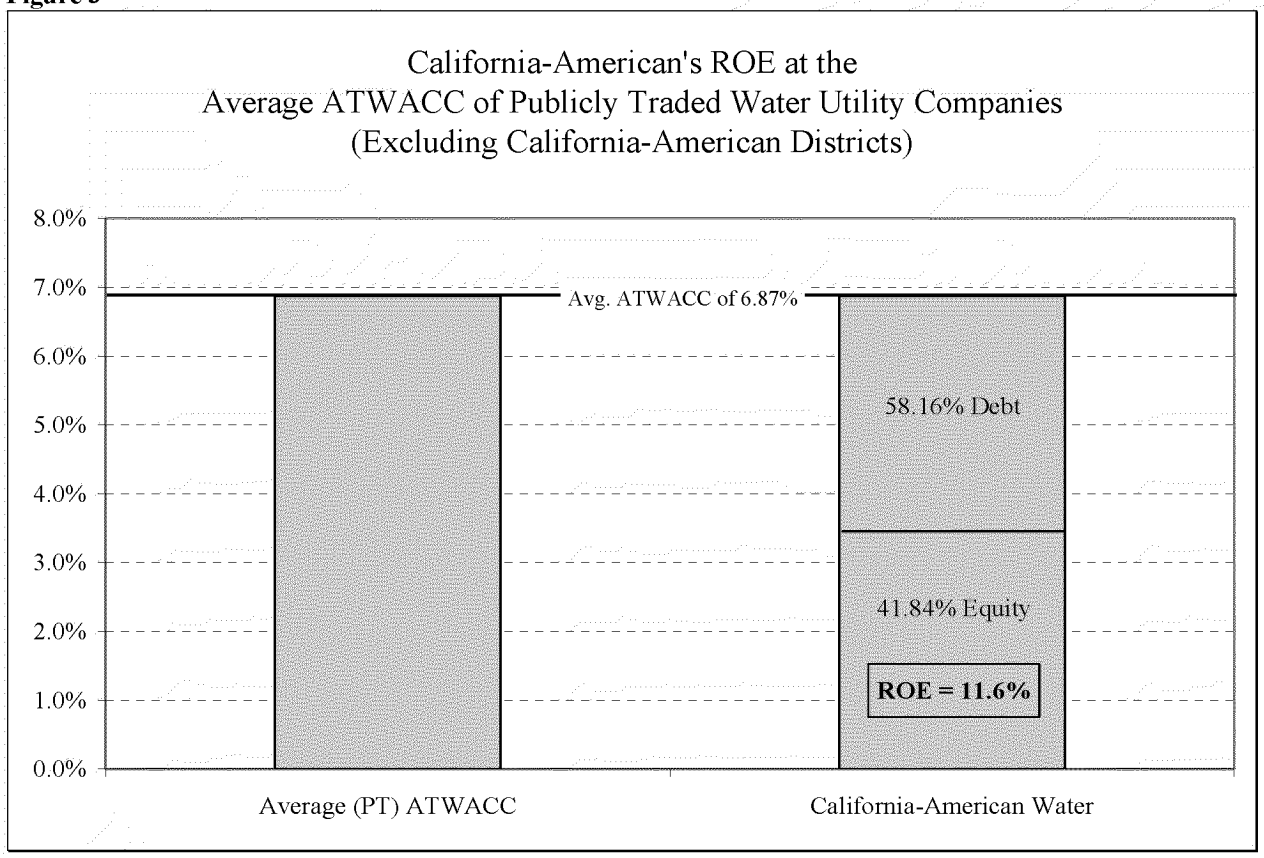
A23. If California-American were allowed an ATWACC of 6.87 percent, the allowed return on equity would need to be 11.6 percent which is only slightly higher than the 11.5 percent requested by the Company. In other words, if the effect of differences in capital structure on overall allowed returns are considered, an allowed return on equity of 11.5 percent would result in an overall cost of capital for California-American that is equal to

that has been allowed for other similarly situated water utilities in California. The 11.6 percent rate of return is calculated as follows (using the same notation as in equation 1 above):

$$\begin{aligned} \text{Return on Equity} &= \frac{ATWACC - r_D \times (1 - T_C) \times D}{E} \\ &= \frac{(0.0687 - 0.059 \times (1 - 40.7\%) \times 58.16\%}{41.84\%} \\ &= 11.6\% \end{aligned} \qquad (2)$$

This calculation is illustrated in Figure 3 below.

Figure 3



Q24. If California-American were allowed an 11.6 percent return on equity, would its customers pay the same cost per $1,000 of investment in rate base as the customers of the other water utilities?

A24. In general, no, because the calculation of an 11.6 percent return on equity assumes that the cost of debt is the same for all of the water utilities. To the extent that American Water can issue less costly debt, allowing 11.6 percent return on equity for California-American would still result in a lower cost to customers per $1,000 of investment than for the other water utilities. The comparisons in this section are merely to show what the return on equity would have to be in order for California-American to earn the same overall return on investment as other California utilities. Actual costs to customers would differ depending upon the actual cost of debt as well as other costs for each utility.

V. CONCLUSIONS

Q25. What are your conclusions regarding the Willis Testimony?

A25. Although the Willis Testimony implements the DCF and risk positioning models differently than I do, the Willis Testimony's cost-of-equity estimates from the water sample are consistent with the California-American's request for an 11.5 percent return on equity under two separate measures of comparability. The first measure is to recognize the differences in financial risk between the sample companies and California-American. When adjusted for differences in financial risk, the estimated returns from the Willis Testimony exceed the 11.5 percent request as shown in Table 4 above. The second measure is to compare the overall cost to customers of the allowed returns on other California water utilities. If California-American were authorized an overall return equal to that allowed other water utilities, an 11.6 percent return would be required as shown in Figure 3 above.

APPENDIX A

RESUMÉ

MICHAEL J. VILBERT **PRINCIPAL**

Michael Vilbert is an expert in cost of capital, financial planning and valuation who has advised clients on these matters in the context of a wide variety of investment and regulatory decisions. He received his Ph.D. in Financial Economics from the Wharton School of the University of Pennsylvania, an MBA from the University of Utah, an M.S. from the Fletcher School of Law and Diplomacy, Tufts University, and a B.S. degree from the United States Air Force Academy. He joined The Brattle Group in 1994 after a career as an Air Force officer, where he served as a fighter pilot, intelligence officer, and professor of finance at the Air Force Academy.

REPRESENTATIVE CONSULTING EXPERIENCE

- In a securities fraud case, Dr. Vilbert designed and created a model to value the private placement stock of a drug store chain as if there had been full disclosure of the actual financial condition of the firm. He analyzed key financial data and security analyst's reports regarding the future of the industry in order to recreate pro forma balance sheet and income statements under a variety of scenarios designed to establish the value of the firm.

- For pharmaceutical companies rebutting price-fixing claims in antitrust litigation, Dr. Vilbert was a member of a team which prepared a comprehensive analysis of industry profitability. The analysis replicated, tested and critiqued the major recent analyses of drug costs, risks and returns. The analyses helped develop expert witness testimony to rebut allegations of excess profits.

- For an independent electric power producer, Dr. Vilbert created a model that analyzed the reasonableness of rates and costs filed by a natural gas pipeline. The model not only duplicated the pipeline's rates, but it also allowed simulation of a variety of "what if" scenarios associated with cost recovery under alternative time patterns and joint cost allocations. Results of the analysis were adopted by the intervenor group for negotiation with the pipeline.

- For the CFO of an electric utility, Dr. Vilbert developed the valuation model used to support a stranded cost estimation filing. The case involved a conflict between two utilities over the responsibility for out-of-market costs associated with a power purchase

contract between them. In addition, he advised and analyzed cost recovery mechanisms that would allow full recovery of the stranded costs while providing a rate reduction for the company's rate payers.

- Dr. Vilbert has assisted in the preparation of testimony and the development of estimation models in numerous cost of capital cases for natural gas pipeline, water utility and electric utility clients before the Federal Energy Regulatory Commission ("FERC") and state regulatory commissions. These have spanned standard estimation techniques (e.g., Discounted Cash Flow and Risk Positioning models). He has also developed and applied more advanced models specific to the industries or lines of business in question, e.g., based on the structure and risk characteristics of cash flows, or based on multi-factor models that better characterize regulated industries.

- Dr. Vilbert has valued several large, residual oil-fired generating stations to evaluate the possible conversion to natural gas or other fuels. In these analyses, the expected pre- and post-conversion station values were computed using a range of market electricity and fuel cost conditions.

- For a major western electric utility, Dr. Vilbert helped prepare testimony that analyzed the prudence of QF contract enforcement. The testimony demonstrated that the utility had not been compensated in its allowed cost of capital for major disallowances stemming from QF contract management.

- Dr. Vilbert analyzed the economic need for a major natural gas pipeline expansion to the Midwest. This involved evaluating forecasts of natural gas use in various regions of the United States and the effect of additional supplies on the pattern of natural gas pipeline use. The analysis was used to justify the expansion before the FERC and the National Energy Board of Canada.

- For a Public Utility Commission in the Northeast, Dr. Vilbert analyzed the auction of an electric utilities purchase power agreements to determine whether the outcome of the auction was in the ratepayers' interest. The work involved the analysis of the auction procedures as well as the benefits to ratepayers of transferring risk of the PPA payments to the buyer.

- Dr. Vilbert led a team tasked to determine whether bridge tolls were "just and reasonable" for a non-profit port authority. Determination of the cost of service for the authority required estimation of the value of the authority's assets using the trended original cost methodology as well as evaluation of the operations and maintenance budgets. Investment costs, bridge traffic information and inflation indices covering a 75 year period were utilized to estimate the value of four bridges and a passenger transit line valued in excess of $1 billion.

- Dr. Vilbert helped a recently privatized railroad in Brazil develop an estimate of its revenue requirements, including a determination of the railroad's cost of capital. He also helped evaluate alternative rate structures designed to provide economic incentives to shippers as well as to the railroad for improved service. This involved the explanation and analysis of the contribution margin of numerous shipper products, improved cost analysis and evaluation of bottlenecks in the system.

- For a utility in the Southeast, Dr. Vilbert quantified the company's stranded costs under several legislative electric restructuring scenarios. This involved the evaluation of all of the company's fossil and nuclear generating units, its contracts with Qualifying Facilities and the prudence of those QF contracts. He provided analysis concerning the impact of securitizing the company's stranded costs as a means of reducing the cost to the rate payers and several alternative designs for recovering stranded costs.

- For a recently privatized electric utility in Australia, Dr. Vilbert evaluated the proposed regulatory scheme of the Australian Competition and Consumer Commission for the company's electric transmission system. The evaluation highlighted the elements of the proposed regulation which would impose uncompensated asymmetric risks on the company and the need to either eliminate the asymmetry in risk or provide additional compensation so that the company could expect to earn its cost of capital.

- For an electric utility in the Southwest, Dr. Vilbert helped design and create a model to estimate the stranded costs of the company's portfolio of Qualifying Facilities and Power Purchase contracts. This exercise was complicated by the many variations in the provisions of the contracts that required modeling in order to capture the effect of changes in either the performance of the plants or in the estimated market price of electricity.

- Dr. Vilbert helped prepare the testimony responding to a FERC request for further comments on the appropriate return on equity for electric transmission facilities. In addition, Dr. Vilbert was a member of the team that made a presentation to the FERC staff on the expected risks of the unbundled electric transmission line of business.

- Dr. Vilbert and Mr. Frank C. Graves, also of The Brattle Group, prepared testimony evaluating an innovative Canadian stranded cost recovery procedure involving the auctioning of the output of the province's electric generation plants instead of the plants themselves. The evaluation required the analysis of the terms and conditions of the long-term contracts specifying the revenue requirements of the plants for their entire forecasted remaining economic life and required an estimate of the cost of capital for the plant owners under this new stranded cost recovery concept.

- Dr. Vilbert served as the neutral arbitrator for the valuation of a petroleum products tanker. The valuation required analysis of the Jones Act tanker market and the supply and demand balance of the available U.S. constructed tanker fleet.

PRESENTATIONS

"Utility Distribution Cost of Capital," *EEI Electric Rates Advanced Course*, Bloomington, IN, 2002, 2003.

"Issues for Cost of Capital Estimation," with Bente Villadsen, *Edison Electric Institute Cost of Capital Conference*, Chicago, IL, February 2004.

"Not Your Father's Rate of Return Methodology," *Utility Commissioners/Wall Street Dialogue*, NY, May 2004.

"Current Issues in Cost of Capital," *EEI Electric Rates Advanced Course*, Madison, WI, July 2004.

"Cost of Capital Estimation: Issues and Answers," *MidAmerican Regulatory Finance Conference*, Des Moines, IA, April 7, 2005.

"Cost of Capital - Explaining to the Commission - Different ROEs for Different Parts of the Business," *EEI Economic Regulation & Competition Analysts Meeting*, May 2, 2005.

"Current Issues in Cost of Capital," with Bente Villadsen, *EEI Electric Rates Advanced Course*, Madison, WI, 2005.

"Current Issues in Estimating the Cost of Capital," *EEI Electric Rates Advanced Course*, Madison, WI, 2006.

"Revisiting the Development of Proxy Groups and Relative Risk Analysis," Society of Utility and Regulatory Financial Analysts: 39th Financial Forum, April 2007.

ARTICLES

"Flaws in the Proposed IRS Rule to Reinstate Amortization of Deferred Tax Balances Associated with Generation Assets Reorganized in Industry Restructuring," by Frank C. Graves and Michael J. Vilbert, white paper for *Edison Electric Institute* (EEI) to the IRS, July 25, 2003.

"The Effect of Debt on the Cost of Equity in a Regulatory Setting," by A. Lawrence Kolbe, Michael J. Vilbert, Bente Villadsen and The Brattle Group, *Edison Electric Institute*, April 2005.

"Measuring Return on Equity Correctly: Why current estimation models set allowed ROE too low," by A. Lawrence Kolbe, Michael J. Vilbert and Bente Villadsen, *Public Utilities Fortnightly*, August 2005.

"Understanding Debt Imputation Issues," by Michael J. Vilbert, Bente Villadsen and Joseph B. Wharton, *Edison Electric Institute*, forthcoming May 2007.

TESTIMONY

Direct and rebuttal testimony before the Alberta Energy and Utilities Board on behalf of TransAlta Utilities Corporation in the matter of an application for approval of its 1999 and 2000 generation tariff, transmission tariff, and distribution revenue requirement, October 1998.

Direct testimony before the Federal Energy Regulatory Commission on behalf of Central Maine Power in Docket No. ER00-982-000, December 1999.

Direct testimony before the Alberta Energy and Utilities Board on behalf of TransAlta Utilities Corporation for approval of its 2001 transmission tariff, May 2000.

Direct testimony before the Federal Energy Regulatory Commission on behalf of Mississippi River Transmission Corporation in Docket No. RP01-292-000, March 2001.

Written evidence, rebuttal, reply and further reply before the National Energy Board in the matter of an application by TransCanada PipeLines Limited for orders pursuant to Part I and Part IV of the *National Energy Board Act*, Order AO-1-RH-4-2001, May 2001, Nov. 2001, Feb. 2002.

Written evidence before the Public Utility Board on behalf of Newfoundland & Labrador Hydro - Rate Hearings, October 2001.

Direct testimony (with Bill Lindsay) before the Federal Energy Regulatory Commission on behalf of DTE East China, LLC in Docket No. ER02-1599-000, April 2002.

Direct and rebuttal reports before the Arbitration Panel in the arbitration of stranded costs for the City of Casselberry, FL, Case No. 00-CA-1107-16-L, July 2002.

Direct reports before the Arbitration Board for Petroleum products trade in the Arbitration of the Military Sealift Command vs. Household Commercial Financial Services, fair value of sale of the Darnell, October 2002.

Direct testimony and hearing before the Arbitration Panel in the arbitration of stranded costs for the City of Winter Park, FL, In the Circuit Court of the Ninth Judicial Circuit in and for Orange County, FL, Case No. C1-01-4558-39, December 2002.

Direct testimony before the Federal Energy Regulatory Commission on behalf of Florida Power Corporation, dba Progress Energy Florida, Inc. in Docket No. SC03-___-000, March 2003.

Direct report before the Arbitration Panel in the arbitration of stranded costs for the Town of Belleair, FL, Case No. 000-6487-C1-007, April 2003.

Direct and rebuttal reports before the Alberta Energy and Utilities Board in the matter of the Alberta Energy and Utilities Board Act, R.S.A. 2000, c. A-17, and the Regulations under it; in the matter of the Gas Utilities Act, R.S.A. 2000, c. G-5, and the Regulations under it; in the matter of the Public utilities Board Act, R.S.A. 2000, c. P-45, as amended, and the Regulations under it; and in the matter of Alberta Energy and Utilities Generic Cost of Capital Hearing, Proceeding No. 1271597, July 2003, November 2003.

Written evidence before the National Energy Board in the matter of the National Energy Board Act, R.S.C. 1985, c. N–7, as amended, (Act) and the Regulations made under it; and in the matter of an application by TransCanada PipeLines Limited for orders pursuant to Part IV of the *National Energy Board Act*, for approval of Mainline Tolls for 2004, RH-2-2004, January 2004.

Direct and rebuttal testimony before the Public Service Commission of West Virginia, on Cost of Capital for West Virginia-American Water Company, Case No 04-0373-W-42T, May 2004.

Direct and rebuttal testimony before the Federal Energy Regulatory Commission, on Energy Allocation of Debt Cost for Incremental Shipping Rates for Edison Mission Energy, Docket No. RP04-274-000, December 2004 and March 2005.

Direct testimony before the Arizona Corporation Commission, Cost of Capital for Paradise Valley Water Company, a subsidiary of Arizona-American Water Company, Docket No. WS-01303A-05, May 2005.

Written evidence before the Ontario Energy Board, Cost of Capital for Union Gas Limited, Inc., Docket No. EB-2005-0520, January 2006.

Direct and rebuttal testimony before the Pennsylvania Public Utility Commission, Return on Equity for Metropolitan Edison Company, Docket No. R-00061366 and Pennsylvania Electric Company, Docket No. R-00061367, April 2006 and August 2006.

Expert report in the United States Tax Court, Docket No. 21309-05, 34th Street Partners, DH Petersburg Investment, LLC and Mid-Atlantic Finance, Partners Other than the Tax Matters Partner, Petitioner, v. Commissioner of Internal Revenue, Respondent, July 28, 2006.

Direct and supplemental testimony before the Federal Energy Regulatory Commission, Docket No. ER06-427-003, on behalf of Mystic Development, LLC on the Cost of Capital for Mystic 8

and 9 Generating Plants Operating Under an Reliability Must Run Contract, August 2006 and September 2006.

Direct testimony before the Federal Energy Regulatory Commission, Docket No. ER07-46-000, on behalf of Northwestern Corporation on the Cost of Capital for Transmission Assets, October 2006.

Direct and rebuttal testimony before the Tennessee Regulatory Authority, Case No. 06-00290, on behalf of Tennessee American Water Company, on the Cost of Capital, November, 2006 and April 2007.

Direct testimony before the Public Service Commission of Wisconsin, Docket No. 07-___, on behalf of Wisconsin Electric Power Corporation and Wisconsin Gas LLC on the Cost of Capital, May 2007.

APPENDIX B

EFFECT OF DEBT ON THE COST OF EQUITY

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Q1. What is the purpose of this Appendix?

A1. In this appendix, I provide details on the effects of debt on the cost of equity. First, I summarize a fairly large body of financial research on capital structure. Second, I provide an extended example to illustrate the effect of debt on the cost of equity.

I. AN OVERVIEW OF THE ECONOMIC LITERATURE

Q2. What is the focus of the economic literature on the effects of debt?

A2. The economic literature focuses on the effects of debt on the value of a firm. The standard way to recognize one of these effects, the impact of the fact that interest expense is tax-deductible, is to discount the all-equity after-tax operating cash flows generated by a firm or an investment project at a weighted average cost of capital, typically known in textbooks as the "WACC." The textbook WACC equals the *market*-value weighted average of the cost of equity and the *after-tax*, *current* cost of debt. However, rate regulation in North America has a legacy of working with another weighted-average cost of capital, the *book*-value weighted average of the cost of equity and the *before-tax*, *embedded* cost of debt. To distinguish the concepts, I refer to the after-tax weighted-average cost of capital as ATWACC.

Q3. How is this section of the appendix organized?

A3. It starts with the tax effects of debt. It then turns to other effects of debt.

A. TAX EFFECTS

Q4. What are the key findings in the literature regarding tax effects?

A4. Three seminal papers are vital for this literature. The first assumes no taxes and risk-free debt. The second adds corporate income taxes. The third adds personal income taxes.

1. Base Case: No Taxes, No Risk to High Debt Ratios

Q5. Please start by explaining the simplest case of the effect of debt on the value of a firm.

A5. The "base case," no taxes and no costs to excessive debt, was worked out in a classic 1958 paper by Franco Modigliani and Merton Miller, two economists who eventually won Nobel Prizes in part for their body of work on the effects of debt.[1] Their 1958 paper made what is in retrospect a very simple point: if there are no taxes and no risk to the use of excessive debt, use of debt will have no effect on a company's operating cash flows (i.e., the cash flows to investors as a group, debt plus equity combined). If the operating cash flows are the same regardless of whether the company finances mostly with debt or mostly with equity, then the value of the firm cannot be affected at all by the debt ratio. In cost of capital terms, this means the overall cost of capital is constant regardless of the debt ratio, too.

In the base case, issuing debt merely divides the cash flows into two pools, one for bondholders and one for shareholders. If the divided pools have different priorities in claims on the cash flows, the risks and costs of capital will differ for each pool. But the risk and overall cost of capital of the entire firm, the sum of the two pools, is constant regardless of the debt ratio. Thus,

$$r_1^* = r_{A1} \qquad \text{(B-1a)}$$

where r^*_1 is the overall after-tax cost of capital at any particular capital structure and r_{A1} is the all-equity cost of capital for the firm. (The "1" subscripts distinguish the case where there are no taxes from subsequent equations that consider first corporate and then both corporate and personal taxes.) With no taxes and no risk to debt, the overall cost of capital does not change with capital structure.

This implies that the relationship of the overall cost of capital to the component costs of debt and equity is

[1] Franco Modigliani and Merton H. Miller (1958), "The Cost of Capital, Corporation Finance and the Theory of Investment," *American Economic Review*, 48, pp. 261-297.

$$r_{E1} \times \left(\frac{E}{V}\right) + r_{D1} \times \left(\frac{D}{V}\right) = r_1^* \quad \text{(B-1b)}$$

with the overall cost of capital (r^*) on the *right* side, as the *independent* variable, and the costs of equity (r_E) and debt (r_D) on the left side, as *dependent* variables determined by the overall cost of capital and by the capital structure (i.e., the shares of equity (E) and debt (D) in overall firm value (V=E+D)) that the firm happens to choose. Note that if equation (B-1a) were correct, the equation that solved it for the cost of equity would be,

$$r_{E1} = r_1^* + (r_1^* - r_D) \times \left(\frac{D}{E}\right) \quad \text{(B-1c)}$$

Note also that (D/E) gets exponentially higher in this equation as the debt-to-value ratio increases[2] i.e., the cost of equity increases exponentially with leverage.

2. Corporate Tax Deduction for Interest Expense

Q6. What happens when you add corporate taxes to the discussion?

A6. If corporate taxes exist with risk-free debt (and if only taxes at the corporate level matter, not taxes at the level of the investor's personal tax return), the initial conclusion changes. Debt at the corporate level reduces the company's tax liability by an amount equal to the marginal tax rate times interest expense. All else equal, this will add value to the company because more of the operating cash flows will end up in the hands of investors as a group. That is, if only corporate taxes mattered, interest would add cash to the firm equal to the corporate tax rate times the interest expense. This increase in cash would increase the value of the firm, all else equal. In cost of capital terms, it would reduce the overall cost of capital.

How much the value of the firm would rise and *how far* the overall cost of capital would fall would depend in part on how often the company adjusts its capital structure, but this

[2] For example, at 20-80, 50-50, and 80-20 debt-equity ratios, (D/E) equals, respectively, (20/80) = 0.25, (50/50) = 1.0, and (80/20) = 4.0. The extra 30 percent of debt going from 20-80 to 50-50 has much less impact on (D/E) [i.e., by moving it from 0.25 to 1.0] than the extra 30 percent of debt going from 50-50 to 80-20 [i.e., by moving it from 1.0 to 4.0]. Since the cost of equity equals a constant risk premium times the debt-equity ratio, the cost of equity grows ever more rapidly as you add more and more debt.

is a second-order effect in practice. (The biggest effect would be if companies could issue riskless perpetual debt, an assumption Profs. Modigliani and Miller explored in 1963, in the second seminal paper;[3] this assumption could *not* be true for a real company.) Prof. Robert A. Taggart provides a unified treatment of the main papers in this literature and shows how various cases relate to one another.[4] Perhaps the most useful set of benchmark equations for the case where only corporate taxes matter are:

$$r_2^* = r_{A2} - r_D \times t_C \times \left(\frac{D}{V}\right) \tag{B-2a}$$

$$r_2^* = r_{E2} \times \left(\frac{E}{V}\right) + r_D \times \left(\frac{D}{V}\right) \times (1 - t_C) \tag{B-2b}$$

which imply for the cost of equity,

$$r_{E2} = r_{A2} + (r_{A2} - r_D) \times \left(\frac{D}{E}\right) \tag{B-2c}$$

where the variables have the same meaning as before but the "2" subscripts indicate the case that considers corporate but not personal taxes.

Note that Equation (B-2a) implies that when only corporate taxes matter, the overall after-tax cost of capital declines steadily as more debt is added, until it reaches a minimum at 100 percent debt (i.e., when D/V = 1.0). Note also that Equation (B-2c) still implies an exponentially increasing cost of equity as more and more debt is added. In fact, except for the subscript, Equation (B-2c) looks just like Equation (B-1c).

However, whether any value is added and whether the cost of capital changes at all also depends on the effect of taxes at the personal level.

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[3] Franco Modigliani and Merton H. Miller (1963), "Corporate Income Taxes and the Cost of Capital: A Correction," *American Economic Review*, 53, pp. 433-443.

[4] Robert A. Taggart, Jr. (1991), "Consistent Valuation and Cost of Capital Expressions with Corporate and Personal Taxes," *Financial Management* 20, pp. 8-20.

3. Personal Tax Burden on Interest Expense

Q7. How do personal taxes affect the results?

A7. Ultimately, the purpose of investment is to provide income for consumption, so personal taxes affect investment returns. For example, in the U.S., municipal bonds have lower interest rates than corporate bonds because their income is taxed less heavily at the personal level. In general, capital appreciation on common stocks is taxed less heavily than interest on corporate bonds because (1) taxes on unrealized capital gains are deferred until the gains are realized, and (2) the capital gains tax rate is lower. Dividends are taxed less heavily than interest, also, under current tax law.[5] The effects of personal taxes on the cost of common equity are hard to measure, however, because common equity is so risky.

Professor Miller, in his Presidential Address to the American Finance Association,[6] explored the issue of how personal taxes affect the overall cost of capital. The paper pointed out that personal tax effects could offset the effect of corporate taxes entirely.

Q8. Is it likely that the effect of personal taxes will completely neutralize the effect of corporate taxes?

A8. I do not believe so, although the likelihood of such a result would be increased if the current federal tax reductions on dividends and capital gains became permanent rather than expiring in 2010. However, personal taxes are important even if they do not make the corporate tax advantage on interest vanish entirely. Capital gains and dividend tax advantages definitely convey some personal tax advantage to equity, and even a partial personal advantage to equity reduces the corporate advantage to debt.

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[5] The current maximum personal tax rate on dividend income was extended to the end of 2010 by the President on May 17, 2006. It is uncertain whether the reduced rates on dividend income will be further extended.

[6] Merton H. Miller (1977), "Debt and Taxes," *The Journal of Finance*, 32: 261-276, the third of the seminal papers mentioned earlier.

The Taggart paper explores the case of a partial offset, also. With personal taxes, the risk-free rate on the security market line is the after-personal-tax rate, which must be equal for risk-free debt and risk-free equity.[7] Therefore, the pre-personal-tax risk-free rate for equity will generally not be equal to the pre-personal-tax risk-free rate for debt. In particular, $r_{fE} = r_{fD} \times [(1-t_D)/(1-t_E)]$, where r_{fE} and r_{fD} are the risk-free costs of equity and debt and t_E and t_D are the personal tax rates for equity and debt, respectively. In terms of the cost of debt, the Taggart paper's results imply that a formal statement of these effects can be written as:[8]

$$r_3^* = r_{A3} - r_D \times t_N \times \left(\frac{D}{V}\right) \quad \text{(B-3a)}$$

$$= r_{E3} \times \left(\frac{E}{V}\right) + r_D \times \left(\frac{D}{V}\right) \times (1 - t_C) \quad \text{(B-3b)}$$

which imply

$$r_{E3} = r_{A3} + \left[r_{A3} - r_D \times \left(\frac{1-t_D}{1-t_E}\right)\right] \times \left(\frac{D}{E}\right) \quad \text{(B-3c)}$$

Suppose, for example, that $t_C = 0.35$ percent, $t_E = 7.7$ percent and $t_D = 40$ percent. Then $[(1-t_D)/(1-t_E)] = 0.65 = (1-t_C)$. That condition corresponds to Miller's 1977 paper, in which the net personal tax advantage of equity fully offsets the net corporate tax advantage of debt. Note also that in that case, $t_N = 0$.[9] Therefore, if the personal tax advantage on equity fully offsets the corporate tax advantage on debt, Equation (B-3a) confirms that the overall after-tax cost of capital is a constant.

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[7] As Prof. Taggart notes (his footnote 9), it is not necessary that a specific, risk-free equity security exist as long as one can be created synthetically, through a combination of long and short sales of traded assets. Such constructs are a common analytical tool in financial economics.

[8] The net all-tax effect of debt on the overall cost of capital, t_N, equals $\{[t_C + t_E - t_D - (t_C \times t_E)] / (1 - t_E)\}$, where t_D is the personal tax rate on debt, as before. This measure of net tax effect is designed for use with the cost of debt in Equation (B-3a), which seems more useful in the present context. The Taggart paper works with a similar measure, but one which is designed for use with the cost of risk-free equity in the equivalent Taggart equation.

[9] In the above example, $t_N = \{[0.35 + 0.077 - 0.4 - (0.35 \times 0.077)] / (1.0 - 0.077)\} = 0.0/0.923 = 0$.

However, it is unlikely that the personal tax advantage of equity fully offsets the corporate tax advantage of debt. If taxes were all that mattered (i.e., if there were no other costs to debt), the overall after-corporate-tax cost of capital would still fall as debt was added, just not as fast.

Finally, note that the overall after-tax cost of capital, Equation (B-3b), still uses the corporate tax rate even when personal taxes matter. Equations (B-2b) and (B-3b) both correspond to the usual formula for the ATWACC. Personal taxes affect the way the cost of equity changes with capital structure -- Equation (B-3c) -- but not the formula for the overall after-tax cost of capital given that cost of equity.

B. NON-TAX EFFECTS

Q9. Please describe the non-tax effects of Debt.

A9. If debt is truly valuable, firms should use as much as possible, and competition should drive firms in a particular industry to the same, optimal capital structure for the industry. If debt is harmful on balance, firms should avoid it. Neither picture corresponds to what we actually see. A large economic literature has evolved to try to explain why.

Part of the answer clearly is the costs of excessive debt. Here the results cannot be reduced to equations, but they are no less real for that fact. As companies add too much debt, the costs come to outweigh the benefits. Too much debt reduces or eliminates financial flexibility, which cuts the firm's ability to take advantage of unexpected opportunities or weather unexpected difficulty. Use of debt rather than internal financing may be taken as a negative signal by the market.

Even if the company is generally healthy, more debt increases the risk that the company cannot use all of the interest tax shields in a bad year. As debt continues to grow, this problem grows and others may crop up. Management begins to worry about meeting debt payments instead of making good operating decisions. Suppliers are less willing to extend trade credit, and a liquidity shortage can translate into lower operating profits.

Ultimately, the firm might have to go through the costs of bankruptcy and reorganization. Collectively, such factors are known as the costs of "financial distress."[10]

The net tax advantage to debt, if positive, is affected by costs such as a growing risk that the firm might have to bear the costs of financial distress. First, the expected present value of these costs offsets the value added by the interest tax shield. Second, since the likelihood of financial distress is greater in bad times when other investments also do poorly, the possibility of financial distress will increase the risks investors bear. These effects increase the variability of the value of the firm. Thus, firms that use too much debt can end up with a higher overall cost of capital than those that use none.

Other parts of the answer include the signals companies send to investors by the decision to issue new securities, and by the type of securities they issue. Other threads of the literature explore cases where management acts against shareholder interests, or where management attempts to "time" the market by issuing specific securities under different conditions. For present purposes, the important point is that no theory, whether based on taxes or on some completely different issue, has emerged as "the" explanation for capital structure decisions by firms. Nonetheless, despite the lack of a single "best" theory, there is a great deal of relevant empirical research.

Q10. What does that research show?

A10. The research does not support the view that debt makes a material difference in the value of the firm, at least not once a modest amount of debt is in place. If debt were truly valuable, competitive firms should use as much debt as possible short of producing financial distress, and competitive firms that use less debt ought to be less profitable. The research shows exactly the opposite.

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[10] See, for example, Section 18.3 of Brealey, Myers and Allen, 2006, *Principles of Corporate Finance*, 8th Edition, McGraw-Hill/Irwin, 2006.

For example, Kester[11] found that firms in the same industry in both the U.S. and Japan do not band around a single, "optimal" capital structure, and the most profitable firms are the ones that use the *least* debt. This finding comes despite the fact that both countries at the time (unlike the U.S. currently) had fully "classical" tax systems, in which dividends are taxed fully at both the corporate and personal level. Wald[12] confirms that high profitability implies low debt ratios in France, Germany, Japan, the U.K., and the U.S. Booth *et al.* find the same result for a sample of developing nations.[13] Fama and French[14] analyze over 2000 firms for 28 years (1965-1992, inclusive) and conclude, "Our tests thus produce no indication that debt has net tax benefits."[15] A paper by Graham[16] carefully analyzes the factors that might have led a firm not to take advantage of debt. It confirms that a large proportion of firms that ought to benefit substantially from use of additional debt, including large, profitable, liquid firms, appear not to use it "enough."

This research leaves us with only three options: either (1) apparently good, profit-generating managers are making major mistakes or deliberately acting against shareholder interests, (2) the benefits of the tax deduction on debt are less than they appear, or (3) the non-tax costs to use of debt offset the potential tax benefits. Only the first of these possibilities is consistent with the view that the tax deductibility of debt conveys a material cost advantage. Moreover, if the first explanation were interpreted to mean that otherwise good managers are acting against shareholder interests, either

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[11] Carl Kester (1986), "Capital and Ownership Structure: A Comparison of United States and Japanese Manufacturing Concerns," *Financial Management*, 15:5-16.

[12] John K. Wald (1999), "How Firm Characteristics Affect Capital Structure: An International Comparison," *Journal of Financial Research*, 22:161-167.

[13] Laurence Booth *et al.* (2001), "Capital Structures in Developing Countries," *The Journal of Finance* Vol. LVI, pp. 87-130, finds at p. 105 that "[o]verall, the strongest result is that profitable firms use less total debt. The strength of this result is striking ..."

[14] Eugene F. Fama and Kenneth R. French (1998), "Taxes, Financing Decisions and Firm Value," *The Journal of Finance*, 53:819-843.

[15] *Ibid.*, p. 841.

[16] John R. Graham (2000), "How Big Are the Tax Benefits of Debt," *The Journal of Finance*, 55:1901-1942.

deliberately or by mistake, it would require the additional assumption that their competitors (and potential acquirers) let them get away with it.

Q11. Are there any explanations in the financial literature for this puzzle other than stupid or self-serving managers at the most profitable firms?

A11. Yes. For example, Stewart C. Myers, a leading expert on capital structure, made it the topic of his Presidential Address to the American Finance Association.[17] The poor performance of tax-based explanations for capital structure led him to propose an entirely different mechanism, the "pecking order" hypothesis. This hypothesis holds that the net tax benefits of debt (i.e., corporate tax advantage over personal tax disadvantage) are at most of a second order of importance relative to other factors that drive actual debt decisions.[18] Similarly, Baker and Wurgler (2002)[19] observe a strong and persistent impact that fluctuations in market value have on capital structure. They argue that this impact is not consistent with other theories. The authors suggest a new capital structure theory based on market timing -- capital structure is the cumulative outcome of attempts to time the equity market.[20] In this theory, there is no optimal capital structure, so market timing financing decisions just accumulate over time into the capital structure outcome. (Of course, this theory only makes sense if investors do not recognize what managers are doing.)

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[17] Stewart C. Myers (1984), "The Capital Structure Puzzle," *The Journal of Finance*, 39: 575-592. See also S. C. Myers and N. S. Majluf (1984), "Corporate Financing Decisions When Firms Have Information Investors Do Not Have," *Journal of Financial Economics* 13:187-222.

[18] See also Stewart C. Myers (1989), "Still Searching for Optimal Capital Structure," *Are the Distinctions Between Debt and Equity Disappearing?,* R.W. Kopke and E. S. Rosengren, eds., Federal Reserve Bank of Boston.

[19] Malcolm Baker and Jeffrey Wurgler (2002), "Market Timing and Capital Structure," *The Journal of Finance* 57:1-32.

[20] *Ibid.*, p. 29.

Q12. Do inter-firm differences within an industry explain the wide variations in capital structure across the firms in an industry?

A12. No. This view is contradicted by the empirical research. As mentioned before, it has long been found that the most profitable firms in an industry, i.e., those in the best position to take advantage of debt, use the least.[21] Graham (2000) carefully examines differences in firm characteristics as possible explanations for why firms use "too little" debt and concludes that such differences are *not* the explanation: firms that ought to benefit substantially from more debt by all measurable criteria, if the net tax advantage of debt is truly valuable, voluntarily do not use it.[22]

Nor does the research support the view that firms are constantly trying to adjust their capital structures to optimal levels. Additional research on the pecking order hypothesis demonstrates that firms do not tend towards a target capital structure, or at least do not do so with any regularity, and that past studies that seemed to show the contrary actually lacked the power to distinguish whether the hypothesis was true or not.[23] In the words of the Shyam-Sunder - Myers paper p. 242, "If our sample companies did have well-defined optimal debt ratios, it seems that their managers were not much interested in getting there."

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[21] For example, Kester, *op. cit.* and Wald, *op. cit.*

[22] While not contradicting Graham's finding that differences in firm characteristics do not explain capital structure differences, Nengjiu Ju, Robert Parrino, Allen M. Poteshman, and Michael S. Weisbach, "Horses and Rabbits? Trade-Off Theory and Optimal Capital Structure," *Journal of Financial and Quantitative Analysis*, June 2005, pp. 1-24, looks at the issue in a different manner. Their paper uses a dynamic rather than static model to analyze the tradeoff between the tax benefits of debt and the risk of financial distress. It finds that bankruptcy costs by themselves are enough to explain observed capital structures, once dynamic effects are considered. This means debt is not as valuable as suggested by the traditional static analysis (of the sort used by Graham).

[23] Lakshmi Shyam-Sunder and Stewart C. Myers (1999), "Testing static tradeoff against pecking order models of capital structure," *Journal of Financial Economics* 51:219-244.

II. EXPANDED EXAMPLE

Q13. What topics do you cover in this section?

A13. The discussion in my testimony did not detail the impact of different starting points for the level of debt nor did it address income earned on the investment, interest expense, or taxes. This section covers these topics. First, it discusses how the level of debt affects the cost of equity. Second, it addresses the influence of income and interest on the investment. Third, it explains the impact of taxes on capital structure decisions. The final topic covered in this section is the combined consequence of tax and non-tax effects of debt.

A. DETAILS OF DIFFERENT LEVELS OF DEBT

Q14. Why does more debt mean more risk for equity holders?

A14. Debt magnifies the variability of the equity return. As a simple example, think of an investor who takes money out of her savings and invests $100,000 in real estate. The future value of the real estate is uncertain. If the real estate market booms, she wins. If the real estate market goes down, she loses. Figure B-1 below illustrates this.

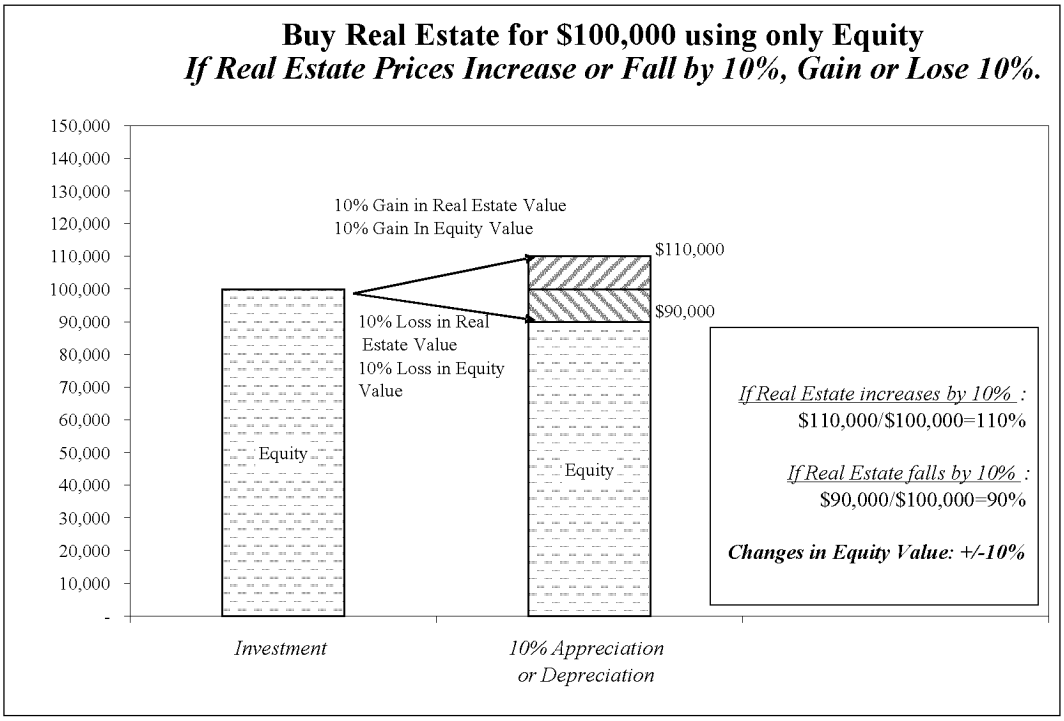

Figure B-1

In the scenario above, the investor financed her real estate purchase through 100 percent equity. Suppose instead that the investor had financed 50 percent of her real estate investment with a mortgage of $50,000. The mortgage lender does not expect to share in any benefits from increases in real estate values. Neither does the mortgage lender expect to share in any losses from falling real estate values, i.e., the investor carries the entire risk of fluctuating real estate prices. Figure B-2 illustrates this effect.

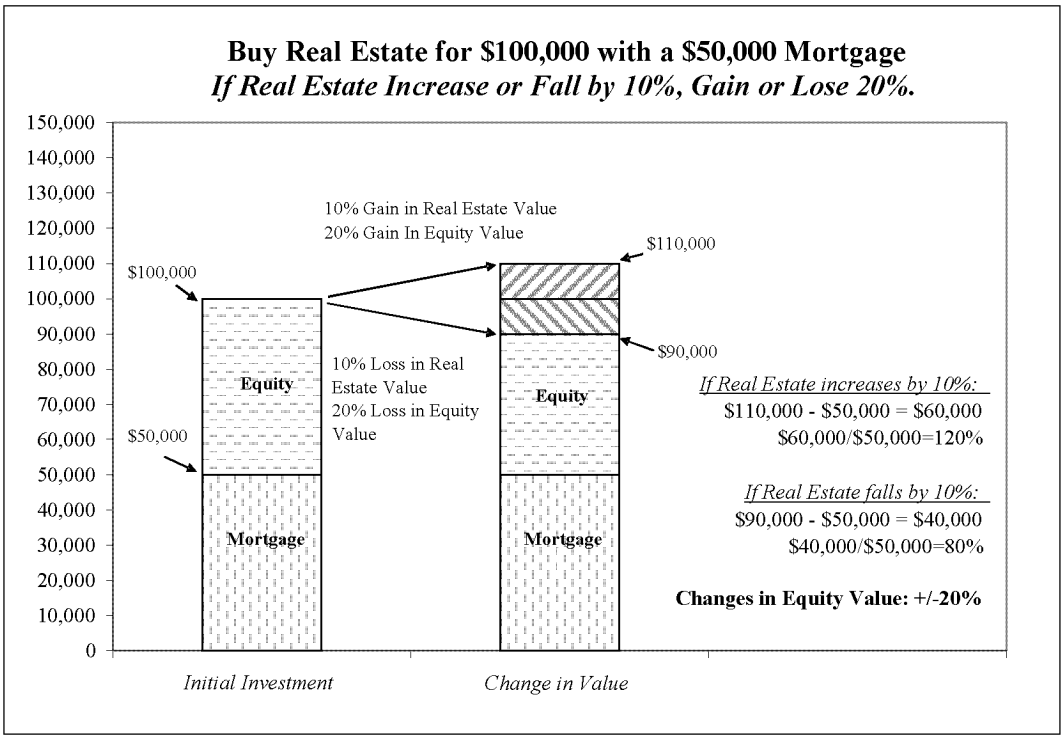

Figure B-2

In Figure B-2 where the investor financed her purchase through 50 percent equity and 50 percent debt, the variability in the investor's equity return is two times greater than that of Figure B-1. The entire fluctuation of 10 percent from rising or falling real estate prices falls on the investor's $50,000 equity investment. The lesson from the example is obvious, debt adds risk to equity.

Q15. What happens if the investor finances the real estate purchase with different proportions of debt?

A15. The equity return becomes more variable when the mortgage percentage is a greater proportion of the initial price. Table B-1 below calculates the return on equity when real estate prices increase by 10 percent when mortgages are 0 percent, 30 percent, 50 percent, and 70 percent of the initial price.

Table B-1: The Impact of Leverage on the Return on Equity

	100% Equity	70% Equity	50% Equity	30% Equity
Debt	$0	$30,000	$50,000	$70,000
Original Equity Investment	$100,000	$70,000	$50,000	$30,000
Increase in Market Value of Equity	$10,000	$10,000	$10,000	$10,000
Return on Equity Investment	10%	14.3%	20%	33.3%

Note that going from 70 percent equity down to 50 percent equity increases the return on the equity investment by 5.7 percent while going from 50 percent equity to 30 percent equity increases the return on equity by 13.3 percent. This illustrates a general point; the rate of return on equity increases more quickly at higher levels of debt than at lower levels. Investors demand a higher equity rate of return to bear more risk and debt magnifies equity's risk at an ever increasing rate. Therefore, the required equity rate of return goes up at an ever increasing rate as debt is added. This is not only basic finance theory, it is the everyday experience of anyone who buys a home. The bigger the mortgage, the more percentage risk the equity faces from changes in housing prices.

Q16. Please provide an example that illustrates why market values are relevant.

A16. Suppose in the above example that the investor has invested in real estate 10 years ago. Further assume that depreciation has reduced the book value of the real estate from $100,000 to $75,000 and assume the investor has paid off 40 percent of his $50,000 mortgage. Thus, the investor has a remaining mortgage of $30,000 (= 60% × $50,000). The book value of the investor's equity investment is therefore $45,000 (= $75,000 - $30,000).

What happens now if real estate prices rise or fall 20 percent? To answer that question, we need to know how real estate prices have developed over the past 10 years. If the

market value of the real estate now is $200,000 then a 20 percent decrease in the price of real estate ($40,000) is almost equal to the investor's book value equity. However, his market value equity (or net worth) is equal to the value of the real estate minus what he owes on the mortgage. If we assume that the market value of the mortgage equals the unpaid balance ($30,000), then the investor's net worth is calculated as follows:

Net Worth	=	Market Value of Real Estate	-	Remaining Mortgage
	=	$200,000	-	$30,000
	=	$170,000		

Therefore, the rate of return on equity due to a 20 percent decline in real estate prices is calculated in Table B-2.

Table B-2: Calculating the Rate of Return on Equity

Decline in Real Estate Value	$40,000
Market-Value Equity	$170,000
Rate of Return on Equity	- $40,000/$170,000 = -23.5%

B. THE IMPACT OF INCOME AND INTEREST

Q17. How does earning income from the investment and paying interest on debt affect the results?

A17. In the following explanation, I ignore income taxes which I deal with in Section C. Assume the investor is receiving income, e.g., rent, from the real estate. Specifically, assume the investor receives $500 per month in income after all non-interest expenses ($6,000 per year). Also, assume that the expected appreciation is 5 percent per year, so

the expected market value is $105,000 after one year. Then the expected rate of return from the real estate with all equity financing is:

$$\text{Expected Return on Equity @ 0\% debt} = \frac{\text{Expected Net Income + Expected Appreciation}}{\text{Initial Investment}}$$

$$= \frac{\$6{,}000 + (\$105{,}000 - \$100{,}000)}{\$100{,}000}$$

$$= 11\%$$

Now suppose that the mortgage interest rate were 5 percent. Then at a mortgage equal to 50 percent, or $50,000, interest expense would be ($50,000 x 0.05), or $2,500. The expected equity rate of return would be:

$$\text{Expected Return on Equity @ 50\% debt} = \frac{\text{Expected (Net Income + Appreciation) – Int. Expense}}{\text{Initial } \textit{Equity} \text{ Investment}}$$

$$= \frac{\$6{,}000 + \$5{,}000 - \$2{,}500}{\$50{,}000}$$

$$= 17\%$$

Notice that the expected return on equity is higher as is the risk carried by equity.

Q18. Can you provide a more general illustration?

A18. Yes. Figure B-3 uses these assumptions at different mortgage levels to plot both (i) the expected rate of return on the equity in the dwelling, and (ii) the realized rate of return on

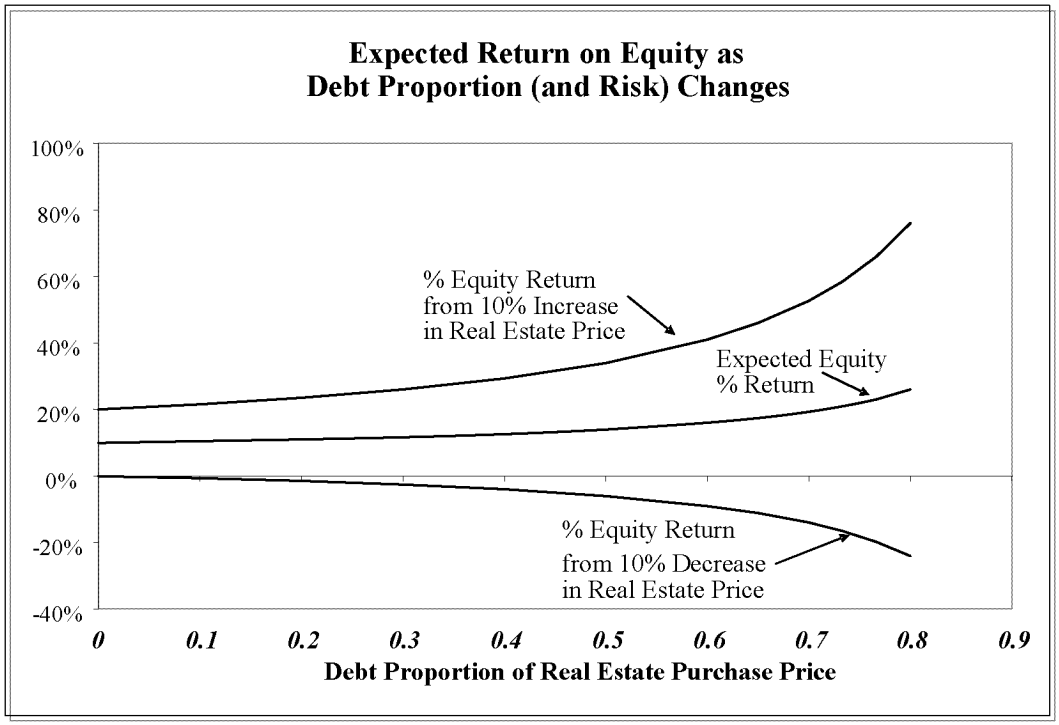

Figure B-3

that equity in a year if the dwelling value increases by 10 percent more than the expected 5 percent rate (i.e., if the value increases by 15 percent) or by 10 percent less than expected (i.e., if it decreases by 5 percent).[24]

The expected rate of return on equity increases at an increasing rate as the investor finances more and more of the real estate through loans (e.g., with a mortgage). Since equity bears all the risk of increases or decreases in real estate values (absent financial distress or bankruptcy), the amount of risk the buyer bears grows at an ever increasing rate as the mortgage percentage also increases.

Q19. What are the implications of this example?

A19. Any time an individual or a company uses debt to finance part an investment, the same risk magnifies. For example, if an investor buys stocks "on margin" -- by borrowing part

[24] For simplicity, the figure assumes the debt's interest rate is independent of the debt proportion. This might not always be true, and in general would not be true for a corporation that issued debt. However, the general shape of the graphs remains the same.

of the money used to buy the stock -- the expected rate of return will be higher as will the risks the investor carries. As an everyday example, imagine investing your retirement savings in a stock portfolio bought with as much margin as possible. If you were lucky, you could end up living very well in retirement. But you would be taking a lot of risk on the opposite outcome, since your portfolio could decline by more than 100 percent of your initial investment.

The same risk-magnifying effects happen when companies borrow to finance part of their investments.

C. THE EFFECT OF TAXES

Q20. What is the impact of taxes?

A20. Analyzing the net effect of taxes in capital structure decisions by corporations is an important part of the financial research. (Other parts of that research address such issues as the risk of financial distress or bankruptcy, and the signals corporations send investors by the choice of how to finance new investments.) The bottom line is that taxes complicate the picture without changing the basic conclusion.

Q21. Please describe the potential impact of taxes.

A21. Interest expense is tax-deductible for corporations. That increases the pool of cash the corporation gets to keep out of its operating earnings (i.e., its earnings before interest expense). With no debt, 100 percent of operating income is subject to taxes. With debt, only the equity part of the operating income is subject to taxes.

All else equal, the extra money kept from operating income increases the value of the corporation. The standard way to recognize that increase in value is to use an after-tax weighted-average cost of capital as a discount rate when valuing a company's operating cash flows.

Q22. Do personal taxes affect the value of debt, too?

A22. Yes, but in the other direction. One offset to debt's tax benefits at the corporate level is its higher tax burden at the personal level. Investors care about the money they get to keep after all taxes are paid, and while the corporation saves taxes by opting for debt over equity, individuals pay more taxes on interest than on capital gains from equity (and for now, on dividends as well).

Q23. Are there factors other than taxes matter?

A23. Absolutely, "all else" does not remain equal as more debt is added. The more debt, the more the non-tax effects of debt offset the tax benefits. Other costs include such effects as a loss of flexibility, the possibility of sending negative signals to investors, and a host of costs and risks associated with the danger of financial distress.

Q24. Does the tradeoff between the tax and non-tax effects of debt mean that firms have well-defined, optimal capital structures?

A24. No, this sort of "tradeoff" model does not explain actual corporate behavior. A substantial body of economic research confirms that real-world corporations act as if, after a moderate amount of debt is in place, the tax benefits of debt are not worth debt's other costs. In country after country and in industry after industry, the most profitable corporations in an industry tend to use the least debt. The research on this point is quite thorough, and the finding that the most profitable companies tend to use the least debt in a given industry is robust. Yet these are the companies with the most operating income to shield from taxes, who would benefit most if interest tax shields were truly valuable net of debt's other costs. They also presumptively are the best-managed on average (else why are they the most profitable?). This means it is unrealistic to suppose that more debt is always better, or that greater tax savings due to higher interest expense always add value to the firm on balance.

Q25. If the tradeoff model doesn't explain capital structure decisions by firms, is there a model that does?

A25. No single model has (yet) emerged as 'the" explanation of capital structure. However, several alternative models attempt to model the tradeoff (e.g., the "pecking order" hypothesis and "agency cost" explanations).

Q26. What does the absence of an agreed theory of capital structure in the financial literature imply about the overall effect of debt on the value of the firm?

A26. The findings of the financial literature mean that within an industry, there is no well-defined optimal capital structure. The use of some debt does convey some value advantage in most industries, but that advantage is offset by other costs as firms add more debt.[25] The range of capital structures over which the value of the firm in any industry is maximized is wide and should be treated as flat. The location and level of that range, however, does vary from industry to industry, just as the overall cost of capital varies from industry to industry.

Figure B-4 illustrates the picture that emerges from the research. This figure shows the present value of an investment in each of four different industries. For simplicity, the investment is expected to yield $1.00 per year forever. For firms in relatively high-risk industries (Industry 1 in the graph, the lowest line), the $1.00 perpetuity is not worth much and any use of debt decreases firm value. For firms in relatively low-risk industries (Industry 4 in the graph), the perpetuity is worth more and substantial amounts of debt make sense. Industries 2 and 3 are intermediate cases.

The maximum net rate at which taxes can increase value in this figure equals 20 percent of interest expense, representing a balance between the corporate tax advantage to debt

[25] Note that if debt did increase the value of the firm materially, competition would tend to take that value away, since issuing debt is an easy-to-copy competitive strategy. Prices would fall as firms copied the strategy, lowering operating earnings and passing the net tax advantages to debt through to customers (just as happens under rate regulation). Therefore, if also there were a narrow range of optimal capital structures within an industry, competition would drive all firms in the industry to capital structures within that range. This does not happen in practice, which contradicts one or both of the assumptions, i.e., (1) that debt adds material value on balance, and/or (2) that there is a narrow range of optimal capital structures.

and the personal tax disadvantage. The figure plots the maximum possible impact of taxes on value as a separate line, starting at the all-equity value of the lowest-risk industry (Industry 4).

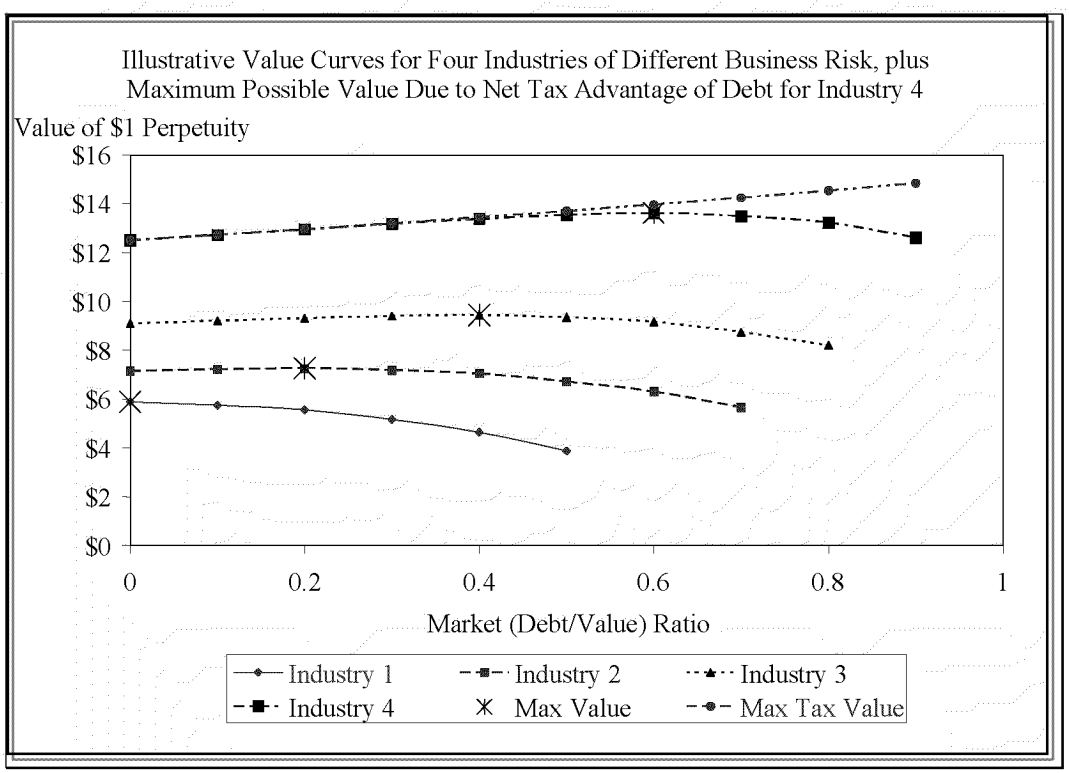

Figure B-4

Figure B-4 identifies a particular point as the maximum value on each of the four curves. However, the research shows that reliable identification of this maximum point, except in the extreme case where no debt should be used, is impossible. In accord with the research, the graph is prepared so that in none of the industries does a change in capital structure make much difference near the top of the curve. Even Industry 4, which increases in value at the maximum rate as quite a lot of debt is added, eventually must reach a broad range where changes in the debt ratio make little difference to firm value, given the research. For Industry 4, debt makes less than a 2 percent difference in the total value of the firm for debt-to-value ratios between 40 and 70 percent. (While these

particular values are illustrative, numbers of this order of magnitude are the only ones consistent with the research.)

Q27. What does this imply for the overall cost of capital?

A27. Figure B-5 plots the after-tax weighted-average costs of capital ("ATWACCs") that correspond to the value curves in Figure B-4. This picture just turns Figure B-4 upside down.[26] All the same conclusions remain, except that they are stated in terms of the overall cost of capital instead of the overall firm value. In particular, except for high-risk industries, the overall cost of capital is essentially flat across a broad middle range of capital structures for each industry, which is the only outcome consistent with the research. For Industry 4, for example, the ATWACC changes by less than 15 basis points for debt-to-value ratios between 40 and 70 percent.

[26] Note that the actual estimated ATWACC at higher debt ratios will tend to underestimate the ATWACC that corresponds to the value curves in Figure B-4, which are depicted in Figure B-5, and so will tend to overestimate the value of debt to the firm. The reason is that some of the non-tax effects of excessive debt, such as a loss of financial flexibility, may be hard to detect and not show up in cost of capital measurement.

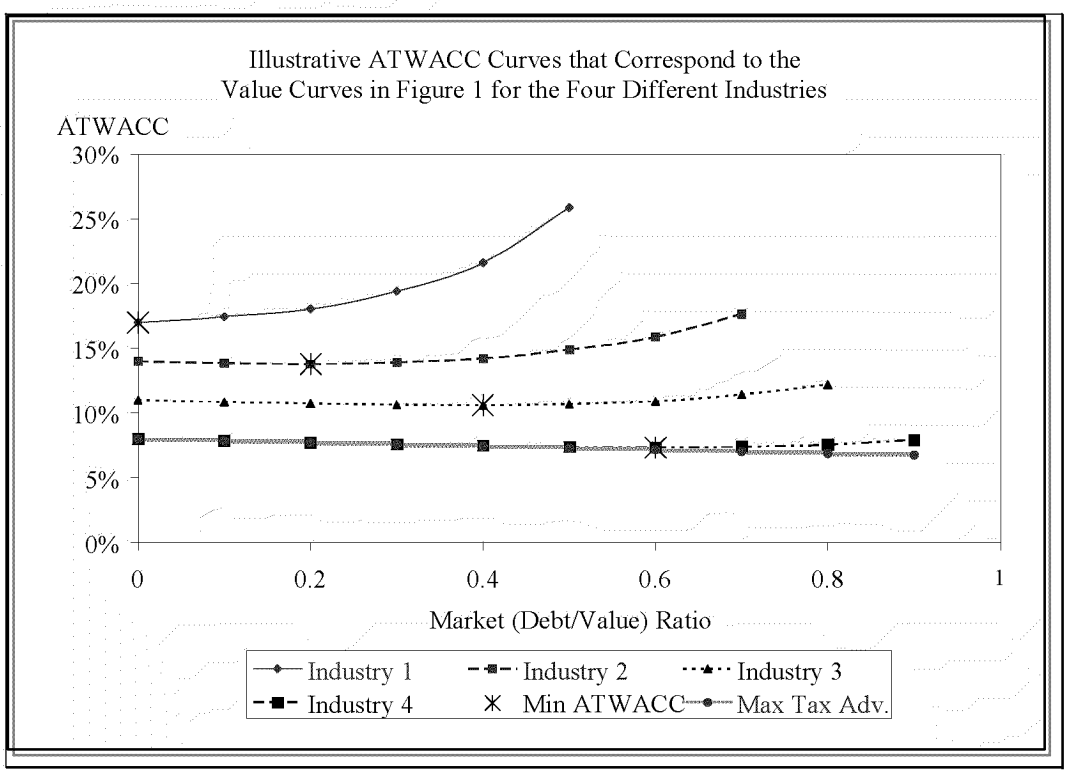

Figure B-5

Q28. How does this discussion relate to estimation of the right cost of equity for ratemaking purposes?

A28. When an analyst estimates the cost of equity for a sample of companies, s/he does so at the sample's actual market-value capital structure. That is, the sample evidence corresponds to ATWACCs that are already out somewhere in the broad middle range in which changes in the debt ratio have little or no impact on the overall value of the firm or the ATWACC.

An analyst therefore should assume the ATWACCs for the sample companies are literally flat. This assumption always provides the exact tradeoff between the cost of equity and capital structure at the literal minimum of the company's ATWACC curve. The research shows that this minimum is actually a broad, flat region, as depicted above. If the company happens to be somewhat to one side or the other of the literal minimum within this region, the recommended procedure may lead to a small understatement or overstatement of the amount that the cost of equity will change as capital structure

changes. The degree of this under- or overstatement, however, is very small compared to the inherent uncertainty in estimating the cost of equity in the first place. Otherwise, the financial research would have found very different results about the existence of a narrowly defined optimal capital structure.

D. COMBINED EFFECTS

Q29. Please summarize the implications for the combined impact of the tax and non-tax effects of debt.

A29. The most profitable firms do not behave as if the precise amount of debt they use makes any material difference to value, and competition does not force them into an alternative decision, as it would if debt were genuinely valuable. The explanation that fits the facts and the research is that within an industry, there is no well-defined optimal capital structure. Use of some debt does convey an advantage in most industries, but that advantage is offset by other costs as firms add more debt. The range of capital structures over which the value of the firm in any industry is maximized is wide and should be treated as flat. The location and level of that range, however, does vary from industry to industry, just as the overall cost of capital varies from industry to industry. To conclude that more debt does add more value, once the firm is somewhere in the normal range for the industry, is to conclude that corporate management in general is either blind to an easy source of value or otherwise incompetent (and that their competitors let them get away with it).

The finding that there is no narrowly defined optimal capital structure implies that analysts should estimate the ATWACCs for a sample of companies in a given industry and treat the average ATWACC value as independent of capital structure (at least within a broad middle range of capital structures). The right cost of equity for a rate-regulated company in the same industry is the number that yields the same ATWACC at the capital structure used to set the revenue requirement, since that is the cost of equity that

(estimation problems aside) the sample companies would have had if their market-value capital structures had been equal to the regulatory capital structure.

BEFORE THE PUBLIC UTILITIES COMMISSION

OF THE STATE OF SOUTH DAKOTA

IN RE:	)	
	)	**Docket No. NG07-___**
NORTHWESTERN PUBLIC SERVICE	)	
a division of NorthWestern Corporation	)	

DIRECT TESTIMONY OF

MICHAEL J. VILBERT

ON BEHALF OF

NORTHWESTERN CORPORATION

CONCERNING

COST OF EQUITY

FOR

NORTHWESTERN CORPORATION'S SOUTH DAKOTA GAS UTILITY

APRIL 26, 2007

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APPENDIX A: RESUME

APPENDIX B: SELECTING THE GAS LDC SAMPLE AND USE OF MARKET VALUES

I. INTRODUCTION AND SUMMARY

Q1. Please state your name and address for the record.

A1. My name is Michael J. Vilbert. My business address is The Brattle Group, 44 Brattle Street, Cambridge, MA 02138, USA.

Q2. Please describe your job and your educational experience.

A2. I am a Principal of The Brattle Group, ("Brattle"), an economic, environmental and management consulting firm with offices in Cambridge, Washington, London, San Francisco and Brussels. My work concentrates on financial and regulatory economics. I hold a B.S. from the U.S. Air Force Academy and a Ph.D. in finance from the Wharton School of Business at the University of Pennsylvania.

Q3. What is the purpose of your testimony in this proceeding?

A3. I have been asked by NorthWestern Energy Corp. ("NorthWestern" or the "Company") to estimate the cost of equity that the Public Utilities Commission of the State of South Dakota (the "Commission") should allow NorthWestern an opportunity to earn on the equity financed portion of its South Dakota gas utility assets, which provide retail gas distribution service in South Dakota.

To accomplish this task, I estimate the overall cost of capital for a sample of regulated natural gas local distribution companies ("LDCs") using the discounted cash flow ("DCF") and risk positioning models. I then evaluate the relative business and financial risk of NorthWestern's South Dakota natural gas operations ("NorthWestern's SD operations") to the gas LDC sample. These comparisons are important in determining my recommended cost of equity for a regulatory capital structure with 51.5 percent equity, which is the percent equity in the Company's proposed capital structure in this proceeding.

Q4. Please summarize the parts of your background and experience that are particularly relevant to your testimony on these matters.

A4. Brattle's specialties include financial economics, regulatory economics, and the gas and electric industries. I have worked in the areas of cost of capital, investment risk and related matters for many industries, regulated and unregulated alike, in many forums. I have testified or filed cost of capital testimony before the Federal Energy Regulatory Commission, the Arizona Corporation Commission, the Pennsylvania Public Utility Commission, the Public Service Commission of West Virginia, the Tennessee Regulatory Authority, the Canadian National Energy Board, Alberta Energy and Utilities Board, the Ontario Energy Board, and the Labrador & Newfoundland Board of Commissioners of Public Utilities. I have not previously testified before this Commission. Appendix A contains more information on my professional qualifications.

Q5. What is your conclusion on the market-determined cost of equity for NorthWestern's SD operations based upon the results from the sample of regulated companies you selected?

A5. The best point estimate of the cost of equity for NorthWestern's SD gas distribution operations is 11¼ percent for a capital structure with 51.5 percent equity. However, it is more correct to say that the sample results indicate a range of 10¾ to 11¾ percent for the estimated cost of equity. This point estimate is about ½ percent lower than the risk-positioning results for the sub-sample and almost 1 percent higher than the multistage DCF estimate for the sub-sample.

Note, I specify a plus or minus ½ percent range for the return on equity and specify the point estimate to the nearest ¼ percent because I do not believe that it is possible to estimate the cost of equity more precisely than that.

Q6. How is your testimony organized?

A6. The *Sections II and III* of the testimony cover the theory underlying the cost of equity estimation models. Those familiar with cost of capital theory can skip directly to *Section*

IV, which discusses the implementation of the models in this proceeding. *Section V* provides the conclusions.

Specifically, *Section II* formally defines the cost of capital and touches on the principles relating to the cost of capital and capital structure for a business. *Section III* presents the methods used to estimate the cost of capital for the benchmark samples and their associated numerical analyses, and explains the basis of my conclusions for the benchmark sample's returns on equity and overall cost of capital. *Section IV* presents the results of these methods applied to the benchmark sample group, and presents the cost of equity implied by the results. *Appendix B* discusses sample selection and the determination of the market-value capital structures as well as the costs of debt and preferred stock. My conclusions on the cost of equity for the equity financed portion of NorthWestern's South Dakota gas utility assets are presented in *Section V*.

Q7. Please summarize how you approached this task.

A7. I selected a sample of nine regulated natural gas LDCs with business risk comparable to that of NorthWestern's SD gas LDC operations. My analyses consider cost of capital evidence from the risk positioning and discounted cash flow models, but I rely primarily on the results from the risk positioning model because I do not believe that the DCF method is completely reliable at this time for this industry.

Specifically, I estimate the cost of equity for each sample company using both cost-of-equity estimation methods. For each estimate, I combine this value with the sample company's market costs of debt and preferred stock to estimate each firm's overall cost of capital, i.e. its after-tax weighted-average cost of capital ("ATWACC"), using each company's market value capital structure as the weights. For each method of estimating the return on equity, I then report a sample average ATWACC and the estimated cost of equity at a capital structure with same percentage of equity as filed by NorthWestern for its SD operations. I thus present the cost of equity that is consistent with each sample's

market information on the cost of capital and the regulatory capital structure of NorthWestern's SD operations. (By "regulatory capital structure," I mean the capital structure that NorthWestern utilizes in its applications.[1])

This method automatically avoids problems that can arise when an analyst focuses separately on the individual components of the overall cost of capital (i.e., the cost of equity and the appropriate capital structure). The danger with that approach is that the estimated cost of equity from the sample may correspond to a very different level of financial risk than would exist at the regulated company's capital structure. The result could be an inconsistency between the allowed return on equity and the financial risk inherent in the regulatory capital structure.

Q8. Why do you believe that the DCF model is less reliable for this industry at this time than the risk positioning model?

A8. Results for the DCF model depend critically on the estimate of the dividend growth rate. A one percent error in the estimate of the growth rate results in a greater than one percent error in the cost of equity estimates. In the recent past, the gas LDC industry could have been characterized as being relatively stable, but that is much less true today. There have been a number of mergers and acquisitions that has resulted in a consolidation within the industry. There are now fewer "pure play" gas LDC companies available to include in a sample. Gas prices have increased dramatically and have been much more volatile lately. Although most of the companies in the gas LDC sample have fuel cost adjustment clauses, the increased volatility of gas prices has increased the uncertainty of the industry's earnings going forward. This uncertainty in earnings is also reflected in the accounting restatements by companies in the industry due to efforts to report accurately the value of inventories. Currently, average forecast growth rates for the sample are lower than they were just a few months ago, but *Value Line's* forecast betas have changed

[1] In the analyses I use the capital structure that is based upon the long-term sources of capital, i.e., long-term debt, preferred equity and common equity. I do not use short-term debt because long-term assets are not generally financed with short-term debt.

very little. Because of these concerns, I report results for a sub-sample which consists of sample companies which have no significant data issues. Estimates from this group are likely to be the most reliable.

Q9. What are the results for the DCF model?

A9. As reported below, the DCF model results display a greater spread and are more variable and therefore less reliable than those based upon the risk positioning model. For example, the simple DCF model results range from a low of 6.5 percent to a high of 10.1 percent before any consideration of differences in financial risk. Results for the more reliable multistage model are less variable, and range from 7.4 to 9.8 percent. (See Table No. MJV-6, Panel A for the simple DCF and Panel B for the multistage DCF) After adjusting for financial risk, the sample average for the multistage DCF model is 9.7 percent for the full sample and 10.3 percent for the more reliable subsample. The corresponding DCF results for the less reliable simple DCF model are 9.1 percent for the full sample and 9.4 for the sub-sample. (Table No. MJV-8, Panels A and B)

Although I do not believe that the DCF results are completely reliable for the reasons stated above, I provide results using the DCF method because it is a method that has been used extensively in the past. In addition, the results from the DCF model serve as a check on the results from the equity risk positioning approach.

Q10. What were the results for the risk positioning model?

A10. The sample average risk positioning results adjusted for differences in financial risk range from a low of 11.1 percent to a high of 11.4 percent for the full sample and 11.5 to 11.8 percent for the more reliable sub-sample when using the long-term risk free rate. (See Table No. MJV-12, Panel A for the full sample and Panel B for the sub-sample.) I also report results for the risk positioning model based upon the short-term risk-free rate, but I do not rely on those estimates in this proceeding.

Q11. You mentioned the importance of considering financial risk when evaluating the results of the models. Please explain how you adjust for financial risk.

A11. Both the DCF and the risk positioning models rely on market data to estimate the cost of equity for the sample companies. That cost of equity estimate captures both the business risk and the financial risk of the assets. Business risk is the risk that the company would have if it were financed entirely with equity. Financial risk is the additional risk carried by the equity holders when debt is used to finance some of the assets. The more debt that is used by a company, the riskier the company's equity becomes. As explained in more detail below, the procedures I use consider both the business risk and the financial risk of the sample companies in comparison to NorthWestern's SD gas operations in determining my recommended cost of equity.

II. COST OF CAPITAL THEORY

A. THE COST OF CAPITAL AND RISK

Q12. Please formally define the "Cost of Capital."

A12. The cost of capital can be defined as *the expected rate of return in capital markets on alternative investments of equivalent risk*. In other words, it is the rate of return investors require based on the risk-return alternatives available in competitive capital markets. The cost of capital is a type of opportunity cost: it represents the rate of return that investors could expect to earn elsewhere without bearing more risk. "Expected" is used in the statistical sense: the mean of the distribution of possible outcomes. The terms "expect" and "expected" in this testimony, as in the definition of the cost of capital itself, refer to the probability-weighted average over all possible outcomes.

The definition of the cost of capital recognizes a tradeoff between risk and return that is known as the "security market risk-return line," or "security market line" for short. This line is depicted in Figure 1. The higher the risk, the higher is the cost of capital. A

version of Figure 1 applies for all investments. However, for different types of securities, the location of the line may depend on corporate and personal tax rates.

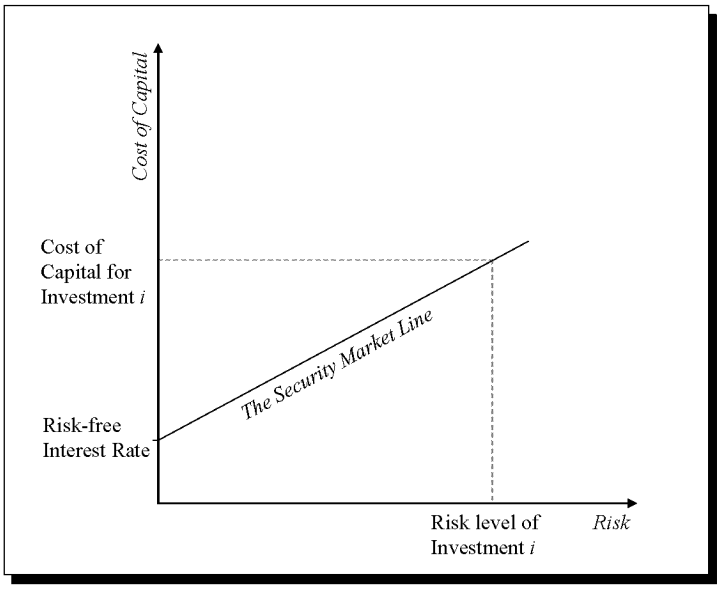

Figure 1: The Security Market Line

Q13. Why is the cost of capital relevant in rate regulation?

A13. It has become routine in U.S. rate regulation to accept the "cost of capital" as the right expected rate of return on utility investment.[2] That practice is normally viewed as consistent with the U.S. Supreme Court's opinions in *Bluefield Waterworks & Improvement Co. v. Public Service Commission*, 262 U.S. 678 (1923), and *Federal Power Commission v. Hope Natural Gas*, 320 U.S. 591 (1944).

From an economic perspective, rate levels that give investors a fair opportunity to earn the cost of capital are the lowest levels that compensate investors for the risks they bear. Over the long run, an expected return above the cost of capital makes customers overpay for service. Regulatory commissions normally try to prevent such outcomes, unless there are offsetting benefits (e.g., from incentive regulation that reduces future cost). At the

[2] A formal link between the cost of capital as defined by financial economics and the right expected rate of return for utilities is established by Stewart C. Myers, "Application of Finance Theory to Public Utility Rate Cases," *The Bell Journal of Economics and Management Science*, 3:58-97 (Spring 1972).

same time, an expected return below the cost of capital shortchanges investors. In the long run, such a return denies the company the ability to attract capital, to maintain its financial integrity, and to expect a return commensurate with that of other enterprises attended by corresponding risks and uncertainties.

More important for customers, however, are the economic issues an inadequate return raises for them. In the short run, deviations of the expected rate of return on the rate base from the cost of capital create a "zero-sum game"-- investors gain if customers are overcharged, and customers gain if investors are shortchanged. In the long run, however, inadequate returns are likely to cost customers -- and society generally -- far more than is gained in the short run. Inadequate returns lead to inadequate investment, whether for maintenance or for new plant and equipment. The costs of an undercapitalized industry can be far greater than the short-run gains from shortfalls in the cost of capital. Moreover, in capital-intensive industries (such as the electric utility or the gas distribution industries), systems that take a long time to decay cannot be fixed overnight. Thus, it is in the customers' interest not only to make sure the return investors expect does not exceed the cost of capital, but also to make sure that it does not fall short of the cost of capital, either.

Of course, the cost of capital cannot be estimated with perfect certainty, and other aspects of the way the revenue requirement is set may mean investors expect to earn more or less than the cost of capital even if the allowed rate of return equals the cost of capital exactly. However, a Commission that sets rates so investors expect to earn the cost of capital on average treats both customers and investors fairly, and acts in the long-run interests of both groups.

B. Business Risk & Financial Risk: Capital Structure and the Cost of Equity

Q14. Please explain briefly the difference between business risk and financial risk.

A14. Business risk is the risk of a company from its line of business if it used no debt financing. When a firm uses debt to finance its assets, the business risk of the assets is shared between the debt holders and the equity holders, but the equity holders bear more of the risk because debt holders have a prior claim on the company's cash flows. Equity holders are residual claimants, which simply means that equity holders get paid last. Therefore, the goal of selecting a sample is to choose companies whose business risk is comparable to the regulated company in the proceeding.

Q15. Please explain why it is necessary to report the cost of equity adjusted for capital structure.

A15. Briefly, rate regulation in North America tends to focus on the components of the overall cost of capital, and in particular, on what the "right" cost of equity and capital structure should be. Frequently, there is no consideration of whether the financial risks of the sample companies differ among themselves or differ from the regulated company. The cost of equity estimated using the standard models reflects both the business and financial risk of the sample companies. However, the overall cost of capital depends primarily on the business the firm is in, while the costs of the debt and equity components depend not only on the business risk but also on the distribution of revenues between debt and equity. The overall cost of capital is thus the more basic concept.

C. Implications for Analysis

Q16. Please explain the implications of the relationship between capital structure and the cost of equity on your testimony.

A16. The risk equity holders carry, and therefore the cost of equity, depends on the capital structure. As leverage increases, financial risk increases, and hence the required return on equity increases. An approach that estimates the cost of equity for each of the sample

firms without explicit consideration of the market value capital structure (i.e., the financial risk) underlying those costs risks material errors. The costs of equity of the sample companies at their actual market-value capital structures do not necessarily correspond to the financial risk faced by equity holders in the regulated company, and thus could lead to an unfair rate of return. I avoid this problem by calculating each sample company's ATWACC using its market value capital structure. Using the sample's average overall cost of capital as an estimate for the cost of capital of NorthWestern's SD operations, I then determine the corresponding return on equity at NorthWestern's filed regulatory capital structure. This procedure ensures that the capital structure and estimated cost of equity are consistent for the regulated company.

Q17. To assess the magnitude of financial risk for a rate regulated company, should you use the market-value or the book-value capital structure?

A17. The academic literature supports the view that the market-value capital structure is the relevant quantity for analyzing the cost of equity evidence, which is based on market information.

Q18. Is the use of market values to calculate the impact of capital structure on the risk of equity incompatible with use of a book-value rate base for a regulated company?

A18. No, no more than it is incompatible to use market-based cost of equity estimation methods (such as DCF or the risk positioning model) with a book value rate base. That is, the cost of capital is the fair rate of return on regulatory assets for both investors and customers. Most regulatory jurisdictions in North America measure the rate base using the net book value of assets, not current replacement value or historical cost trended for inflation, but the jurisdictions still apply market-derived measures of the cost of equity to that net book value rate base.

The issue here is "what level of risk is reflected in that cost of equity estimate?" The equity risk level depends on the sample company's market-value capital structure, not its book-value capital structure. *That risk level would be different if the sample company's*

market-value capital structure exactly equaled its book-value capital structure, so the estimated cost of equity would be different, too.

Q19. Please sum up the implications of this section.

A19. The market risk and, therefore, the cost of equity depend directly on the market-value capital structure of the company or asset in question. It therefore is impossible to compare validly the measured costs of equity of different companies without taking capital structure into account. Capital structure and the cost of equity are inextricably linked, and any effort to treat the two as separate and distinct questions violates basic financial principles.

Q20. How should a cost of capital analyst implement this principle?

A20. Analysts should treat the market-value weighted average of the cost of equity and the after-tax current cost of debt, or the "ATWACC" for short,[3] as constant for a particular line of business for companies not in financial distress or with unusual capital structures. Sample evidence should be analyzed to determine the sample's average ATWACC, which can be compared across different firms or industries. The economically appropriate cost of equity for a regulated firm is the quantity that, when applied to the *regulatory* capital structure, produces the same ATWACC. That value is the cost of equity that the sample would have, estimation problems aside, if the sample's market-value capital structure had been equal to the regulatory capital structure in question.

[3] This quantity typically is called the "weighted-average cost of capital" or "WACC" in finance textbooks. The textbook WACC equals the *market*-value weighted average of the cost of equity and the *after-tax*, *current* cost of debt. However, rate regulation in North America has a legacy of working with another weighted-average cost of capital, the *book*-value weighted average of the cost of equity and the *before-tax*, *embedded* cost of debt. Accordingly, in regulatory settings it's useful to refer to the textbook WACC as the "ATWACC," or "after-tax weighted-average cost of capital." I follow that practice here.

Q21. Can you provide a simple example of the calculation of the cost of equity consistent with the market-determined estimate of the sample's average overall cost of capital?

A21. Yes. Consider the following equation to calculate the ATWACC:[4]

$$ATWACC = r_D \times D \times (1 - T_C) + r_E \times E \quad (1)$$

where r_D = market cost of debt,
r_E = market cost of equity,
T_C = corporate income tax rate,
D = percentage of debt in the capital structure, and
E = percentage of equity in capital structure.

The cost of equity consistent with overall cost of capital estimate (ATWACC), the market cost of debt and equity, the marginal corporate income tax rate and the amount of debt and equity in the capital structure can be determined by solving equation (1) for r_E.

III. COST OF CAPITAL METHODOLOGY

Q22. How is this section of your testimony organized?

A22. As noted in Section II, I estimate the cost of capital using a sample of comparable risk companies. This section first outlines the steps involved in selecting a benchmark sample, in determining the market-value capital structure, and in estimating the sample companies' costs of debt. It then turns to the procedures for estimating the costs of equity and describes the two cost of equity estimation methodologies used in this testimony, the DCF method and the risk positioning approach. These are the foundations of my cost of capital calculations, which I present in the following section and which I use to derive my recommended cost of equity for NorthWestern's SD regulated gas assets at their regulatory capital structure.

[4] Note that this equation assumes that only debt and equity are in the capital structure, but it is simple to add preferred equity to the equation.

A. SAMPLE SELECTION CRITERIA

Q23. What is the goal of your sample selection procedures?

A23. The overall cost of capital for a part of a company depends on the risk of the business in which the part is engaged, not on the overall risk of the parent company on a consolidated basis. According to financial theory, the overall risk of a diversified company equals the market-value-weighted average of the risks of its components.

Estimating the cost of equity for NorthWestern's SD regulated gas distribution assets is the subject of this proceeding. The ideal comparative sample for NorthWestern's SD operations would be a number of companies that are publicly traded "pure plays" in the natural gas distribution business. "Pure play" is an investment term referring to companies with operations only in one line of business. Publicly traded firms, firms whose shares are freely traded on stock exchanges, are ideal because the best way to infer the cost of capital is to examine evidence from capital markets on companies in the given line of business.

In addition to providing a sample of comparable business risk, a good sample should provide reliable cost of capital estimates. For this reason, I apply a set of criteria that are intended to screen out companies that have characteristics which may bias the cost of equity estimates. The details are in Appendix B.

B. CAPITAL STRUCTURE & THE COST OF DEBT

1. Market-Value Capital Structure

Q24. What capital structure information do you require?

A24. For reasons discussed above, explicit evaluation of the market-value capital structures of the sample companies is vital for a correct interpretation of the market evidence on the return on equity. This requires estimates of the market values of common equity, preferred equity and debt, and the current market costs of preferred equity and debt.

Q25. Please describe how you calculate the market values of common equity, preferred equity and debt.

A25. I estimate the market value capital structure for each sample company by estimating the market values of common equity, preferred equity and debt from the most recent publicly available data. The details are in Appendix B.

Briefly, the market value of common equity is the price per share times the number of shares outstanding. For the risk positioning approach, I use the last five trading days of each year to calculate the market value of equity for the year. I then calculate the average capital structure over the corresponding five-year period used to estimate the "beta" risk measures for the sample companies.[5] This procedure matches the estimated beta to the degree of financial risk present during its estimation period. In the DCF analyses, I use the average stock price over the 15 trading days ending on the day that the earnings growth rate forecasts are obtained from Bloomberg.[6]

The market value of debt is estimated at its book value adjusted by the difference between the "Estimated Fair (market) Value" and the "carrying cost" of long-term debt reported in each company's 10-K.[7] The market value of preferred stock for the samples is set equal to its book value because the market values and book values do not differ much and because the percent of preferred stock in the capital structures of the sample companies is relatively small compared to the debt and common equity components.

[5] *Value Line* uses five years of historical data to estimate its forecasted betas.

[6] Forecasts were obtained on April 9, 2007 for all companies in the benchmark gas LDC sample.

[7] The book value of debt from Bloomberg includes all interest-bearing financial obligations that are not current and includes capitalized leases and mandatory redeemable preferred and trust preferred securities in accordance with FASB 150 effective June 2003. See Bloomberg definition of long-term debt for additional detail.

2. Market Costs of Debt and Preferred Equity

Q26. How do you estimate the current market cost of debt?

A26. The market cost of debt for each company in the DCF analysis is the current yield reported by Bloomberg for its index of public utility company bonds corresponding to the sample company's current debt rating as classified by S&P. The risk positioning analysis, on the other hand, uses the current yield of a utility bond that corresponds to the five-year average debt rating of each company so as to match consistently the horizon of information used by *Value Line* to estimate company betas.

Q27. How do you estimate the market cost of preferred equity?

A27. For each company with preferred stock, the cost of preferred equity for each company is set equal to the yield on an index of preferred stock as reported in the Mergent Bond Record corresponding to the S&P rating of that company's debt.

3. Risk-Free Interest Rate Forecast

Q28. How do you obtain the forecasts of the risk-free interest rates over the period the utility rates set here are to be in effect?

A28. I obtain these forecast rates using data provided by Bloomberg. In particular, I use the reported government debt yields from the "constant maturity series". This information is displayed in Panels A and B of Table No. MJV-9.

Q29. What values do you use for the short-term and long-term risk-free interest rates?

A29. I use a value of 3.8 percent for the short-term risk-free interest rate and a value of 4.9 percent for the long-term risk-free interest rate as the benchmark interest rates in the equity risk premium analyses. These forecasts are constructed by using historical yield curve data to find the long-run average implied term premia on government securities, and combining these with recent yield curve data. Details of their calculation can be found in the Workpapers to Table No. MJV-9.

C. COST OF EQUITY METHODS

Q30. How do you estimate the cost of equity for your sample companies?

A30. Recall the definition of the cost of capital from the outset of my testimony: *the expected rate of return in capital markets on alternative investments of equivalent risk*. My cost of capital estimation procedures address three key points implied by the definition:

1. Since the cost of capital is an expected rate of return, it cannot be directly observed; it must be inferred from available evidence.

2. Since the cost of capital is determined in capital markets (e.g., the New York Stock Exchange), data from capital markets provide the best evidence from which to infer it.

3. Since the cost of capital depends on the return offered by alternative investments of equivalent risk, measures of the risks that matter in capital markets are part of the evidence that needs to be examined.

Q31. How does the above definition help in cost of capital estimation?

A31. The definition of the cost of capital recognizes a tradeoff between risk and expected return - the security market line - plotted earlier in Figure 1. Cost of capital estimation methods take one of two approaches: (1) they try to identify a comparable-risk sample of companies and to estimate the cost of capital directly; or (2) they establish the location of the security market line and estimate the relative risk of the security, which jointly determine the cost of capital. In terms of Figure 1, the first approach focuses directly on the vertical axis, while the second focuses both on the security's position on the horizontal axis and on the position of the security market line.

The first type of approach is more direct, but ignores the wealth of information available on securities not thought to be of precisely comparable risk. The "discounted cash flow" or "DCF" model is an example. The second type of approach, sometimes known as "equity risk premium approach," requires an extra step, but as a result can make use of information on all securities, not just a very limited subset. The Capital Asset Pricing Model ("CAPM") is an example. While both approaches can work equally well if

conditions are right, one may be preferable to the other under other circumstances. In particular, approaches that rely on the entire security market line are less sensitive to deviations from the assumptions that underlie the model, all else equal. I examine both DCF and risk positioning approach evidence for the sample.

1. The Risk Positioning Approach

Q32. Please explain the risk positioning method.

A32. The risk positioning method estimates the cost of equity as the sum of a current interest rate and a company specific risk premium. It is therefore sometimes also known as the "risk premium" approach. This approach may sometimes be applied informally. For example, an analyst or Commission may check the spread between interest rates and what is believed to be a reasonable estimate of the cost of capital at one time, and then apply that spread to changed interest rates to get a new estimate of the cost of capital at another time.

More formal applications of the risk positioning approach take full advantage of the security market line depicted in Figure 1 - they use information on all securities to identify the security market line and derive the cost of capital for the individual security based on that security's relative risk. This reliance on the entire security market line makes the method less vulnerable to the kinds of problems that arise for the DCF method, which relies on one stock at a time. The risk positioning approach is widely used and underlies most of the current research published in academic journals on the nature, determinants and magnitude of the cost of capital.

Q33. How are the "more formal" applications of risk positioning approach implemented?

A33. The first step is to specify the current values of the benchmarks that determine the security market line. The second is to determine the security's or investment's relative risk. The third is to specify exactly how the benchmarks combine to produce the security market line, so the company's cost of capital can be calculated based on its relative risk.

All of these elements and how they relate are usefully formulated in the framework of the CAPM.

a) The Capital Asset Pricing Model

Q34. Please start with the CAPM, by describing the model.

A34. As noted above, modern models of capital market equilibrium express the cost of equity as the sum of a risk-free rate and a market risk premium. The CAPM is the longest-standing and most widely used of these theories. The CAPM states that the cost of capital for an investment, *s*, (e.g., a particular common stock) is given by the following equation:

$$k_s = r_f + \beta_s \times MRP \qquad (2)$$

where k_s is the cost of capital for investment *s*; r_f is the risk-free rate, β_s is the beta risk measure for the investment *s*; and *MRP* is the market risk premium.

The CAPM relies on the empirical fact that investors price risky securities to offer a higher expected rate of return than safe securities do. It says that the security market line starts at the risk-free interest rate (that is the return on a zero-risk security, the y-axis intercept in Figure 1, equals the risk-free interest rate). Further, it says that the risk premium over the risk-free rate equals the product of beta and the risk premium on a value-weighted portfolio of all investments, which by definition has average risk.

b) The Empirical Capital Asset Pricing Model

Q35. What other equity risk premium model do you use?

A35. Empirical research has long shown that the CAPM tends to overstate the actual sensitivity of the cost of capital to beta: low-beta stocks tend to have higher risk premia than predicted by the CAPM and high-beta stocks tend to have lower risk premia than predicted. A number of variations on the original CAPM theory have been proposed to

explain this finding, but this finding can also be used to estimate the cost of capital directly, using beta to measure relative risk without simultaneously relying on the CAPM.

The second model makes use of these empirical findings. It estimates the cost of capital with the equation, where α is the "alpha" adjustment of the risk-return line, a constant,

$$k_s = r_f + \alpha + \beta_s \times (MRP - \alpha) \quad (3)$$

and the other symbols are defined as above. I label this model the Empirical Capital Asset Pricing Model, or "ECAPM." The alpha adjustment has the effect of increasing the intercept but reducing the slope of the security market line in Figure 1 which results in a security market line that more closely matches the results of empirical tests.

Q36. Why is it appropriate for you to use the empirical CAPM?

A36. The CAPM has not generally performed well as an empirical model, but its shortcomings are directly addressed by the ECAPM. Specifically, the ECAPM recognizes the consistent empirical observation that the CAPM underestimates (overestimates) the cost of capital for low (high) beta stocks. In other words, the ECAPM is based on recognizing that the actual slope of the risk-return tradeoff is flatter than predicted and the intercept higher based upon repeated empirical tests of the CAPM. The alpha parameter (α) in the ECAPM adjusts for this fact. The difference between the CAPM and the type of relationship identified in the empirical studies is depicted in Figure 2.

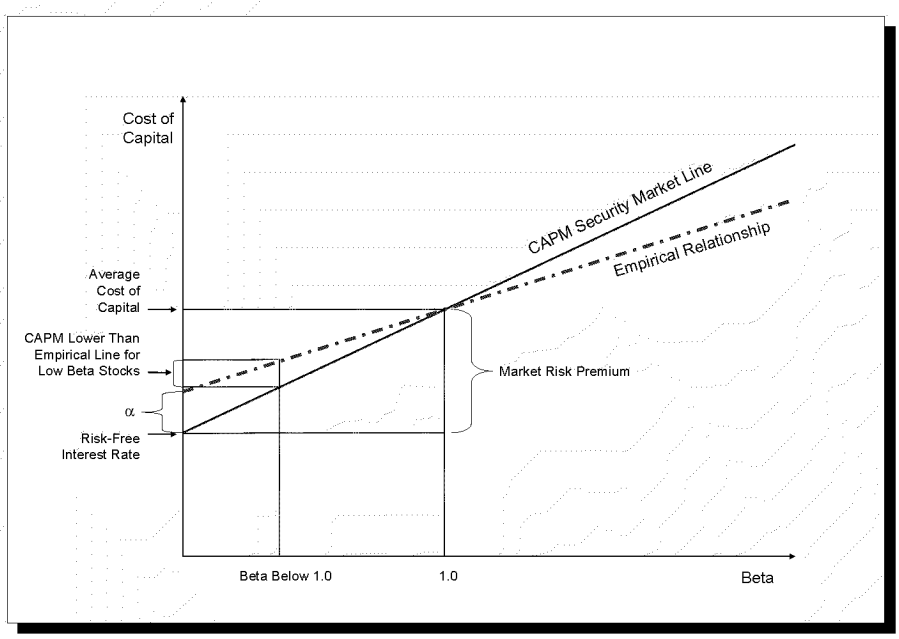

Figure 2: The Empirical Security Market Line

Research supports values for α of one to seven percent when using a short-term interest rate. I use baseline values of α of two percent for the short-term risk-free rate and 0.5 percent for the long-term risk-free rate. I also conduct sensitivity tests for different values of α. For the short-term risk-free rate I use values for α of one, two and three percent. For the long-term risk-free rate, the corresponding α values are zero, 0.5 and 1.5 percent. These values are lower than would be justified by the magnitude of the misestimation in the tests of the CAPM. I use lower values of α when using the long-term risk-free rate because use of a long-term risk-free rate incorporates some of the desired effect of using the ECAPM. That is, the long-term risk-free rate version of the security market line has a higher intercept and a flatter slope than the short-term risk-free version which is the version that has been extensively tested. Thus, it is likely that I do not need to make the same degree of adjustment when I use the long-term risk-free rate.

2. Discounted Cash Flow Method

Q37. Please describe the discounted cash flow approach.

A37. The DCF model takes the first approach to cost of capital estimation, i.e., to attempt to estimate the cost of capital in one step. The method assumes that the market price of a stock is equal to the present value of the dividends that its owners expect to receive. The method also assumes that this present value can be calculated by the standard formula for the present value of a cash flow stream:

$$P = \frac{D_1}{(1+k)} + \frac{D_2}{(1+k)^2} + \frac{D_3}{(1+k)^3} + \cdots + \frac{D_T}{(1+k)^T} \quad (4)$$

where "P" is the market price of the stock; "D_i" is the dividend cash flow expected at the end of period i; "k" is the cost of capital; and "T" is the last period in which a dividend cash flow is to be received. The formula just says that the stock price is equal to the sum of the expected future dividends, each discounted for the time and risk between now and the time the dividend is expected to be received.

Most DCF applications go even further, and make very strong (i.e., unrealistic) assumptions that yield a simplification of the standard formula, which then can be rearranged to estimate the cost of capital. Specifically, if investors expect a dividend stream that will grow *forever* at a steady rate, the market price of the stock will be given by a very simple formula,

$$P = \frac{D_1}{(k-g)} \quad (5)$$

where "D_1" is the dividend expected at the end of the first period, "g" is the perpetual growth rate, and "P" and "k" are the market price and the cost of capital, as before. Equation (5) is a simplified version of equation (4) that can be solved to yield the well known "DCF formula" for the cost of capital:

$$k = \frac{D_1}{P} + g$$
$$= \frac{D_0 \times (1+g)}{P} + g \qquad (6)$$

where "D_0" is the current dividend, which investors expect to increase at rate g by the end of the next period, and the other symbols are defined as before. Equation (6) says that if equation (5) holds, the cost of capital equals the expected dividend yield plus the (perpetual) expected future growth rate of dividends. I refer to this as the simple DCF model. Of course, the "simple" model is simple because it relies on very strong (i.e., very unrealistic) assumptions.

Q38. Are there other versions of the DCF models besides the "simple" one?

A38. Yes. The constant growth rate DCF model requires that dividends and earnings grow at the same rate for companies that earn their cost of capital on average.[8] It is inconsistent with the theory on which the model is based to have different growth rates in earnings and dividends over the period when growth is assumed to be constant. If the growth in dividends and earnings were expected to vary over some number of years before settling down into a constant growth period, then it would be appropriate to estimate a multistage DCF model. In the multistage model, earnings and dividends can grow at different rates, but must grow at the same rate in the final, constant growth rate period. A difference between forecasted dividend and earnings rates therefore is a signal that the facts do not fit the assumptions of the simple DCF model.

So, I consider a variant of the DCF model that relies on slightly less strong assumptions in that it allows for varying dividend growth rates in the near term before assuming a

[8] Why must the two growth rates be equal in a steady-growth DCF model? Think of earnings as divided between reinvestment, which funds future growth, and dividends. If dividends grow faster than earnings, there is less investment and slower growth each year. Sooner or later dividends will equal earnings. At that point, growth is zero because nothing is being reinvested (dividends are constant). If dividends grow slower than earnings, each year a bigger fraction of earnings are reinvested. That makes for ever faster growth. Both scenarios contradict the steady-growth assumption. So if you observe a company with different expectations for dividend and earnings growth, you know the company's stock price and its dividend growth forecast are inconsistent with the assumptions of the steady-growth DCF model.

perpetual growth rate beginning in year eleven. I use the forecast growth of GDP as the forecast of the long-term growth rate, i.e. year eleven on. This is a variant of the "multistage" DCF method.

Q39. What are the merits of the DCF approach?

A39. The DCF approach is conceptually sound if its assumptions are met, but can run into difficulty in practice because those assumptions are so strong, and hence so unlikely to correspond to reality. Two conditions are well known to be necessary for the DCF approach to yield a reliable estimate of the cost of capital: the variant of the present value formula that is used must actually match the variations in investor expectations for the growth of dividends, and the growth rate(s) used in that formula must match current investor expectations. Less frequently noted conditions may also create problems.

Q40. Do you agree that estimating the "right" dividend growth rate is the most difficult part for the implementation of the DCF approach?

A40. Yes. Finding the right growth rate(s) is the usual "hard part" of a DCF application. The original approach to estimation of *g* relied on average historical growth rates in observable variables, such as dividends or earnings, or on the "sustainable growth" approach, which estimates *g* as the average book rate of return times the fraction of earnings retained within the firm. But it is highly unlikely that these historical averages over periods with widely varying rates of inflation and costs of capital will equal current growth rate expectations. Although there has been relatively less turmoil in the natural gas LDC line of business, there have been a number of mergers and acquisitions in the industry. In addition, the price of natural gas has increased dramatically and has been much more volatile lately. Although most of the sample companies have fuel cost adjustment clauses, the increased volatility of gas prices has increased the uncertainty of the industry's earnings going forward. This uncertainty is also reflected in the accounting restatements in recent years as well as more involvement in non-regulated or non-gas activities. Therefore, because the underlying forecasts of earnings growth rates are less

reliable, the DCF estimates for the gas LDC sample are less reliable than they have been in the recent past.

IV. COST OF CAPITAL ESTIMATES

A. COMPANY BACKGROUND

Q41. Please describe Northwestern's South Dakota gas distribution assets?

A41. Northwestern serves approximately 83,900 customers in 59 communities in South Dakota with approximately 2,200 miles of distribution gas mains. Purchase adjustment clauses contained in South Dakota and Nebraska tariffs allow the Company to reflect increases or decreases in gas supply and interstate transportation costs on a timely basis, so the Company is generally allowed to pass natural gas prices through to customers. The Company does not have a weather adjustment clause in South Dakota.

B. SAMPLE SELECTION

Q42. How did you select your sample of natural gas LDCs?

A42. The goal was to create a sample of companies whose primary business is as a regulated natural gas LDC with business risk generally similar to that of NorthWestern's SD gas distribution operations. I considered the universe of 23 companies classified by the *Value Line Investment Survey Plus* as natural gas LDCs, and added Vectren Corporation to my sample because it is often viewed as a natural gas LDC. Vectren is involved in both gas and electric distribution activities, but now obtains a substantially amount of income from its gas distribution operations.[9] This company is also covered by *Value Line*, but is classified as an Electric Utility due to its regulated electric operations.

[9] Vectren Utility Holdings, Inc.'s 2006 10K reveals that about 45.4 percent of its income is from regulated gas distribution activities and 45.5 percent from regulated electric operations. Because it has a substantial amount of regulated electric activity, I exclude it from the sub-sample of companies I consider to be the most

Companies were first eliminated if their operating regions were outside of the continental USA. I then applied my standard selection criteria to narrow the sample to those companies likely to have reliable cost of equity estimates. This resulted in a benchmark sample of nine companies which are outlined in Table 1. NorthWestern Corporation has been added to Table 1 for comparison purposes. Additional details on the sample selection process can be found in Appendix B.

representative of the natural gas distribution line of business and to be most free of characteristics that may bias cost of equity estimates (see below).

Table 1: Summary of the Sample's Characteristics

Company	Business Activities [1]	Revenue (2006) ($MM) [2]	Regulated Gas Assets [3]	Total Regulated Assets [4]	Market Cap. (2006) ($MM) [5]	S&P Bond Rating (2007) [6]	Beta [7]	Long-Term Growth Estimate [8]
Atmos Energy Corp	D P ST M	6,152	95.5%	95.5%	2,622	BBB	0.80	5.8%
The Laclede Group	D M OTH	1,998	89.5%	89.5%	753	A	0.85	3.0%
Northwest Natural Gas Co	D ST OTH	1,013	98.0%	98.0%	1,161	AA-	0.75	4.8%
Piedmont Natural Gas Co	D P M ST	1,925	97.2%	97.2%	2,022	A	0.80	5.0%
South Jersey Industries Inc	D P ST M EM OTH	931	78.1%	78.1%	981	BBB	0.70	6.3%
Southwest Gas Corp	D PCon	2,025	96.2%	96.2%	1,613	BBB-	0.85	5.5%
WGL Holdings Inc	D ST M EM OTH	2,638	99.8%	99.8%	1,603	AA-	0.85	3.7%
AGL Resources Inc	D M WH EInv	2,621	74.3%	74.3%	3,042	A-	0.95	4.5%
Vectren Corp	D IE EM	2,042	56.8%	93.9%	2,156	A-	0.95	2.2%
NorthWestern Corp†	**D P ST IE ET ED**	**1,133**	**31.8%**	**96.4%**	**1,276**	**BB+**	**na**	**na**

Notes and Sources:

† Statistics specific to NorthWestern Corp's South Dakota regulated gas operations are unavailable.

[1] D – Distribution P – Pipeline M – Natural Gas Marketing ST – Natural Gas Storage ET - Electric Transmission ED - Electric Distribution IE – Integrated Electric EM – Electric Marketing EInv – Energy Investments PCon – Pipeline Construction WH – Wholesale Activities OTH – Other (small component).
Sources: Company 10-K's for 2006 fiscal year.

[2] See Table MJV-2.

[3] Estimated share of total assets based on company 10-K

[4] Estimated share of total assets based on company 10-K

[5] See Table MJV-3 for calculation.

[6] See Workpaper #1 to Table MJV-11

[7] Value Line Investment Survey – see Workpaper # 1 to Table MJV-10

[8] See Table MJV-5.

1. The Gas LDC Sub-Sample

Q43. Why do you advocate summarizing the cost of capital estimates from a sub-sample of the gas LDC companies as well as for the full sample?

A43. Although the sample selection criteria are designed to screen out any company that has characteristics that may bias the cost of equity estimates, some of the sample companies are better than others. For example, although still investment grade, Southwest Gas is at the bottom of the scale of investment grade credit ratings and has a relatively low average equity thickness over the past five years – 40.1 percent compared to 61.8 percent for the remaining companies. Closer investigation shows that Southwest Gas's capital structure has been shifting rapidly toward equity over the last five years, with a level of about 50 percent over the most recent two years. This kind of instability suggests a potential reliability problem for estimates of this company's cost of capital. The Laclede Group's market cap of $688 million is a bit smaller than the average of the group, but with revenues of more than $1.5 billion, it is still a large company. In 2006, Piedmont Natural Gas restated some portions of its 2003-2005 financial reports. Although this can generally lead to less reliable estimates from the equity estimation models, the restatements were not caused by fraudulent activities but were due to an accounting error in the classification of hedging amounts. This type of reclassification would not be expected to change the value of the firm and prices did not show any erratic behavior in the period surrounding the announcement of this reclassification. A potential concern for the DCF estimates is that the industry has experienced a sustained level of merger and acquisition activity over the last five years that has implication for the stability of the industry necessary for the reliable application of the DCF model. Due to the concerns with the sample, I also report the results for a sub-sample of the gas LDC sample that consists of companies with no material data issues.

2. Relative Risk of the Sample and NorthWestern's SD Gas Utility

Q44. Could you please summarize the general characteristics of the companies in the sample and those of NorthWestern's SD operations?

A44. Yes. The sample consists of nine gas LDCs with generally similar risk characteristics to those of NorthWestern's SD operations. Like NorthWestern's SD operations, they all have fuel-cost adjustment clauses which either remove or significantly reduce their exposure to this risk. In their 10-Ks, all sample companies report that they engage in hedging activities to further reduce this risk. In addition, seven of the nine companies have weather adjustment clauses which NorthWestern does not have for its SD gas operations. NorthWestern is currently rated BB+ by S&P, and its S&P Business Profile is 5.[10]

[10] NorthWestern's SD gas operation does not have a separate S&P business profile rating.

Table 2: Risk Factors Summary for the Gas LDC Sample

Company Specific Risk Analysis

Company [1]	Fuel Cost Adjustment [2]	Weather Normalization [3]	Fuel Cost Hedging [4]	Storage Facilities [5]	S&P Business Profile [6]
Atmos Energy (GA, KS, KY, LA, TX, MS, TN, VA)	Yes	Yes	S & D	Yes	4
Laclede Group (MO)	Yes	NO	D	Yes	3
Northwest Natural Gas (WA, OR)	Yes	Yes	S & D	Yes	1
Piedmont Natural Gas (SC, TN, NC)	Yes	Yes	Yes	Yes	2
South Jersey Industries (NJ)	Yes	Incentive Prog.	D	Yes	na
Southwest Gas (AZ, NV, CA)	Yes	Yes	Fix & Var Price	Yes	3
WGL Holdings (DC, VA, MD)	Yes	Yes	D	No	3
AGL Resources (GA, FL, MD, NJ, TN, VA)	Yes	Yes	D	Yes	4
Vectren (IN, OH)	Yes	Yes	D	Yes	3
NorthWestern Corp† (MT, SD, NE)	**Yes**	**No**	**Fix & Var Price**	**Yes**	**5**

Notes and Sources: *All company 10-K sources are for the 2006 fiscal year.*

† Statistics specific to NorthWestern Corp's South Dakota regulated gas operations are unavailable.

[1] States of operation as reported in company 10-Ks for significant operations.

[2] Yes indicates a mechanism was reported in company 10-Ks, but different mechanisms exist by company and by state. If a mechanism exists, it generally allows for 100% recovery of prudent costs.

[3] Yes indicates a mechanism was reported in company 10-Ks, but different mechanisms exist by company and by state. South Jersey Industries reports participation in a Conservation incentive program.

[4] S - Storage D - Financial Derivatives Fix & Var Price - Price formulas are used to help mitigate weather risks. As reported in company 10-K's

[5] Information from company 10-Ks.

[6] S&P Business Profile as published on April 28, 2006 in S&P's *U.S. Utility and Power Ranking List*

Q45. How does the risk of the sample compare to the risk of NorthWestern's SD gas distribution operations?

A45. In general, the benchmark sample has comparable business risk to NorthWestern's SD gas operations. NorthWestern has a higher business risk profile than the sample, but that is for the company as a whole, and its unsecured credit rating is lower than the sample. These factors suggest that it is conservative to view the business risk of the sample as comparable to NorthWestern's SD gas operations.

C. COST OF CAPITAL AND COST OF EQUITY ESTIMATES

Q46. Please summarize the results of the risk positioning and DCF methodologies in estimating the average cost of capital for the benchmark sample and the implications for NorthWestern's SD operations' cost of equity?

A46. Table 3 below summarizes the risk positioning and DCF cost of equity estimates and the resulting sample average ATWACC estimates for the benchmark gas LDC sample, along with the implied cost of equity for NorthWestern's SD operations at a regulatory capital structure with 51.5 percent equity.

Q47. How did you determine a representative tax rate to use in your cost of capital estimation?

A47. South Dakota does not presently levy state corporate incomes taxes so I use the current federal corporate tax rate of 35 percent.

Q48. How were the cost of equity estimates derived from the risk positioning approach for the benchmark sample?

A48. I derive two sets of risk-positioning estimates, one using long-term forecasts of the risk-free rate and market risk premium, and one using short-term forecasts. The long-term

Table 3: Cost of Equity Estimates for NorthWestern's SD Gas Operations

Regulatory Capital Structure: *51.5% Equity / 48.5% Debt* *2007 Tax Rate:* *35%*

	METHODS								
	RISK POSITIONING (using Long-Term Risk-Free Rate)			RISK POSITIONING (using Short-Term Risk-Free Rate)				DCF	
	CAPM	α = 0.5%	α = 1.5%	CAPM	α = 1%	α = 2%	α = 3%	Simple	Multi
[1] **Gas LDC Sample***									
Cost of Equity	11.1%	11.2%	11.4%	11.3%	11.5%	11.7%	11.9%	9.1%	9.7%
Average ATWACC	7.7%	7.7%	7.8%	7.7%	7.8%	7.9%	8.0%	6.6%	6.9%
[2] **Sub-sample* Average**									
Cost of Equity	11.5%	11.6%	11.8%	11.6%	11.9%	12.1%	12.3%	9.4%	10.3%
Average ATWACC	7.8%	7.9%	8.0%	7.9%	8.0%	8.2%	8.3%	6.8%	7.2%

[3] Risk Positioning Security Market Line Parameters:

Short-Term		*Long-Term*		Multi-Stage DCF Parameter:	
Risk Free Rate Estimate:	3.8%	Risk Free Rate Estimate:	4.9%	GDP	
Estimated Market Risk Premium:	8.0%	Estimated Market Risk Prem	6.5%	Growth	5.1%

Sources and Notes:

* For the MJV US Gas LDC Sample , Risk Positioning data from Table No. MJV-12 and DCF data from Table No. MJV-6.

[1] , [2] The Gas LDC sample consists of Atmos Energy Corp, Laclede Group Inc, Northwest Natural Gas Co, Piedmont Natural Gas Co, South Jersey Industries Inc, Southwest Gas Corp, WGL Holdings Inc, AGL Resources Inc, and Vectren Corp. The sub-sample includes only Laclede Group Inc, Northwest Natural Gas Co, Piedmont Natural Gas Co, and WGL Holdings Inc.

[3] See Testimony, Section IV.C for details on Risk Positioning and DCF parameters used in estimates.

risk-free interest rate forecast is 4.9 percent and the corresponding estimated market risk premium is 6.5 percent. For the short-term risk-free rate, the corresponding values are 3.8 percent and 8.0 percent respectively.

The two risk positioning models (CAPM and ECAPM) are estimated for each horizon, with the long-term estimates utilizing two values of the ECAPM parameter (0.5% and 1.5%), and the short-term estimates utilizing three values of the ECAPM parameter (1%, 2%, and 3%). The risk positioning cost of equity estimates for the gas LDC sample are displayed in Table No. MJV-10, Panels A and B. The cost of equity estimates are subsequently combined with each company's estimated cost of debt and preferred equity to calculate the company's ATWACC using each company's market value capital structure. These calculations and the resulting sample average ATWACC for both the full sample and sub-sample are presented in Table No. MJV-11. Panels A-C of Table No. MJV-11 rely on the cost of equity estimates from the long-term version of the model,

while Panels D-G utilize the estimates from the short-term version of the model. The sample and sub-sample average ATWACC and corresponding cost of equity estimates at NorthWestern's 51.5 percent equity capital structure for each cost of equity estimation methods are displayed in Table No. MJV-12, Panels A and B. These results are summarized in Table 3 above.

Q49. What are the DCF estimates for the gas LDC sample?

A49. For each sample company, cost-of-equity estimates are calculated for the two versions of the DCF method. The DCF estimates for each company's cost of equity are displayed in Table No. MJV-6, Panel A (simple DCF) and Panel B (multistage DCF). The sample and sub-sample average ATWACCs for each method are calculated in Table No. MJV-7, Panels A and B, and are used in Table No. MJV-8, Panels A and B, to derive the resulting return on equity at NorthWestern's SD operations 51.5 percent equity capital structure. These results are summarized in Table 3 above, along with the sample and sub-sample average ATWACC numbers. Table 3 shows a cost of equity of 9.1 percent when using the simple DCF model but 9.7 percent from the multistage DCF model for the full sample. The corresponding results for the sub-sample are somewhat higher at 9.4 percent for the simple DCF and 10.3 percent for the multistage DCF. As discussed above, the sub-sample is likely to be a more reliable measure of the cost of capital for this industry. The industry has had more mergers and acquisition in recent years, and the companies in the industry have been more heavily involved in non-regulated activities such as gas marketing which has affected their earnings growth estimates. The variation in the estimates from the simple DCF compared to the multistage model, however, likely reflect the unique events in the industry and suggest that the simple DCF estimates are less reliable than the risk positioning estimates at this time.

V. CONCLUSIONS

Q50. What conclusions do you draw from the DCF estimates regarding the cost of equity for NorthWestern's SD gas operations?

A50. A review of Table No. MJV-6, Panel A shows that the simple DCF cost of equity estimates are highly variable and have a range of 3.6 percent, from a low of 6.5 percent for Vectren Corp. to a high of 10.1 percent for Atmos Energy Corp. The multistage estimates are much less variable, but still have a relatively wide range of 2.4 percent, from a low of 7.4 percent for Southwest Gas Corp. to a high of 9.8 percent for The Laclede Group Inc. The multistage DCF model adjusts for the fact that the earnings forecasts available for each company span only a five-year period, and in my view, the multistage DCF model provides more reliable results. Therefore, the most reliable of the DCF results for NorthWestern's SD gas operations is the 10.3 percent estimate for the multistage version of the DCF for the sub-sample. However, in my opinion, the variability of the DCF results demonstrates that the conditions for the completely reliable implementation of the DCF model do not obtain for the sample at this time. I therefore place little weight on the DCF results.

Q51. Do you have any general comments regarding the results of the risk positioning models?

A51. The estimates based upon the short-term risk-free rate are higher on average than the estimates using the long-term risk-free rate, partially because the yield curve is currently flat or slightly inverted, i.e., the yield on short-term Treasury bills exceeds the yield on long-term Treasury bonds. Table No. MJV-9, Panel A shows that 30-day Treasury bills are currently yielding 5.16 percent compared to only 4.90 percent for long-term Treasury bonds. The calculations displayed in Panel B, Workpaper #1 to Table No. MJV-9 show that the yield on long-term Treasury bonds has averaged about 150 basis points more than the yield on 30-day Treasury bills over the last 80 years. The increased yield on short-term Treasury bills reflects the efforts by the Federal Reserve ("Fed") to prevent the rate of inflation from increasing any further. If the Fed believes that inflation is not yet

contained, short-term rates are likely to increase further. On the other hand, if inflation is judged to be under control, short-term rates may decline as fears of recession replace those of inflation. Because of this uncertainty, I believe that the estimates using the long-term risk-free rate are more reliable at this time.

Q52. Please describe the results from the long-term version of the risk positioning model.

A52. Of those results, the CAPM values deserve the least weight, because this method does not adjust for the empirical finding that the cost of capital is less sensitive to beta than predicted by the CAPM (which my testimony considers by using the ECAPM). Conversely, the ECAPM numbers deserve the most weight, because this method adjusts for the empirical findings.

For the gas LDC sample, the cost of equity estimates using the long-term risk free rate and adjusted for a capital structure with a 51.5 percent equity ratio range from 11.1 to 11.4 percent for the full sample and from 11.5 to 11.8 for the sub-sample. The short-term estimates are 20 to 50 basis points higher on average than the long-term ones, ranging from 11.3 to 11.9 percent in the full-sample and 11.6 to 12.3 percent for the sub-sample. A review of the results in Panels A and B of Table No. MJV-10 also shows that the estimates are much less variable than for the DCF model. For example, considering the long-term ECAPM (0.5%) results in Panel A, one sees that the range is only 1.5 percent, from a low of 9.6 percent to a high of 11.1 percent with no significant outliers, whereas the range for the DCF model are 6.5 to 10.1 percent (simple DCF) and 7.4 to 9.8 percent (multistage DCF). (See Table No. MJV-6, Panels A and B.)

Q53. Given the results of the two models, what is your conclusion regarding the cost of equity for NorthWestern's SD gas distribution assets?

A53. I believe that NorthWestern's SD operations are of comparable business risk to the sample so the sample average cost of equity estimates adjusted for differences in finance risk represent a good estimate of the cost of equity for NorthWestern's SD operations. I make no adjustment to the cost of equity estimates for business risk differences between

the sample and NorthWestern. Focusing on the middle values in Table 3 for the gas LDC sample, the results from the long-term risk positioning model (ECAPM with $\alpha = 0.5$), the average ATWACC for the full sample is 7.7 percent, with a corresponding cost of equity estimate of 11.3 percent for the full sample and 7.9 and 11.6 percent for the sub-sample. Although I do not give much weight to the DCF estimates, I note that those estimates for the more reliable multistage model are lower at 10.3 percent for the sub-sample.

Based upon consideration of all of the sample evidence, the best point estimate for the cost of equity for NorthWestern's SD operations is 11¼ percent. Given the results of the cost of capital estimation models, this is a conservation estimate because this value is about ½ percent lower than the average risk positioning results for the sub-sample when using the long-term risk-free rate, but it is also about 1 percent higher than the multistage DCF estimates. As noted earlier, I do not believe that the DCF estimates are completely reliable for the industry at this time. In addition, the point estimate is about ½ percent lower than the results from the short-term version of the risk positioning model for the full sample. However, it is more correct to say that the estimates from the sample provide a range of values from a low of 10¾ percent to a high of 11¾ percent.

Q54. Does this conclude your testimony?

A54. Yes.

APPENDIX A

RESUMÉ

MICHAEL J. VILBERT **PRINCIPAL**

Michael Vilbert is an expert in cost of capital, financial planning and valuation who has advised clients on these matters in the context of a wide variety of investment and regulatory decisions. He received his Ph.D. in Financial Economics from the Wharton School of the University of Pennsylvania, an MBA from the University of Utah, an M.S. from the Fletcher School of Law and Diplomacy, Tufts University, and a B.S. degree from the United States Air Force Academy. He joined The Brattle Group in 1994 after a career as an Air Force officer, where he served as a fighter pilot, intelligence officer, and professor of finance at the Air Force Academy.

REPRESENTATIVE CONSULTING EXPERIENCE

- In a securities fraud case, Dr. Vilbert designed and created a model to value the private placement stock of a drug store chain as if there had been full disclosure of the actual financial condition of the firm. He analyzed key financial data and security analyst's reports regarding the future of the industry in order to recreate pro forma balance sheet and income statements under a variety of scenarios designed to establish the value of the firm.

- For pharmaceutical companies rebutting price-fixing claims in antitrust litigation, Dr. Vilbert was a member of a team which prepared a comprehensive analysis of industry profitability. The analysis replicated, tested and critiqued the major recent analyses of drug costs, risks and returns. The analyses helped develop expert witness testimony to rebut allegations of excess profits.

- For an independent electric power producer, Dr. Vilbert created a model that analyzed the reasonableness of rates and costs filed by a natural gas pipeline. The model not only duplicated the pipeline's rates, but it also allowed simulation of a variety of "what if" scenarios associated with cost recovery under alternative time patterns and joint cost allocations. Results of the analysis were adopted by the intervenor group for negotiation with the pipeline.

- For the CFO of an electric utility, Dr. Vilbert developed the valuation model used to support a stranded cost estimation filing. The case involved a conflict between two utilities over the responsibility for out-of-market costs associated with a power purchase

contract between them. In addition, he advised and analyzed cost recovery mechanisms that would allow full recovery of the stranded costs while providing a rate reduction for the company's rate payers.

- Dr. Vilbert has assisted in the preparation of testimony and the development of estimation models in numerous cost of capital cases for natural gas pipeline, water utility and electric utility clients before the Federal Energy Regulatory Commission ("FERC") and state regulatory commissions. These have spanned standard estimation techniques (e.g., Discounted Cash Flow and Risk Positioning models). He has also developed and applied more advanced models specific to the industries or lines of business in question, e.g., based on the structure and risk characteristics of cash flows, or based on multi-factor models that better characterize regulated industries.

- Dr. Vilbert has valued several large, residual oil-fired generating stations to evaluate the possible conversion to natural gas or other fuels. In these analyses, the expected pre- and post-conversion station values were computed using a range of market electricity and fuel cost conditions.

- For a major western electric utility, Dr. Vilbert helped prepare testimony that analyzed the prudence of QF contract enforcement. The testimony demonstrated that the utility had not been compensated in its allowed cost of capital for major disallowances stemming from QF contract management.

- Dr. Vilbert analyzed the economic need for a major natural gas pipeline expansion to the Midwest. This involved evaluating forecasts of natural gas use in various regions of the United States and the effect of additional supplies on the pattern of natural gas pipeline use. The analysis was used to justify the expansion before the FERC and the National Energy Board of Canada.

- For a Public Utility Commission in the Northeast, Dr. Vilbert analyzed the auction of an electric utilities purchase power agreements to determine whether the outcome of the auction was in the ratepayers' interest. The work involved the analysis of the auction procedures as well as the benefits to ratepayers of transferring risk of the PPA payments to the buyer.

- Dr. Vilbert led a team tasked to determine whether bridge tolls were "just and reasonable" for a non-profit port authority. Determination of the cost of service for the authority required estimation of the value of the authority's assets using the trended original cost methodology as well as evaluation of the operations and maintenance budgets. Investment costs, bridge traffic information and inflation indices covering a 75 year period were utilized to estimate the value of four bridges and a passenger transit line valued in excess of $1 billion.

- Dr. Vilbert helped a recently privatized railroad in Brazil develop an estimate of its revenue requirements, including a determination of the railroad's cost of capital. He also helped evaluate alternative rate structures designed to provide economic incentives to shippers as well as to the railroad for improved service. This involved the explanation and analysis of the contribution margin of numerous shipper products, improved cost analysis and evaluation of bottlenecks in the system.

- For a utility in the Southeast, Dr. Vilbert quantified the company's stranded costs under several legislative electric restructuring scenarios. This involved the evaluation of all of the company's fossil and nuclear generating units, its contracts with Qualifying Facilities and the prudence of those QF contracts. He provided analysis concerning the impact of securitizing the company's stranded costs as a means of reducing the cost to the rate payers and several alternative designs for recovering stranded costs.

- For a recently privatized electric utility in Australia, Dr. Vilbert evaluated the proposed regulatory scheme of the Australian Competition and Consumer Commission for the company's electric transmission system. The evaluation highlighted the elements of the proposed regulation which would impose uncompensated asymmetric risks on the company and the need to either eliminate the asymmetry in risk or provide additional compensation so that the company could expect to earn its cost of capital.

- For an electric utility in the Southwest, Dr. Vilbert helped design and create a model to estimate the stranded costs of the company's portfolio of Qualifying Facilities and Power Purchase contracts. This exercise was complicated by the many variations in the provisions of the contracts that required modeling in order to capture the effect of changes in either the performance of the plants or in the estimated market price of electricity.

- Dr. Vilbert helped prepare the testimony responding to a FERC request for further comments on the appropriate return on equity for electric transmission facilities. In addition, Dr. Vilbert was a member of the team that made a presentation to the FERC staff on the expected risks of the unbundled electric transmission line of business.

- Dr. Vilbert and Mr. Frank C. Graves, also of The Brattle Group, prepared testimony evaluating an innovative Canadian stranded cost recovery procedure involving the auctioning of the output of the province's electric generation plants instead of the plants themselves. The evaluation required the analysis of the terms and conditions of the long-term contracts specifying the revenue requirements of the plants for their entire forecasted remaining economic life and required an estimate of the cost of capital for the plant owners under this new stranded cost recovery concept.

- Dr. Vilbert served as the neutral arbitrator for the valuation of a petroleum products tanker. The valuation required analysis of the Jones Act tanker market and the supply and demand balance of the available U.S. constructed tanker fleet.

PRESENTATIONS

"Utility Distribution Cost of Capital," *EEI Electric Rates Advanced Course*, Bloomington, IN, 2002, 2003.

"Issues for Cost of Capital Estimation," with Bente Villadsen, *Edison Electric Institute Cost of Capital Conference*, Chicago, IL, February 2004.

"Not Your Father's Rate of Return Methodology," *Utility Commissioners/Wall Street Dialogue*, NY, May 2004.

"Current Issues in Cost of Capital," *EEI Electric Rates Advanced Course*, Madison, WI, July 2004.

"Cost of Capital Estimation: Issues and Answers," *MidAmerican Regulatory Finance Conference*, Des Moines, IA, April 7, 2005.

"Cost of Capital - Explaining to the Commission - Different ROEs for Different Parts of the Business," *EEI Economic Regulation & Competition Analysts Meeting*, May 2, 2005.

"Current Issues in Cost of Capital," with Bente Villadsen, *EEI Electric Rates Advanced Course*, Madison, WI, 2005.

"Current Issues in Estimating the Cost of Capital," *EEI Electric Rates Advanced Course*, Madison, WI, 2006.

"Revisiting the Development of Proxy Groups and Relative Risk Analysis," Society of Utility and Regulatory Financial Analysts: 39th Financial Forum, April 2007.

ARTICLES

"Flaws in the Proposed IRS Rule to Reinstate Amortization of Deferred Tax Balances Associated with Generation Assets Reorganized in Industry Restructuring," by Frank C. Graves and Michael J. Vilbert, white paper for *Edison Electric Institute* (EEI) to the IRS, July 25, 2003.

"The Effect of Debt on the Cost of Equity in a Regulatory Setting," by A. Lawrence Kolbe, Michael J. Vilbert, Bente Villadsen and The Brattle Group, *Edison Electric Institute*, April 2005.

"Measuring Return on Equity Correctly: Why current estimation models set allowed ROE too low," by A. Lawrence Kolbe, Michael J. Vilbert and Bente Villadsen, *Public Utilities Fortnightly*, August 2005.

"Understanding Debt Imputation Issues," by Michael J. Vilbert, Bente Villadsen and Joseph B. Wharton, *Edison Electric Institute*, forthcoming May 2007.

TESTIMONY

Direct and rebuttal testimony before the Alberta Energy and Utilities Board on behalf of TransAlta Utilities Corporation in the matter of an application for approval of its 1999 and 2000 generation tariff, transmission tariff, and distribution revenue requirement, October 1998.

Direct testimony before the Federal Energy Regulatory Commission on behalf of Central Maine Power in Docket No. ER00-982-000, December 1999.

Direct testimony before the Alberta Energy and Utilities Board on behalf of TransAlta Utilities Corporation for approval of its 2001 transmission tariff, May 2000.

Direct testimony before the Federal Energy Regulatory Commission on behalf of Mississippi River Transmission Corporation in Docket No. RP01-292-000, March 2001.

Written evidence, rebuttal, reply and further reply before the National Energy Board in the matter of an application by TransCanada PipeLines Limited for orders pursuant to Part I and Part IV of the *National Energy Board Act*, Order AO-1-RH-4-2001, May 2001, Nov. 2001, Feb. 2002.

Written evidence before the Public Utility Board on behalf of Newfoundland & Labrador Hydro - Rate Hearings, October 2001.

Direct testimony (with Bill Lindsay) before the Federal Energy Regulatory Commission on behalf of DTE East China, LLC in Docket No. ER02-1599-000, April 2002.

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Direct and rebuttal testimony before the Public Service Commission of West Virginia, on Cost of Capital for West Virginia-American Water Company, Case No 04-0373-W-42T, May 2004.

Direct and rebuttal testimony before the Federal Energy Regulatory Commission, on Energy Allocation of Debt Cost for Incremental Shipping Rates for Edison Mission Energy, Docket No. RP04-274-000, December 2004 and March 2005.

Direct testimony before the Arizona Corporation Commission, Cost of Capital for Paradise Valley Water Company, a subsidiary of Arizona-American Water Company, Docket No. WS-01303A-05, May 2005.

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and 9 Generating Plants Operating Under an Reliability Must Run Contract, August 2006 and September 2006.

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Direct and rebuttal testimony before the Tennessee Regulatory Authority, Case No. 06-00290, on behalf of Tennessee American Water Company, on the Cost of Capital, November, 2006 and April 2007.

APPENDIX B

SELECTING THE GAS LDC SAMPLE AND USE OF MARKET VALUES

I. SAMPLE SELECTION AND THE SAMPLE'S CHARACTERISTICS 1

II. MARKET VALUE CAPITAL STRUCTURE, COSTS OF DEBT & COSTS OF PREFERRED EQUITY 5

I. SAMPLE SELECTION AND THE SAMPLE'S CHARACTERISTICS

Q1. How do you select the U.S. gas LDC sample?

A1. To select this sample, I started with the universe of publicly traded natural gas distribution utilities covered by *Value Line Investment Survey Plus*. This resulted in an initial group of 23 companies, to which I added Vectren Corporation because it is often viewed as a natural gas LDC. Vectren is involved in both gas and electric distribution activities, but more of its regulated assets are invested in the gas distribution operations.[1] This company is also covered by *Value Line*, but is classified as an Electric Utility due to its regulated electric operations.[2] I then eliminated companies by applying additional selection criteria designed to remove companies with unique circumstances which may bias the cost of capital estimates. The final sample consists of nine gas LDCs, from which I also consider a sub-sample of four companies with the fewest reliability concerns. Table No. MJV-2 reports the estimated share of total assets for each company devoted to regulated activities in 2006.

Q2. What are the other selection criteria you applied?

A2. Companies were first eliminated if their operating regions were outside of the continental USA. I then applied my standard selection criteria to narrow the sample to those companies likely to have reliable cost of equity estimates. Specifically, I eliminated all companies whose S&P bond rating as reported by Bloomberg was not investment grade, i.e., less than BBB-. To guard against measurement bias caused by "thin trading," I also restricted the sample to companies with total operating revenues greater than $300 million (USD) in 2006 as reported by Bloomberg.[3] Companies that had a large merger

[1] Vectren Utility Holdings, Inc.'s 2006 10K reveals that about 57 percent of its assets are regulated natural gas distribution assets and 37 percent are regulated electric assets. Because it has a substantial amount of regulated electric activity, I exclude it from the sub-sample of companies I consider to be the most representative of the natural gas distribution line of business and to be most free of characteristics that may bias cost of equity estimates.

[2] The 24 companies are from *Value Line Investment Survey Plus*, reviewed March 9, 2007.

[3] Data was reviewed during the first week of April 2007.

during the period January 2004 to April 2007 (i.e., just over the past three years) were also generally removed from the sample, although two companies which would otherwise not survive the process were included since their primary merger activity occurred in 2004. These two companies were Atmos Energy and AGL Resources, and they were subsequently excluded from a sub-sample of *cleanest* companies I also considered as part of my analysis. The screen for merger activity was primarily done by scanning each company's news history on Bloomberg and a search of company web pages.[4]

Finally, I required that the companies have historical data available from Bloomberg for the relevant period and had no dividend cuts or restatement of financial statements in the past five years, since the latter can be signs of financial distress.

Q3. Please elaborate on how companies were eliminated from your sample?

A3. Six companies were immediately eliminated due to a lack of long-term earnings per share ("EPS") growth rate estimates from Bloomberg. Of these, five also experienced dividend cuts and had either no bond rating or were rated less than BBB-. From the remaining companies, three were not rated and one had a rating of B+. Keyspan Corp. was eliminated for high levels of merger and acquisition activity ("M&A") and recent dividend cuts. UGI Corp. was removed for high levels of merger activity, and because it primarily sells propane which is not regulated. Southern Union was eliminated for its unusually high levels of M&A activity. Nicor Inc. was eliminated from the sample because it restated earnings for 1999-2001 and because it settled regulatory compliance issues with the Federal Energy Regulatory Commission ("FERC") in 2003.[5] Finally, New Jersey Resources was eliminated because of a very high percentage of revenues from other comprehensive income.

[4] Company web pages were searched in December 2003 for merger and acquisition activities during the 2001-2003 period, in July 2006 for merger and acquisition activities during the period 2004 through July 2006, and in December 2006 for the period August through December 2006.

[5] Nicor announced on October 29, 2002 that its earnings for 1999-2001 would be revised downwards by $15-35 million. March 4, 2003, Nicor released its restated earnings for 1999-2001 along with 2002 earnings.

Q4. Are there any issues with the remaining companies in your sample?

A4. Perhaps. Several companies in the sample engage in natural gas marketing activities (see Table 2 in the MJV Direct Testimony). [6] Given the turmoil of the energy trading markets, the companies' cost of capital estimates may be more volatile than those of more stable companies. Although still investment grade, Southwest Gas is at the bottom of the scale of investment grade credit ratings and has a relatively low average equity thickness over the past five years – 40.1 percent compared to 61.8 percent for the remaining companies. Closer investigation shows that Southwest Gas's capital structure has been shifting rapidly towards equity over the last five years, with a level of about 50 percent over the most recent two years. These factors suggest a potential reliability problem for estimates of this company's cost of capital at this time. The Laclede Group's market cap of $688 million is a bit smaller than the average of the group, but with revenues of more than $1.5 billion, it is still a large company. In 2006, Piedmont Natural Gas restated some portions of its 2003-2005 financial reports. Although this can generally lead to less reliable estimates from the equity estimation models, the restatements were not caused by fraudulent activities but were due to an accounting error in the classification of hedging amounts. This type of reclassification would not be expected to change the value of the firm and prices did not show any erratic behavior in the period surrounding the announcement of this reclassification. A potential concern for the DCF estimates is that the industry has experienced a sustained level of merger and acquisition activity over the last five years that has implication for the stability of the industry necessary for the reliable application of the DCF model. Due to the concerns with the sample, I also report the results for a sub-sample of the gas LDC sample that consists of companies with no material data issues.

[6] The percentages of regulated assets calculated for the samples are only estimates due to data reporting limitations.

Q5. Please compare the relative risk of the sample with respect to NorthWestern's SD operations.

A5. The sample consists of nine gas LDCs with generally similar risk characteristics to those of NorthWestern's SD gas operations (see Table 3 in the MJV Direct Testimony). Like NorthWestern's SD operations, they all have fuel-cost adjustment clauses which significantly reduce exposure to this risk. In their 10-Ks, all sample companies report that they engage in hedging activities to further reduce this risk. In addition, seven of the nine companies have weather adjustment clauses, but NorthWestern's SD operations does not have such a provision. The sample evidences a high degree of regulated activities, with the estimated share of regulated assets averaging about 87 percent across the companies in 2006 (see Table No. MJV-2). For the sub-sample, the percentage of regulated assets is even higher at 96 percent. As mentioned earlier in my direct testimony, Vectren Corp. earns a significant amount of its income from regulated electric activities despite being very active in the regulated gas LDC line of business. As such, it may be considered to be of slightly different business risk than the rest of the sample.[7]

Q6. What companies are in the sub-sample?

A6. The sub-sample consists of Laclede Group, Northwest Natural Gas, Piedmont Natural Gas and WGL Holdings. Vectren was eliminated because of its mix of both regulated natural gas and regulated electric operations. Atmos Energy and AGL Resources were eliminated because of M&A activities in 2004, and South Jersey Industries was eliminated from the sub-sample because of the accounting restatements.

Q7. What do you conclude from the comparison of the sample companies to NorthWestern's SD operations?

A7. I believe that the sample of regulated gas utility companies has business risk that is comparable on average to that of NorthWestern's SD gas operations.

[7] Vectron was excluded from the sub-sample for this reason.

II. MARKET VALUE CAPITAL STRUCTURE, COSTS OF DEBT & COSTS OF PREFERRED EQUITY

Q8. What capital structure information do you require?

A8. For reasons discussed in my written evidence and explained in detail in Appendix E, explicit evaluation of the market-value capital structures of the sample companies versus the capital structure used for rate making is vital for a correct interpretation of the market evidence. This requires estimates of the market values of common and preferred equity and debt, and the current market costs of preferred equity and debt.

Q9. How do you calculate the market-value capital structures of the sample companies?

A9. I estimate the capital structure for each company by estimating the market values of common equity, preferred equity and debt from publicly available data. The calculations are in Panels A to I of Table No. MJV-3.

The market value of equity is straightforward: the price per share times the number of shares outstanding. The market value of preferred is set equal to its book value because the portion of the capital structure financed with preferred equity is generally small. The market value of debt is estimated at the book value of debt reported by Bloomberg plus or minus the difference in the estimated fair (market) value and book value of long-term debt as reported in the companies' 10-Ks or annual reports.[8]

For purposes of assessing financial risk to common shareholders, I add an adjustment for short-term debt to the debt portion of the capital structure. This adjustment is used only for those companies whose short-term (current) liabilities exceed their short-term (current) assets. I add an amount equal to the minimum of the difference between short-term liabilities and short-term assets or the amount of short-term debt. The reason for this adjustment is to recognize that when current liabilities exceed current

[8] See Panels A through I in Table No. MJV-3 for details. The adjustment relies on the difference between the companies' self-reported fair value of long-term debt and the carrying value of the same line items. This information was obtained from the sample companies' annual reports.

assets, a portion of the companies long-term assets are being financed, in effect, by short-term debt.

The market value capital structure is calculated to be consistent with the time period over which the cost of capital is estimated for the sample. The capital structure is determined over the historical period over which the relevant risk positioning parameters were determined and as of the date analysts provide forward looking growth forecasts. Therefore, Table No. MJV-3 reports the market value capital structure at year end for the years ending 2002 - 2006. The output of these tables is the market equity-to-value, debt-to-value, and preferred equity-to-value ratios. The overall cost of capital calculation for the gas LDC risk positioning estimates rely on the average of the market value capital structure computed for the years 2002 through 2006 as shown in Table No. MJV-4. The results in columns [1]-[3] are used in the DCF model calculations, while columns [4]-[6] are for the risk positioning models.

Q10. How do you estimate the current market cost of preferred equity?

A10. For companies with preferred equity, the cost of preferred equity for each company was set equal to the yield on an index of preferred stock as reported in the Mergent Bond Record corresponding to the S&P rating of that company's debt. The yields from Mergent were as of March 10, 2007. In general, the average amount of preferred equity in the sample companies' capital structures is very small and frequently zero. No company has more than two percent on average.[9]

Q11. How do you estimate the current market cost of debt?

A11. The market cost of debt for each company in the DCF analysis is the current yield reported by Bloomberg for a public utility company bond corresponding to the sample company's current debt rating as classified by S&P. The risk positioning analysis, on the other hand, uses the current yield of a utility bond that corresponds to the five-year average debt rating of each company so as to match consistently the horizon of

[9] NorthWestern itself has no preferred securities in its regulatory capital structure.

information used by *Value Line* to estimate company betas. The current S&P debt ratings were obtained from Bloomberg.

Bloomberg reports that as of March 27, 2007, the average yield on A-rated Public Utility bonds was 5.85 percent, and 6.11 percent on average for BBB-rated Public Utility bonds.[10] (See Panel C of Workpaper #1 to Table No. MJV-11 for the yields on utility bonds and preferred stock by credit rating.) Calculation of the after-tax cost of debt uses the current federal corporate marginal tax rate of 35 percent, since South Dakota does not currently collect corporate level taxes.

[10] All companies in the U.S. gas LDC samples are either BBB or A rated except WGL Holdings which is AA-rated. The yield on AA-rated utility bonds is calculated as the yield on A-rated utility bonds minus ½ times the spread between the yield on BBB and A rated utility bonds.

Table No. MJV-1

Index to Tables for the Written Evidence of Michael J. Vilbert

Table No. MJV-1	Table of Contents
Table No. MJV-2	Percentage of Regulated Assets for MJV US Gas LDC Sample
Table No. MJV-3	Market Value of the MJV US Gas LDC Sample
Table No. MJV-4	Capital Structure Summary of the MJV US Gas LDC Sample
Table No. MJV-5	Estimated Growth Rates of the MJV US Gas LDC Sample
Table No. MJV-6	DCF Cost of Equity of the MJV US Gas LDC Sample
Table No. MJV-7	Overall After Tax DCF Cost of Equity of the MJV US Gas LDC Sample
Table No. MJV-8	DCF Cost of Equity at Northwestern's Capital Structure
Table No. MJV-9	Normalized Risk-Free Rates
Table No. MJV-10	Risk Positioning Cost of Equity of the MJV US Gas LDC Sample
Table No. MJV-11	Overall Risk Positioning Cost of Equity of the MJV US Gas LDC Sample
Table No. MJV-12	Risk Positioning Cost of Equity at Northwestern's Capital Structure

Table No. MJV-2

MJV US Gas LDC Sample

Estimated Percentage of Regulated Assets in 2006

	Atmos Energy Corp	Laclede Group Inc/The *	Northwest Natural Gas Co *	Piedmont Natural Gas Co *	South Jersey Industries Inc	Southwest Gas Corp	WGL Holdings Inc *	AGL Resources Inc	Vectren Corp	Full Sample Average	Sub Sample Average
% Regulated Assets	95.5%	89.5%	98.0%	97.2%	78.1%	96.2%	99.8%	74.3%	93.9%	91.4%	96.1%

Sources and Notes:
Workpaper #1 to Table No. MJV-2, Panels A-I.
* Represents companies included in the subsample.

Table No. MJV-3

Market Value of the MJV US Gas LDC Sample

Panel A: Atmos Energy Corp

($MM)

	DCF Capital Structure	Year End, 2006	Year End, 2005	Year End, 2004	Year End, 2003	Year End, 2002	Notes
MARKET VALUE OF COMMON EQUITY							
Book Value, Common Shareholder's Equity	$1,648	$1,648	$1,602	$1,133	$858	$573	[a]
Shares Outstanding (in millions) - Common	82	82	81	63	51	42	[b]
Price per Share - Common	$32	$32	$26	$27	$25	$23	[c]
Market Value of Common Equity	$2,584	$2,622	$2,105	$1,714	$1,273	$974	[d] = [b] x [c].
Market to Book Value of Common Equity	1.57	1.59	1.31	1.51	1.48	1.70	[e] = [d] / [a].
MARKET VALUE OF PREFERRED EQUITY							
Book Value of Preferred Equity	$0	$0	$0	$0	$0	$0	[f]
Market Value of Preferred Equity	$0	$0	$0	$0	$0	$0	[g] = [f].
MARKET VALUE OF DEBT							
Current Assets	$1,118	$1,118	$1,264	$677	$458	$331	[h]
Current Liabilities	$1,119	$1,119	$1,113	$414	$442	$464	[i]
Current Portion of Long-Term Debt	$3	$3	$3	$6	$9	$22	[j]
Net Working Capital	$2	$2	$155	$269	$26	($111)	[k] = [h] - ([i] - [j]).
Notes Payable (Short-Term Debt)	$382	$382	$145	$0	$119	$146	[l]
Adjusted Short-Term Debt	$0	$0	$0	$0	$0	$111	[m] = See Sources and Notes.
Long-Term Debt	$2,180	$2,180	$2,183	$861	$863	$670	[n]
Book Value of Long-Term Debt	$2,184	$2,184	$2,186	$867	$872	$804	[o] = [n] + [j] + [m].
Adjustment to Book Value of Long-Term Debt	($126)	($126)	($105)	$75	$141	$105	[p] = See Sources and Notes.
Market Value of Long-Term Debt	$2,057	$2,057	$2,082	$943	$1,013	$909	[q] = [p] + [o].
Market Value of Debt	$2,057	$2,057	$2,082	$943	$1,013	$909	[r] = [q].
MARKET VALUE OF FIRM	$4,641	$4,679	$4,186	$2,657	$2,286	$1,882	[s] = [d] + [g] + [r].
DEBT AND EQUITY TO MARKET VALUE RATIOS							
Common Equity - Market Value Ratio	55.68%	56.04%	50.28%	64.52%	55.68%	51.73%	[t] = [d] / [s].
Preferred Equity - Market Value Ratio	-	-	-	-	-	-	[u] = [g] / [s].
Debt - Market Value Ratio	44.32%	43.96%	49.72%	35.48%	44.32%	48.27%	[v] = [r] / [s].

Sources and Notes:

Bloomberg as of April 09, 2007

Capital structure from Year End, 2006 calculated using respective balance sheet information and 5-day average prices ending at period end.

The DCF Capital structure is calculated using 4th Quarter, 2006 balance sheet information and a 15-trading day average closing price ending on 4/9/2007.

Prices are reported in Workpaper #1 to Table No. MJV-6.

[m] =

(1): 0 if [k] > 0.

(2): The absolute value of [k] if [k] < 0 and |[k]| < [l].

(3): [l] if [k] < 0 and |[k]| > [l].

[p]: Difference between fair value of Long-Term debt and carrying amount of Long-Term debt per company 10-K. Data for adjustment is from 2006 10-K.

Table No. MJV-3

Market Value of the MJV US Gas LDC Sample

Panel B: Laclede Group Inc/The

($MM)

	DCF Capital Structure	Year End, 2006	Year End, 2005	Year End, 2004	Year End, 2003	Year End, 2002	Notes
MARKET VALUE OF COMMON EQUITY							
Book Value, Common Shareholder's Equity	$403	$403	$367	$356	$299	$286	[a]
Shares Outstanding (in millions) - Common	21	21	21	21	19	19	[b]
Price per Share - Common	$31	$35	$29	$31	$29	$24	[c]
Market Value of Common Equity	$666	$753	$624	$654	$560	$458	[d] = [b] x [c].
Market to Book Value of Common Equity	1.65	1.87	1.70	1.84	1.87	1.60	[e] = [d] / [a].
MARKET VALUE OF PREFERRED EQUITY							
Book Value of Preferred Equity	$1	$1	$1	$1	$1	$1	[f]
Market Value of Preferred Equity	$1	$1	$1	$1	$1	$1	[g] = [f].
MARKET VALUE OF DEBT							
Current Assets	$460	$460	$424	$338	$288	$222	[h]
Current Liabilities	$431	$431	$366	$263	$366	$337	[i]
Current Portion of Long-Term Debt	$0	$0	$40	$25	$0	$25	[j]
Net Working Capital	$29	$29	$99	$100	($78)	($89)	[k] = [h] - ([i] - [j]).
Notes Payable (Short-Term Debt)	$207	$207	$71	$71	$218	$162	[l]
Adjusted Short-Term Debt	$0	$0	$0	$0	$78	$89	[m] = See Sources and Notes.
Long-Term Debt	$395	$395	$340	$380	$305	$260	[n]
Book Value of Long-Term Debt	$396	$396	$380	$405	$383	$374	[o] = [n] + [j] + [m].
Adjustment to Book Value of Long-Term Debt	$18	$18	$31	$35	$31	$31	[p] = See Sources and Notes.
Market Value of Long-Term Debt	$414	$414	$412	$440	$414	$405	[q] = [p] + [o].
Market Value of Debt	$414	$414	$412	$440	$414	$405	[r] = [q].
MARKET VALUE OF FIRM	$1,081	$1,168	$1,037	$1,096	$975	$864	[s] = [d] + [g] + [r].
DEBT AND EQUITY TO MARKET VALUE RATIOS							
Common Equity - Market Value Ratio	61.62%	64.48%	60.21%	59.72%	57.39%	53.01%	[t] = [d] / [s].
Preferred Equity - Market Value Ratio	0.07%	0.07%	0.09%	0.10%	0.13%	0.15%	[u] = [g] / [s].
Debt - Market Value Ratio	38.31%	35.45%	39.70%	40.18%	42.48%	46.85%	[v] = [r] / [s].

Sources and Notes:
Bloomberg as of April 09, 2007
Capital structure from Year End, 2006 calculated using respective balance sheet information and 5-day average prices ending at period end.
The DCF Capital structure is calculated using 4th Quarter, 2006 balance sheet information and a 15-trading day average closing price ending on 4/9/2007.
Prices are reported in Workpaper #1 to Table No. MJV-6.
[m] =
(1): 0 if [k] > 0.
(2): The absolute value of [k] if [k] < 0 and |[k]| < [l].
(3): [l] if [k] < 0 and |[k]| > [l].
[p]: Difference between fair value of Long-Term debt and carrying amount of Long-Term debt per company 10-K. Data for adjustment is from 2006 10-K.

Table No. MJV-3

Market Value of the MJV US Gas LDC Sample

Panel C: Northwest Natural Gas Co

($MM)

	DCF Capital Structure	Year End, 2006	Year End, 2005	Year End, 2004	Year End, 2003	Year End, 2002	Notes
MARKET VALUE OF COMMON EQUITY							
Book Value, Common Shareholder's Equity	$600	$600	$587	$569	$506	$482	[a]
Shares Outstanding (in millions) - Common	27	27	28	27	26	26	[b]
Price per Share - Common	$46	$43	$35	$34	$31	$27	[c]
Market Value of Common Equity	$1,252	$1,161	$953	$910	$806	$695	[d] = [b] x [c].
Market to Book Value of Common Equity	2.09	1.94	1.62	1.60	1.59	1.44	[e] = [d] / [a].
MARKET VALUE OF PREFERRED EQUITY							
Book Value of Preferred Equity	$0	$0	$0	$0	$0	$8	[f]
Market Value of Preferred Equity	$0	$0	$0	$0	$0	$8	[g] = [f].
MARKET VALUE OF DEBT							
Current Assets	$309	$309	$324	$237	$200	$193	[h]
Current Liabilities	$339	$339	$327	$267	$214	$205	[i]
Current Portion of Long-Term Debt	$30	$30	$8	$15	$0	$20	[j]
Net Working Capital	($1)	($1)	$5	($15)	($15)	$8	[k] = [h] - ([i] - [j]).
Notes Payable (Short-Term Debt)	$100	$100	$127	$103	$85	$70	[l]
Adjusted Short-Term Debt	$1	$1	$0	$15	$15	$0	[m] = See Sources and Notes.
Long-Term Debt	$517	$517	$522	$484	$500	$446	[n]
Book Value of Long-Term Debt	$548	$548	$530	$514	$515	$466	[o] = [n] + [j] + [m].
Adjustment to Book Value of Long-Term Debt	$49	$49	$50	$69	$62	$53	[p] = See Sources and Notes.
Market Value of Long-Term Debt	$597	$597	$579	$583	$578	$518	[q] = [p] + [o].
Market Value of Debt	$597	$597	$579	$583	$578	$518	[r] = [q].
MARKET VALUE OF FIRM	$1,849	$1,757	$1,532	$1,493	$1,383	$1,222	[s] = [d] + [g] + [r].
DEBT AND EQUITY TO MARKET VALUE RATIOS							
Common Equity - Market Value Ratio	67.73%	66.04%	62.18%	60.94%	58.25%	56.90%	[t] = [d] / [s].
Preferred Equity - Market Value Ratio	-	-	-	-	-	0.67%	[u] = [g] / [s].
Debt - Market Value Ratio	32.27%	33.96%	37.82%	39.06%	41.75%	42.42%	[v] = [r] / [s].

Sources and Notes:

Bloomberg as of April 09, 2007

Capital structure from Year End, 2006 calculated using respective balance sheet information and 5-day average prices ending at period end.

The DCF Capital structure is calculated using 4th Quarter, 2006 balance sheet information and a 15-trading day average closing price ending on 4/9/2007.

Prices are reported in Workpaper #1 to Table No. MJV-6.

[m] =

(1): 0 if [k] > 0.

(2): The absolute value of [k] if [k] < 0 and |[k]| < [l].

(3): [l] if [k] < 0 and |[k]| > [l].

[p]: Difference between fair value of Long-Term debt and carrying amount of Long-Term debt per company 10-K. Data for adjustment is from 2006 10-K.

Table No. MJV-3

Market Value of the MJV US Gas LDC Sample

Panel D: Piedmont Natural Gas Co

($MM)

	DCF Capital Structure	Year End, 2006	Year End, 2005	Year End, 2004	Year End, 2003	Year End, 2002	Notes
MARKET VALUE OF COMMON EQUITY							
Book Value, Common Shareholder's Equity	$883	$883	$884	$855	$630	$590	[a]
Shares Outstanding (in millions) - Common	75	75	77	77	67	66	[b]
Price per Share - Common	$27	$27	$24	$23	$22	$18	[c]
Market Value of Common Equity	$1,994	$2,022	$1,842	$1,784	$1,459	$1,187	[d] = [b] x [c].
Market to Book Value of Common Equity	2.26	2.29	2.08	2.09	2.31	2.01	[e] = [d] / [a].
MARKET VALUE OF PREFERRED EQUITY							
Book Value of Preferred Equity	$0	$0	$0	$0	$0	$0	[f]
Market Value of Preferred Equity	$0	$0	$0	$0	$0	$0	[g] = [f].
MARKET VALUE OF DEBT							
Current Assets	$476	$476	$505	$391	$323	$176	[h]
Current Liabilities	$400	$400	$529	$336	$740	$205	[i]
Current Portion of Long-Term Debt	$0	$0	$35	$0	$2	$47	[j]
Net Working Capital	$76	$76	$11	$55	($414)	$18	[k] = [h] - ([i] - [j]).
Notes Payable (Short-Term Debt)	$170	$170	$159	$110	$555	$47	[l]
Adjusted Short-Term Debt	$0	$0	$0	$0	$414	$0	[m] = See Sources and Notes.
Long-Term Debt	$825	$825	$625	$660	$460	$462	[n]
Book Value of Long-Term Debt	$825	$825	$660	$660	$876	$509	[o] = [n] + [j] + [m].
Adjustment to Book Value of Long-Term Debt	$89	$89	$93	$115	$45	$81	[p] = See Sources and Notes.
Market Value of Long-Term Debt	$914	$914	$753	$775	$921	$590	[q] = [p] + [o].
Market Value of Debt	$914	$914	$753	$775	$921	$590	[r] = [q].
MARKET VALUE OF FIRM							
	$2,907	$2,935	$2,595	$2,559	$2,380	$1,776	[s] = [d] + [g] + [r].
DEBT AND EQUITY TO MARKET VALUE RATIOS							
Common Equity - Market Value Ratio	68.57%	68.87%	70.98%	69.71%	61.29%	66.81%	[t] = [d] / [s].
Preferred Equity - Market Value Ratio	-	-	-	-	-	-	[u] = [g] / [s].
Debt - Market Value Ratio	31.43%	31.13%	29.02%	30.29%	38.71%	33.19%	[v] = [r] / [s].

Sources and Notes:
Bloomberg as of April 09, 2007
Capital structure from Year End, 2006 calculated using respective balance sheet information and 5-day average prices ending at period end.
The DCF Capital structure is calculated using 4th Quarter, 2006 balance sheet information and a 15-trading day average closing price ending on 4/9/2007.
Prices are reported in Workpaper #1 to Table No. MJV-6.
[m] =
(1): 0 if [k] > 0.
(2): The absolute value of [k] if [k] < 0 and |[k]| < [l].
(3): [l] if [k] < 0 and |[k]| > [l].
[p]: Difference between fair value of Long-Term debt and carrying amount of Long-Term debt per company 10-K. Data for adjustment is from 2006 10-K.

Table No. MJV-3

Market Value of the MJV US Gas LDC Sample

Panel E: South Jersey Industries Inc

($MM)

	DCF Capital Structure	Year End, 2006	Year End, 2005	Year End, 2004	Year End, 2003	Year End, 2002	Notes
MARKET VALUE OF COMMON EQUITY							
Book Value, Common Shareholder's Equity	$443	$443	$394	$343	$298	$238	[a]
Shares Outstanding (in millions) - Common	29	29	29	28	26	24	[b]
Price per Share - Common	$38	$33	$29	$26	$20	$17	[c]
Market Value of Common Equity	$1,116	$981	$854	$728	$535	$404	[d] = [b] x [c].
Market to Book Value of Common Equity	2.52	2.21	2.17	2.12	1.79	1.70	[e] = [d] / [a].
MARKET VALUE OF PREFERRED EQUITY							
Book Value of Preferred Equity	$0	$0	$0	$2	$2	$2	[f]
Market Value of Preferred Equity	$0	$0	$0	$2	$2	$2	[g] = [f].
MARKET VALUE OF DEBT							
Current Assets	$372	$372	$362	$284	$266	$212	[h]
Current Liabilities	$423	$423	$406	$285	$268	$316	[i]
Current Portion of Long-Term Debt	$2	$2	$2	$5	$5	$11	[j]
Net Working Capital	($49)	($49)	($42)	$4	$3	($93)	[k] = [h] - ([i] - [j]).
Notes Payable (Short-Term Debt)	$195	$195	$147	$92	$113	$167	[l]
Adjusted Short-Term Debt	$49	$49	$42	$0	$0	$93	[m] = See Sources and Notes.
Long-Term Debt	$358	$358	$319	$329	$309	$274	[n]
Book Value of Long-Term Debt	$409	$409	$363	$334	$314	$378	[o] = [n] + [j] + [m].
Adjustment to Book Value of Long-Term Debt	$21	$21	$13	$16	$25	$43	[p] = See Sources and Notes.
Market Value of Long-Term Debt	$430	$430	$376	$350	$339	$421	[q] = [p] + [o].
Market Value of Debt	$430	$430	$376	$350	$339	$421	[r] = [q].
MARKET VALUE OF FIRM							
	$1,546	$1,411	$1,230	$1,080	$875	$826	[s] = [d] + [g] + [r].
DEBT AND EQUITY TO MARKET VALUE RATIOS							
Common Equity - Market Value Ratio	72.20%	69.54%	69.42%	67.42%	61.11%	48.85%	[t] = [d] / [s].
Preferred Equity - Market Value Ratio	-	-	-	0.16%	0.19%	0.20%	[u] = [g] / [s].
Debt - Market Value Ratio	27.80%	30.46%	30.58%	32.42%	38.70%	50.95%	[v] = [r] / [s].

Sources and Notes:

Bloomberg as of April 09, 2007

Capital structure from Year End, 2006 calculated using respective balance sheet information and 5-day average prices ending at period end.

The DCF Capital structure is calculated using 4th Quarter, 2006 balance sheet information and a 15-trading day average closing price ending on 4/9/2007.

Prices are reported in Workpaper #1 to Table No. MJV-6.

[m] =

(1): 0 if [k] > 0.

(2): The absolute value of [k] if [k] < 0 and |[k]| < [l].

(3): [l] if [k] < 0 and |[k]| > [l].

[p]: Difference between fair value of Long-Term debt and carrying amount of Long-Term debt per company 10-K. Data for adjustment is from 2006 10-K.

Table No. MJV-3

Market Value of the MJV US Gas LDC Sample

Panel F: Southwest Gas Corp

($MM)

	DCF Capital Structure	Year End, 2006	Year End, 2005	Year End, 2004	Year End, 2003	Year End, 2002	Notes
MARKET VALUE OF COMMON EQUITY							
Book Value, Common Shareholder's Equity	$901	$901	$751	$706	$630	$596	[a]
Shares Outstanding (in millions) - Common	42	42	39	37	34	33	[b]
Price per Share - Common	$39	$39	$27	$25	$23	$23	[c]
Market Value of Common Equity	$1,626	$1,613	$1,042	$938	$784	$770	[d] = [b] x [c].
Market to Book Value of Common Equity	1.80	1.79	1.39	1.33	1.24	1.29	[e] = [d] / [a].
MARKET VALUE OF PREFERRED EQUITY							
Book Value of Preferred Equity	$0	$0	$0	$0	$0	$0	[f]
Market Value of Preferred Equity	$0	$0	$0	$0	$0	$0	[g] = [f].
MARKET VALUE OF DEBT							
Current Assets	$502	$502	$543	$432	$281	$262	[h]
Current Liabilities	$496	$496	$621	$483	$310	$313	[i]
Current Portion of Long-Term Debt	$28	$28	$83	$30	$6	$9	[j]
Net Working Capital	$33	$33	$5	($21)	($23)	($43)	[k] = [h] - ([i] - [j]).
Notes Payable (Short-Term Debt)	$24	$24	$24	$100	$52	$53	[l]
Adjusted Short-Term Debt	$0	$0	$0	$21	$23	$43	[m] = See Sources and Notes.
Long-Term Debt	$1,386	$1,386	$1,325	$1,263	$1,221	$1,152	[n]
Book Value of Long-Term Debt	$1,414	$1,414	$1,408	$1,314	$1,250	$1,204	[o] = [n] + [j] + [m].
Adjustment to Book Value of Long-Term Debt	$80	$80	$145	$154	$126	$66	[p] = See Sources and Notes.
Market Value of Long-Term Debt	$1,494	$1,494	$1,553	$1,468	$1,377	$1,269	[q] = [p] + [o].
Market Value of Debt	$1,494	$1,494	$1,553	$1,468	$1,377	$1,269	[r] = [q].
MARKET VALUE OF FIRM	$3,121	$3,107	$2,596	$2,406	$2,160	$2,039	[s] = [d] + [g] + [r].
DEBT AND EQUITY TO MARKET VALUE RATIOS							
Common Equity - Market Value Ratio	52.12%	51.91%	40.16%	38.97%	36.28%	37.77%	[t] = [d] / [s].
Preferred Equity - Market Value Ratio	-	-	-	-	-	-	[u] = [g] / [s].
Debt - Market Value Ratio	47.88%	48.09%	59.84%	61.03%	63.72%	62.23%	[v] = [r] / [s].

Sources and Notes:

Bloomberg as of April 09, 2007

Capital structure from Year End, 2006 calculated using respective balance sheet information and 5-day average prices ending at period end.

The DCF Capital structure is calculated using 4th Quarter, 2006 balance sheet information and a 15-trading day average closing price ending on 4/9/2007.

Prices are reported in Workpaper #1 to Table No. MJV-6.

[m] =

(1): 0 if [k] > 0.

(2): The absolute value of [k] if [k] < 0 and |[k]| < [l].

(3): [l] if [k] < 0 and |[k]| > [l].

[p]: Difference between fair value of Long-Term debt and carrying amount of Long-Term debt per company 10-K. Data for adjustment is from 2006 10-K.

Table No. MJV-3

Market Value of the MJV US Gas LDC Sample

Panel G: WGL Holdings Inc

($MM)

	DCF Capital Structure	Year End, 2006	Year End, 2005	Year End, 2004	Year End, 2003	Year End, 2002	Notes
MARKET VALUE OF COMMON EQUITY							
Book Value, Common Shareholder's Equity	$922	$922	$894	$853	$818	$766	[a]
Shares Outstanding (in millions) - Common	49	49	49	49	49	49	[b]
Price per Share - Common	$32	$33	$30	$31	$28	$24	[c]
Market Value of Common Equity	$1,573	$1,603	$1,470	$1,509	$1,366	$1,166	[d] = [b] x [c].
Market to Book Value of Common Equity	1.71	1.74	1.64	1.77	1.67	1.52	[e] = [d] / [a].
MARKET VALUE OF PREFERRED EQUITY							
Book Value of Preferred Equity	$28	$28	$28	$28	$28	$28	[f]
Market Value of Preferred Equity	$28	$28	$28	$28	$28	$28	[g] = [f].
MARKET VALUE OF DEBT							
Current Assets	$562	$562	$481	$433	$409	$341	[h]
Current Liabilities	$561	$561	$412	$413	$386	$338	[i]
Current Portion of Long-Term Debt	$61	$61	$50	$61	$12	$42	[j]
Net Working Capital	$62	$62	$120	$81	$35	$46	[k] = [h] - ([i] - [j]).
Notes Payable (Short-Term Debt)	$177	$177	$41	$96	$167	$91	[l]
Adjusted Short-Term Debt	$0	$0	$0	$0	$0	$0	[m] = See Sources and Notes.
Long-Term Debt	$576	$576	$584	$590	$637	$668	[n]
Book Value of Long-Term Debt	$637	$637	$634	$651	$649	$710	[o] = [n] + [j] + [m].
Adjustment to Book Value of Long-Term Debt	$17	$17	$43	$56	$86	$58	[p] = See Sources and Notes.
Market Value of Long-Term Debt	$654	$654	$677	$707	$735	$768	[q] = [p] + [o].
Market Value of Debt	$654	$654	$677	$707	$735	$768	[r] = [q].
MARKET VALUE OF FIRM	$2,256	$2,285	$2,175	$2,244	$2,128	$1,962	[s] = [d] + [g] + [r].
DEBT AND EQUITY TO MARKET VALUE RATIOS							
Common Equity - Market Value Ratio	69.75%	70.14%	67.58%	67.23%	64.16%	59.43%	[t] = [d] / [s].
Preferred Equity - Market Value Ratio	1.25%	1.23%	1.30%	1.26%	1.32%	1.44%	[u] = [g] / [s].
Debt - Market Value Ratio	29.00%	28.63%	31.12%	31.52%	34.52%	39.13%	[v] = [r] / [s].

Sources and Notes:

Bloomberg as of April 09, 2007

Capital structure from Year End, 2006 calculated using respective balance sheet information and 5-day average prices ending at period end.

The DCF Capital structure is calculated using 4th Quarter, 2006 balance sheet information and a 15-trading day average closing price ending on 4/9/2007.

Prices are reported in Workpaper #1 to Table No. MJV-6.

[m] =

(1): 0 if [k] > 0.

(2): The absolute value of [k] if [k] < 0 and |[k]| < [l].

(3): [l] if [k] < 0 and |[k]| > [l].

[p]: Difference between fair value of Long-Term debt and carrying amount of Long-Term debt per company 10-K. Data for adjustment is from 2006 10-K.

Table No. MJV-3

Market Value of the MJV US Gas LDC Sample

Panel H: AGL Resources Inc

($MM)

	DCF Capital Structure	Year End, 2006	Year End, 2005	Year End, 2004	Year End, 2003	Year End, 2002	Notes
MARKET VALUE OF COMMON EQUITY							
Book Value, Common Shareholder's Equity	$1,609	$1,609	$1,499	$1,385	$945	$710	[a]
Shares Outstanding (in millions) - Common	78	78	78	77	65	57	[b]
Price per Share - Common	$43	$39	$35	$33	$29	$24	[c]
Market Value of Common Equity	$3,310	$3,042	$2,708	$2,546	$1,879	$1,381	[d] = [b] x [c].
Market to Book Value of Common Equity	2.06	1.89	1.81	1.84	1.99	1.94	[e] = [d] / [a].
MARKET VALUE OF PREFERRED EQUITY							
Book Value of Preferred Equity	$0	$0	$0	$0	$0	$227	[f]
Market Value of Preferred Equity	$0	$0	$0	$0	$0	$227	[g] = [f].
MARKET VALUE OF DEBT							
Current Assets	$1,822	$1,822	$2,041	$1,457	$742	$586	[h]
Current Liabilities	$1,627	$1,627	$1,968	$1,477	$1,048	$1,016	[i]
Current Portion of Long-Term Debt	$0	$0	$0	$0	$77	$30	[j]
Net Working Capital	$195	$195	$73	($20)	($229)	($399)	[k] = [h] - ([i] - [j]).
Notes Payable (Short-Term Debt)	$539	$539	$522	$334	$306	$389	[l]
Adjusted Short-Term Debt	$0	$0	$0	$20	$229	$389	[m] = See Sources and Notes.
Long-Term Debt	$1,622	$1,622	$1,615	$1,623	$956	$767	[n]
Book Value of Long-Term Debt	$1,622	$1,622	$1,615	$1,643	$1,262	$1,186	[o] = [n] + [j] + [m].
Adjustment to Book Value of Long-Term Debt	$83	$83	$169	$193	$133	$87	[p] = See Sources and Notes.
Market Value of Long-Term Debt	$1,705	$1,705	$1,784	$1,836	$1,395	$1,273	[q] = [p] + [o].
Market Value of Debt	$1,705	$1,705	$1,784	$1,836	$1,395	$1,273	[r] = [q].
MARKET VALUE OF FIRM	$5,015	$4,747	$4,492	$4,382	$3,274	$2,881	[s] = [d] + [g] + [r].
DEBT AND EQUITY TO MARKET VALUE RATIOS							
Common Equity - Market Value Ratio	66.00%	64.09%	60.29%	58.10%	57.39%	47.93%	[t] = [d] / [s].
Preferred Equity - Market Value Ratio	-	-	-	-	-	7.89%	[u] = [g] / [s].
Debt - Market Value Ratio	34.00%	35.91%	39.71%	41.90%	42.61%	44.18%	[v] = [r] / [s].

Sources and Notes:

Bloomberg as of April 09, 2007

Capital structure from Year End, 2006 calculated using respective balance sheet information and 5-day average prices ending at period end.

The DCF Capital structure is calculated using 4th Quarter, 2006 balance sheet information and a 15-trading day average closing price ending on 4/9/2007.

Prices are reported in Workpaper #1 to Table No. MJV-6.

[m] =

(1): 0 if [k] > 0.

(2): The absolute value of [k] if [k] < 0 and |[k]| < [l].

(3): [l] if [k] < 0 and |[k]| > [l].

[p]: Difference between fair value of Long-Term debt and carrying amount of Long-Term debt per company 10-K. Data for adjustment is from 2006 10-K.

Table No. MJV-3

Market Value of the MJV US Gas LDC Sample

Panel I: Vectren Corp

($MM)

	DCF Capital Structure	Year End, 2006	Year End, 2005	Year End, 2004	Year End, 2003	Year End, 2002	Notes
MARKET VALUE OF COMMON EQUITY							
Book Value, Common Shareholder's Equity	$1,174	$1,174	$1,143	$1,095	$1,072	$870	[a]
Shares Outstanding (in millions) - Common	76	76	76	76	76	68	[b]
Price per Share - Common	$28	$28	$27	$27	$25	$23	[c]
Market Value of Common Equity	$2,168	$2,156	$2,063	$2,040	$1,859	$1,548	[d] = [b] x [c].
Market to Book Value of Common Equity	1.85	1.84	1.80	1.86	1.73	1.78	[e] = [d] / [a].
MARKET VALUE OF PREFERRED EQUITY							
Book Value of Preferred Equity	$0	$0	$0	$0	$0	$0	[f]
Market Value of Preferred Equity	$0	$0	$0	$0	$0	$0	[g] = [f].
MARKET VALUE OF DEBT							
Current Assets	$716	$716	$725	$586	$512	$465	[h]
Current Liabilities	$961	$961	$840	$826	$584	$774	[i]
Current Portion of Long-Term Debt	$44	$44	$54	$49	$29	$66	[j]
Net Working Capital	($201)	($201)	($60)	($191)	($44)	($242)	[k] = [h] - ([i] - [j]).
Notes Payable (Short-Term Debt)	$465	$465	$300	$412	$275	$400	[l]
Adjusted Short-Term Debt	$201	$201	$60	$191	$44	$242	[m] = See Sources and Notes.
Long-Term Debt	$1,208	$1,208	$1,198	$1,017	$1,073	$954	[n]
Book Value of Long-Term Debt	$1,454	$1,454	$1,312	$1,256	$1,145	$1,263	[o] = [n] + [j] + [m].
Adjustment to Book Value of Long-Term Debt	$20	$20	$56	$76	$78	$70	[p] = See Sources and Notes.
Market Value of Long-Term Debt	$1,473	$1,473	$1,368	$1,332	$1,223	$1,333	[q] = [p] + [o].
Market Value of Debt	$1,473	$1,473	$1,368	$1,332	$1,223	$1,333	[r] = [q].
MARKET VALUE OF FIRM	$3,641	$3,629	$3,431	$3,373	$3,082	$2,882	[s] = [d] + [g] + [r].
DEBT AND EQUITY TO MARKET VALUE RATIOS							
Common Equity - Market Value Ratio	59.54%	59.40%	60.12%	60.49%	60.30%	53.73%	[t] = [d] / [s].
Preferred Equity - Market Value Ratio	-	-	-	0.00%	0.01%	0.01%	[u] = [g] / [s].
Debt - Market Value Ratio	40.46%	40.60%	39.88%	39.51%	39.69%	46.26%	[v] = [r] / [s].

Sources and Notes:
Bloomberg as of April 09, 2007
Capital structure from Year End, 2006 calculated using respective balance sheet information and 5-day average prices ending at period end.
The DCF Capital structure is calculated using 4th Quarter, 2006 balance sheet information and a 15-trading day average closing price ending on 4/9/2007.
Prices are reported in Workpaper #1 to Table No. MJV-6.
[m] =
(1): 0 if [k] > 0.
(2): The absolute value of [k] if [k] < 0 and |[k]| < [l].
(3): [l] if [k] < 0 and |[k]| > [l].
[p]: Difference between fair value of Long-Term debt and carrying amount of Long-Term debt per company 10-K. Data for adjustment is from 2006 10-K.

Table No. MJV-4

MJV US Gas LDC Sample

Capital Structure Summary

Company		DCF Capital Structure			5-Year Average Capital Structure		
		Common Equity - Value Ratio [1]	Preferred Equity - Value Ratio [2]	Debt - Value Ratio [3]	Common Equity - Value Ratio [4]	Preferred Equity - Value Ratio [5]	Debt - Value Ratio [6]
Atmos Energy Corp		0.56	-	0.44	0.56	-	0.44
Laclede Group Inc/The	*	0.62	0.00	0.38	0.59	0.00	0.41
Northwest Natural Gas Co	*	0.68	-	0.32	0.61	0.00	0.39
Piedmont Natural Gas Co	*	0.69	-	0.31	0.68	-	0.32
South Jersey Industries Inc		0.72	-	0.28	0.63	0.00	0.37
Southwest Gas Corp		0.52	-	0.48	0.41	-	0.59
WGL Holdings Inc	*	0.70	0.01	0.29	0.66	0.01	0.33
AGL Resources Inc		0.66	-	0.34	0.58	0.02	0.41
Vectren Corp		0.60	-	0.40	0.59	0.00	0.41
Average		0.64	0.00	0.36	0.59	0.00	0.41
Subsample Average		0.67	0.00	0.33	0.63	0.00	0.36

Sources and Notes:
[1], [4]:Workpaper #1 to Table No. MJV-4.
[2], [5]:Workpaper #2 to Table No. MJV-4.
[3], [6]:Workpaper #3 to Table No. MJV-4.
Values in this table may not add up exactly to 1.0 because of rounding.

*Represents companies in the subsample.

Table No. MJV-5

MJV US Gas LDC Sample

Combined Bloomberg Estimated and Value Line Estimated Growth Rates

Company	Bloomberg Estimate		Value Line			Combined BEst and Value Line Growth Rate
	BEst Long-Term Growth Rate	Number of Estimates	EPS Year 2008 Estimate	EPS Year 2010 - 2012 Estimate	Annualized Growth Rate	
	[1]	[2]	[3]	[4]	[5]	[6]
Atmos Energy Corp	5.8%	4	$2.10	$2.50	6.0%	5.8%
Laclede Group Inc/The	3.0%	1	$2.00	$2.35	5.5%	4.3%
Northwest Natural Gas Co	4.8%	3	$2.55	$2.95	5.0%	4.9%
Piedmont Natural Gas Co	5.0%	2	$1.45	$1.55	2.2%	4.1%
South Jersey Industries Inc	6.3%	3	$2.90	$3.30	4.4%	5.9%
Southwest Gas Corp	5.5%	2	$2.25	$2.60	4.9%	5.3%
WGL Holdings Inc	3.7%	3	$2.05	$2.20	2.4%	3.3%
AGL Resources Inc	4.5%	3	$2.90	$3.10	2.2%	3.9%
Vectren Corp	2.2%	1	$1.90	$2.00	1.7%	2.0%

Sources and Notes:
[1] - [2]: Bloomberg as of April 09, 2007.
[3] - [4]: Most recent Value Line Standard Edition dated as of March 16, 2007, except for Vectren which is as of March 30, 2007..
[5]: ([4] / [3]) ^ (1/3) - 1.
[6]: ([1] x [2] + [5]) / ([2] + 1).

Table No. MJV-6

DCF Cost of Equity of the MJV US Gas LDC Sample

Panel A: Simple DCF Method (Quarterly)

Company	Stock Price [1]	Quarterly Dividend Q4, 2006 [2]	Combined BEst and Value Line Long-Term Growth Rate [3]	Quarterly Growth Rate [4]	DCF Cost of Equity [5]
Atmos Energy Corp	$31.61	$0.32	5.8%	1.4%	10.1%
Laclede Group Inc/The	$31.18	$0.37	4.3%	1.0%	9.2%
Northwest Natural Gas Co	$45.94	$0.36	4.9%	1.2%	8.1%
Piedmont Natural Gas Co	$26.72	$0.24	4.1%	1.0%	7.9%
South Jersey Industries Inc	$38.06	$0.25	5.9%	1.4%	8.6%
Southwest Gas Corp	$38.94	$0.21	5.3%	1.3%	7.5%
WGL Holdings Inc	$32.19	$0.34	3.3%	0.8%	7.7%
AGL Resources Inc	$42.60	$0.37	3.9%	1.0%	7.6%
Vectren Corp	$28.49	$0.32	2.0%	0.5%	6.5%

Sources and Notes:
[1]: Workpaper #1 to Table No. MJV-6.
[2]: Workpaper #2 to Table No. MJV-6.
[3]: Table No. MJV-5, [6].
[4]: {(1 + [3]) ^ (1/4)} - 1.
[5]: {(([2] / [1]) x (1 + [4]) + [4] + 1) ^ 4} - 1.

Table No. MJV-6

DCF Cost of Equity of the MJV US Gas LDC Sample

Panel B: Multi-Stage DCF (Using Blue Chip Long-Term GDP Growth Forecast as the Perpetual Rate)

Company	Stock Price [1]	Quarterly Dividend Q4, 2006 [2]	Combined BEst and *Value Line* Long-Term Growth Rate [3]	Growth Rate: FY 2012 [4]	Growth Rate: FY 2013 [5]	Growth Rate: FY 2014 [6]	Growth Rate: FY 2015 [7]	Growth Rate: FY 2016 [8]	GDP Long-Term Growth Rate [9]	DCF Cost of Equity [10]
Atmos Energy Corp	$31.61	$0.32	5.8%	5.7%	5.6%	5.4%	5.3%	5.2%	5.1%	9.6%
Laclede Group Inc/The	$31.18	$0.37	4.3%	4.4%	4.5%	4.7%	4.8%	5.0%	5.1%	9.8%
Northwest Natural Gas Co	$45.94	$0.36	4.9%	4.9%	4.9%	5.0%	5.0%	5.1%	5.1%	8.3%
Piedmont Natural Gas Co	$26.72	$0.24	4.1%	4.3%	4.4%	4.6%	4.8%	4.9%	5.1%	8.7%
South Jersey Industries Inc	$38.06	$0.25	5.9%	5.7%	5.6%	5.5%	5.4%	5.2%	5.1%	8.0%
Southwest Gas Corp	$38.94	$0.21	5.3%	5.3%	5.2%	5.2%	5.2%	5.1%	5.1%	7.4%
WGL Holdings Inc	$32.19	$0.34	3.3%	3.6%	3.9%	4.2%	4.5%	4.8%	5.1%	9.1%
AGL Resources Inc	$42.60	$0.37	3.9%	4.1%	4.3%	4.5%	4.7%	4.9%	5.1%	8.5%
Vectren Corp	$28.49	$0.32	2.0%	2.5%	3.0%	3.5%	4.1%	4.6%	5.1%	8.9%

Sources and Notes:

[1]: Workpaper #1 to Table No. MJV-6.

[2]: Workpaper #2 to Table No. MJV-6.

[3]: Table No. MJV-5, [6].

[4]: [3] - {([3] - [9])/ 6}.

[5]: [4] - {([3] - [9])/ 6}.

[6]: [5] - {([3] - [9])/ 6}.

[7]: [6] - {([3] - [9])/ 6}.

[8]: [7] - {([3] - [9])/ 6}.

[9]: Blue Chip Economic Indicators published March 10, 2007. This number is assumed to be the perpetual growth rate. (See Appendix E).

[10]: Workpaper #3 to Table No. MJV-6.

Table No. MJV-7

Overall Cost of Capital of the MJV US Gas LDC Sample

Panel A: Simple DCF Method (Quarterly)

Company		4th Quarter, 2006 Bond Rating [1]	4th Quarter, 2006 Preferred Equity Rating [2]	DCF Cost of Equity [3]	DCF Common Equity to Market Value Ratio [4]	Cost of Preferred Equity [5]	DCF Preferred Equity to Market Value Ratio [6]	DCF Cost of Debt [7]	DCF Debt to Market Value Ratio [8]	Northwestern's Income Tax Rate [9]	Overall After- Tax Cost of Capital [10]
Atmos Energy Corp		BBB	-	10.1%	0.56	-	-	6.1%	0.44	35.0%	7.4%
Laclede Group Inc/The	*	A	A	9.2%	0.62	5.9%	0.00	5.9%	0.38	35.0%	7.1%
Northwest Natural Gas Co	*	AA	-	8.1%	0.68	-	-	5.7%	0.32	35.0%	6.7%
Piedmont Natural Gas Co	*	A	-	7.9%	0.69	-	-	5.9%	0.31	35.0%	6.6%
South Jersey Industries Inc		BBB	-	8.6%	0.72	-	-	6.1%	0.28	35.0%	7.3%
Southwest Gas Corp		BBB	-	7.5%	0.52	-	-	6.1%	0.48	35.0%	5.8%
WGL Holdings Inc	*	AA	AA	7.7%	0.70	5.8%	0.01	5.7%	0.29	35.0%	6.6%
AGL Resources Inc		A	-	7.6%	0.66	-	-	5.9%	0.34	35.0%	6.3%
Vectren Corp		A	-	6.5%	0.60	-	-	5.9%	0.40	35.0%	5.4%
Average				8.2%	0.64	5.8%	0.00	5.9%	0.36	35.0%	6.6%
Subsample Average				8.2%	0.67	5.8%	0.00	5.8%	0.33	35.0%	6.8%

Sources and Notes:
[1]: Bloomberg as of April 09, 2007.
[2]: Preferred ratings were assumed equal to debt ratings.
[3]: Table No. MJV-6; Panel A, [5].
[4]: Table No. MJV-4, [1].
[5]: Workpaper #2 to Table No. MJV-11, Panel B, [6].
[6]: Table No. MJV-4, [2].
[7]: Workpaper #2 toTable No. MJV-11, Panel A, [6].
[8]: Table No. MJV-4, [3].
[9]: Provided by Northwestern.
[10]: ([3] x [4]) + ([5] x [6]) + {[7] x [8] x (1 - [9])}.

*Represents companies in the subsample.

Table No. MJV-7

Overall Cost of Capital of the MJV US Gas LDC Sample

Panel B: Multi-Stage DCF (Using Blue Chip Long-Term GDP Growth Forecast as the Perpetual Rate)

Company		4th Quarter, 2006 Bond Rating [1]	4th Quarter, 2006 Preferred Equity Rating [2]	DCF Cost of Equity [3]	DCF Common Equity to Market Value Ratio [4]	Cost of Preferred Equity [5]	DCF Preferred Equity to Market Value Ratio [6]	DCF Cost of Debt [7]	DCF Debt to Market Value Ratio [8]	Northwestern's Income Tax Rate [9]	Overall After- Tax Cost of Capital [10]
Atmos Energy Corp		BBB	-	9.6%	0.56	-	-	6.1%	0.44	35.0%	7.1%
Laclede Group Inc/The	*	A	A	9.8%	0.62	5.9%	0.00	5.9%	0.38	35.0%	7.5%
Northwest Natural Gas Co	*	AA	-	8.3%	0.68	-	-	5.7%	0.32	35.0%	6.8%
Piedmont Natural Gas Co	*	A	-	8.7%	0.69	-	-	5.9%	0.31	35.0%	7.1%
South Jersey Industries Inc		BBB	-	8.0%	0.72	-	-	6.1%	0.28	35.0%	6.8%
Southwest Gas Corp		BBB	-	7.4%	0.52	-	-	6.1%	0.48	35.0%	5.7%
WGL Holdings Inc	*	AA	AA	9.1%	0.70	5.8%	0.01	5.7%	0.29	35.0%	7.5%
AGL Resources Inc		A	-	8.5%	0.66	-	-	5.9%	0.34	35.0%	6.9%
Vectren Corp		A	-	8.9%	0.60	-	-	5.9%	0.40	35.0%	6.9%
Average				8.7%	0.64	5.8%	0.00	5.9%	0.36	35.0%	6.9%
Subsample Average				9.0%	0.67	5.8%	0.00	5.8%	0.33	35.0%	7.2%

Sources and Notes:

[1]: Bloomberg as of April 09, 2007.

[2]: Preferred ratings were assumed equal to debt ratings.

[3]: Table No. MJV-6; Panel B, [10].

[4]: Table No. MJV-4, [1].

[5]: Workpaper #2 to Table No. MJV-11, Panel B, [6].

[6]: Table No. MJV-4, [2].

[7]: Workpaper #2 toTable No. MJV-11, Panel A, [6].

[8]: Table No. MJV-4, [3].

[9]: Provided by Northwestern.

[10]: ([3] x [4]) + ([5] x [6]) + {[7] x [8] x (1 - [9])}.

*Represents companies in the subsample.

Table No. MJV-8

DCF Cost of Equity at Northwestern Capital Structure

MJV US Gas LDC Sample

Panel A: Using Value Line Betas

	Overall Cost of Capital [1]	Northwestern's Regulatory % Debt [2]	Northwestern's Cost of Debt [3]	Northwestern's Income Tax Rate [4]	Northwestern's Regulatory % Equity [5]	Estimated Return on Equity [6]
Using All Companies with Bloomberg Forecast						
Simple DCF Quarterly	6.6%	0.49	6.1%	35.0%	0.51	9.1%
Multi-Stage DCF - Using the Blue Chip Economic Indicator Long-Term GDP as the Perpetual Rate	6.9%	0.49	6.1%	35.0%	0.51	9.7%

Sources and Notes:
[1]: Table No. MJV-7; Panels A-B, [10].
[2]: Provided by Northwestern.
[3]: Based off an BBB rating, as provided by Northwestern. Yield pulled from Bloomberg as of March 27, 2007.
[4]: Provided by Northwestern.
[5]: Provided by Northwestern.
[6]: {[1] - ([2] x [3] x (1 - [4]))} / [5].

Table No. MJV-8

DCF Cost of Equity at Northwestern Capital Structure

MJV US Gas LDC Sample

Panel B: Using Subsample and Value Line Betas

	Overall Cost of Capital [1]	Northwestern's Regulatory % Debt [2]	Northwestern's Cost of Debt [3]	Northwestern's Income Tax Rate [4]	Northwestern's Regulatory % Equity [5]	Estimated Return on Equity [6]
Using All Companies with Bloomberg Forecast						
Simple DCF Quarterly	6.8%	0.49	6.1%	35.0%	0.51	9.4%
Multi-Stage DCF - Using the Blue Chip Economic Indicator Long-Term GDP as the Perpetual Rate	7.2%	0.49	6.1%	35.0%	0.51	10.3%

Sources and Notes:
[1]: Table No. MJV-7; Panels A-B, [10].
[2]: Provided by Northwestern.
[3]: Based off an BBB rating, as provided by Northwestern. Yield pulled from Bloomberg as of March 27, 2007.
[4]: Provided by Northwestern.
[5]: Provided by Northwestern.
[6]: {[1] - ([2] x [3] x (1 - [4]))} / [5].

Table No. MJV-9 - Interest Rate Forecasts

MJV US Gas LDC Sample

Panel A: US Interest Rate Series (All Constant Maturity Series)

	Trading Date	30 Day	90 Day	180 Day	1 Year	2 Year	3 Year	5 Year	7 Year	10 Year	Long Term
	3/20/2007	5.22%	5.06%	5.12%	4.94%	4.60%	4.51%	4.47%	4.49%	4.56%	4.79%
	3/21/2007	5.24%	5.05%	5.08%	4.89%	4.51%	4.44%	4.43%	4.45%	4.53%	4.78%
	3/22/2007	5.23%	5.06%	5.08%	4.91%	4.58%	4.51%	4.49%	4.52%	4.60%	4.86%
	3/23/2007	5.24%	5.08%	5.10%	4.93%	4.60%	4.54%	4.52%	4.54%	4.62%	4.88%
	3/26/2007	5.22%	5.06%	5.09%	4.91%	4.56%	4.50%	4.48%	4.51%	4.60%	4.86%
	3/27/2007	5.20%	5.08%	5.09%	4.91%	4.58%	4.51%	4.50%	4.53%	4.62%	4.89%
	3/28/2007	5.18%	5.06%	5.08%	4.90%	4.53%	4.49%	4.50%	4.53%	4.62%	4.90%
	3/29/2007	5.05%	5.05%	5.06%	4.90%	4.58%	4.52%	4.53%	4.55%	4.64%	4.90%
	3/30/2007	5.07%	5.04%	5.06%	4.90%	4.58%	4.54%	4.54%	4.58%	4.65%	4.92%
	4/2/2007	5.12%	5.04%	5.09%	4.92%	4.60%	4.53%	4.54%	4.57%	4.65%	4.92%
	4/3/2007	5.15%	5.05%	5.09%	4.93%	4.63%	4.57%	4.56%	4.59%	4.67%	4.93%
	4/4/2007	5.16%	5.07%	5.08%	4.92%	4.61%	4.55%	4.55%	4.58%	4.66%	4.92%
	4/5/2007	5.10%	5.04%	5.07%	4.93%	4.63%	4.57%	4.57%	4.60%	4.68%	4.95%
	4/6/2007	5.10%	5.05%	5.10%	4.98%	4.75%	4.68%	4.67%	4.69%	4.76%	5.00%
	4/9/2007	5.08%	5.02%	5.11%	4.98%	4.73%	4.67%	4.66%	4.68%	4.75%	5.00%
[A]	Average:	5.16%	5.05%	5.09%	4.92%	4.60%	4.54%	4.53%	4.56%	4.64%	4.90%
[B]	Maturity Premium:	0.00%	0.10%	0.20%	0.33%	0.59%	0.75%	1.00%	1.15%	1.27%	1.50%
[C]	Implied Short-Term Yield:	5.16%	4.95%	4.89%	4.59%	4.01%	3.79%	3.53%	3.41%	3.37%	3.40%

Sources and Notes:

[A]: Average over the last 15 trading days.

[B]: Workpaper #1 to Table No. MJV-9, Panel C, [2].

[C]: [A] - [B].

St. Louis Federal Reserve Bank. {http://research.stlouisfed.org/fred2/}. The most recent 15 trading days are used.

Table No. MJV-9 - Interest Rate Forecasts

MJV US Gas LDC Sample

Panel B: Forecasted Short-Term Interest Rates

	30 Day [1]	90 Day [2]	180 Day [3]	1 Year [4]	2 Year [5]	3 Year [6]	5 Year [7]	7 Year [8]	10 Year [9]	Total Days [10]	Implicit Short-Term Rate [11]
[A] Implied Short-Term Yield:	5.16%	4.95%	4.89%	4.59%	4.01%	3.79%	3.53%	3.41%	3.37%		
[B] Days Remaining in 2007	30	60	90	86						266	4.84%
[C] Days Remaining in 2008				99	266					365	4.17%
[D] Days Remaining in 2009					99	266				365	3.85%
[E] Days Remaining in 2010						99	266			365	3.60%
[F] Days Remaining in 2011							99	266		365	3.44%
[G] Days Remaining in 2012								99	266	99	13.04%
[H] Total Days	30	60	90	185	365	365	730	730	798	1825	
[I] Implicit Short-Term Rate for 2008-2011										1460	3.77%
[J] Implicit Short-Term Rate for 2008-2012										1559	4.33%

Sources and Notes:

[A]: Table No. MJV-9 - Interest Rate Forecasts Panel A, [C].

[B] - [G]: Total number of days remaining for each period, beginning with March 20, 2007.

[H]: Sum of [B] through [G] for the respective period.

[11]: [(1+ Implied Short-Term $Yield_1$)^(days remaining in $period_1$)x…x(1+Implied Short-Term $Yield_n$)^(days remaining in $period_n$)]^(1/[9])-1.

This formula is applied to all periods from 1 to n in each year.

[I]: ((1+[10][C])^[9][C]x…x(1+10[F])^[9][F]))^(1/[9][I])-1.

[J]: ((1+[10][C])^[9][C]x…x(1+10[G])^[9][G]))^(1/[9][J])-1.

Table No. MJV-10

Risk Positioning Cost of Equity of the MJV US Gas LDC Sample

Using Value Line Betas and the Long-Term Risk-Free Rate

Company	US Long-Term Risk-Free Rate [1]	Value Line Betas [2]	Long-Term Market Risk Premium [3]	CAPM Cost of Equity [4]	ECAPM (0.5%) Cost of Equity [5]	ECAPM (1.5%) Cost of Equity [6]
Atmos Energy Corp	4.9%	0.80	6.50%	10.1%	10.2%	10.4%
Laclede Group Inc/The	4.9%	0.85	6.50%	10.4%	10.5%	10.7%
Northwest Natural Gas Co	4.9%	0.75	6.50%	9.8%	9.9%	10.2%
Piedmont Natural Gas Co	4.9%	0.80	6.50%	10.1%	10.2%	10.4%
South Jersey Industries Inc	4.9%	0.70	6.50%	9.5%	9.6%	9.9%
Southwest Gas Corp	4.9%	0.85	6.50%	10.4%	10.5%	10.7%
WGL Holdings Inc	4.9%	0.85	6.50%	10.4%	10.5%	10.7%
AGL Resources Inc	4.9%	0.95	6.50%	11.1%	11.1%	11.2%
Vectren Corp	4.9%	0.95	6.50%	11.1%	11.1%	11.2%

Sources and Notes:
[1]: Table No. MJV-9 - Interest Rate Forecasts, Panel A, Row [A].
[2]: Workpaper # 1 to Table No. MJV-10, column [1].
[3]: Vilbert Written Evidence, Appendix B.
[4]: [1] + ([2] x [3]).
[5]: ([1] + 0.5%) + [2] x ([3] - 0.5%).
[6]: ([1] + 1.5%) + [2] x ([3] - 1.5%).

Table No. MJV-10

Risk Positioning Cost of Equity of the MJV US Gas LDC Sample

Panel B: Using Value Line Betas and the Short-Term Risk-Free Rate.

Company	US Short-Term Risk-Free Rate [1]	Value Line Betas [2]	Short-Term Market Risk Premium [3]	CAPM Cost of Equity [4]	ECAPM (1%) Cost of Equity [5]	ECAPM (2%) Cost of Equity [6]	ECAPM (3%) Cost of Equity [7]
Atmos Energy Corp	3.8%	0.80	8.0%	10.2%	10.4%	10.6%	10.8%
Laclede Group Inc/The	3.8%	0.85	8.0%	10.6%	10.8%	10.9%	11.1%
Northwest Natural Gas Co	3.8%	0.75	8.0%	9.8%	10.1%	10.3%	10.6%
Piedmont Natural Gas Co	3.8%	0.80	8.0%	10.2%	10.4%	10.6%	10.8%
South Jersey Industries Inc	3.8%	0.70	8.0%	9.4%	9.7%	10.0%	10.3%
Southwest Gas Corp	3.8%	0.85	8.0%	10.6%	10.8%	10.9%	11.1%
WGL Holdings Inc	3.8%	0.85	8.0%	10.6%	10.8%	10.9%	11.1%
AGL Resources Inc	3.8%	0.95	8.0%	11.4%	11.5%	11.5%	11.6%
Vectren Corp	3.8%	0.95	8.0%	11.4%	11.5%	11.5%	11.6%

Sources and Notes:
[1]: Table No. MJV-9 - Interest Rate Forecasts, Panel B, Row [I].
[2]: Workpaper # 1 to Table No. MJV-10, column [1].
[3]: Vilbert Written Evidence, Appendix B.
[4]: [1] + ([2] x [3]).
[5]: ([1] + 1%) + [2] x ([3] - 1%).
[6]: ([1] + 2%) + [2] x ([3] - 2%).
[7]: ([1] + 3%) + [2] x ([3] - 3%).

Table No. MJV-11

Overall Cost of Capital of the MJV US Gas LDC Sample

Panel A: CAPM Cost of Equity Based on Value Line Betas and a Long-Term Risk-Free Rate

Company		CAPM Cost of Equity [1]	5-Year Average Common Equity to Market Value Ratio [2]	Weighted - Average Cost of Preferred Equity [3]	5-Year Average Preferred Equity to Market Value Ratio [4]	Weighted Average Cost of Debt [5]	5-Year Average Debt to Market Value Ratio [6]	Northwestern's Income Tax Rate [7]	Overall After- Tax Cost of Capital [8]
Atmos Energy Corp		10.1%	0.56	-	-	6.0%	0.44	35.0%	7.4%
Laclede Group Inc/The	*	10.4%	0.59	5.9%	0.00	5.9%	0.41	35.0%	7.7%
Northwest Natural Gas Co	*	9.8%	0.61	5.8%	0.00	5.8%	0.39	35.0%	7.4%
Piedmont Natural Gas Co	*	10.1%	0.68	-	-	5.9%	0.32	35.0%	8.1%
South Jersey Industries Inc		9.5%	0.63	6.0%	0.00	6.1%	0.37	35.0%	7.4%
Southwest Gas Corp		10.4%	0.41	-	-	6.1%	0.59	35.0%	6.6%
WGL Holdings Inc	*	10.4%	0.66	5.8%	0.01	5.7%	0.33	35.0%	8.2%
AGL Resources Inc		11.1%	0.58	5.9%	0.02	5.9%	0.41	35.0%	8.0%
Vectren Corp		11.1%	0.59	5.9%	0.00	5.9%	0.41	35.0%	8.1%
Average		10.3%	0.59	5.9%	0.00	5.9%	0.41	35.0%	7.7%
Subsample Average		10.2%	0.63	5.8%	0.00	5.8%	0.36	35.0%	7.8%

Sources and Notes:
[1]: Table No. MJV-10; Panel A, [4].
[2]: Table No. MJV-4, [4].
[3]: Workpaper #2 to Table No. MJV-11 ; Panel B, [1].
[4]: Table No. MJV-4, [5].
[5]: Workpaper #2 to Table No. MJV-11 ; Panel A, [1].
[6]: Table No. MJV-4, [6].
[7]: Provided by Northwestern.
[8]: ([1] x [2]) + ([3] x [4]) + {[5] x [6] x (1 - [7])}.

*Represents companies in the subsample.

Table No. MJV-11

Overall Cost of Capital of the MJV US Gas LDC Sample

Panel B: ECAPM (0.5%) Cost of Equity Based on Value Line Betas and a Long-Term Risk-Free Rate

Company		ECAPM (0.5%) Cost of Equity [1]	5-Year Average Common Equity to Market Value Ratio [2]	Weighted - Average Cost of Preferred Equity [3]	5-Year Average Preferred Equity to Market Value Ratio [4]	Weighted Average Cost of Debt [5]	5-Year Average Debt to Market Value Ratio [6]	Northwestern's Income Tax Rate [7]	Overall After- Tax Cost of Capital [8]
Atmos Energy Corp		10.2%	0.56	-	-	6.0%	0.44	35.0%	7.4%
Laclede Group Inc/The	*	10.5%	0.59	5.9%	0.00	5.9%	0.41	35.0%	7.8%
Northwest Natural Gas Co	*	9.9%	0.61	5.8%	0.00	5.8%	0.39	35.0%	7.5%
Piedmont Natural Gas Co	*	10.2%	0.68	-	-	5.9%	0.32	35.0%	8.1%
South Jersey Industries Inc		9.6%	0.63	6.0%	0.00	6.1%	0.37	35.0%	7.5%
Southwest Gas Corp		10.5%	0.41	-	-	6.1%	0.59	35.0%	6.6%
WGL Holdings Inc	*	10.5%	0.66	5.8%	0.01	5.7%	0.33	35.0%	8.2%
AGL Resources Inc		11.1%	0.58	5.9%	0.02	5.9%	0.41	35.0%	8.0%
Vectren Corp		11.1%	0.59	5.9%	0.00	5.9%	0.41	35.0%	8.1%
Average		10.4%	0.59	5.9%	0.00	5.9%	0.41	35.0%	7.7%
Subsample Average		10.3%	0.63	5.8%	0.00	5.8%	0.36	35.0%	7.9%

Sources and Notes:
[1]: Table No. MJV-10; Panel A, [5].
[2]: Table No. MJV-4, [4].
[3]: Workpaper #2 to Table No. MJV-11 ; Panel B, [1].
[4]: Table No. MJV-4, [5].
[5]: Workpaper #2 to Table No. MJV-11 ; Panel A, [1].
[6]: Table No. MJV-4, [6].
[7]: Provided by Northwestern.
[8]: ([1] x [2]) + ([3] x [4]) + {[5] x [6] x (1 - [7])}.

*Represents companies in the subsample.

Table No. MJV-11

Overall Cost of Capital of the MJV US Gas LDC Sample

Panel C: ECAPM (1.5%) Cost of Equity Based on Value Line Betas and a Long-Term Risk-Free Rate

Company		ECAPM (1.5%) Cost of Equity [1]	5-Year Average Common Equity to Market Value Ratio [2]	Weighted - Average Cost of Preferred Equity [3]	5-Year Average Preferred Equity to Market Value Ratio [4]	Weighted Average Cost of Debt [5]	5-Year Average Debt to Market Value Ratio [6]	Northwestern's Income Tax Rate [7]	Overall After- Tax Cost of Capital [8]
Atmos Energy Corp		10.4%	0.56	-	-	6.0%	0.44	35.0%	7.5%
Laclede Group Inc/The	*	10.7%	0.59	5.9%	0.00	5.9%	0.41	35.0%	7.8%
Northwest Natural Gas Co	*	10.2%	0.61	5.8%	0.00	5.8%	0.39	35.0%	7.7%
Piedmont Natural Gas Co	*	10.4%	0.68	-	-	5.9%	0.32	35.0%	8.3%
South Jersey Industries Inc		9.9%	0.63	6.0%	0.00	6.1%	0.37	35.0%	7.7%
Southwest Gas Corp		10.7%	0.41	-	-	6.1%	0.59	35.0%	6.7%
WGL Holdings Inc	*	10.7%	0.66	5.8%	0.01	5.7%	0.33	35.0%	8.3%
AGL Resources Inc		11.2%	0.58	5.9%	0.02	5.9%	0.41	35.0%	8.1%
Vectren Corp		11.2%	0.59	5.9%	0.00	5.9%	0.41	35.0%	8.1%
Average		10.6%	0.59	5.9%	0.00	5.9%	0.41	35.0%	7.8%
Subsample Average		10.5%	0.63	5.8%	0.00	5.8%	0.36	35.0%	8.0%

Sources and Notes:
[1]: Table No. MJV-10; Panel A, [6].
[2]: Table No. MJV-4, [4].
[3]: Workpaper #2 to Table No. MJV-11 ; Panel B, [1].
[4]: Table No. MJV-4, [5].
[5]: Workpaper #2 to Table No. MJV-11 ; Panel A, [1].
[6]: Table No. MJV-4, [6].
[7]: Provided by Northwestern.
[8]: ([1] x [2]) + ([3] x [4]) + {[5] x [6] x (1 - [7])}.

*Represents companies in the subsample.

Table No. MJV-11

Overall Cost of Capital of the MJV US Gas LDC Sample

Panel D: CAPM Cost of Equity Based on Value Line Betas and a Short-Term Risk-Free Rate

Company		CAPM Cost of Equity [1]	5-Year Average Common Equity to Market Value Ratio [2]	Weighted - Average Cost of Preferred Equity [3]	5-Year Average Preferred Equity to Market Value Ratio [4]	Weighted Average Cost of Debt [5]	5-Year Average Debt to Market Value Ratio [6]	Northwestern's Income Tax Rate [7]	Overall After- Tax Cost of Capital [8]
Atmos Energy Corp		10.2%	0.56	-	-	6.0%	0.44	35.0%	7.4%
Laclede Group Inc/The	*	10.6%	0.59	5.9%	0.00	5.9%	0.41	35.0%	7.8%
Northwest Natural Gas Co	*	9.8%	0.61	5.8%	0.00	5.8%	0.39	35.0%	7.4%
Piedmont Natural Gas Co	*	10.2%	0.68	-	-	5.9%	0.32	35.0%	8.1%
South Jersey Industries Inc		9.4%	0.63	6.0%	0.00	6.1%	0.37	35.0%	7.4%
Southwest Gas Corp		10.6%	0.41	-	-	6.1%	0.59	35.0%	6.7%
WGL Holdings Inc	*	10.6%	0.66	5.8%	0.01	5.7%	0.33	35.0%	8.3%
AGL Resources Inc		11.4%	0.58	5.9%	0.02	5.9%	0.41	35.0%	8.2%
Vectren Corp		11.4%	0.59	5.9%	0.00	5.9%	0.41	35.0%	8.3%
Average		10.5%	0.59	5.9%	0.00	5.9%	0.41	35.0%	7.7%
Subsample Average		10.3%	0.63	5.8%	0.00	5.8%	0.36	35.0%	7.9%

Sources and Notes:
[1]: Table No. MJV-10; Panel B, [4].
[2]: Table No. MJV-4, [4].
[3]: Workpaper #2 to Table No. MJV-11 ; Panel B, [1].
[4]: Table No. MJV-4, [5].
[5]: Workpaper #2 to Table No. MJV-11 ; Panel A, [1].
[6]: Table No. MJV-4, [6].
[7]: Provided by Northwestern.
[8]: ([1] x [2]) + ([3] x [4]) + {[5] x [6] x (1 - [7])}.

*Represents companies in the subsample.

Table No. MJV-11

Overall Cost of Capital of the MJV US Gas LDC Sample

Panel E: ECAPM (1%) Cost of Equity Based on Value Line Betas and a Short-Term Risk-Free Rate

Company		ECAPM (1%) Cost of Equity [1]	5-Year Average Common Equity to Market Value Ratio [2]	Weighted - Average Cost of Preferred Equity [3]	5-Year Average Preferred Equity to Market Value Ratio [4]	Weighted Average Cost of Debt [5]	5-Year Average Debt to Market Value Ratio [6]	Northwestern's Income Tax Rate [7]	Overall After- Tax Cost of Capital [8]
Atmos Energy Corp		10.4%	0.56	-	-	6.0%	0.44	35.0%	7.5%
Laclede Group Inc/The	*	10.8%	0.59	5.9%	0.00	5.9%	0.41	35.0%	7.9%
Northwest Natural Gas Co	*	10.1%	0.61	5.8%	0.00	5.8%	0.39	35.0%	7.6%
Piedmont Natural Gas Co	*	10.4%	0.68	-	-	5.9%	0.32	35.0%	8.3%
South Jersey Industries Inc		9.7%	0.63	6.0%	0.00	6.1%	0.37	35.0%	7.6%
Southwest Gas Corp		10.8%	0.41	-	-	6.1%	0.59	35.0%	6.8%
WGL Holdings Inc	*	10.8%	0.66	5.8%	0.01	5.7%	0.33	35.0%	8.4%
AGL Resources Inc		11.5%	0.58	5.9%	0.02	5.9%	0.41	35.0%	8.2%
Vectren Corp		11.5%	0.59	5.9%	0.00	5.9%	0.41	35.0%	8.3%
Average		10.6%	0.59	5.9%	0.00	5.9%	0.41	35.0%	7.8%
Subsample Average		10.5%	0.63	5.8%	0.00	5.8%	0.36	35.0%	8.0%

Sources and Notes:
[1]: Table No. MJV-10; Panel B, [5].
[2]: Table No. MJV-4, [4].
[3]: Workpaper #2 to Table No. MJV-11 ; Panel B, [1].
[4]: Table No. MJV-4, [5].
[5]: Workpaper #2 to Table No. MJV-11 ; Panel A, [1].
[6]: Table No. MJV-4, [6].
[7]: Provided by Northwestern.
[8]: ([1] x [2]) + ([3] x [4]) + {[5] x [6] x (1 - [7])}.

*Represents companies in the subsample.

Table No. MJV-11

Overall Cost of Capital of the MJV US Gas LDC Sample

Panel F: ECAPM (2%) Cost of Equity Based on Value Line Betas and a Short-Term Risk-Free Rate

Company		ECAPM (2%) Cost of Equity [1]	5-Year Average Common Equity to Market Value Ratio [2]	Weighted - Average Cost of Preferred Equity [3]	5-Year Average Preferred Equity to Market Value Ratio [4]	Weighted Average Cost of Debt [5]	5-Year Average Debt to Market Value Ratio [6]	Northwestern's Income Tax Rate [7]	Overall After- Tax Cost of Capital [8]
Atmos Energy Corp		10.6%	0.56	-	-	6.0%	0.44	35.0%	7.6%
Laclede Group Inc/The	*	10.9%	0.59	5.9%	0.00	5.9%	0.41	35.0%	8.0%
Northwest Natural Gas Co	*	10.3%	0.61	5.8%	0.00	5.8%	0.39	35.0%	7.8%
Piedmont Natural Gas Co	*	10.6%	0.68	-	-	5.9%	0.32	35.0%	8.4%
South Jersey Industries Inc		10.0%	0.63	6.0%	0.00	6.1%	0.37	35.0%	7.8%
Southwest Gas Corp		10.9%	0.41	-	-	6.1%	0.59	35.0%	6.8%
WGL Holdings Inc	*	10.9%	0.66	5.8%	0.01	5.7%	0.33	35.0%	8.5%
AGL Resources Inc		11.5%	0.58	5.9%	0.02	5.9%	0.41	35.0%	8.3%
Vectren Corp		11.5%	0.59	5.9%	0.00	5.9%	0.41	35.0%	8.3%
Average		10.8%	0.59	5.9%	0.00	5.9%	0.41	35.0%	7.9%
Subsample Average		10.7%	0.63	5.8%	0.00	5.8%	0.36	35.0%	8.2%

Sources and Notes:
[1]: Table No. MJV-10; Panel B, [6].
[2]: Table No. MJV-4, [4].
[3]: Workpaper #2 to Table No. MJV-11 ; Panel B, [1].
[4]: Table No. MJV-4, [5].
[5]: Workpaper #2 to Table No. MJV-11 ; Panel A, [1].
[6]: Table No. MJV-4, [6].
[7]: Provided by Northwestern.
[8]: ([1] x [2]) + ([3] x [4]) + {[5] x [6] x (1 - [7])}.

*Represents companies in the subsample.

Table No. MJV-11

Overall Cost of Capital of the MJV US Gas LDC Sample

Panel G: ECAPM (3%) Cost of Equity Based on Value Line Betas and a Short-Term Risk-Free Rate

Company		ECAPM (3%) Cost of Equity [1]	5-Year Average Common Equity to Market Value Ratio [2]	Weighted - Average Cost of Preferred Equity [3]	5-Year Average Preferred Equity to Market Value Ratio [4]	Weighted Average Cost of Debt [5]	5-Year Average Debt to Market Value Ratio [6]	Northwestern's Income Tax Rate [7]	Overall After- Tax Cost of Capital [8]
Atmos Energy Corp		10.8%	0.56	-	-	6.0%	0.44	35.0%	7.7%
Laclede Group Inc/The	*	11.1%	0.59	5.9%	0.00	5.9%	0.41	35.0%	8.1%
Northwest Natural Gas Co	*	10.6%	0.61	5.8%	0.00	5.8%	0.39	35.0%	7.9%
Piedmont Natural Gas Co	*	10.8%	0.68	-	-	5.9%	0.32	35.0%	8.5%
South Jersey Industries Inc		10.3%	0.63	6.0%	0.00	6.1%	0.37	35.0%	8.0%
Southwest Gas Corp		11.1%	0.41	-	-	6.1%	0.59	35.0%	6.9%
WGL Holdings Inc	*	11.1%	0.66	5.8%	0.01	5.7%	0.33	35.0%	8.6%
AGL Resources Inc		11.6%	0.58	5.9%	0.02	5.9%	0.41	35.0%	8.3%
Vectren Corp		11.6%	0.59	5.9%	0.00	5.9%	0.41	35.0%	8.4%
Average		11.0%	0.59	5.9%	0.00	5.9%	0.41	35.0%	8.0%
Subsample Average		10.9%	0.63	5.8%	0.00	5.8%	0.36	35.0%	8.3%

Sources and Notes:
[1]: Table No. MJV-10; Panel B, [7].
[2]: Table No. MJV-4, [4].
[3]: Workpaper #2 to Table No. MJV-11 ; Panel B, [1].
[4]: Table No. MJV-4, [5].
[5]: Workpaper #2 to Table No. MJV-11 ; Panel A, [1].
[6]: Table No. MJV-4, [6].
[7]: Provided by Northwestern.
[8]: ([1] x [2]) + ([3] x [4]) + {[5] x [6] x (1 - [7])}.

*Represents companies in the subsample.

Table No. MJV-12

Risk Positioning Cost of Equity at Northwestern's Capital Structure

MJV US Gas LDC Sample

Panel A: Using Value Line Betas

	Overall Cost of Capital [1]	Northwestern's Regulatory % Debt [2]	Northwestern's Cost of Debt [3]	Northwestern's Income Tax Rate [4]	Northwestern's Regulatory % Equity [5]	Estimated Return on Equity [6]
Using Long-Term Risk-Free Rates:						
CAPM using Value Line Betas	7.7%	0.49	6.1%	35.0%	0.51	11.1%
ECAPM (0.50%) using Value Line Betas	7.7%	0.49	6.1%	35.0%	0.51	11.2%
ECAPM (1.50) using Value Line Betas	7.8%	0.49	6.1%	35.0%	0.51	11.4%
Using Short-Term Risk-Free Rates:						
CAPM using Value Line Betas	7.7%	0.49	6.1%	35.0%	0.51	11.3%
ECAPM (1%) using Value Line Betas	7.8%	0.49	6.1%	35.0%	0.51	11.5%
ECAPM (2%) using Value Line Betas	7.9%	0.49	6.1%	35.0%	0.51	11.7%
ECAPM (3%) using Value Line Betas	8.0%	0.49	6.1%	35.0%	0.51	11.9%

Sources and Notes:
[1]: Table No. MJV-11; Panels A - G, [8].
[2]: Provided by Northwestern.
[3]: Based off an BBB rating, as provided by Northwestern. Yield pulled from Bloomberg as of March 27, 2007.
[4]: Provided by Northwestern.
[5]: Provided by Northwestern.
[6]: {[1] - ([2] x [3] x (1 - [4]))} / [5].

Table No. MJV-12

Risk Positioning Cost of Equity at Northwestern's Capital Structure

MJV US Gas LDC Sample

Panel B: Using Subsample and Value Line Betas

	Overall Cost of Capital [1]	Northwestern's Regulatory % Debt [2]	Northwestern's Cost of Debt [3]	Northwestern's Income Tax Rate [4]	Northwestern's Regulatory % Equity [5]	Estimated Return on Equity [6]
Using Long-Term Risk-Free Rates:						
CAPM using Value Line Betas	7.8%	0.49	6.1%	35.0%	0.51	11.5%
ECAPM (0.50%) using Value Line Betas	7.9%	0.49	6.1%	35.0%	0.51	11.6%
ECAPM (1.50) using Value Line Betas	8.0%	0.49	6.1%	35.0%	0.51	11.8%
Using Short-Term Risk-Free Rates:						
CAPM using Value Line Betas	7.9%	0.49	6.1%	35.0%	0.51	11.6%
ECAPM (1%) using Value Line Betas	8.0%	0.49	6.1%	35.0%	0.51	11.9%
ECAPM (2%) using Value Line Betas	8.2%	0.49	6.1%	35.0%	0.51	12.1%
ECAPM (3%) using Value Line Betas	8.3%	0.49	6.1%	35.0%	0.51	12.3%

Sources and Notes:

[1]: Table No. MJV-11; Panels A - G, [8].

[2]: Provided by Northwestern.

[3]: Based off an BBB rating, as provided by Northwestern. Yield pulled from Bloomberg as of March 27, 2007.

[4]: Provided by Northwestern.

[5]: Provided by Northwestern.

[6]: {[1] - ([2] x [3] x (1 - [4]))} / [5].

Company Exhibit 8

BEFORE THE

PUBLIC UTILITIES COMMISSION OF OHIO

In the Matter of the Application of Ohio Edison Company, The Cleveland Electric Illuminating Company, and The Toledo Edison Company for Authority to Increase Rates for Distribution Service, Modify Certain Accounting Practice And for Tariff Approvals	))))))	**Case No. 07-551-EL-AIR** **Case No. 07-552-EL-ATA** **Case No. 07-553-EL-AAM** **Case No. 07-554-EL-UNC**

DIRECT TESTIMONY OF

MICHAEL J. VILBERT

ON BEHALF OF

OHIO EDISON COMPANY
THE TOLEDO EDISON COMPANY, AND
THE CLEVELAND ELECTRIC ILLUMINATING COMPANY

__ Management policies, practice, and organization

__ Operating income

__ Rate base

__ Allocations

X Rate of return

__ Rates and tariffs

__ Other – Cost of Service

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I. INTRODUCTION AND SUMMARY

Q1. Please state your name and address for the record.

A1. My name is Michael J. Vilbert. My business address is The Brattle Group, 44 Brattle Street, Cambridge, MA 02138, USA.

Q2. Please describe your job and your educational experience.

A2. I am a Principal of The Brattle Group, ("Brattle"), an economic, environmental and management consulting firm with offices in Cambridge, Washington, London, San Francisco and Brussels. My work concentrates on financial and regulatory economics. I hold a B.S. from the U.S. Air Force Academy and a Ph.D. in finance from the Wharton School of Business at the University of Pennsylvania.

Q3. What is the purpose of your testimony in this proceeding?

A3. I have been asked by Ohio Edison Company ("OE"), The Cleveland Electric Illuminating Company ("CEI") and The Toledo Electric Company ("TE"), (collectively, the "Companies" or the Ohio Electric Distribution Utilities ("Ohio EDUs")) to estimate the cost of equity that the Public Utilities Commission of Ohio (the "PUCO" or the "Commission") should allow the Ohio EDUs an opportunity to earn on the equity financed portion of their rate bases.

To accomplish this task, I estimate the overall cost of capital for a sample of regulated electric companies using the discounted cash flow ("DCF") and the risk positioning models. I then evaluate the relative risk of the Ohio EDUs compared to the sample companies to determine the recommended cost of equity for a regulatory capital structure with 49 percent equity, which is the percentage of equity in the Ohio EDUs' proposed capital structures in the filing for this proceeding.

Q4. Please summarize the parts of your background and experience that are particularly relevant to your testimony on these matters.

A4. Brattle's specialties include financial economics, regulatory economics, and the gas and electric industries. I have worked in the areas of cost of capital, investment risk and

related matters for many industries, regulated and unregulated alike, in many forums. I have testified or filed cost of capital testimony before the Federal Energy Regulatory Commission, the Arizona Corporation Commission, the Pennsylvania Public Utility Commission, the Public Service Commission of West Virginia, the Tennessee Regulatory Authority, the Public Service Commission of Wisconsin, the South Dakota Utilities Board, the California Public Utilities Board, the Canadian National Energy Board, Alberta Energy and Utilities Board, the Ontario Energy Board, and the Labrador & Newfoundland Board of Commissioners of Public Utilities. I have not previously testified before this Commission. Appendix A contains more information on my professional qualifications.

Q5. Please summarize how you approached this task.

A5. I review the evidence from a sample of regulated electric utilities which were selected to be of comparable business risk to the Ohio EDUs. My analyses consider cost of capital evidence from the risk positioning and discounted cash flow models, but I rely primarily on the risk positioning results because I do not believe that the DCF method is completely reliable at this time.

Specifically, I estimate the cost of equity for the companies in the sample group using both cost-of-equity estimation methods. For each cost-of-equity estimate, I combine this value with the sample company's market costs of debt and preferred stock to calculate each firm's overall cost of capital, i.e. its after-tax weighted-average cost of capital ("ATWACC"), using each company's market value capital structure as the weights. For each method of estimating the return on equity, I report the sample average ATWACC and the estimated cost of equity for this line of business at a capital structure with 49 percent equity. I thus present the cost of equity that is consistent with both the sample's market information and the Ohio EDUs' regulatory capital structures. (By "regulatory capital structure," I mean the capital structures that the Ohio EDUs utilize in their applications.[1])

[1] The capital structure that I customarily use in these analyses is based upon the long-term sources of capital, i.e., long-term debt, preferred equity and common equity. I do not use short-term debt because long-term

This method automatically avoids problems that can arise when an analyst focuses separately on the individual components (i.e., the cost of equity and the appropriate capital structure) of the overall cost of capital. The danger with that approach is that the estimated cost of equity from the sample may correspond to a very different level of financial risk than would exist at the regulated company's capital structure. The result could be an inconsistency between the allowed return on equity and the financial risk inherent in the regulatory capital structure.

Q6. Why do you believe that the DCF model is less reliable for this industry at this time than the risk positioning model?

A6. Results for the DCF model depend critically on the estimate of the dividend growth rate. A one percent error in the estimate of the growth rate results in a greater than one percent error in the cost of equity estimates. The move toward a restructured industry featuring greater competition among providers of generation services has stalled and the future structure of the electric industry remains in doubt. The legislature in Virginia has approved legislation that effectively ends electric deregulation in the Commonwealth,[2] and the legislature in Illinois proposed a one-year extension of the rate cap on the cost of power that is less than the current market price of power.[3] Natural gas prices have increased dramatically and have been much more volatile lately relative to just a few years ago. Although most of the companies in the sample have fuel cost adjustment clauses, the increased volatility of gas prices has increased the uncertainty of the industry's earnings going forward. These facts are not a description of an industry that could be characterized as stable with earnings and dividends likely to grow at a constant rate over the foreseeable future, but that is precisely the condition necessary for the reliable implementation of the DCF model.

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assets are not generally financed with short-term debt. In the case of the Ohio EDUs, there is no preferred stock.

[2] H.B. 3068 and S.B. 1416 was approved by the General Assembly on April 4, 2007 and are expected to become law on July 1. See, for example, www.dom.com/about/companies/vapower/rereg.jsp.

[3] See http://www.ilga.gov/legislation/billstatus.asp? DocNum=1592&GAID=9&GA=95, &DocTypeID=SB&LegID=29675&SessionID=51

The DCF model results display a greater spread and are more variable and less reliable than those based upon the risk positioning model; however, I provide results using the DCF method, because it is a method that has been relied upon by commissions frequently in the past. In addition, results from the DCF model serve as a check on the results from the equity risk positioning approach.

Q7. What are the results for the DCF model?

A7. Results from the simple DCF model and for the more reliable multistage model are set out in the accompanying tables. (See Table No. MJV-6, Panel A - simple DCF and Panel B - multistage DCF) After properly adjusting for financial risk, the sample average for the simple DCF model is 13.4 percent and for the multistage DCF model is 11.2 percent. (See Table No. MJV-8) I believe that these highly variable DCF results demonstrate that the conditions necessary for a completely reliable implementation of the DCF model do not obtain at this time.

Q8. What are the results for the risk positioning model?

A8. The sample average risk positioning results, adjusted for differences in financial risk, range from a low of 11.8 to 12.1 percent for the full sample when using the long-term risk-free rate. I also report results for the risk positioning model using the short-term risk-free rate, but I place very little weight on those estimates in this proceeding. (See Table No. MJV-12)

Q9. You mentioned the importance of considering financial risk when evaluating the results of the models. Please explain how you adjust for financial risk.

A9. Both the DCF and the risk positioning models rely on market data to estimate the cost of equity for the sample companies. That cost of equity estimate captures both the business risk and the financial risk of the assets. Business risk is the risk that the company would have if it were financed entirely with equity. Financial risk is the additional risk carried by the equity holders when debt is used to finance some of the assets. The more debt that is used by a company, the riskier the company's equity becomes. As explained in more detail below, the procedures I use consider both the business risk and the financial risk of

the sample companies in comparison to the Ohio EDUs in determining my recommended cost of equity.

Q10. What is your conclusion on the market-determined cost of capital for the Ohio EDUs based upon the results from the sample of regulated companies you selected?

A10. The best point estimate of the cost of equity for the Ohio EDUs is 11¾ percent for a capital structure with 49 percent equity, but it is more correct to say that the sample results indicate a range for the cost of equity estimates from 11¼ to 12¼ percent. The corresponding midpoint of the range of the overall cost of capital estimates, i.e., the ATWACC, for the benchmark sample companies is 7⅞ percent with a range of 7⅜ to 8⅜ percent. Note, that I specify a plus or minus ½ percent range for the return on equity and specify the point estimate to the nearest ¼ percent because I do not believe that it is possible to estimate the cost of equity more precisely than that.

Q11. How is your testimony organized?

A11. *Section II* formally defines the cost of capital and touches on the principles relating to the cost of capital and capital structure for a business. *Section III* presents the methods used to estimate the cost of capital for the benchmark sample and the associated numerical analyses, and explains the basis of my conclusions for the benchmark sample's returns on equity and overall costs of capital. *Section IV* presents the results of these methods applied to the benchmark sample group, and presents the costs of equity implied by the results. My conclusions on the cost of equity for the Ohio EDUs are presented in *Section V*. Appendix B provides additional details on the selection of the sample and the calculation of the market value capital structures of the sample companies. Appendices C and D support *Sections III and IV* with additional details on the risk positioning model and DCF approach, respectively, including the details of the numerical analyses. Appendix E discusses the effect of debt on the cost of equity in more detail.

II. COST OF CAPITAL THEORY

A. THE COST OF CAPITAL AND RISK

Q12. Please formally define the "Cost of Capital."

A12. The cost of capital can be defined as *the expected rate of return in capital markets on alternative investments of equivalent risk*. In other words, it is the rate of return investors require based on the risk-return alternatives available in competitive capital markets. The cost of capital is a type of opportunity cost: it represents the rate of return that investors could expect to earn elsewhere without bearing more risk. "Expected" is used in the statistical sense: the mean of the distribution of possible outcomes. The terms "expect" and "expected" in this testimony, as in the definition of the cost of capital itself, refer to the probability-weighted average over all possible outcomes.

The definition of the cost of capital recognizes a tradeoff between risk and return that is known as the "security market risk-return line," or "security market line" for short. This line is depicted in Figure 1. The higher the risk, the higher is the cost of capital. A version of Figure 1 applies for all investments. However, for different types of securities, the location (i.e., the intercept and the slope) of the line may depend on corporate and personal tax rates.

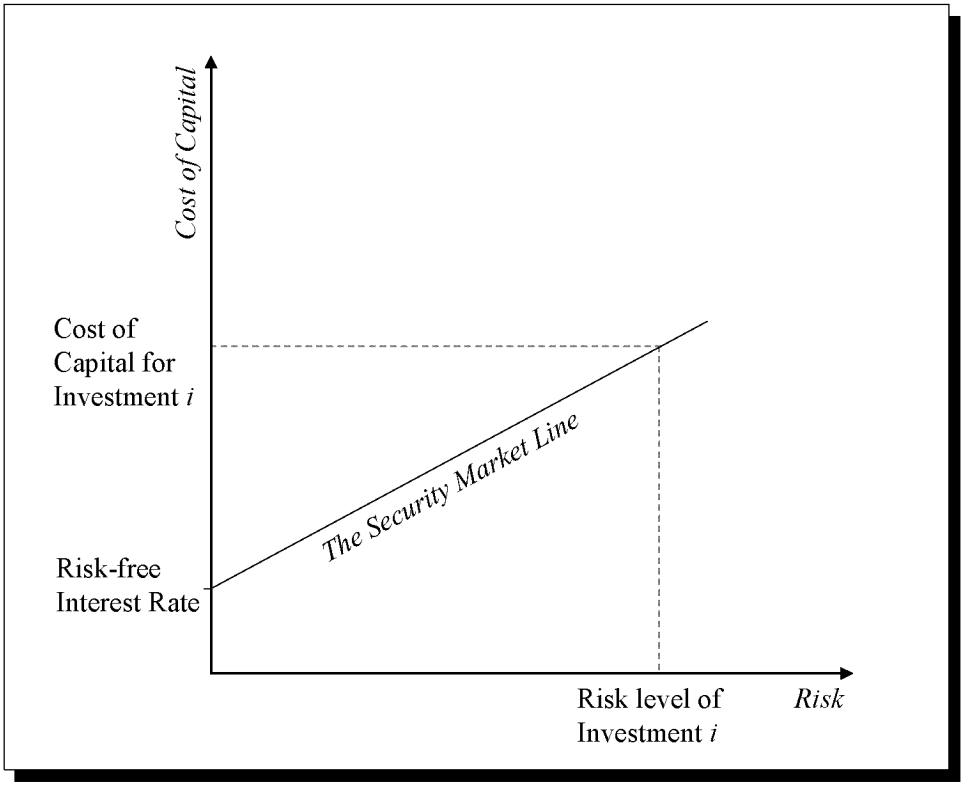

Figure 1: The Security Market Line

Q13. Why is the cost of capital relevant in rate regulation?

A13. It has become routine in U.S. rate regulation to accept the "cost of capital" as the right expected rate of return on utility investment.[4] That practice is normally viewed as consistent with the U.S. Supreme Court's opinions in *Bluefield Waterworks & Improvement Co. v. Public Service Commission*, 262 U.S. 678 (1923), and *Federal Power Commission v. Hope Natural Gas*, 320 U.S. 591 (1944).

From an economic perspective, rate levels that give investors a fair opportunity to earn the cost of capital are the lowest levels that compensate investors for the risks they bear. Over the long run, an expected return above the cost of capital makes customers overpay for service. Regulatory commissions normally try to prevent such outcomes, unless there are offsetting benefits (e.g., from incentive regulation that reduces future costs). At the same time, an expected return below the cost of capital does a disservice not just to

[4] A formal link between the cost of capital as defined by financial economics and the right expected rate of return for utilities is established by Stewart C. Myers, "Application of Finance Theory to Public Utility Rate Cases," *The Bell Journal of Economics and Management Science*, 3:58-97 (Spring 1972).

investors but, importantly, to customers as well. In the long run, such a return denies the company the ability to attract capital, to maintain its financial integrity, and to expect a return commensurate with that of other enterprises attended by corresponding risks and uncertainties.

More important for customers, however, are the economic issues an inadequate return raises for them. In the short run, deviations of the expected rate of return on the rate base from the cost of capital may seemingly create a "zero-sum game"-- investors gain if customers are overcharged, and customers gain if investors are shortchanged. But in fact in the short run, such action may adversely affect the utility's ability to provide stable and favorable rates because some potential efficiency investments may be delayed or because the company is forced to file more frequent rate cases. In the long run, inadequate returns are likely to cost customers -- and society generally -- far more than is gained in the short run. Inadequate returns lead to inadequate investment, whether for maintenance or for new plant and equipment. The costs of an undercapitalized industry can be far greater than the short-run gains from shortfalls in the cost of capital. Moreover, in capital-intensive industries (such as the electric utility industry), systems that take a long time to decay cannot be fixed overnight. Thus, it is in the customers' interest not only to make sure the return investors expect does not exceed the cost of capital, but also to make sure that it does not fall short of the cost of capital, either.

Of course, the cost of capital cannot be estimated with perfect certainty, and other aspects of the way the revenue requirement is set may mean investors expect to earn more or less than the cost of capital even if the allowed rate of return equals the cost of capital exactly. However, a commission that sets rates so investors expect to earn the cost of capital on average treats both customers and investors fairly, and acts in the long-run interests of both groups.

Q14. If a commission sets the allowed return equal to the cost of capital is that sufficient to insure that the regulated company has a fair opportunity to earn its cost of capital?

A14. In general, yes, but there are circumstances in which it would not. Specifically, if the regulated company faces a substantial level of asymmetric risk, the regulated company may not expect to earn its cost of capital on average. Asymmetric risk for a regulated company exists when the possibility of a large negative outcome is not balanced by the possibility of a corresponding positive outcome. For example, if a regulated electric distribution company serving as provider of last resort were unable to pass through to customers the full costs of acquiring power due a rate cap, setting the allowed return equal to the cost of capital would not provide a fair opportunity to earn it. This is the situation currently faced by the utilities in Illinois with the proposed extension of a price cap that is less than the current price of power. In such a situation, the regulated company will expect to earn less than its cost of capital if there is any possibility that the market cost of power exceeds the rate cap. The solution would be to either remove the source of the asymmetric risk (e.g., the price cap) or set the allowed return high enough so that the regulated company can again expect to earn its cost of capital.

Q15. Does asymmetric risk affect the cost of capital?

A15. Maybe. In general, asymmetric risk definitely affects the probability that a regulated utility would expect to earn its allowed return, but it may not affect its cost of capital. The cost of capital would be affected if the asymmetric risk were correlated with changes in the capital market. However, if a regulated utility faces substantial asymmetric risk, the allowed return on equity would have to be increased in order for the regulated company to expect to earn its cost of capital on average.

Q16. Please expand the discussion how a regulator can correct the effect of asymmetric risk?

A16. There are two ways to correct asymmetric risk. The first is to add a premium to the allowed rate of return on equity for the regulated company so that it can again expect to earn its cost of capital. The second method is to remove the source of the asymmetric risk which in this example means allowing full recovery of the cost of providing POLR

service to the regulated company's customers. I believe that removing the source of the asymmetric risk is a more efficient and cost effective way to establish the conditions necessary for the regulated company to expect to earn its cost of capital.

Q17. Is this an issue for the Ohio EDUs at this time?

A17. Perhaps. Consider the following example on recovery of the costs of providing POLR service. If for any reason the Ohio EDUs did not expect to recover fully the costs of providing POLR service to their rate payers, they would face an asymmetric risk situation. Because they would earn, at best, an inadequate return for providing the POLR service, the Ohio EDUs would not expect to earn their allowed return on average. In order to provide the Companies a fair opportunity to earn their allowed return, the Commission would either have to remove the source of asymmetry or add a premium to the allowed rate of return. The premium required in this example is a function of the two things: first, the size of the expected loss due to incomplete recovery of the cost of providing POLR service to meet the needs of customers and second, the amount of rate base that is financed with equity. The calculation is to divide the expected loss by the amount of equity.

B. BUSINESS RISK & FINANCIAL RISK: CAPITAL STRUCTURE AND THE COST OF EQUITY

Q18. Please explain briefly the difference between business risk and financial risk.

A18. Business risk is the risk of a company from its line of business if it used no debt financing. When a firm uses debt to finance its assets, the business risk of the assets is shared between the debt holders and the equity holders, but the equity holders bear more of the risk because debt holders have a prior claim on the company's cash flows. Equity holders are residual claimants, which simply means that equity holders get paid last. In other words, the use of debt imposes financial risk on the equity holders. Therefore, the goal of selecting a sample is to choose companies whose business risk is judged to be comparable to the Ohio EDUs.

Q19. Please explain why it is necessary to report the cost of equity adjusted for capital structure.

A19. Briefly, rate regulation in North America tends to focus on the components of the overall cost of capital, and in particular, on what the "right" cost of equity and capital structure should be. Frequently, there is no consideration of whether the financial risks of the sample companies differ among themselves or differ from the regulated company. The cost of equity estimated using the standard models (e.g., the DCF model or the risk positioning model) reflects both the business and financial risk of the sample companies. However, the overall cost of capital depends primarily on the business the firm is in, i.e., business risk, while the costs of the debt and equity components depend not only on this business risk alone but also on the distribution of revenues between debt and equity, i.e. financial risk. The overall cost of capital is thus the more basic concept. As I explain in Appendix C, the overall cost of capital is constant within a broad middle range of values of capital structures, but the distribution of the costs and risks among debt and equity is not. Appendix D sets out the principles and procedures on which I rely.

C. IMPLICATIONS FOR ANALYSIS

Q20. Please explain the implications of the relationship between capital structure and the cost of equity in your testimony.

A20. The risk equity holders carry, and therefore the cost of equity, depends on the capital structure. As leverage increases, financial risk increases, and hence the required return on equity increases. An approach that estimates the cost of equity for each of the sample firms without explicit consideration of the market value capital structure (i.e., the financial risk) underlying those costs risks material errors. The costs of equity of the sample companies at their actual market-value capital structures do not necessarily reflect the same degree of financial risk as faced by equity holders in the regulated company, and thus could lead to an unfair rate of return if the sample's cost of equity estimate were simply and mechanically applied to the regulated company's capital structure. I avoid this problem by calculating each sample company's ATWACC using its market value capital structure. Using the sample's average overall cost of capital (i.e., the average of the sample companies' ATWACCs) as an estimate of the Ohio EDUs' cost of capital, I

then determine the corresponding return on equity at the Ohio EDUs' filed regulatory capital structures for the Ohio EDUs as sponsored by Mr. James F. Pearson. This procedure ensures that the capital structure (i.e., financial risk) and the estimated cost of equity are consistent with the market derived sample information.

In the following analyses, I estimate the cost of equity for each of the sample firms using the DCF and risk positioning estimation methods. I use each company's estimated cost of equity along with the Ohio EDUs' estimated 2008 marginal tax rate and each sample company's cost of debt and market-value capital structure to estimate the company's overall cost of capital.[5] I then calculate the sample's average overall cost of capital for each equity estimation method. Using the procedure discussed above, I then determine the cost of equity at the Ohio EDUs' regulated capital structure that is consistent with the sample's overall cost of capital information for each estimation method.

Q21. To assess the magnitude of financial risk for a rate regulated company, should you use the market-value or the book-value capital structure?

A21. The market-value capital structure is the relevant quantity for analyzing the cost of equity evidence, which is based on market information.

Q22. Has the need to use market-value capital structures to estimate the cost of equity been widely recognized in the academic community?

A22. Yes. The need to use market-value capital structures to analyze the effect of debt on the cost of equity has been recognized in the financial literature for a long time. For example, the initial reconciliation of the Modigliani-Miller theories of capital structure with the Capital Asset Pricing Model, in Robert S. Hamada, "Portfolio Analysis, Market Equilibrium and Corporate Finance," The Journal of Finance 24: 13-31 (March 1969) works with market-value capital structures. For a more recent presentation of the concept, see, for example, Richard A. Brealey, Stewart C. Myers, and Franklin Allen, *Principles of Corporate Finance*, New York: McGraw-Hill/Irwin 8th ed. (2006) pp. 503-06. Book values may be relevant for some issues, e.g., for covenants on individual bond issues, but

[5] The lowest marginal tax rate of the three Ohio EDUs is used to provide conservative cost of equity numbers. This is discussed in *Section IV.C* below.

as explained in the text, market values are the determinants of the impact of debt on the cost of equity.

Q23. Is the use of market values to calculate the impact of capital structure on the risk of equity incompatible with use of a book-value rate base for a regulated company?

A23. No, no more than it is incompatible to use market-based cost of equity estimation methods (such as DCF or the risk positioning model) with a book value rate base. That is, the cost of capital is the fair rate of return on regulatory investment (i.e., rate base) for both investors and customers. Most regulatory jurisdictions in North America measure the rate base using the net book value of assets, not current replacement value or historical cost trended for inflation, but the jurisdictions still apply market-derived measures of the cost of equity to that net book value rate base.

The issue here is "what level of risk is reflected in that cost of equity estimate?" That equity risk level depends on the sample company's market-value capital structure, not its book-value capital structure. *That risk level would be different if the sample company's market-value capital structure exactly equaled its book-value capital structure, so the estimated cost of equity would be different, too.*

Q24. Please sum up the implications of this section.

A24. The market risk, and therefore the cost of equity, depends directly on the market-value capital structure of the company or asset in question. It therefore is impossible to compare validly the measured costs of equity of different companies without taking capital structure into account. Capital structure and the cost of equity are unbreakably linked, and any effort to treat the two as separate and distinct questions violates both everyday experience (e.g., with home mortgages as shown in the extended example in Appendix E) and basic financial principles.

Q25. How should a cost of capital analyst implement this principle?

A25. As discussed further in Appendix E, there has been a great deal of financial research on the effects of capital structure on the value of the firm. One of the key conclusions that results from the research is that no narrowly defined optimal capital structure exists within industries, although the typical range of capital structures does vary among

industries.[6] Instead, there is a relatively wide range of capital structures within any industry in which fine-tuning the debt ratio makes little or no difference to the value of the firm, and hence to its overall after-tax cost of capital.

Accordingly, analysts should treat the market-value weighted average of the cost of equity and the after-tax current cost of corporate debt, or the "ATWACC" for short,[7] as constant within a broad middle range of capital structures for the industry. Sample evidence should be analyzed to determine the sample's average ATWACC, which can be compared across different firms or industries. The economically appropriate cost of equity for a regulated firm is the quantity that, when applied to the *regulatory* capital structure, produces the same ATWACC. That value is the cost of equity that the sample would have had, estimation problems aside, if the sample's market-value capital structure had been equal to the regulatory capital structure in question.

Q26. Can you provide an example of the calculation of the cost of equity consistent with the market-determined estimate of the sample's average overall cost of capital?

A26. Yes. Consider the following equation to calculate the ATWACC:[8]

$$ATWACC = r_D \times (1 - T_C) \times D + r_E \times E \qquad (1)$$

where r_D = market cost of debt,
r_E = market cost of equity,
T_C = corporate income tax rate,
D = percentage of debt in the capital structure, and
E = percentage of equity in capital structure.

[6] An exception is that very high-risk industries should avoid debt entirely, which makes their optimal capital structure zero percent debt.

[7] This quantity typically is called the "weighted-average cost of capital" or "WACC" in finance textbooks. The textbook WACC equals the *market*-value weighted average of the cost of equity and the *after-tax*, *current* cost of debt. However, rate regulation in North America has a legacy of working with another, and very different, weighted-average cost of capital, the *book*-value weighted average of the cost of equity and the *before-tax*, *embedded* cost of debt. Accordingly, in regulatory settings it's useful to refer to the textbook WACC as the "ATWACC," or "after-tax weighted-average cost of capital." I follow that practice here.

[8] Note that this equation assumes that only debt and equity are in the capital structure, but one can add preferred equity to the equation if appropriate.

The cost of equity consistent with overall cost of capital estimate (ATWACC), the market cost of debt and equity, the marginal corporate income tax rate and the amount of debt and equity in the capital structure can be determined by solving equation (1) for r_E.

III. COST OF CAPITAL METHODOLOGY

Q27. How is this section of your testimony organized?

A27. As noted in Section II, I estimate the cost of capital using a sample of comparable risk companies. This section first outlines the steps involved in selecting the benchmark sample, in determining the market-value capital structures, and in estimating the sample companies' costs of debt. It then turns to the procedures for estimating the cost of equity and describes the two cost of equity estimation methodologies used in this testimony, the DCF method and the risk positioning approach. These are the foundations of my cost of capital calculations which I present in the following section and which I use to derive a recommended cost of equity for the Ohio EDUs at their regulatory capital structure.

A. SAMPLE SELECTION

Q28. How do you select the benchmark sample of regulated electric utilities?

A28. The overall cost of capital for a part of a company depends on the risk of the business in which the part is engaged, not on the overall risk of the parent company on a consolidated basis. According to financial theory, the overall risk of a diversified company equals the market-value-weighted average of the risks of its components.

Estimating the cost of capital for the Ohio EDUs' regulated assets is the subject of this proceeding. The ideal sample would be a number of publicly traded "pure play" companies that distribute electricity and have a requirement to serve as providers of last resort (POLR). "Pure Play" is an investment term referring to companies with operations only in one line of business. Publicly traded firms, firms whose shares are freely traded on stock exchanges, are ideal because the best way to infer the cost of capital is to examine evidence from capital markets on companies in the given line of business.

In this case, a sample of companies whose operations are concentrated solely in the regulated distribution portion of the electric industry would be ideal. Unfortunately, the available sample of pure play electric distribution companies in the U.S. is too small for a reliable sample. Instead, I start with the companies listed as electric utilities in *Value Line*. I then apply my standard selection procedures which require, for example, that data from S&P or Moody's, *Value Line*, I/B/E/S and Bloomberg be available for all sample companies. Moreover, the companies must have a high percentage of revenues from regulated operations, no significant merger activity in the previous five years, and no recent dividend cuts or other activity that could cause the growth rates or beta estimates to be biased.

B. CAPITAL STRUCTURE & THE COST OF DEBT

1. Market-Value Capital Structure

Q29. What capital structure information do you require?

A29. For reasons discussed in Appendix E, explicit evaluation of the market-value capital structures of the sample companies is vital for a correct interpretation of the market evidence on the return on equity. This requires estimates of the market values of common equity, preferred equity and debt, and the current market costs of preferred equity and debt.

Q30. Please describe how you calculate the market values of common equity, preferred equity and debt.

A30. I estimate the capital structure for each sample company by estimating the market values of common equity, preferred equity and debt from the most recent publicly available data. The details are in Appendix B.

Briefly, the market value of common equity is the price per share times the number of shares outstanding. For the risk positioning approach, I use the last five trading days of each year to calculate the market value of equity for the year. I then calculate the average capital structure over the corresponding five-year period used to estimate the "beta" risk

measures for the sample companies.[9] This procedure matches the estimated beta to the degree of financial risk present during its estimation period. In the DCF analyses, I use the average closing stock price over the 15 trading days ending on the day that the earnings growth rate forecasts are obtained from Bloomberg.[10]

The market value of debt is estimated at its book value adjusted by the difference between the "estimated fair (market) Value" and the "carrying cost" of long-term debt reported in each company's 10-K.[11] The market value of preferred stock for the samples is set equal to its book value because the market values and book values do not differ much and because the percent of preferred stock in the capital structures of the sample companies is relatively small compared to the debt and common equity components.

2. Market Costs of Debt and Preferred Equity

Q31. How do you estimate the current market cost of debt?

A31. The market cost of debt for each company is set equal to the yield on an index of public utility bonds that have the same credit rating, and the yield is reported by Bloomberg's for an index of public utility company bonds with the same S&P rating. The DCF analyses use the current credit rating whereas the risk positioning analyses use the current yield of a utility bond that corresponds to the five-year average debt rating of each company so as to match consistently the horizon of information used by *Value Line* to estimate company's beta.

Q32. How do you estimate the market cost of preferred equity?

A32. For each company with preferred stock, the cost of preferred equity for each company is set equal to the yield on an index of preferred stock as reported in the Mergent Bond Record corresponding to the S&P rating of that company's debt.

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[9] *Value Line* uses five years of historical data to estimate its forecasted betas.

[10] Forecasts were obtained on March 20, 2007 for all companies in the benchmark sample.

[11] The book value of debt from Bloomberg includes all interest-bearing financial obligations that are not current and includes capitalized leases and mandatory redeemable preferred and trust preferred securities in accordance with FASB 150 effective June 2003. See Bloomberg definition of long-term debt for additional detail.

3. Risk-Free Interest Rate Forecast

Q33. What is the risk-free rate?

A33. The risk-free rate is the interest rate that can be earned with certainty. A common measure of this rate is the return on the government's Treasury bills and bonds. This rate is usually significantly below the rate which other borrowers pay for debt.

Q34. How do you obtain the forecasts of the risk-free interest rates over the period the utility rates set here are to be in effect?

A34. I obtain these forecast rates using data provided by Bloomberg. In particular, I use the reported government debt yields from the "constant maturity series". This information is displayed in Panels A and B of Table No. MJV-9.

Q35. What values do you use for the short-term and long-term risk-free interest rates?

A35. I use a value of 3.8 percent for the short-term risk-free interest rate and a value of 4.9 percent for the long-term risk-free interest rate as the benchmark risk-free interest rates in the equity risk premium analyses. These forecasts are constructed by using historical yield curve data to find the long-run average implied term premia on government securities, and combining these with recent yield curve data. Details of their calculation can be found in the Workpapers to Table No. MJV-9.

C. COST OF EQUITY METHODS

Q36. How do you estimate the cost of equity for your sample companies?

A36. Recall the definition of the cost of capital from the outset of my testimony: the expected rate of return in capital markets on alternative investments of equivalent risk. My cost of capital estimation procedures address three key points implied by the definition:

1. Since the cost of capital is an expected rate of return, it cannot be directly observed; it must be inferred from available evidence.

2. Since the cost of capital is determined in capital markets (e.g., the New York Stock Exchange), data from capital markets provide the best evidence from which to infer it.

3. Since the cost of capital depends on the return offered by alternative investments of equivalent risk, measures of the risks that matter in capital markets are part of the evidence that needs to be examined.

Q37. How does the above definition help in cost of capital estimation?

A37. The definition of the cost of capital recognizes a tradeoff between risk and expected return, plotted above in Figure 1, the security market line. Cost of capital estimation methods take one of two approaches: (1) they try to identify a comparable-risk sample of companies and to estimate the cost of capital directly; or (2) they establish the location of the security market line and estimate the relative risk of the security, which jointly determine the cost of capital. In terms of Figure 1, the first approach focuses directly on the vertical axis, while the second focuses both on the security's position on the horizontal axis and on the position of the security market line.

The first type of approach is more direct, but ignores the wealth of information available on securities not thought to be of precisely comparable risk. The "discounted cash flow" or "DCF" model is an example. The second type of approach, sometimes known as "equity risk premium approach," requires an extra step, but as a result can make use of information on all securities, not just a very limited subset. The Capital Asset Pricing Model ("CAPM") is an example. While both approaches can work equally well if conditions are right, one may be preferable to the other under a given set of circumstances. In particular, approaches that rely on the entire security market line (e.g., the risk positioning model) are less sensitive to deviations from the assumptions that underlie the model, all else equal. In this proceeding, I examine sample evidence from both the DCF and risk positioning models.

1. The Risk Positioning Approach

Q38. Please explain the risk positioning method.

A38. The risk positioning method estimates the cost of equity as the sum of a current interest rate and a company specific risk premium. It is therefore sometimes also known as the "risk premium" approach. This approach may sometimes be applied informally. For example, an analyst or Commission may check the spread between interest rates and what

is believed to be a reasonable estimate of the cost of capital at one time, and then apply that spread to changed interest rates to get a new estimate of the cost of capital at another time.

More formal applications of the risk positioning approach take full advantage of the security market line depicted in Figure 1: they use information on all securities to identify the security market line and derive the cost of capital for the individual security based on that security's relative risk. This reliance on the entire security market line makes the method less vulnerable to the kinds of problems that arise for the DCF method, which relies on one stock at a time. The risk positioning approach is widely used and underlies most of the current research published in academic journals on the nature, determinants and magnitude of the cost of capital.

Section I of Appendix C to this testimony provides more detail on the principles that underlie the risk positioning approach. Section II of Appendix C provides the details of the risk positioning approach empirical estimates I obtain.

Q39. How are the "more formal" applications of risk positioning approach implemented?

A39. The first step is to specify the current values of the parameters that determine the security market line. The second is to determine the security's or investment's relative risk. The third is to specify exactly how the parameters combine to produce the security market line, so the company's cost of capital can be calculated based on its relative risk. All of these elements and how they relate are usefully formulated in the framework of the CAPM.

a) The Capital Asset Pricing Model

Q40. Please start with the CAPM, by describing the model.

A40. As noted above, the modern models of capital market equilibrium express the cost of equity as the sum of a risk-free rate and a market risk premium. The CAPM is the longest-standing and most widely used of these theories. The CAPM states that the cost of capital for an investment, *s*, (e.g., a particular common stock) is given by the following equation:

$$k_s = r_f + \beta_s \times MRP \quad (2)$$

where k_s is the cost of capital for investment s; r_f is the risk-free rate, β_s is the beta risk measure for the investment s; and MRP is the market risk premium.

The CAPM relies on the empirical fact that investors price risky securities to offer a higher expected rate of return than safe securities do. It says that the security market line starts at the risk-free interest rate (that is the return on a zero-risk security, the y-axis intercept in Figure 1, equals the risk-free interest rate). It further says that the risk premium over the risk-free rate equals the product of beta and the risk premium on a value-weighted portfolio of all investments, which by definition has average risk.

b) The Empirical Capital Asset Pricing Model

Q41. What other equity risk premium model do you use?

A41. Empirical research has long shown that the CAPM tends to overstate the actual sensitivity of the cost of capital to beta: low-beta stocks tend to have higher risk premia than predicted by the CAPM and high-beta stocks tend to have lower risk premia than predicted. A number of variations on the original CAPM theory have been proposed to explain this finding, but this finding can also be used to estimate the cost of capital directly, using beta to measure relative risk without simultaneously relying on the CAPM.

The second model makes use of these empirical findings. It estimates the cost of capital with the equation, where α is the "alpha" adjustment of the risk-return line, a constant,

$$k_s = r_f + \alpha + \beta_s \times (MRP - \alpha) \quad (3)$$

and the other symbols are defined as above. I label this model the Empirical Capital Asset Pricing Model, or "ECAPM." The alpha adjustment has the effect of increasing the intercept but reducing the slope of the security market line in Figure 1, which results in a security market line that more closely matches the results of empirical tests.

Q42. Why is it appropriate for you to use the empirical CAPM?

A42. Although the CAPM is still the most widely used cost of capital estimation model, it has not been completely satisfactory as an empirical model; however, its short-comings are

directly addressed by the ECAPM. The ECAPM recognizes the consistent empirical observation that the CAPM underestimates (overestimates) the cost of capital for low (high) beta stocks. In other words, the ECAPM is based on the recognition that the actual slope of the risk-return tradeoff is flatter than predicted and the intercept higher based upon repeated empirical tests of the CAPM. The alpha parameter (α) in the ECAPM adjusts for this fact. The difference between the CAPM and the type of relationship identified in the empirical studies is depicted in Figure 2.

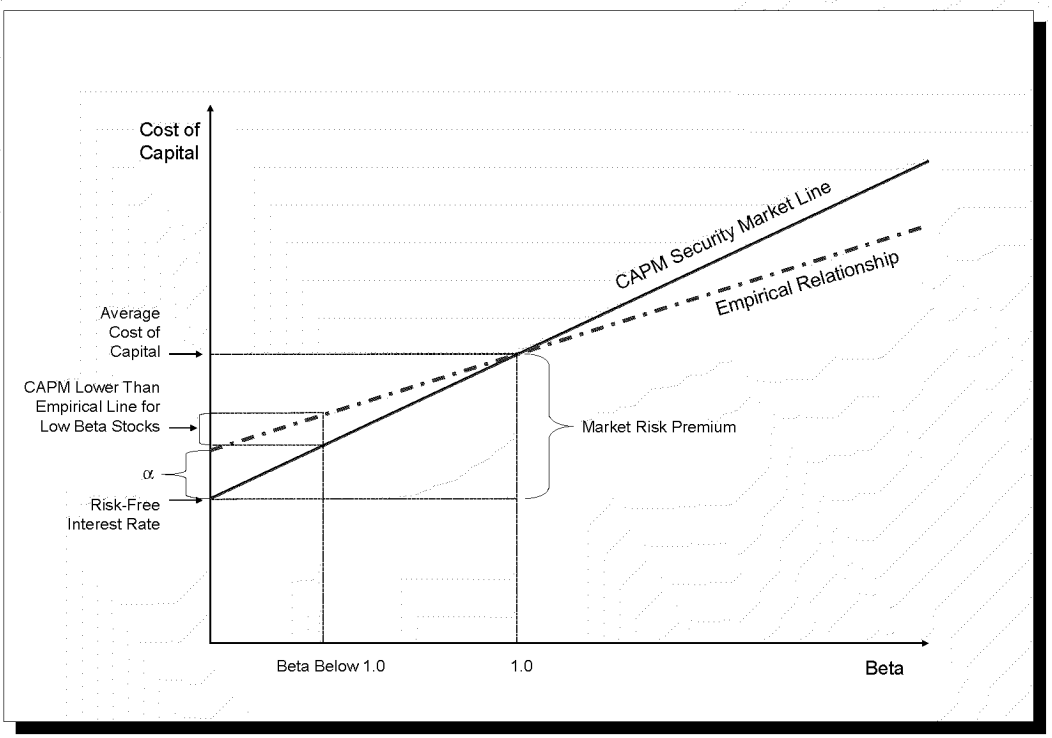

Figure 2: The Empirical Security Market Line

Research supports values for α of one to seven percent when using a short-term interest rate. I use baseline values of α of 2 percent for the short-term risk-free rate and 0.5 percent for the long-term risk-free rate. I also conduct sensitivity tests for different values of α. For the short-term risk-free rate I use values for α of 1, 2 and 3 percent. These α values are lower than would be justified by the magnitude of the correction revealed in the tests of the CAPM. For the long-term risk-free rate, the corresponding values for α are 0, 0.5 and 1.5 percent. The use of a long-term risk-free rate incorporates some of the desired effect of using the ECAPM. That is, the long-term risk-free rate version of the security market line has a higher intercept and a flatter slope than the short-

term risk-free version which has been extensively tested. Thus, I do not need to make the same degree of refinement when I use the long-term risk-free rate. Please see Table No. MJV-C1 in Appendix C for a summary of the empirical evidence on the size of the required adjustment necessary to better match the results of the empirical tests.

2. Discounted Cash Flow Method

Q43. Please describe the discounted cash flow approach.

A43. The DCF model takes the first approach to cost of capital estimation, i.e., to attempt to estimate the cost of capital in one step. The method assumes that the market price of a stock is equal to the present value of the dividends that its owners expect to receive. The method also assumes that this present value can be calculated by the standard formula for the present value of a cash flow stream:

$$P = \frac{D_1}{(1+k)} + \frac{D_2}{(1+k)^2} + \frac{D_3}{(1+k)^3} + \cdots + \frac{D_T}{(1+k)^T} \tag{4}$$

where "P" is the market price of the stock; "D_t" is the dividend cash flow expected at the end of period t (i.e., subscript period 1, 2, 3 or T in the equation); "k" is the cost of capital; and "T" is the last period in which a dividend cash flow is to be received. The formula just says that the stock price is equal to the sum of the expected future dividends, each discounted for the time and risk between now and the time the dividend is expected to be received.

Very often, when the DCF is applied in regulatory proceedings, very strong (i.e., unrealistic) assumptions are used that yield a simplification of the standard formula, which then can be rearranged to estimate the cost of capital. Specifically, it is assumed that investors expect a dividend stream that will grow *forever* at a steady rate, and if so, the market price of the stock will be given by a very simple formula,

$$P = \frac{D_1}{(k-g)} \tag{5}$$

where "D_1" is the dividend expected at the end of the first period, "g" is the perpetual growth rate, and "P" and "k" are the market price and the cost of capital, as before.

Equation (5) is a simplified version of equation (4) that can be solved to yield the well known "DCF formula" for the cost of capital:

$$\begin{aligned} k &= \frac{D_1}{P} + g \\ &= \frac{D_0 \times (1+g)}{P} + g \end{aligned} \tag{6}$$

where "D_0" is the current dividend, which investors expect to increase at rate g by the end of the next period, and the other symbols are defined as before. Equation (6) says that if equation (5) holds, the cost of capital equals the expected dividend yield plus the (perpetual) expected future (forever constant) growth rate of dividends. I refer to this as the simple DCF model. Of course, the "simple" model is simple because it relies on very strong (i.e., very unrealistic) assumptions.

Q44. Are there other versions of the DCF models besides the "simple" one?

A44. Yes. The constant growth rate DCF model requires that dividends and earnings grow at the same rate for companies that earn their cost of capital on average.[12] It is inconsistent with the theory on which the model is based to have different growth rates in earnings and dividends over the period when growth is assumed to be constant. If the growth in dividends and earnings were expected to vary over some number of years before settling down into a constant growth period, then it would be appropriate to estimate a multistage DCF model. In the multistage model, earnings and dividends can grow at different rates, but must grow at the same rate in the final, constant growth rate period. A difference between forecasted dividend and earnings rates therefore is a signal that the facts do not fit the assumptions of the simple DCF model.

[12] Why must the two growth rates be equal in a steady-growth DCF model? Think of earnings as divided between reinvestment, which funds future growth, and dividends. If dividends grow faster than earnings, there is less investment and slower growth each year. Sooner or later dividends will equal earnings. At that point, growth is zero because nothing is being reinvested (dividends are constant). If dividends grow slower than earnings, each year a bigger fraction of earnings are reinvested. That makes for ever faster growth. Both scenarios contradict the steady-growth assumption. So if you observe a company with different expectations for dividend and earnings growth, you know the company's stock price and its dividend growth forecast are inconsistent with the assumptions of the steady-growth DCF model.

So, I consider a variant of the DCF model that relies on slightly less strong assumptions in that it allows for varying dividend growth rates in the near term before assuming a perpetual growth rate beginning in year eleven. I use the forecast growth of GDP as the forecast of the long-term growth rate, i.e. year eleven on. This is a "multistage" variant of the DCF method. The DCF models are described in detail in Section I.A of Appendix D. (Section II of Appendix D provides the details of my empirical DCF results.)

Q45. What are the merits of the DCF approach?

A45. The DCF approach is conceptually sound if its assumptions are met, but can run into difficulty in practice because those assumptions are so strong[13], and hence so unlikely to correspond to reality. Dividends, earnings and prices are unlikely to grow at a constant rate literally forever. Two conditions are also well known to be necessary for the DCF approach to yield a reliable estimate of the cost of capital: the variant of the present value formula that is used must actually match the variations in investor expectations for the growth of dividends, and the growth rate(s) used in that formula must match current investor expectations. Less frequently noted conditions may also create problems (see Appendix D for details).

Q46. Is estimating the "right" dividend growth rate the most difficult part for the implementation of the DCF approach?

A46. Yes. Finding the right growth rate(s) is the usual "hard part" of a DCF application. The original approach to estimation of g relied on average historical growth rates in observable variables, such as dividends or earnings, or on the "sustainable growth" approach, which estimates g as the average book rate of return times the fraction of earnings retained within the firm. But it is highly unlikely that these historical averages over periods with widely varying rates of inflation and costs of capital will equal current growth rate expectations. As discussed above, this is particularly true for the electric industry at present because the ultimate structure of the industry is uncertain. The movement toward restructuring has stalled and, in some locations, a reversal of the process is being considered. In addition, there is uncertainty associated with the possible

[13] In this context "strong" means that the assumption is unlikely to match reality and that it also has a substantial impact on the model's results.

imposition new environmental regulations. These are not a description of the stable conditions necessary for the reliable implementation of the DCF model.

IV. THE OHIO EDUs' COST OF CAPITAL

A. THE OHIO EDUs' OPERATIONS AND RISKS

Q47. Please describe the operating characteristics of the Ohio EDUs.

A47. As of January 1, 2001, Ohio businesses and residential customers have had the opportunity to choose their energy supplier. The Ohio EDUs also serve as providers of last resort ("POLR") which means that any customer not selecting an alternative supplier must be supplied power by the electric distribution company. Because the competitive markets have not evolved as quickly as was envisioned, the PUCO approved Rate Stabilization Plans ("RSP") for the Ohio electric utilities - the Ohio EDUs provide POLR service under these RSPs.

B. SAMPLE SELECTION

Q48. How did you select your sample of electric utilities?

A48. The goal was to create a sample of companies whose primary business is as a regulated electric utility with business risk generally similar to that of the Ohio EDUs. To construct this sample, I formed a universe of 61 companies by combining the electric companies under East, Central and West categories listed in *Value Line*. From this group companies were first eliminated if their operating regions were outside of the continental USA or if they were primarily engaged in generation and/or transmission. I then applied my standard selection criteria outlined earlier to remove companies without sufficient data to estimate their cost of capital, companies showing signs of financial distress (i.e. less than an investment grade credit rating from S&P), with large recent merger and acquisition ("M&A") activity, recent dividend cuts, companies with a small market capitalization, and companies whose share of regulated assets was estimated to be less than 50 percent.

Specifically, I required the sample companies to have an investment grade credit rating (i.e., BBB- or above), have had no dividend cuts in the past five years, have revenues of at least $300 million and have five years of historical data in Bloomberg. I also required that the companies have engaged in no major merger or acquisition during the last five years. A total of nine companies met all of these requirements: Cleco Corp, Consolidated Edison, Empire District Electric, Entergy Corp, MGE Energy, NSTAR, Pinnacle West Capital Corp, PPL Corp, and Southern Co. Details on the sample selection process are in Appendix B. Characteristics of the sample companies are outlined in Table 1 below.

Table 1: Benchmark Electric Sample

Company	Revenue (2006) ($MM) [1]	Regulated Electric Assets [2]	Market Cap. (2006) ($MM) [3]	S&P Bond Rating (2007) [4]	Beta [5]	Long-Term Growth Estimate [6]
Cleco Corp	1,001	R	1,463	BBB	1.30	12.3%
Consolidated Edison Inc	12,137	R	12,362	A	0.75	3.5%
Empire District Electric Co	413	R	750	BBB-	0.80	4.7%
Entergy Corp	10,932	R	18,786	BBB	0.85	8.2%
MGE Energy Inc	508	MR	764	AA-	0.75	7.0%
NSTAR	3,578	R	3,689	A+	0.80	6.1%
Pinnacle West Capital Corp	3,402	R	5,061	BBB-	1.00	2.9%
PPL Corp	6,899	MR	13,855	BBB	0.95	13.2%
Southern Co	14,356	R	27,609	A	0.70	4.9%
FirstEnergy Corp.	*11,501*	*MR*	*19,375*	*BBB*	*0.85*	*5.7%*

Notes and Sources:

[1] Bloomberg as of April 9, 2007.

[2] R – Regulated (> 80 percent of total assets are regulated).
MR – Mostly Regulated (50 to 80 percent of total assets regulated).
Source: Edison Electric Institute 2006 Financial Review.

[3] See Table MJV-3 for calculations. First Energy Corp.'s number is based on the same calculation as for the other companies and uses data from Bloomberg as of April 9, 2007.

[4] Bloomberg as of April 9, 2007.

[5] Value Line Investment Survey

[6] See Table MJV-5. First Energy Corp.'s number is based on a BEst long term growth forecast of 5.8% (4 estimates, Bloomberg as of April 9, 2007) and an implied annualized long-term growth rate from Value Line of 5.3%.

1. Characteristics of the Sample

Q49. Table 1 lists the characteristics of the sample. Does the sample exactly match the risk characteristics of the Ohio EDUs?

A49. No, the sample does not perfectly match the risk characteristics of the Ohio EDUs. In general, there is no perfect sample. There is always a trade-off between sample size and

imposing sample selection criteria designed to remove companies from the sample that may potentially bias the estimated costs of capital. In this case, I believe that this sample is the best currently available given the ongoing changes in the electric industry.

2. Comparison of the Risk of the Sample to Risk of the Ohio EDUs

Q50. Please summarize the general risk characteristics of the companies in the sample and those of the Ohio EDUs.

A50. The sample consists of six integrated utilities and three companies with a POLR obligation operating in states that have already transitioned to market based rates. A summary of their risk characteristics is provided in Table 2 below.

Table 2: Risk Characteristics of Sample Companies

	States Served	Electric Subsidiaries	POLR [1]	Rate Cap for POLR Utilities [2]	Fuel Cost Adjustment [3]	S&P Business Profile [4]	S&P Business Class [5]
States with Full Restructuring							
Consolidated Edison Inc	NY	Con Edison of New York	Yes	No	Yes	2	TD
	NY	Orange and Rockland	Yes	No	Yes		
	NJ		Yes	No	No		
	PA		Yes	No	No		
NSTAR	MA	NSTAR	Yes	No	Yes	1	TD
PPL Corp	PA	PPL Electric Utilities Co	Yes	Yes [until 2009]	No	7	D
FirstEnergy Corp	*OH*	*Ohio Edison / Cleveland Electric Illuminating / Toledo Edison / ATSI*	*Yes*	*YES However, settlements allow some increase.*	*Yes*	*6*	*D*
	NJ	*JCP&L*	*Yes*	*NO*	*No*		
	PA	*Met-ED and Penelec*	*Yes*	*YES*	*No*		
Restructuring-in-process Markets							
Pinnacle West Capital Corp [a]	AZ	Arizona Public Service Co.	No	-	Yes	6	IE
Traditionally Regulated States							
Cleco Corp	LA	Cleco Power LLC	-	-	Yes	6	D
Empire District Electric Co	KS	Empire District Electric Co	-	-	Yes	-	IE
	MO		-	-	No		
	OK[c]		-	-	Yes		
	AR[c]		-	-	Yes		
Entergy Corp	AR[c]	Entergy Arkansas	-	-	Yes	6	D
	TX	Entergy Gulf States	-	-	Yes		
	LA	Entergy Louisiana / Entergy Gulf States / Entergy New Orleans[b]	-	-	Yes		
	MS	Entergy Mississippi	-	-	Yes		
MGE Energy Inc	WI	Madison Gas and Electric Co	-	-	Yes	4	
Southern Co	AL	Alabama Power Company	-	-	Yes	4	IE
	GA	Georgia Power Company	-	-	Yes		
	FL	Gulf Power Company	-	-	Yes		
	MS	Mississippi Power Company	-	-	Yes		

Notes:

[1] POLR is an acronym for "Provider of Last Resort".

[2] Yes indicates rate caps are in place as part of POLR obligations.

[3] Yes indicates a mechanism was reported in company 10-Ks, but different mechanisms exist by company and by state. If a mechanism exists, it generally allows for eventual recovery of most if not all prudent costs.

[4] S&P Business Profile as published on April 28, 2006 in S&P's U.S. Utility and Power Ranking List where available.

[5] TD- Regulated Transmission and Distribution T- Transmission Only IE- Integrated Electric
D- Diversified Energy and Diversified Non-Energy.
Classification based on S&P's U.S. Utility and Power Ranking List where available.

[a] Retail competition adopted in 1999, implemented fully in 2003 and partially retracted in 2005.

[b] Entergy New Orleans is currently in Chapter 11 reorganization, but it represents less than 3% of the assets of Entergy Corp.

[c] States either repealed or delayed restructuring.

Sources:

Company 10-K's, 2006.

Q51. How does the risk of the sample compare to the risk of the Ohio EDUs?

A51. In general, the sample appears to be less risky than the Ohio EDUs. Only three of the sample companies appear to have a POLR obligation, and they are in states that have already moved to market based rates. As a result, they face a different kind of regulatory uncertainty than the Ohio EDUs currently do – an uncertainty that may be an ongoing feature of market rates given the volatility of fuel prices. Consumers are averse to highly volatile energy prices, and regulatory authorities may be reluctant to pass through to consumers market prices that are too variable. The Ohio EDUs, on the other hand, face uncertainty regarding how the final transition to market based prices will be implemented. The Ohio EDUs are currently operating in a situation where they provide a POLR service with a rate cap although some costs may be deferred and recovered over a 25-year period, but they must procure electricity at market prices. As such, should the costs of procuring electricity rise in the post RSP period, the Ohio EDUs may potentially suffer losses if they are not able to fully recover their costs. It is not clear whether such losses will be deemed recoverable by the future Commissions in place when Ohio finalizes its transition to market rates in 2009. Although both types of POLR companies face their own associated risks, the risk faced by those in transition should be considered greater.

Q52. How do the general risks of the integrated utilities in the sample compare to the risks posed by the POLR obligations faced by the Ohio EDUs?

A52. The risks faced by the integrated utilities are generally less than those faced by electric distribution companies with a POLR obligation. The biggest risk difference between the two is that integrated utilities own generation capacity to meet the power needs of their customers. Although integrated electric utilities are still exposed to changes in fuel prices as well as the construction and operating risk of owning generation, they have a natural hedge against volatile energy prices through their ownership of generation assets. POLR companies, on the other hand, are potentially exposed to changes in market prices not related to the volatility of fuel prices because they must purchase power at market prices. The risk for POLR companies is directly related to the assurance of the full recovery of the costs of providing the POLR service. The less assured the recovery, the greater the risk for the company.

C. COST OF CAPITAL ESTIMATES

Q53. Please summarize the results of the risk positioning and DCF methodologies in estimating the average cost of capital for the benchmark sample, and the implications for the Ohio EDUs' cost of equity?

A53. Table 3 summarizes the sample average ATWACCs derived from the risk positioning and DCF models, along with the implied cost of equity for the Ohio EDUs at their filed regulatory capital structure with 49 percent equity.

Table 3: Cost of Equity Results

Regulatory Capital Structure:	*49.0% Equity / 51.0% Debt*							*2008 Tax Rate:*	*37%*
	METHODS								
	RISK POSITIONING (using Long-Term Risk-Free Rate)			RISK POSITIONING (using Short-Term Risk-Free Rate)				DCF	
[1] **Electric Sample***	CAPM	α = 0.5%	α = 1.5%	CAPM	α = 1%	α = 2%	α = 3%	Simple	Multi
Cost of Equity	**11.8%**	**11.9%**	**12.1%**	12.1%	12.2%	12.4%	12.5%	13.4%	**11.2%**
Average ATWACC	**7.7%**	**7.8%**	**7.9%**	7.9%	7.9%	8.0%	8.1%	8.5%	**7.5%**

[2] Risk Positioning Security Market Line Parameters:

Short-Term: Risk Free Rate Estimate: 3.8%; Estimated MRP: 8.0%

Long-Term: Risk Free Rate Estimate: 4.9%; Estimated MRP: 6.5%

Multi-Stage DCF Parameter: GDP Growth Estimate: 5.1%

Sources and Notes:

* For the US Electric Sample, Risk Positioning data from Table No. MJV-12 and DCF data from Table No. MJV-8.

[1] The sample consists of Cleco Corp., Consolidated Edison, Empire District Electric Co., Entergy, MGE Energy, NSTAR, Pinnacle West Capital Corp., PPL Corp., and Southern Co.

[2] See Appendix C and D for details on Risk Positioning and DCF parameters used in estimates.

Q54. How did you determine a representative tax rate to use in your cost of capital estimation?

A54. Each of the Ohio EDUs has a slightly different estimated marginal income tax rate for 2008. Specifically, FirstEnergy estimates Ohio Edison's 2008 rate as 37.2485 percent, Toledo Edison's as 37.1326 percent, and Cleveland Electric Illuminating's as 37.1476 percent. To be conservative, my calculation of the after-tax cost of capital is based on the lowest of these, which is 37.1326 percent. It is conservative in the sense that this approach results in the lowest cost of equity recommendation for the Ohio EDUs after adjusting for differences in financial risk between the sample and the Ohio EDUs.

Q55. How are the cost of equity estimates derived from the risk positioning approach for the benchmark sample?

A55. I derive two sets of risk-positioning estimates, one using long-term forecasts of the risk-free rate and market risk premium, and one using short-term forecasts. My long-term interest rate forecast is 4.9 percent and the corresponding estimated market risk premium is 6.5 percent. When using the short-term risk-free rate of 3.8 percent, the estimated MRP is 8.0 percent. Details on the derivation of these forecasts can be found in Appendix C.

For each estimated risk-free rate, the two risk positioning models (CAPM and ECAPM) are estimated utilizing the different values of the ECAPM parameter (0.5% and 1.5% for the long-term model and 1%, 2%, and 3% for the short-term model). I therefore obtain three long-term and four short-term estimates of each sample company's cost of equity. The results using the long-term risk-free rate are displayed in Table MJV-10, Panel A, and the results using the short-term risk-free rate are displayed in Table MJV-10, Panel B. Next, the cost of equity estimates are combined with each company's estimated cost of debt and preferred equity to calculate the company's ATWACC using each company's market value capital structure. These calculations and the resulting sample average ATWACCs are presented in Table No. MJV-11. Panels A-C rely on the cost of equity estimates from the long-term version of the model, while Panels D-G utilize the estimates from the short-term version of the model. The sample average ATWACCs and costs of equity at the Ohio EDUs' 49 percent equity capital structure for each risk positioning cost of equity estimate are displayed in Table No. MJV-12. These results are summarized in Table 3 above.

Q56. What are the DCF estimates for the benchmark sample?

A56. For each sample company, cost-of-equity estimates are calculated for the two versions of the DCF method, the simple DCF model and multistage DCF model. The DCF estimates for each company are displayed in Table No. MJV-6, Panel A (simple DCF) and Panel B (multistage DCF). The sample average ATWACC for each method is calculated in Table No. MJV-7 and the resulting sample average ATWACC is used in Table No. MJV-8 to derive returns on equity at Ohio EDUs' 49 percent equity capital structure. These results

are shown in Table 3 above, along with the sample average ATWACC numbers. Table 3 shows the estimated costs of equity to be 13.4 percent (simple DCF model) and 11.2 percent (multistage DCF model). The estimates from the simple DCF exceed the estimates from both the long-term and short-term risk positioning models, but the estimates from the multistage DCF model are lower than all of the risk positioning estimates (see Table 3: Cost of Equity Results above).

V. CONCLUSIONS

Q57. What are your conclusions from the DCF model regarding the cost of equity at the Ohio EDUs' 49 percent equity ratio?

A57. The estimated costs of equity from the simple DCF model are substantially higher than the estimates from the multistage model, and higher than any of the risk positioning model estimates. The simple DCF model relies on company-specific growth rate forecasts, but those forecasts vary significantly among the companies in the sample, with Cleco Corp., Empire Electric, and Entergy displaying significantly higher estimates as noted earlier. The variation in growth rate forecasts suggests that the simple DCF estimates are unreliable because the long-run growth rate forecast drives the results, and there are no objective data on the long-run growth rate investors truly expect, nor on when the industry is expected to settle down into some sort of stable-growth equilibrium. The more reliable multistage DCF estimate, after adjustment for financial risk, is 11.2 percent which is about 200 basis points lower than the simple DCF estimate and about 60 and 90 basis points lower than the long-term risk positioning estimates. Although I do not put much weight upon the DCF model results in my recommended cost of equity for the Ohio EDUs, I believe that DCF cost capital estimates provide a useful check on the risk positioning results.

Q58. Do you have any comments regarding the results of the risk positioning models?

A58. The risk positioning results are summarized above in Table 3. At this time, the estimated costs of equity displayed in Table No. MJV-12 for the long-term version of the model are lower than for the short-term version of the model. Of those results, the CAPM values deserve the least weight, because this method does not adjust for the empirical finding

that the cost of capital is less sensitive to beta than predicted by the CAPM (which my testimony considers by using the ECAPM). Conversely, the ECAPM numbers deserve the most weight, because this method adjusts for the empirical findings. The cost of equity estimates using the long-term risk free rate and adjusted for a capital structure with a 49 percent equity ratio range from 11.8 to 12.1 percent, while for the short-run estimates they range from 12.1 to 12.5 percent.

The estimates based upon the short-term risk-free rate are about 35 basis points higher on average than the estimates using the long-term risk-free rate. This is a result of the fact that the yield curve is currently flat or slightly inverted, i.e., the yield on short-term Treasury bills exceeds the yield on long-term Treasury bonds. Panel A of Table No. MJV-9 shows that 30-day Treasury bills are currently yielding an average of 5.16 percent compared to only 4.90 percent for long-term Treasury bonds. This relationship between the yield on short-term and long-term Treasury securities is unusual. Yields on long-term Treasury bonds have averaged about 150 basis points more than the yields on 30-day Treasury bills over the last 80 years. (See Workpaper #1, Panel B to Table No. MJV-9) The yield on short-term Treasury bills reflects the efforts by the Federal Reserve ("Fed") to prevent the rate of inflation from increasing any further. If the Fed believes that inflation is not yet contained, short-term rates are likely to increase further. On the other hand, if inflation is judged to be under control, short-term rates may decline as fears of recession replace those of inflation. Because of this uncertainty, I believe that the estimates using the long-term risk-free rate are more reliable at this time.

Q59. Given the results of the two models, what is your conclusion regarding the cost of equity for The Ohio EDUs?

A59. Focusing on the middle values in Table 3 for the results from the long-term risk positioning model (ECAPM with $\alpha = 0.5$), the average ATWACC for the full sample is 7.8 percent, with a corresponding costs of equity estimates of 11.9 percent. The results for the more reliable multistage version of the DCF model are an average ATWACC of 7.5 percent, with a corresponding cost of equity of 11.2 percent. Based upon considering all of the evidence from both models, the best point estimate for the cost of equity for the Ohio EDUs is 11¾ percent. This result is about ½ percent lower than the average risk

positioning results from the short-term model estimates. It is also about ½ percent higher than the multistage DCF estimates. However, it is more correct to say that the estimates from the sample provide a range of values from a low of 11¼ percent to a high of 12¼ percent. As previously noted, in estimating the cost of equity I round to the nearest ¼ percent (25 basis points) because I do not believe that cost of capital estimates can be made more precisely than that.

Q60. Does this conclude your testimony?

A60. Yes

APPENDIX A

RESUMÉ

MICHAEL J. VILBERT **PRINCIPAL**

Michael Vilbert is an expert in cost of capital, financial planning and valuation who has advised clients on these matters in the context of a wide variety of investment and regulatory decisions. He received his Ph.D. in Financial Economics from the Wharton School of the University of Pennsylvania, an MBA from the University of Utah, an M.S. from the Fletcher School of Law and Diplomacy, Tufts University, and a B.S. degree from the United States Air Force Academy. He joined The Brattle Group in 1994 after a career as an Air Force officer, where he served as a fighter pilot, intelligence officer, and professor of finance at the Air Force Academy.

REPRESENTATIVE CONSULTING EXPERIENCE

- In a securities fraud case, Dr. Vilbert designed and created a model to value the private placement stock of a drug store chain as if there had been full disclosure of the actual financial condition of the firm. He analyzed key financial data and security analyst's reports regarding the future of the industry in order to recreate pro forma balance sheet and income statements under a variety of scenarios designed to establish the value of the firm.

- For pharmaceutical companies rebutting price-fixing claims in antitrust litigation, Dr. Vilbert was a member of a team which prepared a comprehensive analysis of industry profitability. The analysis replicated, tested and critiqued the major recent analyses of drug costs, risks and returns. The analyses helped develop expert witness testimony to rebut allegations of excess profits.

- For an independent electric power producer, Dr. Vilbert created a model that analyzed the reasonableness of rates and costs filed by a natural gas pipeline. The model not only duplicated the pipeline's rates, but it also allowed simulation of a variety of "what if" scenarios associated with cost recovery under alternative time patterns and joint cost allocations. Results of the analysis were adopted by the intervenor group for negotiation with the pipeline.

- For the CFO of an electric utility, Dr. Vilbert developed the valuation model used to support a stranded cost estimation filing. The case involved a conflict between two utilities over the responsibility for out-of-market costs associated with a power purchase contract between them. In addition, he advised and analyzed cost recovery mechanisms

that would allow full recovery of the stranded costs while providing a rate reduction for the company's rate payers.

- Dr. Vilbert has testified as well as assisted in the preparation of testimony and the development of estimation models in numerous cost of capital cases for natural gas pipeline, water utility and electric utility clients before the Federal Energy Regulatory Commission ("FERC") and state regulatory commissions. These have spanned standard estimation techniques (e.g., Discounted Cash Flow and Risk Positioning models). He has also developed and applied more advanced models specific to the industries or lines of business in question, e.g., based on the structure and risk characteristics of cash flows, or based on multi-factor models that better characterize regulated industries.

- Dr. Vilbert has valued several large, residual oil-fired generating stations to evaluate the possible conversion to natural gas or other fuels. In these analyses, the expected pre- and post-conversion station values were computed using a range of market electricity and fuel cost conditions.

- For a major western electric utility, Dr. Vilbert helped prepare testimony that analyzed the prudence of QF contract enforcement. The testimony demonstrated that the utility had not been compensated in its allowed cost of capital for major disallowances stemming from QF contract management.

- Dr. Vilbert analyzed the economic need for a major natural gas pipeline expansion to the Midwest. This involved evaluating forecasts of natural gas use in various regions of the United States and the effect of additional supplies on the pattern of natural gas pipeline use. The analysis was used to justify the expansion before the FERC and the National Energy Board of Canada.

- For a Public Utility Commission in the Northeast, Dr. Vilbert analyzed the auction of an electric utilities purchase power agreements to determine whether the outcome of the auction was in the ratepayers' interest. The work involved the analysis of the auction procedures as well as the benefits to ratepayers of transferring risk of the PPA payments to the buyer.

- Dr. Vilbert led a team tasked to determine whether bridge tolls were "just and reasonable" for a non-profit port authority. Determination of the cost of service for the authority required estimation of the value of the authority's assets using the trended original cost methodology as well as evaluation of the operations and maintenance budgets. Investment costs, bridge traffic information and inflation indices covering a 75 year period were utilized to estimate the value of four bridges and a passenger transit line valued in excess of $1 billion.

- Dr. Vilbert helped a recently privatized railroad in Brazil develop an estimate of its revenue requirements, including a determination of the railroad's cost of capital. He also helped evaluate alternative rate structures designed to provide economic incentives to shippers as well as to the railroad for improved service. This involved the explanation

and analysis of the contribution margin of numerous shipper products, improved cost analysis and evaluation of bottlenecks in the system.

- For a utility in the Southeast, Dr. Vilbert quantified the company's stranded costs under several legislative electric restructuring scenarios. This involved the evaluation of all of the company's fossil and nuclear generating units, its contracts with Qualifying Facilities and the prudence of those QF contracts. He provided analysis concerning the impact of securitizing the company's stranded costs as a means of reducing the cost to the rate payers and several alternative designs for recovering stranded costs.

- For a recently privatized electric utility in Australia, Dr. Vilbert evaluated the proposed regulatory scheme of the Australian Competition and Consumer Commission for the company's electric transmission system. The evaluation highlighted the elements of the proposed regulation which would impose uncompensated asymmetric risks on the company and the need to either eliminate the asymmetry in risk or provide additional compensation so that the company could expect to earn its cost of capital.

- For an electric utility in the Southwest, Dr. Vilbert helped design and create a model to estimate the stranded costs of the company's portfolio of Qualifying Facilities and Power Purchase contracts. This exercise was complicated by the many variations in the provisions of the contracts that required modeling in order to capture the effect of changes in either the performance of the plants or in the estimated market price of electricity.

- Dr. Vilbert helped prepare the testimony responding to a FERC request for further comments on the appropriate return on equity for electric transmission facilities. In addition, Dr. Vilbert was a member of the team that made a presentation to the FERC staff on the expected risks of the unbundled electric transmission line of business.

- Dr. Vilbert and Mr. Frank C. Graves, also of The Brattle Group, prepared testimony evaluating an innovative Canadian stranded cost recovery procedure involving the auctioning of the output of the province's electric generation plants instead of the plants themselves. The evaluation required the analysis of the terms and conditions of the long-term contracts specifying the revenue requirements of the plants for their entire forecasted remaining economic life and required an estimate of the cost of capital for the plant owners under this new stranded cost recovery concept.

- Dr. Vilbert served as the neutral arbitrator for the valuation of a petroleum products tanker. The valuation required analysis of the Jones Act tanker market and the supply and demand balance of the available U.S. constructed tanker fleet.

PRESENTATIONS

"Utility Distribution Cost of Capital," *EEI Electric Rates Advanced Course*, Bloomington, IN, 2002, 2003.

"Issues for Cost of Capital Estimation," with Bente Villadsen, *Edison Electric Institute Cost of Capital Conference*, Chicago, IL, February 2004.

"Not Your Father's Rate of Return Methodology," *Utility Commissioners/Wall Street Dialogue*, NY, May 2004.

"Current Issues in Cost of Capital," *EEI Electric Rates Advanced Course*, Madison, WI, July 2004.

"Cost of Capital Estimation: Issues and Answers," *MidAmerican Regulatory Finance Conference*, Des Moines, IA, April 7, 2005.

"Cost of Capital - Explaining to the Commission - Different ROEs for Different Parts of the Business," *EEI Economic Regulation & Competition Analysts Meeting*, May 2, 2005.

"Current Issues in Cost of Capital," with Bente Villadsen, *EEI Electric Rates Advanced Course*, Madison, WI, 2005.

"Current Issues in Estimating the Cost of Capital," *EEI Electric Rates Advanced Course*, Madison, WI, 2006.

"Revisiting the Development of Proxy Groups and Relative Risk Analysis," Society of Utility and Regulatory Financial Analysts: 39th Financial Forum, April 2007.

ARTICLES

"Flaws in the Proposed IRS Rule to Reinstate Amortization of Deferred Tax Balances Associated with Generation Assets Reorganized in Industry Restructuring," by Frank C. Graves and Michael J. Vilbert, white paper for *Edison Electric Institute* (EEI) to the IRS, July 25, 2003.

"The Effect of Debt on the Cost of Equity in a Regulatory Setting," by A. Lawrence Kolbe, Michael J. Vilbert, Bente Villadsen and The Brattle Group, *Edison Electric Institute*, April 2005.

"Measuring Return on Equity Correctly: Why current estimation models set allowed ROE too low," by A. Lawrence Kolbe, Michael J. Vilbert and Bente Villadsen, *Public Utilities Fortnightly*, August 2005.

"Understanding Debt Imputation Issues," by Michael J. Vilbert, Bente Villadsen and Joseph B. Wharton, *Edison Electric Institute*, forthcoming August 2007.

TESTIMONY

Direct and rebuttal testimony before the Alberta Energy and Utilities Board on behalf of TransAlta Utilities Corporation in the matter of an application for approval of its 1999 and 2000 generation tariff, transmission tariff, and distribution revenue requirement, October 1998.

Direct testimony before the Federal Energy Regulatory Commission on behalf of Central Maine Power in Docket No. ER00-982-000, December 1999.

Direct testimony before the Alberta Energy and Utilities Board on behalf of TransAlta Utilities Corporation for approval of its 2001 transmission tariff, May 2000.

Direct testimony before the Federal Energy Regulatory Commission on behalf of Mississippi River Transmission Corporation in Docket No. RP01-292-000, March 2001.

Written evidence, rebuttal, reply and further reply before the National Energy Board in the matter of an application by TransCanada PipeLines Limited for orders pursuant to Part I and Part IV of the *National Energy Board Act*, Order AO-1-RH-4-2001, May 2001, Nov. 2001, Feb. 2002.

Written evidence before the Public Utility Board on behalf of Newfoundland & Labrador Hydro - Rate Hearings, October 2001.

Direct testimony (with Bill Lindsay) before the Federal Energy Regulatory Commission on behalf of DTE East China, LLC in Docket No. ER02-1599-000, April 2002.

Direct and rebuttal reports before the Arbitration Panel in the arbitration of stranded costs for the City of Casselberry, FL, Case No. 00-CA-1107-16-L, July 2002.

Direct reports before the Arbitration Board for Petroleum products trade in the Arbitration of the Military Sealift Command vs. Household Commercial Financial Services, fair value of sale of the Darnell, October 2002.

Direct testimony and hearing before the Arbitration Panel in the arbitration of stranded costs for the City of Winter Park, FL, In the Circuit Court of the Ninth Judicial Circuit in and for Orange County, FL, Case No. C1-01-4558-39, December 2002.

Direct testimony before the Federal Energy Regulatory Commission on behalf of Florida Power Corporation, dba Progress Energy Florida, Inc. in Docket No. SC03-___-000, March 2003.

Direct report before the Arbitration Panel in the arbitration of stranded costs for the Town of Belleair, FL, Case No. 000-6487-C1-007, April 2003.

Direct and rebuttal reports before the Alberta Energy and Utilities Board in the matter of the Alberta Energy and Utilities Board Act, R.S.A. 2000, c. A-17, and the Regulations under it; in the matter of the Gas Utilities Act, R.S.A. 2000, c. G-5, and the Regulations under it; in the matter of the Public utilities Board Act, R.S.A. 2000, c. P-45, as amended, and the Regulations

under it; and in the matter of Alberta Energy and Utilities Generic Cost of Capital Hearing, Proceeding No. 1271597, July 2003, November 2003.

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Direct testimony before the Arizona Corporation Commission, Cost of Capital for Paradise Valley Water Company, a subsidiary of Arizona-American Water Company, Docket No. WS-01303A-05, May 2005.

Written evidence before the Ontario Energy Board, Cost of Capital for Union Gas Limited, Inc., Docket No. EB-2005-0520, January 2006.

Direct and rebuttal testimony before the Pennsylvania Public Utility Commission, Return on Equity for Metropolitan Edison Company, Docket No. R-00061366 and Pennsylvania Electric Company, Docket No. R-00061367, April 2006 and August 2006.

Expert report in the United States Tax Court, Docket No. 21309-05, 34th Street Partners, DH Petersburg Investment, LLC and Mid-Atlantic Finance, Partners Other than the Tax Matters Partner, Petitioner, v. Commissioner of Internal Revenue, Respondent, July 28, 2006.

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Direct testimony before the Federal Energy Regulatory Commission, Docket No. ER07-46-000, on behalf of Northwestern Corporation on the Cost of Capital for Transmission Assets, October 2006.

Direct and rebuttal testimony before the Tennessee Regulatory Authority, Case No. 06-00290, on behalf of Tennessee American Water Company, on the Cost of Capital, November, 2006 and April 2007.

Direct testimony before the Public Service Commission of Wisconsin, Docket No. _____, on behalf of Wisconsin Energy Corporation, on the Cost of Capital for Wisconsin Electric Power Company and Wisconsin Gas LLC, May 2007.

Rebuttal testimony before the California Public Utilities Commission, Docket No. A. 07-01-036-39, on behalf of California-American Water Company, on the Cost of Capital, May 2007.

APPENDIX B

SELECTING THE BENCHMARK SAMPLE AND USE OF MARKET VALUES

I. SAMPLE SELECTION AND THE SAMPLE'S CHARACTERISTICS B-1

II. MARKET VALUE CAPITAL STRUCTURE, COSTS OF DEBT & COSTS OF PREFERRED EQUITY B-3

I. SAMPLE SELECTION AND THE SAMPLE'S CHARACTERISTICS

Q1. How did you select your sample of electric utilities?

A1. The goal was to create a sample of companies whose primary business is as a regulated electric utility with business risk generally similar to that of the Ohio EDUs. To construct this sample, I formed a universe from the 61 companies found in *Value Line*'s East, Central and West districts of electric companies. From this group, companies were first eliminated if their operating regions were outside of the continental USA or if they were primarily or solely engaged in generation and/or transmission. I then applied my standard selection criteria outlined earlier in Section III. A of my direct testimony to remove companies that have characteristics that may bias the cost of capital estimates.

Specifically, I eliminated all companies whose S&P bond rating as reported by Bloomberg was not investment grade, i.e., less than BBB-. To guard against measurement bias caused by "thin trading," I also restricted the sample to companies with total operating revenues greater than $300 million (USD) in 2006 as reported by Bloomberg,[1] and which had no significant mergers and acquisition activity over the past five years. The screen for merger activity was primarily done according to M&A data provided by Bloomberg and through a search of company web pages. To further ensure comparability to the Ohio EDUs' operations, companies whose share of regulated assets were not estimated to be at least "Mostly Regulated", as classified by the Edison Electric Institute ("EEI"), were removed.[2]

Finally, I required that the companies have historical data available from Bloomberg for the most recent five years and had no dividend cuts or restatement of financial statements in the past five years, since the latter can be signs of financial distress.

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[1] Data was reviewed during the first week of April 2007.

[2] EEI has three classifications for electric utilities based upon the percentage of total assets that are regulated. The categories are Regulated (> 80% regulated), Mostly Regulated (50-80% regulated) and Diversified (< 50% regulated). See *EEI 2006 Financial Review*, p. 24.

A total of nine companies met all of these requirements: Cleco Corp, Consolidated Edison, Empire District Electric, Entergy Corp, MGE Energy, NSTAR, Pinnacle West Capital Corp, PPL Corp, and Southern Co.

Q2. Please elaborate on how companies were eliminated to arrive at your sample?

A2. Eleven companies were excluded due to less than investment grade credit rating. Two were excluded for less than $300 million in 2006 revenues – Green Mountain Power and ITC Holding Corp. (ITC also had less than five years of data). Of the remaining companies, 19 had excessive merger and acquisition activity ("M&A") and/or dividend cuts over the past five years. A further nine were also eliminated for dividend cuts or because they essentially own only generation or transmission assets.

Q3. How does the risk of the sample compare to the risk of the Ohio EDUs?

A3. In general, the sample appears to be of similar risk to the Ohio EDUs. Six of the nine companies are integrated utilities and all but Empire Electric have some form of fuel-cost adjustment mechanisms covering the bulk of their operations. Three sample companies have a provider of last resort ("POLR") obligation, and they are in states that have moved to market based rates. As a result, they face regulatory uncertainty in this respect as do the Ohio EDUs. All sample companies face uncertainty associated with the recent volatility of fuel prices. Since consumers have demonstrated an aversion to highly volatile energy prices, regulatory authorities may be reluctant to allow full recovery of energy prices that are too variable.

Depending upon the recovery mechanism for the costs of providing POLR service, the risks faced by electric distribution companies with a POLR obligation may be greater than or less than those of an integrated utility. The biggest risk difference between the two is that integrated utilities own the generation capacity to meet the power needs of their customers whereas electric distribution companies must contract for all or nearly all of the energy and capacity need to supply their customers. Although integrated utilities are still exposed to changes in fuel prices as well as the construction and operating risk of owning generation, they have a natural hedge against volatile energy prices through their ownership of generation assets. POLR companies, on the other hand, are potentially

exposed to changes in market prices not related to the volatility of fuel prices, because they must purchase power at market prices. The risk may be quite high if the full recovery of all of the costs of providing the POLR service is not assured.

II. MARKET VALUE CAPITAL STRUCTURE, COSTS OF DEBT & COSTS OF PREFERRED EQUITY

Q4. What capital structure information do you require?

A4. For reasons discussed in my direct testimony and explained in detail in Appendix E, explicit evaluation of the market-value capital structures of the sample companies versus the capital structure used for rate making is vital for a correct interpretation of the market evidence. This requires estimates of the market values of common and preferred equity and debt, and the current market costs of preferred equity and debt.

Q5. How do you calculate the market-value capital structures of the sample companies?

A5. I estimate the capital structure for each company by estimating the market values of common equity, preferred equity and debt from publicly available data. The calculations are in Panels A to I of Table No. MJV-3.

The market value of equity is straightforward: the price per share times the number of shares outstanding. The market value of preferred is set equal to its book value because the portion of the capital structure financed with preferred equity is generally small. The market value of debt is estimated at the book value of debt reported by Bloomberg plus or minus the difference in the estimated fair (market) value and book value of long-term debt as reported in the companies' 10-Ks or annual reports.[3]

For purposes of assessing financial risk to common shareholders, I add an adjustment for short-term debt to the debt portion of the capital structure. This adjustment is used only for those companies whose short-term (current) liabilities exceed their short-term (current) assets. I add an amount equal to the minimum of the difference between short-

[3] See Panels A through I in Table No. MJV-3 for details. The adjustment relies on the difference between the companies' self-reported fair value of long-term debt and the carrying value of the same line items. This information was obtained from the sample companies' annual reports.

term liabilities and short-term assets or the amount of short-term debt. The reason for this adjustment is to recognize that when current liabilities exceed current assets, a portion of the companies long-term assets are being financed, in effect, by short-term debt.

The market value capital structure is calculated to be consistent with the time period over which the cost of capital is estimated for the sample. The capital structure is determined over the historical period over which the relevant risk positioning parameters were determined and as of the date analysts provide forward looking growth forecasts. Therefore, Table No. MJV-3 reports the market value capital structure at year end for the years ending 2002 - 2006. The output of these tables is the market equity-to-value, debt-to-value, and preferred equity-to-value ratios. The overall cost of capital calculation for the risk positioning estimates samples rely on the average of the market value capital structure computed for the years 2002 through 2006 as shown in Table No. MJV-4. The results in columns [1]-[3] are used in the DCF model calculations, while columns [4]-[6] are for the risk positioning models.

Q6. How do you estimate the current market cost of preferred equity?

A6. For companies with preferred equity, the cost of preferred equity for each company was set equal to the yield on an index of preferred stock as reported in the Mergent Bond Record corresponding to the S&P rating of that company's debt. The yields from Mergent were as of March 2007. In general, the average amount of preferred equity in the sample companies' capital structures is very small and frequently zero. No company has more than two percent preferred on average.[4]

Q7. How do you estimate the current market cost of debt?

A7. The market cost of debt for each company in the DCF analysis is the current yield reported by Bloomberg for a public utility company bond corresponding to the sample company's current debt rating as classified by S&P. The risk positioning analysis, on the other hand, uses the current yield of a utility bond that corresponds to the five-year average debt rating of each company so as to match consistently the horizon of

[4] The Ohio EDUs have no preferred securities in their regulatory capital structure.

information used by *Value Line* to estimate company betas. The current S&P debt ratings were obtained from Bloomberg.

Bloomberg reports that as of March 27, 2007, the average yield on A-rated Public Utility bonds was 5.85 percent, and 6.11 percent on average for BBB-rated Public Utility bonds.[5] (See Panel C of Workpaper #1 to Table No. MJV-11 for the yields on utility bonds and preferred stock by credit rating.) As discussed in the Direct Testimony, calculation of the after-tax cost of debt uses the lowest marginal tax rate provided by the companies of 37.1326 percent.

[5] All companies in the sample are either BBB, AA, or A. The yield on AA-rated utility bonds is calculated as the yield on A-rated utility bonds minus ½ times the spread between the yield on BBB and A rated utility bonds.

APPENDIX C

RISK POSITIONING METHODOLOGY AND EMPIRICAL RESULTS

I. EQUITY RISK PREMIUM METHODOLOGY C-1

A. THE BASIC EQUITY RISK PREMIUM MODEL C-1

B. MARKET RISK PREMIUM C-2

C. RELATIVE RISK C-9

D. INTEREST RATE FORECAST C-12

E. COST OF CAPITAL MODELS C-12

II. EMPIRICAL EQUITY RISK PREMIUM RESULTS C-15

A. RISK-FREE INTEREST RATE FORECAST C-15

B. BETAS AND THE MARKET RISK PREMIUM C-16

1. Beta Estimation Procedures C-16

2. Market Risk Premium Estimation C-16

C. COST OF CAPITAL ESTIMATES C-16

Q1. What is the purpose of this appendix?

A1. This appendix reviews the principles behind the risk positioning methodologies, describes the estimation of the parameters used in the models, and details the cost of capital estimates obtained from these methodologies. This appendix intentionally repeats portions of my direct testimony, because I want the reader to be able to have a full discussion of the issues addressed here, rather than having to continually turn back to the corresponding section of the testimony.

I. EQUITY RISK PREMIUM METHODOLOGY

Q2. How is this section of the appendix organized?

A2. It first reviews the basic nature of the equity risk premium approach. It then discusses the individual components of the model: the benchmark risk premium, the relative risk of the company or line of business in question, the appropriate interest rate, and the combination of these elements in a particular equity risk premium model.

A. THE BASIC EQUITY RISK PREMIUM MODEL

Q3. How does the equity risk premium model work?

A3. The equity risk premium approach estimates the cost of equity as the sum of a current interest rate and a risk premium. (It therefore is sometimes also known as the "risk premium" or the "risk positioning" approach.)

This approach may sometimes be applied informally. For example, an analyst or a commission may check the spread between interest rates and what is believed to be a reasonable estimate of the cost of capital at one time, and then apply that spread to changed interest rates to get a new estimate of the cost of capital at another time.

More formal applications of equity risk premium method implement the second approach to cost of capital estimation. They use information on all securities to identify the security market line (Figure 1 in the body of the testimony) and derive the cost of capital for the individual security based on that security's relative risk. This equity risk premium

approach is widely used and underlies most of the current scholarly research on the nature, determinants and magnitude of the cost of capital.

Q4. How are "more formal applications" put into practice?

A4. The essential benchmarks that determine the security market line are the risk-free interest rate and the premium that a security of average risk commands over the risk-free rate. This premium is commonly referred to as the "market risk premium" ("MRP"), i.e., the excess of the expected return on the average common stock over the risk-free interest rate. In the equity risk premium approach the risk-free interest rate and MRP are common to all securities. A security-specific measure of relative risk (beta) is estimated separately and combined with the MRP to obtain the company-specific risk premium.

In principle, there may be more than one factor affecting the expected stock return, each with its own security-specific measure of relative risk and its own benchmark risk premium. For example, the "arbitrage pricing theory" and other "multi-factor" models have been proposed in the academic literature. These models estimate the cost of capital as the sum of a risk-free rate and several security-specific risk premia. However, none of these alternative models has emerged in practice as "the" improvement to use instead of the original, single-factor model. I use the traditional single-factor model in this testimony.

Accordingly, the required elements in my formal equity risk premium approach are the market risk premium, an objective measure of relative risk, the risk-free rate that corresponds to the measure of the market risk premium, and a specific method to combine these elements into an estimate of the cost of capital.

B. MARKET RISK PREMIUM

Q5. Why is a risk premium necessary?

A5. Experience (e.g., the U.S. market's October Crash of 1987) demonstrates that shareholders, even well diversified shareholders, are exposed to enormous risks. By investing in stocks instead of risk-free Government bills, investors subject themselves not only to the risk of earning a return well below those they expected in any year but also to

the risk that they might lose much of their initial capital. This is why investors demand a risk premium.

I estimate two versions of the Capital Asset Pricing Model ("CAPM"). The first version measures the market risk premium as the risk premium of average risk common stocks over the long-term risk-free rate. The second version measures the risk premium relative to a short-term risk-free rate, which is the usual measure of the "market risk premium" used in capital market theories.

Q6. Please discuss some of the issues involved in selecting the appropriate MRP?

A6. To determine the cost of capital in a regulatory proceeding, the MRP should be used with a forecast of the same interest rate used to calculate the MRP (i.e., the short-term Treasury bill rate or the long-term Government rate). For example, it would be inconsistent to utilize a short-term risk-free with an estimate of the MRP derived from comparisons to long-term interest rates. In addition, the appropriate measure of the MRP should be based upon the arithmetic mean not the geometric mean return.[1] The arithmetic mean is the simple average while the geometric mean is the compound rate of return between two periods.

Q7. How do you estimate the MRP?

A7. There is presently little consensus on "best practice" for estimating the MRP, which does not mean that each approach is equally valid. For example, the latest edition of the leading graduate textbook in corporate finance, after recommending use of the arithmetic average realized excess return on the market for many years (which for a while was noticeably over 9 percent), now reviews the current state of the research and expresses the view that the a range between 5 to 8 percent is reasonable for the U.S.[2,3]

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[1] See, for example, Morningstar, Stocks, Bonds, Bills, and Inflation: Valuation Edition 2007 Yearbook, pp. 75-77.

[2] Richard A. Brealey, Stewart C. Myers, and Franklin Allen, *Principles of Corporate Finance*, McGraw-Hill, 8th edition, 2006, pp. 151-154.

[3] In past editions, the authors expressed the view that they are "most comfortable" with values toward the upper end of that range, but this language does not appear in the 8th edition. Although Professor Myers still holds this view, this language and other sections were dropped to accommodate a request to reduce the length of the text.

My written testimony considers both the historical evidence and the results of scholarly studies of the factors that affect the risk premium for average-risk stocks in order to estimate the benchmark risk premium investors currently expect. I consider the historical difference in returns between the Standard and Poor's 500 Index ("S&P 500") and the risk-free rate, recent academic literature on the MRP and the results of recent surveys to estimate the market risk premium.

Q8. Please summarize the recent literature on the MRP and the conclusions you draw from it?

A8. Some recent research based upon U.S. data challenges the conventional wisdom of using the arithmetic average historical excess returns to estimate the MRP. However, after reviewing the issues in the debate, I remain skeptical for several reasons that the market risk premium has declined in the U.S. as much as is claimed in some of the literature.

First, despite eye-catching claims like "equity risk premium as low as three percent,"[4] and "the death of the risk premium,"[5] not all recent research arrives at the same conclusion. In his presidential address to the American Finance Association in 2001, Professor Constantinides seeks to estimate the unconditional equity premium based on average historical stock returns.[6] (Note that this address was based upon evidence just before the major fall in market value.) He adjusts the average returns downward by the change in price-earnings ratio because he assumes no change in valuations in an unconditional state. His estimates for 1926 to 2000 and 1951 to 2000 are 8.0 percent and 6.0 percent, respectively, over the 3-month T-bill rate. In another published study in 2001, Professors Harris and Marston use the DCF method to estimate the market risk premium for the U.S. stocks.[7] Using analysts' forecasts to proxy for investors' expectation, they conclude that over the period 1982-1998 the MRP over the *long-term*

[4] Claus, J. and J. Thomas, (2001), "Equity Risk Premium as Low as Three Percent: Evidence from Analysts' Earnings Forecasts for Domestic and International Stocks," *Journal of Finance* 56:1629-1666.

[5] Arnott, R. and R. Ryan, (2001), "The Death of the Risk Premium," *Journal of Portfolio Management* 27(3):61-84.

[6] Constantinides, G.M. (2002), "Rational Asset Prices," *Journal of Finance* 57:1567-1591.

[7] Robert S. Harris and Felicia C. Marston, "The Market Risk Premium: Expectational Estimates Using Analysts' Forecasts," *Journal of Applied Finance* 11 (1) 6-16, 2001.

risk-free rate is 7.14 percent. As yet another example, the paper by Drs. Ibbotson and Chen (2003) adopts a supply side approach to estimate the forward looking long-term sustainable equity returns and equity risk premium based upon economic fundamentals. Their equity risk premium over the *long-term* risk-free rate is estimated to be 3.97 percent in geometric terms and 5.90 percent on an arithmetic basis. They conclude their paper by stating that their estimate of the equity risk premium is "far closer to the historical premium than being zero or negative."[8]

Second, Professor Ivo Welch surveyed a large group of financial economists in 1998 and 1999. The average of the estimated MRP was 7.1 percent in Prof. Welch's first survey and 6.7 percent in his second survey which was based on a smaller number of individuals. However, a more recent survey[9] by Prof. Welch reported only a 5.5 percent MRP.[10] In characterizing these results Prof. Welch notes that "[T]he equity premium consensus forecast of finance and economics professors seems to have dropped during the last 2 to 3 years, a period with low realized equity premia."[11]

The above quotation from Prof. Welch emphasizes the caution that must attend survey data even from knowledgeable survey participants: the outcome is likely to change quickly with changing market circumstances. Regulatory commissions should not, in my opinion, attempt to keep pace with such rapidly changing opinions.

Third, some of the evidence for negative or close to zero market risk premium simply does not make sense. Despite the relatively high valuation levels, stock returns remain much more volatile than Treasury bond returns. I am not aware of any empirical or theoretical evidence showing that investors would rationally hold equities and not expect to earn a positive risk premium for bearing their higher risk.

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[8] Ibbotson, R. and P. Chen (2003), "Stock Market Returns in the Long Run: Participating in the Real Economy," *Financial Analyst Journal*, 59(1):88-98. Cited figures are on p. 97.

[9] Ivo Welch (2000), "Views of Financial Economists on the Equity Premium and on Professional Controversies," *Journal of Business*, 73(4):501-537. The cited figures are in Table 2, p. 514.

[10] Ivo Welch (2001), "The Equity Premium Consensus Forecast Revisited," School of Management at Yale University working paper. The cited figure is in Table 2.

[11] *Ibid*, p. 8.

Fourth, I am unaware of a convincing theory for why the future MRP should have substantially declined. At the height of the stock market bubble in the U.S., many claimed that the only way to justify the high stock prices would be if the MRP had declined dramatically,[12] but this argument was heard less frequently after the market declined substantially from its tech bubble high. All else equal, a high valuation ratio such as price-earnings ratio implies a low required rate of return, hence a low MRP. However, there is considerable debate about whether the high level of stock prices (despite the burst of the internet bubble from its high in the summer of 2000) represents the transition to a new economy or is simply an "irrational exuberance," which cannot be sustained for the long term. If the former case is true, then the MRP may have decreased permanently. Conversely, the long-run MRP may remain the same even if expected market returns in the short-term are smaller.

Another common argument for a lower expected MRP is that the U.S. experienced very remarkable growth in the 20th century that was not anticipated at the start of the century. As a result, the average realized excess return is overestimated meaning the standard method of estimating the MRP would be biased upward. However, one recent study by Profs. Jorion and Goetzmann finds, under some simplifying assumptions, that the so-called "survivorship bias" is only 29 basis points.[13] Furthermore, "[I]f investors have overestimated the equity premium over the second half of the last century, Constantinides (2002) argues that 'we now have a bigger puzzle on our hands' Why have investors systematically biased their estimates over such a long horizon?"[14]

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[12] See Robert D. Arnott and Peter L. Bernstein, "What Risk Premium is 'Normal'?," *Financial Analysts Journal* 58:64-85, for an example.

[13] Jorion, P., and W. Goetzmann (1999), "Global Stock Markets in the Twentieth Century," *Journal of Finance* 54:953-980. Dimson, Marsh, and Staunton (2003) make a similar point when they comment on the equity risk premia for 16 countries based on returns between 1900 and 2001: "While the United States and the United Kingdom have indeed performed well, compared to other markets there is no indication that they are hugely out of line." p.4.

[14] Mehra, R., and E.C. Prescott (2003), "The Equity Premium in Retrospect," in *Handbook of the Economics of Finance*, Edited by G.M. Constantinides, M. Harris and R. Stulz, Elsevier B.V, p. 926

To sum up the above, I cite two passages from Profs. Mehra and Prescott's review of the theoretical literature on equity premium puzzle:[15]

> Even if the conditional equity premium given current market conditions is small, and there appears to be general consensus that it is, this in itself does not imply that it was obvious either that the historical premium was too high or that the equity premium has diminished.
>
> In the absence of this [knowledge of the future], and based on what we currently know, we can make the following claim: over the long horizon the equity premium is likely to be similar to what it has been in the past and the returns to investment in equity will continue to substantially dominate that in T-bills for investors with a long planning horizon.

Q9. Is there other scholarly support for the conclusion?

A9. Yes. Another line of research was pursued by Steven N. Kaplan and Richard S. Ruback. They estimate the market risk premium in their article, "The Valuation of Cash Flow Forecasts: An Empirical Analysis."[16] Professors Kaplan and Ruback compare published cash flow forecasts for management buyouts and leveraged recapitalization over the 1983 to 1989 period against the actual market values that resulted from these transactions. One of their results is an estimate of the market risk premium over the long-term Treasury bond yield that is based on careful analysis of actual major investment decisions, not realized market returns. Their median estimate is 7.78 percent and their mean estimate is 7.97 percent.[17] This is considerably higher than my estimate of 6.5 percent. Even if the maturity premium of Treasury bonds over Treasury bills were only 1 percent, well below the best estimate of 1.5 percent the resulting estimate of the market risk premium over Treasury bills is higher than my estimate of 8.0 percent.

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[15] *Ibid*, p. 926.

[16] *Journal of Finance*, 50, September 1995, pp. 1059-1093.

[17] *Ibid*, p. 1082.

Q10. In addition to the scholarly articles and survey evidence you discussed in Section I of your Direct Testimony, what other evidence do you consider to estimate the MRP?

A10. I also consider the long-run realized equity premia reported in Morningstar *SBBI Valuation Edition 2007 Yearbook*. The data provided cover the period 1926 through 2006. The results are discussed below.

Q11. What is the "long-run realized risk premium" in the U.S.?

A11. From 1926 to 2006, the full period reported, Morningstar's data show that the average premium of stocks over Treasury bills is 8.6 percent. I also examine the "post-War" period. The risk premium for 1947-2006 is 8.4 percent.[18] (I exclude 1946 because its economic statistics are heavily influenced by the War years; e.g., the end of price controls yielded an inflation rate of 18 percent. It is not really a "post-War" year, from an economic viewpoint.) These averages often change slightly when another year of data is added to the Ibbotson series. The average premium of stocks over the income returns on long-term Government bonds is 7.1 percent for the 1926 to 2006 period and 7.1 for the 1947 to 2006 period.

Recently there has been a great deal of academic research on the MRP. This research has put practitioners in a dilemma: there is nothing close to a consensus about how the MRP should be estimated, but a general agreement in the academic community seems to be emerging that the old approach of using the average realized return over long periods gives too high an answer.

Q12. What is your conclusion regarding the MRP?

A12. Estimation of the MRP remains controversial. There is no consensus on its value or even how to estimate it. Given a careful review of all of the information, I estimate the risk premium for average risk stocks to be 8.0 percent over Treasury bills and 6.5 percent over long-term Government bonds.

[18] Morningstar, SBBI Valuation Edition 2007 Yearbook, Appendix A.

C. RELATIVE RISK

Q13. How do you measure relative risk?

A13. The risk measure I examine is the "beta" of the stocks in question. Beta is a measure of the "systematic" risk of a stock — the extent to which a stock's value fluctuates more or less than average when the market fluctuates. It is the most commonly used measure of risk in capital market theories.

Q14. Please explain beta in more detail.

A14. The basic idea behind beta is that risks that cannot be diversified away in large portfolios matter more than those that can be eliminated by diversification. Beta is a measure of the risks that *cannot* be eliminated by diversification.

Diversification is a vital concept in the study of risk and return. (Harry Markowitz won a Nobel Prize for work showing just how important it was.) Over the long run, the rate of return on the stock market has a very high standard deviation, on the order of 15 - 20 percent per year. But many individual stocks have much higher standard deviations than this. The stock market's standard deviation is "only" about 15 - 20 percent because when stocks are combined into portfolios, some of the risk of individual stocks is eliminated by diversification. Some stocks go up when others go down, and the average portfolio return — positive or negative — is usually less extreme than that of individual stocks within it.

In the limiting case, if the returns on individual stocks were completely uncorrelated with one another, the formation of a large portfolio of such stocks would eliminate risk entirely. That is, the market's long-run standard deviation would be not 15-20 percent per year, but virtually zero.

The fact that the market's actual annual standard deviation is so large means that, in practice, the returns on stocks are correlated with one another, and to a material degree. The reason is that many factors that make a particular stock go up or down also affect other stocks. Examples include the state of the economy, the balance of trade, and inflation. Thus some risk is "non-diversifiable". Single-factor equity risk premium models derive conditions in which all of these factors can be considered simultaneously,

through their impact on the market portfolio. Other models derive somewhat less restrictive conditions under which several of them might be individually relevant.

Again, the basic idea behind all of these models is that risks that cannot be diversified away in large portfolios matter more than those that can be eliminated by diversification, because there are a large number of large portfolios whose managers actively seek the best risk-reward tradeoffs available. Of course, undiversified investors would like to get a premium for bearing diversifiable risk, but they cannot.

Q15. Why not?

A15. Well-diversified investors compete away any premium rates of return for diversifiable risk. Suppose a stock were priced especially low because it had especially high diversifiable risk. Then it would seem to be a bargain to well diversified investors. For example, suppose an industry is subject to active competition, so there is a large risk of loss of market share. Investors who held a portfolio of all companies in the industry would be immune to this risk, because the loss on one company's stock would be offset by a gain on another's stock. (Of course, the competition might make the whole industry more vulnerable to the business cycle, but the issue here is the diversifiable risk of shifts in market share among firms.)

If the shares were priced especially low because of the risk of a shift in market shares, investors who could hold shares of the whole industry would snap them up. Their buying would drive up the stocks' prices until the premium rates of return for diversifiable risk were eliminated. Since all investors pay the same price, even those who are not diversified can expect no premium for bearing diversifiable risk.

Of course, substantial non–diversifiable risk remains, as the October Crash of 1987 demonstrates. Even an investor who held a portfolio of all traded stocks could not diversify against that type of risk. Sensitivity to such market–wide movements is what beta measures. That type of sensitivity, whether considered in a single- or multi-factor model, determines the risk premium in the cost of equity.

Q16. What does a particular value of beta signify?

A16. By definition, a stock with a beta equal to 1.0 has average non-diversifiable risk: it goes up or down by 10 percent on average when the market goes up or down by 10 percent. Stocks with betas above 1.0 exaggerate the swings in the market: stocks with betas of 2.0 tend to fall 20 percent when the market falls 10 percent, for example. Stocks with betas below 1.0 are less volatile than the market. A stock with a beta of 0.5 will tend to rise 5 percent when the market rises 10 percent.

Q17. How is beta measured?

A17. The usual approach to calculating beta is a statistical comparison of the sensitivity of a stock's (or a portfolio's) return to the market's return. Many investment services report betas, including Merrill Lynch's quarterly Security Risk Evaluation, Bloomberg and the *Value Line Investment Survey*. Betas are not always calculated the same way, and therefore must be used with a degree of caution, but the basic point that a high beta indicates a risky stock has long been widely accepted by both financial theorists and investment professionals.

Q18. Are there circumstances when the "usual approach to calculating beta" should not be used?

A18. There are at least two cases where the standard estimate of beta should be viewed skeptically.

First, companies in serious financial distress seem to "decouple" from their normal sensitivity to the stock market. The stock prices of financially distressed companies tend to change based more on individual news about their particular circumstances than upon overall market movements. Thus, a risky stock could have a low estimated beta if the company was in financial distress. Other circumstances that may cause a company's stock to decouple include an industry restructuring or major changes in a company's supply or output markets.

Second, similar circumstances seem to arise for companies "in play" during a merger or acquisition. Once again, the individual information about the progress of the proposed

takeover is so much more important for that stock than day-to-day market fluctuations that, in practice, beta estimates for such companies seem to be too low.

Q19. How reliable is beta as a risk measure?

A19. Scholarly studies have long confirmed the importance of beta for a stock's required rate of return. It is widely regarded as the best single risk measure available. The merits of beta seemed to have been challenged by widely publicized work by Professors Eugene F. Fama and Kenneth R. French.[19] However, despite the early press reports of their work as signifying that "beta is dead," it turns out that beta is still a potentially important explanatory factor (albeit one of several) in their work. Thus, beta remains alive and well as the best single measure of relative risk.

D. INTEREST RATE FORECAST

Q20. What interest rates do your procedures require?

A20. Modern capital market theories of risk and return use the short-term risk-free rate of return as the starting benchmark. My measures of the MRP incorporate this approach, since they represent the excess of the expected return on the market over the 30-day U.S. Treasury bill rate and over the long-term U.S. Government bond rate. Accordingly, implementation of my procedures requires use of a forecast of the 30-day Treasury bill rate and the long-term Government bond rate.

E. COST OF CAPITAL MODELS

Q21. How do you combine the above components into an estimate of the cost of capital?

A21. By far the most widely used approach to estimation of the cost of capital is the "Capital Asset Pricing Model," and I do calculate CAPM estimates. However, the CAPM is only one equity risk premium approach technique, and I also use another.

[19] See for example, "The Capital Asset Pricing Model: Theory and Evidence", Eugene F. Fama and Kenneth R. French, *Journal of Economic Perspectives*, Volume 18, Summer 2004, pp. 25-46.

Q22. Please start with the CAPM, by describing the model.

A22. As noted above, the modern models of capital market equilibrium express the cost of equity as the sum of a risk-free rate and a risk premium. The CAPM is the longest-standing and most widely used of these theories. The CAPM states that the cost of capital for investment s (e.g., a particular common stock) is given by the following equation:

$$k_s = r_f + \beta_s \times MRP \qquad \textbf{(C-1)}$$

where k_s is the cost of capital for investment s; r_f is the risk-free rate, β_s is the beta risk measure for the investment s; and MRP is the market risk premium.

The CAPM relies on the empirical fact that investors price risky securities to offer a higher expected rate of return than safe securities do. It says that the security market line starts at the risk-free interest rate (that is, that the return on a zero-risk security, the y-axis intercept in Figure 1 in the body of my testimony, equals the risk-free interest rate). Further, it says that the risk premium over the risk-free rate equals the product of beta and the risk premium on a value-weighted portfolio of all investments, which by definition has average risk.

Q23. What other equity risk premium approach model do you use?

A23. Empirical research has long shown that the CAPM tends to overstate the actual sensitivity of the cost of capital to beta: low-beta stocks tend to have higher risk premia than predicted by the CAPM and high-beta stocks tend to have lower risk premia than predicted. A number of variations on the original CAPM theory have been proposed to explain this finding. The difference between the CAPM and the type of relationship identified in the empirical studies is depicted in Figure MJV-C1.

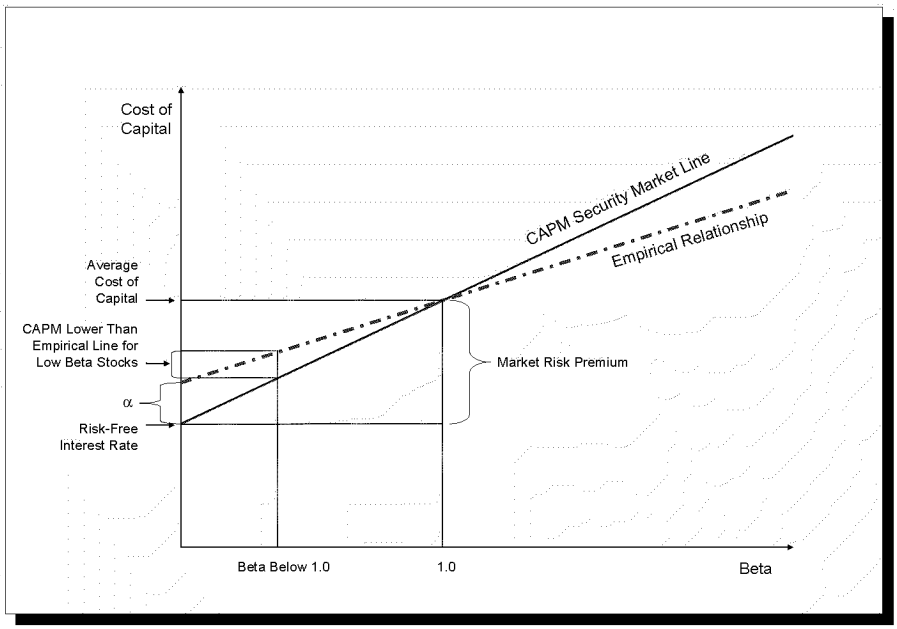

Figure MJV-C1: The Empirical Security Market Line

The second model makes use of these empirical findings. It estimates the cost of capital with the equation,

$$k_s = r_f + \alpha + \beta_s \times (MRP - \alpha) \qquad \textbf{(C-2)}$$

where α is the "alpha" of the risk-return line, a constant, and the other symbols are defined as above. I label this model the Empirical Capital Asset Pricing Model, or "ECAPM." For the short-term risk-free rate models, I set alpha equal to 1, 2, and 3 percent which are values somewhat lower than that estimated empirically. For low-beta stocks such as regulated utilities, the use of a lower value for alpha leads to a lower estimate of the cost of capital. For the long-term risk-free rate models, I set alpha equal to both 0.5 percent and 1.5 percent, but I rely more heavily on the 0.5 percent results. The use of a long-term risk-free rate incorporates some of the desired effect of using the ECAPM. That is, the long-term risk-free rate version of the Security Market Line has a higher intercept and a flatter slope than the short-term risk-free version which has been tested. Thus, it is likely that I do not need to make the same degree adjustment when I use the long-term risk-free rate. A summary of the empirical evidence on the magnitude of alpha is provided in Table No. MJV-C1 below.

II. EMPIRICAL EQUITY RISK PREMIUM RESULTS

Q24. How is this part of the appendix organized?

A24. This section presents the full details of my equity risk premium approach analyses, which are summarized in the body of my testimony. Details behind the forecasts of the short-term and the long-term risk-free interest rates are discussed. Next, the beta estimates, and the estimates of the MRP I use in the models are addressed. Finally, this section reports the CAPM and ECAPM results for the sample's costs of equity, and then describes the results of adjusting for differences between the benchmark sample and the Ohio EDUs' regulated capital structures.

A. RISK-FREE INTEREST RATE FORECAST

Q25. How do you obtain the forecasts of the risk-free interest rates over the period the utility rates set here are to be in effect?

A25. I obtain these forecast rates using data provided by Bloomberg. In particular, I use their reported government debt yields from the "constant maturity series". This information is displayed in Panels A and B of Table No. MJV-9.

Q26. What values do you use for the short-term and long-term risk-free interest rates?

A26. I use a value of 3.8 percent for the short-term risk-free interest rate and a value of 4.9 percent for the long-term risk-free interest rate as the benchmark interest rates in the equity risk premium analyses. These forecasts are constructed by using historical yield curve data to find the long-run average implied term premia on government securities, and combining these with recent yield curve data. Details of their calculation can be found in the Workpapers to Table No. MJV-9.

B. BETAS AND THE MARKET RISK PREMIUM

1. Beta Estimation Procedures

Q27. How do you estimate beta?

A27. I use the beta estimates reported in the *Value Line* for the sample companies. The current *Value Line* beta estimates range from 0.70 to 1.30 for the benchmark sample (See Workpaper #1 to Table No. MJV-10).

2. Market Risk Premium Estimation

Q28. Given all of the evidence, what MRP do you use in your analysis?

A28. It is clear that market return information is volatile and difficult to interpret, but based on the collective evidence, the MRP I use for the short-term risk-free rate is 8 percent and for the long-term risk-free rate is 6.5 percent.

C. COST OF CAPITAL ESTIMATES

Q29. Based on these data, what are the values you calculate for the overall cost of capital and the corresponding cost of equity for the sample?

A29. Panels A and B of Table No. MJV-10 present the cost of equity results using the equity risk positioning methods. Panel A uses the long-term risk-free rate forecast while Panel B uses the short-term risk-free rate forecast. These returns on equity are replicated and the overall cost of capital for the various equity risk positioning methods are reported in Table No. MJV-11, Panels A to G. Panels A through C utilize the long-term risk-free rate while Panels D through G use the short-term risk free rate. Panel A reports the cost of capital estimates using the CAPM results for the long-term risk-free rate, while Panels B and C report these estimates for the ECAPM cost of equity results using ECAPM parameters of 0.5 and 1.5 percent, respectively. Panel D reports the CAPM estimates using the short-term risk free rate, while Panels E, F and G report ECAPM results using ECAPM parameters of 1, 2 and 3 respectively. In each panel, column [8] reports the overall cost of capital for each company. The last row of each panel reports the sample average.

Q30. What does the sample market data imply about the sample's cost of equity at the proposed 49 percent equity ratio for the Ohio EDUs?

A30. The sample average ATWACC from each panel of Table No. MJV-11 is reproduced in column [1] of Table No. MJV-12, which then reports the cost of equity for each of the risk positioning methods that is consistent with the sample information and the capital structure of the Ohio EDUs. The sample average ATWACCs and corresponding costs of equity at a 49 percent equity ratio are also displayed in Table 3 of my testimony.

I discuss the implications of the equity risk positioning results for the sample in the main body of my testimony.

Table MJV-C1

EMPIRICAL EVIDENCE ON THE ALPHA FACTOR IN ECAPM*		
AUTHOR	RANGE OF ALPHA	PERIOD RELIED UPON
Black (1993)[1]	1% for betas 0 to 0.80	1931-1991
Black, Jensen and Scholes (1972)[2]	4.31%	1931-1965
Fama and McBeth (1972)	5.76%	1935-1968
Fama and French (1992)[3]	7.32%	1941-1990
Litzenberger and Ramaswamy (1979)[4]	5.32%	1936-1977
Litzenberger, Ramaswamy and Sosin (1980)	1.63% to 3.91%	1926-1978
Pettengill, Sundaram and Mathur (1995)[5]	4.6%	1936-1990

*The figures reported in this table are for the longest estimation period available and, when applicable, use the authors' recommended estimation technique. Many of the articles cited also estimate alpha for sub-periods and those alphas may vary.

[1]Black estimates alpha in a one step procedure rather than in an un-biased two-step procedure.

[2]Estimate a negative alpha for the subperiod 1931-39 which contain the depression years 1931-33 and 1937-39.

[3]Calculated using Ibbotson's data for the 30-day treasury yield.

[4]Relies on Lizenberger and Ramaswamy's before-tax estimation results. Comparable after-tax alpha estimate is 4.4%.

[5]Pettengill, Sundaram and Mathur rely on total returns for the period 1936 through 1990 and use 90-day treasuries. The 4.6% figure is calculated using auction averages 90-day treasuries back to 1941 as no other series were found this far back.

Sources:

Black, Fischer. 1993. Beta and Return. *The Journal of Portfolio Management* 20 (Fall): 8-18.

Black, F., Michael C. Jensen, and Myron Scholes. 1972. The Capital Asset Pricing Model: Some Empirical Tests, from Studies in the theory of Capital Markets. In *Studies in the Theory of Capital Markets*, edited by Michael C. Jensen, 79-121. New York: Praeger.

Fama, Eugene F. and James D. MacBeth. 1972. Risk, Returns and Equilibrium: Empirical Tests. *Journal of Political Economy* 81 (3): 607-636.

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Litzenberger, Robert H. and Krishna Ramaswamy. 1979. The Effect of Personal Taxes and Dividends on Capital Asset Prices, Theory and Empirical Evidence. *Journal of Financial Economics* XX (June): 163-195.

Litzenberger, Robert H. and Krishna Ramaswamy and Howard Sosin. 1980. On the CAPM Approach to Estimation of a Public Utility's Cost of Equity Capital. *The Journal of Finance* 35 (2): 369-387.

Pettengill, Glenn N., Sridhar Sundaram and Ike Mathur. 1995. The Conditional Relation between Beta and Returns. *Journal of Financial and Quantitative Analysis* 30 (1): 101-116.

APPENDIX D

DISCOUNTED CASH FLOW METHODOLOGY:

DETAILED PRINCIPLES AND RESULTS

I. DISCOUNTED CASH FLOW METHODOLOGY PRINCIPLES D-1

A. SIMPLE AND MULTI-STAGE DISCOUNTED CASH FLOW MODELS D-1

B. CONCLUSIONS ABOUT DCF D-7

II. EMPIRICAL DCF RESULTS D-7

A. PRELIMINARY MATTERS D-8

B. GROWTH RATES D-8

C. DIVIDEND AND PRICE INPUTS D-11

D. COMPANY-SPECIFIC DCF COST OF CAPITAL ESTIMATES D-12

Q1. What is the purpose of this appendix?

A1. This appendix reviews the principles behind the discounted cash flow or "DCF" methodology and the details of the cost of capital estimates obtained from this methodology.

I. DISCOUNTED CASH FLOW METHODOLOGY PRINCIPLES

Q2. How is this section of the appendix organized?

A2. The first part discusses the general principles that underlie the DCF approach. The second portion describes the strengths and weaknesses of the DCF model and why it is generally less reliable for estimating the cost of capital for the sample companies at the present time than the risk positioning method discussed in Appendix C.

A. SIMPLE AND MULTI-STAGE DISCOUNTED CASH FLOW MODELS

Q3. Please summarize the DCF model.

A3. The DCF model takes the first approach to cost of capital estimation discussed with Figure 1 in Section II-A of my direct testimony. That is, it attempts to measure the cost of equity in one step. The method assumes that the market price of a stock is equal to the present value of the dividends that its owners expect to receive. The method also assumes that this present value can be calculated by the standard formula for the present value of a cash flow stream:

$$P = \frac{D_1}{(1+k)} + \frac{D_2}{(1+k)^2} + \frac{D_3}{(1+k)^3} + \cdots + \frac{D_T}{(1+k)^T} \qquad \textbf{(D-1)}$$

where "P" is the market price of the stock; "D_i" is the dividend cash flow expected at the end of period i; "k" is the cost of capital; and "T" is the last period in which a dividend cash flow is to be received. The formula just says that the stock price is equal to the sum of the expected future dividends, each discounted for the time and risk between now and the time the dividend is expected to be received.

Most DCF applications go even further, and make very strong (*i.e.*, unrealistic) assumptions that yield a simplification of the standard formula, which then can be

rearranged to estimate the cost of capital. Specifically, if investors expect a dividend stream that will grow forever at a steady rate, the market price of the stock will be given by a very simple formula,

$$P = \frac{D_1}{(k-g)} \qquad \textbf{(D-2)}$$

where "D_1" is the dividend expected at the end of the first period, "g" is the perpetual growth rate, and "P" and "k" are the market price and the cost of capital, as before. Equation D-2 is a simplified version of Equation D-1 that can be solved to yield the well known "DCF formula" for the cost of capital:

$$\begin{aligned} k &= \frac{D_1}{P} + g \\ &= \frac{D_0 \times (1+g)}{P} + g \end{aligned} \qquad \textbf{(D-3)}$$

where "D_0" is the current dividend, which investors expect to increase at rate g by the end of the next period, and the other symbols are defined as before. Equation D-3 says that if Equation D-2 holds, the cost of capital equals the expected dividend yield plus the (perpetual) expected future growth rate of dividends. I refer to this as the simple DCF model. Of course, the "simple" model is simple because it relies on very strong (*i.e.*, very unrealistic) assumptions.

Q4. Are there other versions of the DCF models besides the "simple" one?

A4. Yes. If Equation D-2 and its underlying assumptions do not hold, sometimes other variations of the general present value formula, Equation D-1, can be used to solve for k in ways that differ from Equation D-3. For example, if there is reason to believe that investors do *not* expect a steady growth rate forever, but rather have different growth rate forecasts in the near term (e.g., over the next five or ten years as compared with subsequent periods), these forecasts can be used to specify the early dividends in Equation D-1. Once the near-term dividends are specified, Equation D-2 can be used to specify the share price value at the end of the near-term (e.g., at the end of five or ten years), and the resulting cash flow stream can be solved for the cost of capital using Equation D-1.

More formally, the "multi-stage" DCF approach solves the following equation for k:

$$P = \frac{D_1}{(1+k)} + \frac{D_2}{(1+k)^2} + \frac{D_3}{(1+k)^3} + \cdots + \frac{D_T + P_{TERM}}{(1+k)^T} \quad \textbf{(D-4)}$$

The terminal price, P_{TERM} is estimated as

$$P_{TERM} = \frac{D_{T+1}}{(k - g_{LR})} \quad \textbf{(D-5)}$$

where T is the last of the periods in which a near term dividend forecast is made and g_{LR} is the long-run growth rate. Thus, Equation D-4 defers adoption of the very strong perpetual growth assumptions that underlie Equation D-2 — and hence the simple DCF formula, Equation D-3 — for as long as possible, and instead relies on near term knowledge to improve the estimate of k. I examine both simple and multi-stage DCF results below.

Q5. What are the merits of the DCF model?

A5. The DCF approach is conceptually sound only if its assumptions are met. In actual practice one can run into difficulty because those assumptions are so strong, and hence so unlikely to correspond to reality. Two conditions are well-known to be necessary for the DCF approach to yield a reliable estimate of the cost of capital: the variant of the present value formula, Equation D-1, that is used must actually match the variations in investor expectations for the dividend growth path; and the growth rate(s) used in that formula must match current investor expectations. Less frequently noted conditions may also create problems.

The DCF model assumes that investors expect the cost of capital to be the same in all future years. Investors may not expect the cost of capital to be the same, which can bias the DCF estimate of the cost of capital in either direction.

The DCF model only works for companies for which the standard present value formula works. The standard formula does *not* work for companies that operate in industries or markets options (*e.g.*, puts and calls on common stocks), and so it will not work for companies whose stocks behave as options do. Option-pricing effects will be important

for companies in financial distress, for example, which implies the DCF model will *understate* their cost of capital, all else equal.

In recent years even the most basic DCF assumption, that the market price of a stock in the absence of growth options is given by the standard present value formula (*i.e.*, by Equation D-1 above), has been called into question by a literature on market volatility.[1] In any case, it is still too early to throw out the standard formula, if for no other reasons than that the evidence is still controversial and no one has offered a good replacement. But the evidence suggests that it must be viewed with more caution than financial analysts have traditionally applied. Simple models of stock prices may not be consistent with the available evidence on stock market volatility.

Q6. Normally DCF debates center on the right growth rate. What principles underlie that choice?

A6. Finding the right growth rate(s) is indeed the usual "hard part" of a DCF application. The original approach to estimation of g relied on average historical growth rates in observable variables, such as dividends or earnings, or on the "sustainable growth" approach, which estimates g as the average book rate of return times the fraction of earnings retained within the firm. But it is highly unlikely that historical averages over periods with widely varying rates of inflation, interest rates and costs of capital, such as in the relatively recent past, will equal current growth rate expectations.

A better approach is to use the growth rates currently expected by investment analysts, if an adequate sample of such rates is available. If this approach is feasible and if the person estimating the cost of capital is able to select the appropriate version of the DCF formula, the DCF method should yield a reasonable estimate of the cost of capital for

[1] See for example, Robert J. Shiller (1981), "Do Stock Prices Move Too Much to be Justified by Subsequent Changes in Dividends?," *The American Economic Review*, Vol. 71, No. 3, pp. 421-436. John Y. Campbell and Robert J. Shiller (1988), "The Dividend-Price Ratio and Expectations of Future Dividends and Discount Factors," *The Review of Financial Studies*, Vol. 1, No. 3, pp. 195-228. Lucy F. Ackert and Brian F. Smith (1993), "Stock Price Volatility, Ordinary Dividends, and Other Cash Flows to Shareholders," *Journal of Finance*, Vol. 48, No. 1, pp. 1147-1160. Eugene F. Fama and Kenneth R. French (2001), "Disappearing Dividends: Changing Firm Characteristics or Lower Propensity to Pay?," *Journal of Financial Economics*, Vol. 60, pp. 3-43. Borja Larrain and Motohiro Yogo (2005), "Does Firm Value Move Too Much to be Justified by Subsequent Changes in Cash Flow?," Federal Reserve Bank of Boston, *Working Paper*, No. 05-18.

companies not in financial distress and without material option-pricing effects (always subject to recent concerns about the applicability of the basic present value formula to stock prices as well as issues of optimism bias). However, for the DCF approach to work, the basic stable-growth assumption must become reasonable and the underlying stable-growth rate must become determinable *within the period for which forecasts are available*.

Q7. What is the so called "optimism bias" in the earnings growth rate forecasts of security analysts and what is its effect on the DCF analysis?

A7. Optimism bias is related to the observed tendency for analysts to forecast earnings growth rates that are higher than are actually achieved. This tendency to over estimate growth rates is perhaps related to incentives faced by analysts that provide rewards not strictly based upon the accuracy of the forecasts. To the extent optimism bias is present in the analysts' earnings forecasts, the cost of capital estimates from the DCF model would be too high.

Q8. Does optimism bias mean that the DCF estimates are completely unreliable?

A8. No. The effect of optimism bias is least likely to affect DCF estimates for large, rate regulated companies in relatively stable segments of an industry. Furthermore, the magnitude of the optimism bias (if any) for regulated companies is not clear. This issue is addressed in a paper by Chan, Karceski, and Lakonishok (2003)[2] who sort companies on the basis of the size of the I/B/E/S forecasts to test the level of optimism bias. Utilities constitute 25 percent of the companies in lowest quintile, and by one measure the level of optimism bias is 4 percent. However, the 4 percent figure does not represent the complete characterization of the results in the paper. Table IX of the paper shows that the median I/B/E/S forecast for the first (lowest) quintile averages 6.0 percent. The realized "Income before Extraordinary Items" is 2.0 percent (implying a four percent upward bias in I/B/E/S forecasts), but the "Portfolio Income before Extraordinary Items" is 8.0 percent (implying a two percent downward bias in I/B/E/S forecasts).

[2] L. K.C. Chan, J. Karceski, and J. Lakonishok, 2003, "The Level and Persistence of Growth Rates," *Journal of Finance* 58(2):643-684.

The difference between the "Income before Extraordinary Items" and "Portfolio Income before Extraordinary Items" is whether individual firms or a portfolio are used in estimating the realized returns. The first is a simple average of all firms in the quintile while the second is a market value weighted-average. Although both measures of bias have their own drawbacks according to the authors,[3] the Portfolio Income measure gives more weight to the larger firms in the quintile such as regulated utilities. In addition, the paper demonstrates that "analysts' forecasts as well as investors' valuations reflect a wide-spread belief in the investment community that many firms can achieve streaks of high growth in earnings."[4] Therefore, it is not clear how severe the problem of optimism bias may be for regulated utilities or even whether there is a problem at all.

Finally, the two-stage DCF model also adjusts for any over optimistic (or pessimistic) growth rate forecasts by substituting the long-term GDP growth rate for the 5-year growth rate forecasts of the analysts in the years beginning in year 11. I linearly trend the 5-year forecast growth rate to the GDP forecast growth rate in years 6 to 10.

Q9. What about the reforms by the National Associate of Security Dealers (NASD) that were designed to reduce the conflicts of interest and pressures brought against security analysts? Have those reforms been generally successful?

A9. Yes. The conclusion from the Joint Report by NASD and the New York Stock Exchange ("NYSE") on the reforms states

> … the SRO Rules have been effective in helping restore integrity to research by minimizing the influences of investment banking and promoting transparency of other potential conflicts of interest. Evidence also suggests that investors are benefiting from more balanced and accurate research to aid their investment decisions.[5]

[3] Chan, Karceski, and Lakonishok, *op. cit.*, p. 675.

[4] Chan, Karceski, and Lakonishok, *op. cit.*, p. 663.

[5] Joint Report by NASD and NYSE on the Operation and Effectiveness of the Research Analyst Conflict of Interest Rules, December 2005, p. 44.

The report does note additional reforms are advisable, but the situation is far different today than during the height of the tech bubble when analyst objectivity was clearly suspect.

B. CONCLUSIONS ABOUT DCF

Q10. Please sum up the implications of this part of the appendix.

A10. The unavoidable questions about the DCF model's strong assumptions — whether the basic present value formula works for stocks, whether option pricing effects are important for the company, whether the right variant of the basic formula has been found, and whether the true growth rate expectations have been identified — cause me to view the DCF method as *inherently* less reliable than equity risk premium approach, the other approach I use. However, because the DCF method has been widely used in the past and in other forums when the industry's economic conditions were different from today's, I submit DCF evidence in this case. DCF estimates also serve as a check on the values provided by the risk positioning approach methods.

II. EMPIRICAL DCF RESULTS

Q11. How is this part of the appendix organized?

A11. This section presents the details of my DCF analyses for the sample, which are summarized in my written testimony. The first part describes some preliminary matters, such as the calculation of market value capital structures of the sample companies and the determination of the growth rates. It then turns to the details of the DCF estimates themselves.

In particular, implementation of the simple DCF models described above requires an estimate of the current price, the dividend, and near-term and long-run growth rate forecasts. The simple DCF model relies only on a single growth rate forecast, while the multistage DCF model employs both near-term individual company forecasts and long-run GDP growth rate forecasts. The remaining parts of this section describe each of these inputs in turn.

A. PRELIMINARY MATTERS

Q12. In Appendix C you discuss estimating cost of capital and implied cost of equity using the risk positioning methodology. What, if anything, is different when you use the DCF method?

A12. First, the timing of the market value capital structure calculations is different in the DCF method than in the equity risk premium method. The equity risk premium method relies on the average capital structure over the five-year period *Value Line* uses to estimate beta while the DCF approach uses only current data, so the relevant market value capital structure measure is the most recent that can be calculated. This capital structure is reported in columns [1]-[3] of Table No. MJV-4.

B. GROWTH RATES

Q13. What growth rates do you use?

A13. For reasons discussed above, historical growth rates today are generally unreliable as forecasts of current investor expectations for the electric utility industry. I therefore use rates forecasted by security analysts.

The ideal in a DCF application would be a detailed forecast of future dividends, year by year well into the future, based on a large sample of investment analysts' expectations. I know of no source of such data. Dividends are ultimately paid from earnings, however, and earnings forecasts are available for a few years. Investors do not expect dividends to grow in lockstep with earnings, but for companies for which the DCF approach can be used reliably (*i.e.*, for relatively stable companies whose prices do not include the option-like values described previously), they do expect dividends to track earnings over the long-run. Thus, use of earnings growth rates as a proxy for expectations of dividend growth rates is a common practice.

Accordingly, the first step in my DCF analysis is to examine a sample of investment analysts' forecasted earnings growth rates. In particular, I utilize Bloomberg's BEst and

Value Line's forecasted earnings growth.[6] The projected earnings growth rates for the sample companies are in Table No. MJV-5.[7] Column [1] reports Bloomberg's BEst analysts' forecasts of the long-term earnings growth for the sample companies. Column [2] reports the number of analysts that provided a forecast. Columns [3] and [4] report *Value Line's* forecasted earnings per share ("EPS") value for each company for 2008 and 2010-2012 respectively. Column [5] provides *Value Line's* implied long-term growth rate forecast, and column [6] provides a weighted average growth rate for each company across the two sources. (I treat the *Value Line* forecasts as though they overlap exactly with the forecasts from Bloomberg.) These growth rates underlie my simple and multi-stage DCF analyses.

In particular, the five-year average annual growth rate is the perpetual growth rate I employ in the simple DCF model.[8] In the multi-stage model, I rely on the company-specific growth rate until 2012 and on the long-term GDP forecast for year 2017 onwards. During the years from 2012 to 2016, I assume the growth rate converges linearly towards the long-term GDP forecast.[9]

Q14. Do these growth rates correspond to the ideal you mentioned above?

A14. No, not completely. While forecasted growth rates are the quantity required in principle, the forecasts need to go far enough out into the future so that it is reasonable to believe that investors expect a stable growth path afterwards. As can be seen from Table No. MJV-5, the growth rate estimates do not support the view that investors are expecting growth rates equal to the single perpetual growth rate assumed in the simple DCF model. Indeed, there is substantial variation across companies' combined growth rates. For example, Cleco Corp and PPL each have a combined growth rate estimate of over 12

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[6] The BEst growth rates were downloaded from Bloomberg on April 9, 2007. *Value Line* numbers are their most recent available, variously dated December 29th, 2006, February 9, 2007, and March 2, 2007. (See Table No. MJV-5.)

[7] No Bloomberg BEst growth rate was available for MGE Energy Inc. at the time of this document's production.

[8] This growth rate is in column [6] of Table No. MJV-5.

[9] I use the long-term U.S. GDP growth estimate from *Blue Chip Economic Indicators* (March 10, 2007).

percent, while Consolidated Edison's combined estimate is 3.5 percent and Pinnacle West's is 2.9 percent (see column [6], Table No. MJV-5).

It should be noted that except for MGE Energy, there are at least two analyst estimates for all of the sample companies, though Cleco Corp and Empire Electric have only two. The comparison between the average growth rate forecasts and the growth in GDP forecast indicates that these growth rates may be overly optimistic in the case of some electric companies.

Q15. How well are the conditions needed for DCF reliability met at present?

A15. The requisite conditions for the sample companies are not fully met at this time. Of particular concern for this proceeding is the uncertainty about what investors truly expect the long-run outlook for the sample companies to be. The longest time period available for growth rate forecasts of which I am aware is five years. The long-run growth rate (*i.e.*, the growth rate after the energy industry settles into a steady state, which is certainly *beyond* the next five years for this industry) drives the actual results one gets with the DCF model. Unfortunately, this implies that unless the company or industry in question is stable, so there is little doubt as to the growth rate investors expect. DCF results in practice can end up being driven by the subjective judgment of the analyst who performs the work.

This is a problem at present because it is hard to imagine that today's energy industry would accurately be described as stable. Inflation and interest rates have largely stabilized over the last 10 years, but oil and natural gas prices have increased dramatically. The prices of natural gas and petroleum have also exhibited a great deal of volatility recently. These factors make demand for natural gas and electricity more uncertain. Additionally, the electric industry (as well as both the pipeline industry and the gas distribution sector) are going through a series of mergers and acquisitions, which affects the companies' earnings growth rate estimates. This is one reason why companies heavily involved in mergers and acquisitions are normally excluded from the sample. A number of states are actively considering reversing the restructuring process for the electric utility industry. There has also been financial distress among companies

specializing in trading natural gas and electricity products which affects both regulated and unregulated companies. Taken together, these factors mean that it may be some time before the energy industry settles into anything investors will see as a stable equilibrium.

Such circumstances imply that a regulator may often be faced with a wide range of DCF numbers, none of which can be well grounded in objective data on true long-run growth expectations, *because no such objective data now exist*. DCF for firms or industries in flux is *inherently* subjective with regard to a parameter (the long-run growth rate) that drives the answer one gets.

It is clear that much longer detailed growth rate forecasts than currently available from Bloomberg and *Value Line* would be needed to implement the DCF model in a completely reliable way for the sample at this time.

C. DIVIDEND AND PRICE INPUTS

Q16. What values do you use for dividends and stock prices?

A16. Dividends are the last recorded dividend payments as reported by Bloomberg, the 4th-quarter 2006 dividend. This dividend is grown at the estimated growth rate and divided by the price described below to estimate the dividend yield for the simple and multi-stage DCF models.

For the sample calculations, stock prices are the average of the closing stock prices for the 15 trading days (approximately three weeks) ending April 9, 2007 for each company, the same date growth rate estimates were pulled from Bloomberg. I do not use a longer period to measure the price, because that would be inconsistent with the principles that underlie the DCF formula. The DCF approach assumes the stock price is the present value of future expected dividends. Stock prices six months or a year ago reflect expectations at that time, which are different from those that underlie the currently available growth forecasts. At the same time, use of an average over a brief period helps guard against a company's price on a particular day price being unduly influenced by mistaken information, differences in trading frequency, and the like.

The closing stock price is used because it is at least as good as any other measure of the day's outcome, and may be better for DCF purposes. In particular, if there were any single price during the day that would affect investors' decisions to buy or sell a stock, I would suspect that it would be each day's closing price, not the high or low during the day. The daily price changes reported in the financial pages, for example, are from close to close, not from high to high or from low to low.

D. COMPANY-SPECIFIC DCF COST OF CAPITAL ESTIMATES

Q17. What DCF estimates do these data yield?

A17. The cost of equity results for the simple and multistage DCF models are shown in Table No. MJV-6. Panel A reports the results for the simple DCF method while Panel B reports the results for the multistage DCF method using the long-term GDP growth rate as the perpetual growth rate.

Q18. What overall cost of capital estimates result from the DCF cost of equity estimates?

A18. The capital structure, DCF cost of equity, and cost of debt estimates are combined to obtain the overall after-tax weighted-average cost of capital for each sample company. These results are presented in Table No. MJV-7. Again, Panel A relies on the simple DCF cost of equity results while Panel B relies on the multistage DCF cost of equity results.

Q19. What information do you report in Table No. MJV-8?

A19. This table reports the return on equity consistent with the sample's estimated overall after-tax weighted-average cost of capital and the proposed equity thickness of 49 percent for the Ohio EDUs. For both the simple DCF and multistage DCF methods, the sample's average ATWACC is reported in column [1]. Column [6] reports the return on equity as if the sample companies' average market value capital structure had been that currently proposed for the Ohio EDUs.

Q20. What are the implications of these results?

A20. The implication of these numbers is discussed in my written testimony, along with the findings of the equity risk premium approach.

APPENDIX E

EFFECT OF DEBT ON THE COST OF EQUITY

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Q1. What is the purpose of this Appendix?

A1. In this appendix, I provide details on the effects of debt on the cost of equity. First, I summarize a fairly large body of financial research on capital structure. Second, I provide an extended example to illustrate the effect of debt on the cost of equity.

I. AN OVERVIEW OF THE ECONOMIC LITERATURE

Q2. What is the focus of the economic literature on the effects of debt?

A2. The economic literature focuses on the effects of debt on the value of a firm. The standard way to recognize one of these effects, the impact of the fact that interest expense is tax-deductible, is to discount the all-equity after-tax operating cash flows generated by a firm or an investment project at a weighted average cost of capital, typically known in textbooks as the "WACC." The textbook WACC equals the *market*-value weighted average of the cost of equity and the *after-tax*, *current* cost of debt. However, rate regulation in North America has a legacy of working with another weighted-average cost of capital, the *book*-value weighted average of the cost of equity and the *before-tax*, *embedded* cost of debt. To distinguish the concepts, I refer to the after-tax weighted-average cost of capital as ATWACC.

Q3. How is this section of the appendix organized?

A3. It starts with the tax effects of debt. It then turns to other effects of debt.

A. TAX EFFECTS

Q4. What are the key findings in the literature regarding tax effects?

A4. Three seminal papers are vital for this literature. The first assumes no taxes and risk-free debt. The second adds corporate income taxes. The third adds personal income taxes.

1. Base Case: No Taxes, No Risk to High Debt Ratios

Q5. Please start by explaining the simplest case of the effect of debt on the value of a firm.

A5. The "base case," no taxes and no costs to excessive debt, was worked out in a classic 1958 paper by Franco Modigliani and Merton Miller, two economists who eventually won Nobel Prizes in part for their body of work on the effects of debt.[1] Their 1958 paper made what is in retrospect a very simple point: if there are no taxes and no risk to the use of excessive debt, use of debt will have no effect on a company's operating cash flows (i.e., the cash flows to investors as a group, debt plus equity combined). If the operating cash flows are the same regardless of whether the company finances mostly with debt or mostly with equity, then the value of the firm cannot be affected at all by the debt ratio. In cost of capital terms, this means the overall cost of capital is constant regardless of the debt ratio, too.

In the base case, issuing debt merely divides the cash flows into two pools, one for bondholders and one for shareholders. If the divided pools have different priorities in claims on the cash flows, the risks and costs of capital will differ for each pool. But the risk and overall cost of capital of the entire firm, the sum of the two pools, is constant regardless of the debt ratio. Thus,

$$r_1^* = r_{A1} \qquad \text{(E-1a)}$$

where r^*_1 is the overall after-tax cost of capital at any particular capital structure and r_{A1} is the all-equity cost of capital for the firm. (The "1" subscripts distinguish the case where there are no taxes from subsequent equations that consider first corporate and then both corporate and personal taxes.) With no taxes and no risk to debt, the overall cost of capital does not change with capital structure.

This implies that the relationship of the overall cost of capital to the component costs of debt and equity is

[1] Franco Modigliani and Merton H. Miller (1958), "The Cost of Capital, Corporation Finance and the Theory of Investment," *American Economic Review*, 48, pp. 261-297.

$$r_{E1} \times \left(\frac{E}{V}\right) + r_{D1} \times \left(\frac{D}{V}\right) = r_1^* \qquad \text{(E-1b)}$$

with the overall cost of capital (r^*) on the *right* side, as the *independent* variable, and the costs of equity (r_E) and debt (r_D) on the left side, as *dependent* variables determined by the overall cost of capital and by the capital structure (i.e., the shares of equity (E) and debt (D) in overall firm value (V=E+D)) that the firm happens to choose. Note that if equation (E-1a) were correct, the equation that solved it for the cost of equity would be,

$$r_{E1} = r_1^* + (r_1^* - r_D) \times \left(\frac{D}{E}\right) \qquad \text{(E-1c)}$$

Note also that (D/E) gets exponentially higher in this equation as the debt-to-value ratio increases[2] i.e., the cost of equity increases exponentially with leverage.

2. Corporate Tax Deduction for Interest Expense

Q6. What happens when you add corporate taxes to the discussion?

A6. If corporate taxes exist with risk-free debt (and if only taxes at the corporate level matter, not taxes at the level of the investor's personal tax return), the initial conclusion changes. Debt at the corporate level reduces the company's tax liability by an amount equal to the marginal tax rate times interest expense. All else equal, this will add value to the company because more of the operating cash flows will end up in the hands of investors as a group. That is, if only corporate taxes mattered, interest would add cash to the firm equal to the corporate tax rate times the interest expense. This increase in cash would increase the value of the firm, all else equal. In cost of capital terms, it would reduce the overall cost of capital.

How much the value of the firm would rise and *how far* the overall cost of capital would fall would depend in part on how often the company adjusts its capital structure, but this is a second-order effect in practice. (The biggest effect would be if companies could issue riskless perpetual debt, an assumption Profs. Modigliani and Miller explored in

[2] For example, at 20-80, 50-50, and 80-20 debt-equity ratios, (D/E) equals, respectively, (20/80) = 0.25, (50/50) = 1.0, and (80/20) = 4.0. The extra 30 percent of debt going from 20-80 to 50-50 has much less impact on (D/E) [i.e., by moving it from 0.25 to 1.0] than the extra 30 percent of debt going from 50-50 to 80-20 [i.e., by moving it from 1.0 to 4.0]. Since the cost of equity equals a constant risk premium times the debt-equity ratio, the cost of equity grows ever more rapidly as you add more and more debt.

1963, in the second seminal paper;[3] this assumption could *not* be true for a real company.) Prof. Robert A. Taggart provides a unified treatment of the main papers in this literature and shows how various cases relate to one another.[4] Perhaps the most useful set of benchmark equations for the case where only corporate taxes matter are:

$$r_2^* = r_{A2} - r_D \times t_C \times \left(\frac{D}{V}\right) \quad \text{(E-2a)}$$

$$r_2^* = r_{E2} \times \left(\frac{E}{V}\right) + r_D \times \left(\frac{D}{V}\right) \times (1 - t_C) \quad \text{(E-2b)}$$

which imply for the cost of equity,

$$r_{E2} = r_{A2} + (r_{A2} - r_D) \times \left(\frac{D}{E}\right) \quad \text{(E-2c)}$$

where the variables have the same meaning as before but the "2" subscripts indicate the case that considers corporate but not personal taxes.

Note that Equation (E-2a) implies that when only corporate taxes matter, the overall after-tax cost of capital declines steadily as more debt is added, until it reaches a minimum at 100 percent debt (i.e., when D/V = 1.0). Note also that Equation (E-2c) still implies an exponentially increasing cost of equity as more and more debt is added. In fact, except for the subscript, Equation (E-2c) looks just like Equation (E-1c).

However, whether any value is added and whether the cost of capital changes at all also depends on the effect of taxes at the personal level.

3. Personal Tax Burden on Interest Expense

Q7. How do personal taxes affect the results?

A7. Ultimately, the purpose of investment is to provide income for consumption, so personal taxes affect investment returns. For example, in the U.S., municipal bonds have lower interest rates than corporate bonds because their income is taxed less heavily at the

[3] Franco Modigliani and Merton H. Miller (1963), "Corporate Income Taxes and the Cost of Capital: A Correction," *American Economic Review*, 53, pp. 433-443.

[4] Robert A. Taggart, Jr. (1991), "Consistent Valuation and Cost of Capital Expressions with Corporate and Personal Taxes," *Financial Management* 20, pp. 8-20.

personal level. In general, capital appreciation on common stocks is taxed less heavily than interest on corporate bonds because (1) taxes on unrealized capital gains are deferred until the gains are realized, and (2) the capital gains tax rate is lower. Dividends are taxed less heavily than interest, also, under current tax law.[5] The effects of personal taxes on the cost of common equity are hard to measure, however, because common equity is so risky.

Professor Miller, in his Presidential Address to the American Finance Association,[6] explored the issue of how personal taxes affect the overall cost of capital. The paper pointed out that personal tax effects could offset the effect of corporate taxes entirely.

Q8. Is it likely that the effect of personal taxes will completely neutralize the effect of corporate taxes?

A8. I do not believe so, although the likelihood of such a result would be increased if the current federal tax reductions on dividends and capital gains became permanent rather than expiring in 2010. However, personal taxes are important even if they do not make the corporate tax advantage on interest vanish entirely. Capital gains and dividend tax advantages definitely convey some personal tax advantage to equity, and even a partial personal advantage to equity reduces the corporate advantage to debt.

The Taggart paper explores the case of a partial offset, also. With personal taxes, the risk-free rate on the security market line is the after-personal-tax rate, which must be equal for risk-free debt and risk-free equity.[7] Therefore, the pre-personal-tax risk-free rate for equity will generally not be equal to the pre-personal-tax risk-free rate for debt. In particular, $r_{fE} = r_{fD} \times [(1-t_D)/(1-t_E)]$, where r_{fE} and r_{fD} are the risk-free costs of equity and debt and t_E and t_D are the personal tax rates for equity and debt, respectively. In

[5] The current maximum personal tax rate on dividend income was extended to the end of 2010 by the President on May 17, 2006. It is uncertain whether the reduced rates on dividend income will be further extended.

[6] Merton H. Miller (1977), "Debt and Taxes," *The Journal of Finance*, 32: 261-276, the third of the seminal papers mentioned earlier.

[7] As Prof. Taggart notes (his footnote 9), it is not necessary that a specific, risk-free equity security exist as long as one can be created synthetically, through a combination of long and short sales of traded assets. Such constructs are a common analytical tool in financial economics.

terms of the cost of debt, the Taggart paper's results imply that a formal statement of these effects can be written as:[8]

$$r_3^* = r_{A3} - r_D \times t_N \times \left(\frac{D}{V}\right) \tag{E-3a}$$

$$= r_{E3} \times \left(\frac{E}{V}\right) + r_D \times \left(\frac{D}{V}\right) \times (1 - t_C) \tag{E-3b}$$

which imply

$$r_{E3} = r_{A3} + \left[r_{A3} - r_D \times \left(\frac{1-t_D}{1-t_E}\right)\right] \times \left(\frac{D}{E}\right) \tag{E-3c}$$

Suppose, for example, that t_C = 0.35 percent, t_E = 7.7 percent and t_D = 40 percent. Then $[(1-t_D)/(1-t_E)]$ = 0.65 = $(1-t_C)$. That condition corresponds to Miller's 1977 paper, in which the net personal tax advantage of equity fully offsets the net corporate tax advantage of debt. Note also that in that case, t_N = 0.[9] Therefore, if the personal tax advantage on equity fully offsets the corporate tax advantage on debt, Equation (E-3a) confirms that the overall after-tax cost of capital is a constant.

However, it is unlikely that the personal tax advantage of equity fully offsets the corporate tax advantage of debt. If taxes were all that mattered (i.e., if there were no other costs to debt), the overall after-corporate-tax cost of capital would still fall as debt was added, just not as fast.

Finally, note that the overall after-tax cost of capital, Equation (E-3b), still uses the corporate tax rate even when personal taxes matter. Equations (E-2b) and (E-3b) both correspond to the usual formula for the ATWACC. Personal taxes affect the way the cost of equity changes with capital structure -- Equation (E-3c) -- but not the formula for the overall after-tax cost of capital given that cost of equity.

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[8] The net all-tax effect of debt on the overall cost of capital, t_N, equals $\{[t_C+t_E-t_D-(t_C \times t_E)] / (1-t_E)\}$, where t_D is the personal tax rate on debt, as before. This measure of net tax effect is designed for use with the cost of debt in Equation (E-3a), which seems more useful in the present context. The Taggart paper works with a similar measure, but one which is designed for use with the cost of risk-free equity in the equivalent Taggart equation.

[9] In the above example, $t_N = \{[0.35+0.077-0.4-(0.35 \times 0.077)] / (1.0-0.077)\} = 0.0/0.923 = 0$.

B. NON-TAX EFFECTS

Q9. Please describe the non-tax effects of Debt.

A9. If debt is truly valuable, firms should use as much as possible, and competition should drive firms in a particular industry to the same, optimal capital structure for the industry. If debt is harmful on balance, firms should avoid it. Neither picture corresponds to what we actually see. A large economic literature has evolved to try to explain why.

Part of the answer clearly is the costs of excessive debt. Here the results cannot be reduced to equations, but they are no less real for that fact. As companies add too much debt, the costs come to outweigh the benefits. Too much debt reduces or eliminates financial flexibility, which cuts the firm's ability to take advantage of unexpected opportunities or weather unexpected difficulty. Use of debt rather than internal financing may be taken as a negative signal by the market.

Even if the company is generally healthy, more debt increases the risk that the company cannot use all of the interest tax shields in a bad year. As debt continues to grow, this problem grows and others may crop up. Management begins to worry about meeting debt payments instead of making good operating decisions. Suppliers are less willing to extend trade credit, and a liquidity shortage can translate into lower operating profits. Ultimately, the firm might have to go through the costs of bankruptcy and reorganization. Collectively, such factors are known as the costs of "financial distress."[10]

The net tax advantage to debt, if positive, is affected by costs such as a growing risk that the firm might have to bear the costs of financial distress. First, the expected present value of these costs offsets the value added by the interest tax shield. Second, since the likelihood of financial distress is greater in bad times when other investments also do poorly, the possibility of financial distress will increase the risks investors bear. These effects increase the variability of the value of the firm. Thus, firms that use too much debt can end up with a higher overall cost of capital than those that use none.

[10] See, for example, Section 18.3 of Brealey, Myers and Allen, 2006, *Principles of Corporate Finance*, 8th Edition, McGraw-Hill/Irwin, 2006.

Other parts of the answer include the signals companies send to investors by the decision to issue new securities, and by the type of securities they issue. Other threads of the literature explore cases where management acts against shareholder interests, or where management attempts to "time" the market by issuing specific securities under different conditions. For present purposes, the important point is that no theory, whether based on taxes or on some completely different issue, has emerged as "the" explanation for capital structure decisions by firms. Nonetheless, despite the lack of a single "best" theory, there is a great deal of relevant empirical research.

Q10. What does that research show?

A10. The research does not support the view that debt makes a material difference in the value of the firm, at least not once a modest amount of debt is in place. If debt were truly valuable, competitive firms should use as much debt as possible short of producing financial distress, and competitive firms that use less debt ought to be less profitable. The research shows exactly the opposite.

For example, Kester[11] found that firms in the same industry in both the U.S. and Japan do not band around a single, "optimal" capital structure, and the most profitable firms are the ones that use the *least* debt. This finding comes despite the fact that both countries at the time (unlike the U.S. currently) had fully "classical" tax systems, in which dividends are taxed fully at both the corporate and personal level. Wald[12] confirms that high profitability implies low debt ratios in France, Germany, Japan, the U.K., and the U.S. Booth *et al.* find the same result for a sample of developing nations.[13] Fama and French[14] analyze over 2000 firms for 28 years (1965-1992, inclusive) and conclude, "Our tests

[11] Carl Kester (1986), "Capital and Ownership Structure: A Comparison of United States and Japanese Manufacturing Concerns," *Financial Management*, 15:5-16.

[12] John K. Wald (1999), "How Firm Characteristics Affect Capital Structure: An International Comparison," *Journal of Financial Research*, 22:161-167.

[13] Laurence Booth *et al.* (2001), "Capital Structures in Developing Countries," *The Journal of Finance* Vol. LVI, pp. 87-130, finds at p. 105 that "[o]verall, the strongest result is that profitable firms use less total debt. The strength of this result is striking ..."

[14] Eugene F. Fama and Kenneth R. French (1998), "Taxes, Financing Decisions and Firm Value," *The Journal of Finance*, 53:819-843.

thus produce no indication that debt has net tax benefits."[15] A paper by Graham[16] carefully analyzes the factors that might have led a firm not to take advantage of debt. It confirms that a large proportion of firms that ought to benefit substantially from use of additional debt, including large, profitable, liquid firms, appear not to use it "enough."

This research leaves us with only three options: either (1) apparently good, profit-generating managers are making major mistakes or deliberately acting against shareholder interests, (2) the benefits of the tax deduction on debt are less than they appear, or (3) the non-tax costs to use of debt offset the potential tax benefits. Only the first of these possibilities is consistent with the view that the tax deductibility of debt conveys a material cost advantage. Moreover, if the first explanation were interpreted to mean that otherwise good managers are acting against shareholder interests, either deliberately or by mistake, it would require the additional assumption that their competitors (and potential acquirers) let them get away with it.

Q11. Are there any explanations in the financial literature for this puzzle other than stupid or self-serving managers at the most profitable firms?

A11. Yes. For example, Stewart C. Myers, a leading expert on capital structure, made it the topic of his Presidential Address to the American Finance Association.[17] The poor performance of tax-based explanations for capital structure led him to propose an entirely different mechanism, the "pecking order" hypothesis. This hypothesis holds that the net tax benefits of debt (i.e., corporate tax advantage over personal tax disadvantage) are at most of a second order of importance relative to other factors that drive actual debt decisions.[18] Similarly, Baker and Wurgler (2002)[19] observe a strong and persistent

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[15] *Ibid.*, p. 841.

[16] John R. Graham (2000), "How Big Are the Tax Benefits of Debt," *The Journal of Finance*, 55:1901-1942.

[17] Stewart C. Myers (1984), "The Capital Structure Puzzle," *The Journal of Finance*, 39: 575-592. See also S. C. Myers and N. S. Majluf (1984), "Corporate Financing Decisions When Firms Have Information Investors Do Not Have," *Journal of Financial Economics* 13:187-222.

[18] See also Stewart C. Myers (1989), "Still Searching for Optimal Capital Structure," *Are the Distinctions Between Debt and Equity Disappearing?,* R.W. Kopke and E. S. Rosengren, eds., Federal Reserve Bank of Boston.

[19] Malcolm Baker and Jeffrey Wurgler (2002), "Market Timing and Capital Structure," *The Journal of Finance* 57:1-32.

impact that fluctuations in market value have on capital structure. They argue that this impact is not consistent with other theories. The authors suggest a new capital structure theory based on market timing -- capital structure is the cumulative outcome of attempts to time the equity market.[20] In this theory, there is no optimal capital structure, so market timing financing decisions just accumulate over time into the capital structure outcome. (Of course, this theory only makes sense if investors do not recognize what managers are doing.)

Q12. Do inter-firm differences within an industry explain the wide variations in capital structure across the firms in an industry?

A12. No. This view is contradicted by the empirical research. As mentioned before, it has long been found that the most profitable firms in an industry, i.e., those in the best position to take advantage of debt, use the least.[21] Graham (2000) carefully examines differences in firm characteristics as possible explanations for why firms use "too little" debt and concludes that such differences are *not* the explanation: firms that ought to benefit substantially from more debt by all measurable criteria, if the net tax advantage of debt is truly valuable, voluntarily do not use it.[22]

Nor does the research support the view that firms are constantly trying to adjust their capital structures to optimal levels. Additional research on the pecking order hypothesis demonstrates that firms do not tend towards a target capital structure, or at least do not do so with any regularity, and that past studies that seemed to show the contrary actually lacked the power to distinguish whether the hypothesis was true or not.[23] In the words of

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[20] *Ibid.*, p. 29.

[21] For example, Kester, *op. cit.* and Wald, *op. cit.*

[22] While not contradicting Graham's finding that differences in firm characteristics do not explain capital structure differences, Nengjiu Ju, Robert Parrino, Allen M. Poteshman, and Michael S. Weisbach, "Horses and Rabbits? Trade-Off Theory and Optimal Capital Structure," *Journal of Financial and Quantitative Analysis*, June 2005, pp. 1-24, looks at the issue in a different manner. Their paper uses a dynamic rather than static model to analyze the tradeoff between the tax benefits of debt and the risk of financial distress. It finds that bankruptcy costs by themselves are enough to explain observed capital structures, once dynamic effects are considered. This means debt is not as valuable as suggested by the traditional static analysis (of the sort used by Graham).

[23] Lakshmi Shyam-Sunder and Stewart C. Myers (1999), "Testing static tradeoff against pecking order models of capital structure," *Journal of Financial Economics* 51:219-244.

the Shyam-Sunder - Myers paper p. 242, "If our sample companies did have well-defined optimal debt ratios, it seems that their managers were not much interested in getting there."

II. EXPANDED EXAMPLE

Q13. What topics do you cover in this section?

A13. The discussion in my testimony did not detail the impact of different starting points for the level of debt nor did it address income earned on the investment, interest expense, or taxes. This section covers these topics. First, it discusses how the level of debt affects the cost of equity. Second, it addresses the influence of income and interest on the investment. Third, it explains the impact of taxes on capital structure decisions. The final topic covered in this section is the combined consequence of tax and non-tax effects of debt.

A. DETAILS OF DIFFERENT LEVELS OF DEBT

Q14. Why does more debt mean more risk for equity holders?

A14. Debt magnifies the variability of the equity return. As a simple example, think of an investor who takes money out of her savings and invests $100,000 in real estate. The future value of the real estate is uncertain. If the real estate market booms, she wins. If the real estate market goes down, she loses. Figure E-1 below illustrates this.

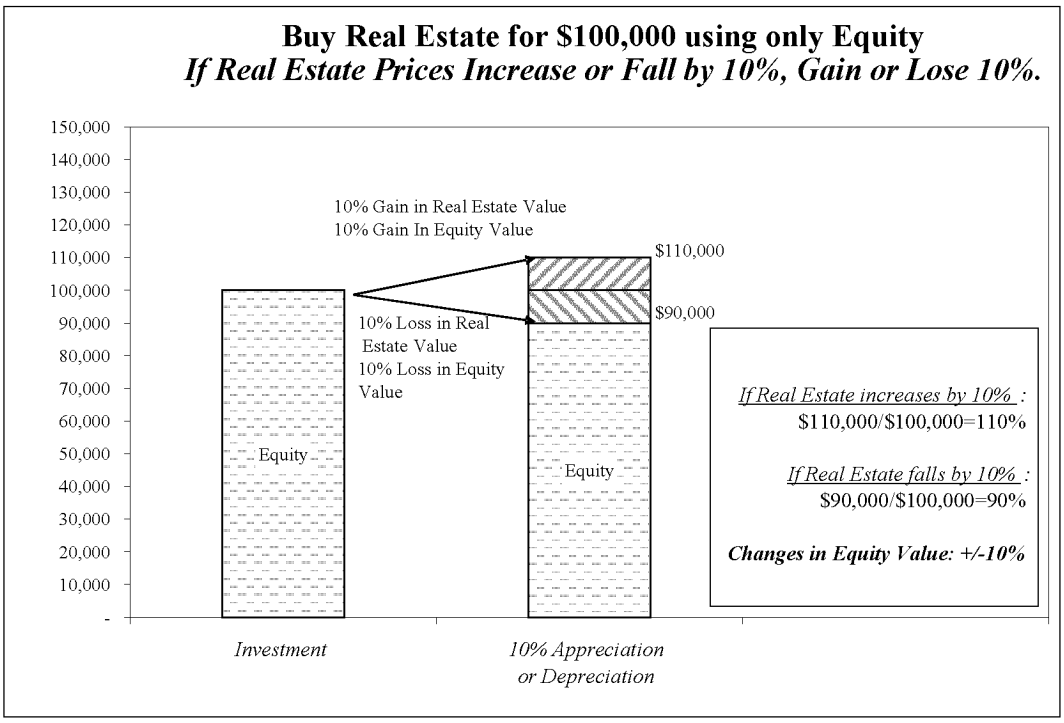

Figure E-1

In the scenario above, the investor financed her real estate purchase through 100 percent equity. Suppose instead that the investor had financed 50 percent of her real estate investment with a mortgage of $50,000. The mortgage lender does not expect to share in any benefits from increases in real estate values. Neither does the mortgage lender expect to share in any losses from falling real estate values, i.e., the investor carries the entire risk of fluctuating real estate prices. Figure E-2 illustrates this effect.

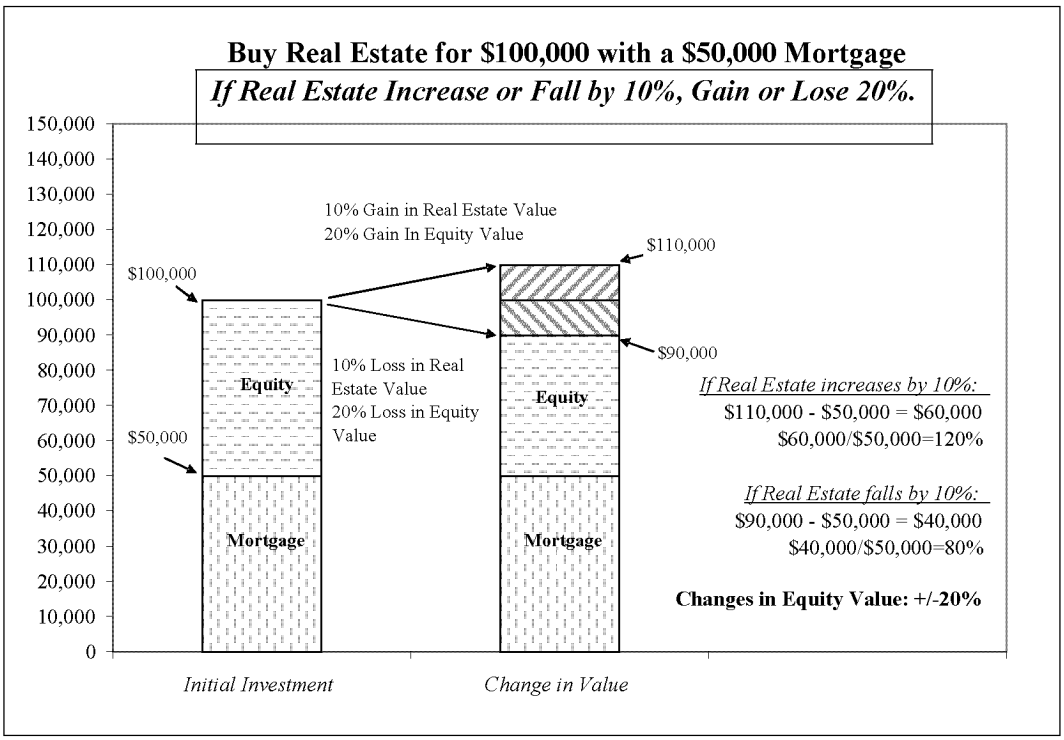

Figure E-2

In Figure E-2 where the investor financed her purchase through 50 percent equity and 50 percent debt, the variability in the investor's equity return is two times greater than that of Figure E-1. The entire fluctuation of 10 percent from rising or falling real estate prices falls on the investor's $50,000 equity investment. The lesson from the example is obvious, debt adds risk to equity.

Q15. What happens if the investor finances the real estate purchase with different proportions of debt?

A15. The equity return becomes more variable when the mortgage percentage is a greater proportion of the initial price. Table E-1 below calculates the return on equity when real estate prices increase by 10 percent when mortgages are 0 percent, 30 percent, 50 percent, and 70 percent of the initial price.

Table E-1: The Impact of Leverage on the Return on Equity

	100% Equity	70% Equity	50% Equity	30% Equity
Debt	$0	$30,000	$50,000	$70,000
Original Equity Investment	$100,000	$70,000	$50,000	$30,000
Increase in Market Value of Equity	$10,000	$10,000	$10,000	$10,000
Return on Equity Investment	10%	14.3%	20%	33.3%

Note that going from 70 percent equity down to 50 percent equity increases the return on the equity investment by 5.7 percent while going from 50 percent equity to 30 percent equity increases the return on equity by 13.3 percent. This illustrates a general point; the rate of return on equity increases more quickly at higher levels of debt than at lower levels. Investors demand a higher equity rate of return to bear more risk and debt magnifies equity's risk at an ever increasing rate. Therefore, the required equity rate of return goes up at an ever increasing rate as debt is added. This is not only basic finance theory, it is the everyday experience of anyone who buys a home. The bigger the mortgage, the more percentage risk the equity faces from changes in housing prices.

Q16. Please provide an example that illustrates why market values are relevant.

A16. Suppose in the above example that the investor has invested in real estate 10 years ago. Further assume that depreciation has reduced the book value of the real estate from $100,000 to $75,000 and assume the investor has paid off 40 percent of his $50,000 mortgage. Thus, the investor has a remaining mortgage of $30,000 (= 60% × $50,000). The book value of the investor's equity investment is therefore $45,000 (= $75,000 - $30,000).

What happens now if real estate prices rise or fall 20 percent? To answer that question, we need to know how real estate prices have developed over the past 10 years. If the market value of the real estate now is $200,000 then a 20 percent decrease in the price of real estate ($40,000) is almost equal to the investor's book value equity. However, his

market value equity (or net worth) is equal to the value of the real estate minus what he owes on the mortgage. If we assume that the market value of the mortgage equals the unpaid balance ($30,000), then the investor's net worth is calculated as follows:

Net Worth	=	Market Value of Real Estate	-	Remaining Mortgage
	=	$200,000	-	$30,000
	=	$170,000		

Therefore, the rate of return on equity due to a 20 percent decline in real estate prices is calculated in Table E-2.

Table E-2: Calculating the Rate of Return on Equity

Decline in Real Estate Value	$40,000
Market-Value Equity	$170,000
Rate of Return on Equity	- $40,000/$170,000 = -23.5%

B. THE IMPACT OF INCOME AND INTEREST

Q17. How does earning income from the investment and paying interest on debt affect the results?

A17. In the following explanation, I ignore income taxes which I deal with in Section C below. Assume the investor is receiving income, e.g., rent, from the real estate. Specifically, assume the investor receives $500 per month in income after all non-interest expenses ($6,000 per year). Also, assume that the expected appreciation is 5 percent per year, so the expected market value is $105,000 after one year. Then the expected rate of return from the real estate with all equity financing is:

$$\text{Expected Return on Equity @ 0\% debt} = \frac{\text{Expected Net Income + Expected Appreciation}}{\text{Initial Investment}}$$

$$= \frac{\$6{,}000 + (\$105{,}000 - \$100{,}000)}{\$100{,}000}$$

$$= 11\%$$

Now suppose that the mortgage interest rate were 5 percent. Then at a mortgage equal to 50 percent, or $50,000, interest expense would be ($50,000 x 0.05), or $2,500. The expected equity rate of return would be:

$$\text{Expected Return on Equity @ 50\% debt} = \frac{\text{Expected (Net Income + Appreciation) – Int. Expense}}{\text{Initial } \textit{Equity} \text{ Investment}}$$

$$= \frac{\$6{,}000 + \$5{,}000 - \$2{,}500}{\$50{,}000}$$

$$= 17\%$$

Notice that the expected return on equity is higher as is the risk carried by equity.

Q18. Can you provide a more general illustration?

A18. Yes. Figure E-3 uses these assumptions at different mortgage levels to plot both (i) the expected rate of return on the equity in the dwelling, and (ii) the realized rate of return on

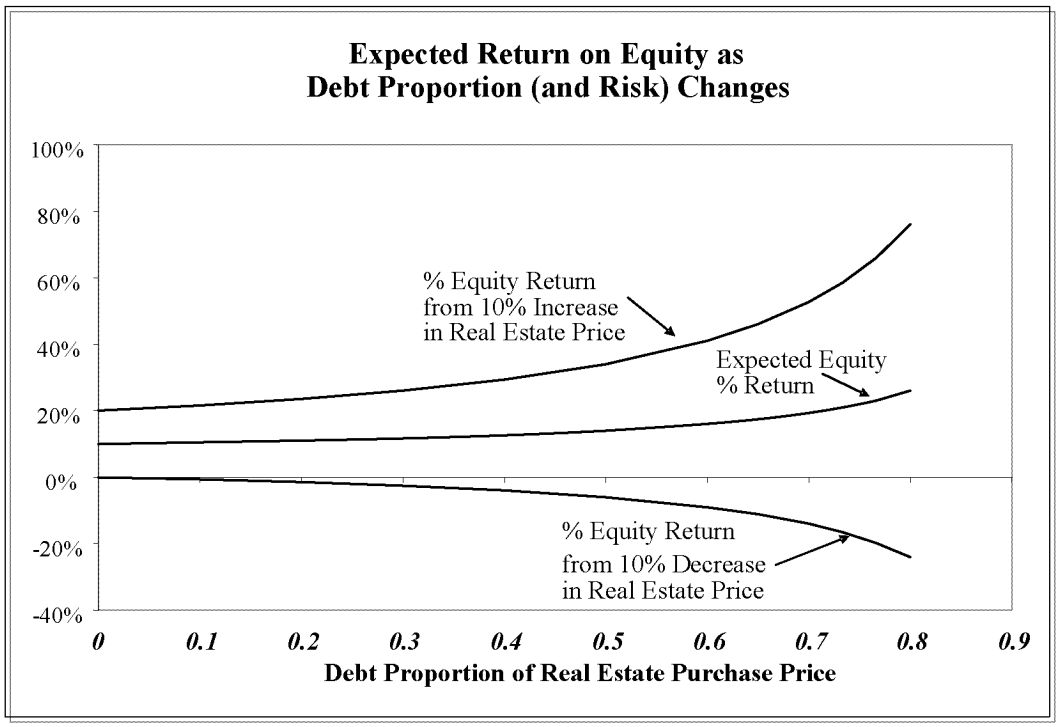

Figure E-3

that equity in a year if the dwelling value increases by 10 percent more than the expected 5 percent rate (i.e., if the value increases by 15 percent) or by 10 percent less than expected (i.e., if it decreases by 5 percent).[24]

The expected rate of return on equity increases at an increasing rate as the investor finances more and more of the real estate through loans (e.g., with a mortgage). Since equity bears all the risk of increases or decreases in real estate values (absent financial distress or bankruptcy), the amount of risk the buyer bears grows at an ever increasing rate as the mortgage percentage also increases.

Q19. What are the implications of this example?

A19. Any time an individual or a company uses debt to finance part an investment, the same risk magnifies. For example, if an investor buys stocks "on margin" -- by borrowing part of the money used to buy the stock -- the expected rate of return will be higher as will the risks the investor carries. As an everyday example, imagine investing your retirement

savings in a stock portfolio bought with as much margin as possible. If you were lucky, you could end up living very well in retirement. But you would be taking a lot of risk on the opposite outcome, since your portfolio could decline by more than 100 percent of your initial investment.

The same risk-magnifying effects happen when companies borrow to finance part of their investments.

C. THE EFFECT OF TAXES

Q20. What is the impact of taxes?

A20. Analyzing the net effect of taxes in capital structure decisions by corporations is an important part of the financial research. (Other parts of that research address such issues as the risk of financial distress or bankruptcy, and the signals corporations send investors by the choice of how to finance new investments.) The bottom line is that taxes complicate the picture without changing the basic conclusion.

Q21. Please describe the potential impact of taxes.

A21. Interest expense is tax-deductible for corporations. That increases the pool of cash the corporation gets to keep out of its operating earnings (i.e., its earnings before interest expense). With no debt, 100 percent of operating income is subject to taxes. With debt, only the equity part of the operating income is subject to taxes.

All else equal, the extra money kept from operating income increases the value of the corporation. The standard way to recognize that increase in value is to use an after-tax weighted-average cost of capital as a discount rate when valuing a company's operating cash flows.

Q22. Do personal taxes affect the value of debt, too?

A22. Yes, but in the other direction. One offset to debt's tax benefits at the corporate level is its higher tax burden at the personal level. Investors care about the money they get to

[24] For simplicity, the figure assumes the debt's interest rate is independent of the debt proportion. This might not always be true, and in general would not be true for a corporation that issued debt. However, the

keep after all taxes are paid, and while the corporation saves taxes by opting for debt over equity, individuals pay more taxes on interest than on capital gains from equity (and for now, on dividends as well).

Q23. Are there factors other than taxes matter?

A23. Absolutely, "all else" does not remain equal as more debt is added. The more debt, the more the non-tax effects of debt offset the tax benefits. Other costs include such effects as a loss of flexibility, the possibility of sending negative signals to investors, and a host of costs and risks associated with the danger of financial distress.

Q24. Does the tradeoff between the tax and non-tax effects of debt mean that firms have well-defined, optimal capital structures?

A24. No, this sort of "tradeoff" model does not explain actual corporate behavior. A substantial body of economic research confirms that real-world corporations act as if, after a moderate amount of debt is in place, the tax benefits of debt are not worth debt's other costs. In country after country and in industry after industry, the most profitable corporations in an industry tend to use the least debt. The research on this point is quite thorough, and the finding that the most profitable companies tend to use the least debt in a given industry is robust. Yet these are the companies with the most operating income to shield from taxes, who would benefit most if interest tax shields were truly valuable net of debt's other costs. They also presumptively are the best-managed on average (else why are they the most profitable?). This means it is unrealistic to suppose that more debt is always better, or that greater tax savings due to higher interest expense always add value to the firm on balance.

Q25. If the tradeoff model doesn't explain capital structure decisions by firms, is there a model that does?

A25. No single model has (yet) emerged as 'the" explanation of capital structure. However, several alternative models attempt to model the tradeoff (e.g., the "pecking order" hypothesis and "agency cost" explanations).

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general shape of the graphs remains the same.

Q26. What does the absence of an agreed theory of capital structure in the financial literature imply about the overall effect of debt on the value of the firm?

A26. The findings of the financial literature mean that within an industry, there is no well-defined optimal capital structure. The use of some debt does convey some value advantage in most industries, but that advantage is offset by other costs as firms add more debt.[25] The range of capital structures over which the value of the firm in any industry is maximized is wide and should be treated as flat. The location and level of that range, however, does vary from industry to industry, just as the overall cost of capital varies from industry to industry.

Figure E-4 illustrates the picture that emerges from the research. This figure shows the present value of an investment in each of four different industries. For simplicity, the investment is expected to yield $1.00 per year forever. For firms in relatively high-risk industries (Industry 1 in the graph, the lowest line), the $1.00 perpetuity is not worth much and any use of debt decreases firm value. For firms in relatively low-risk industries (Industry 4 in the graph), the perpetuity is worth more and substantial amounts of debt make sense. Industries 2 and 3 are intermediate cases.

The maximum net rate at which taxes can increase value in this figure equals 20 percent of interest expense, representing a balance between the corporate tax advantage to debt and the personal tax disadvantage. The figure plots the maximum possible impact of taxes on value as a separate line, starting at the all-equity value of the lowest-risk industry (Industry 4).

[25] Note that if debt did increase the value of the firm materially, competition would tend to take that value away, since issuing debt is an easy-to-copy competitive strategy. Prices would fall as firms copied the strategy, lowering operating earnings and passing the net tax advantages to debt through to customers (just as happens under rate regulation). Therefore, if also there were a narrow range of optimal capital structures within an industry, competition would drive all firms in the industry to capital structures within that range. This does not happen in practice, which contradicts one or both of the assumptions, i.e., (1) that debt adds material value on balance, and/or (2) that there is a narrow range of optimal capital structures.

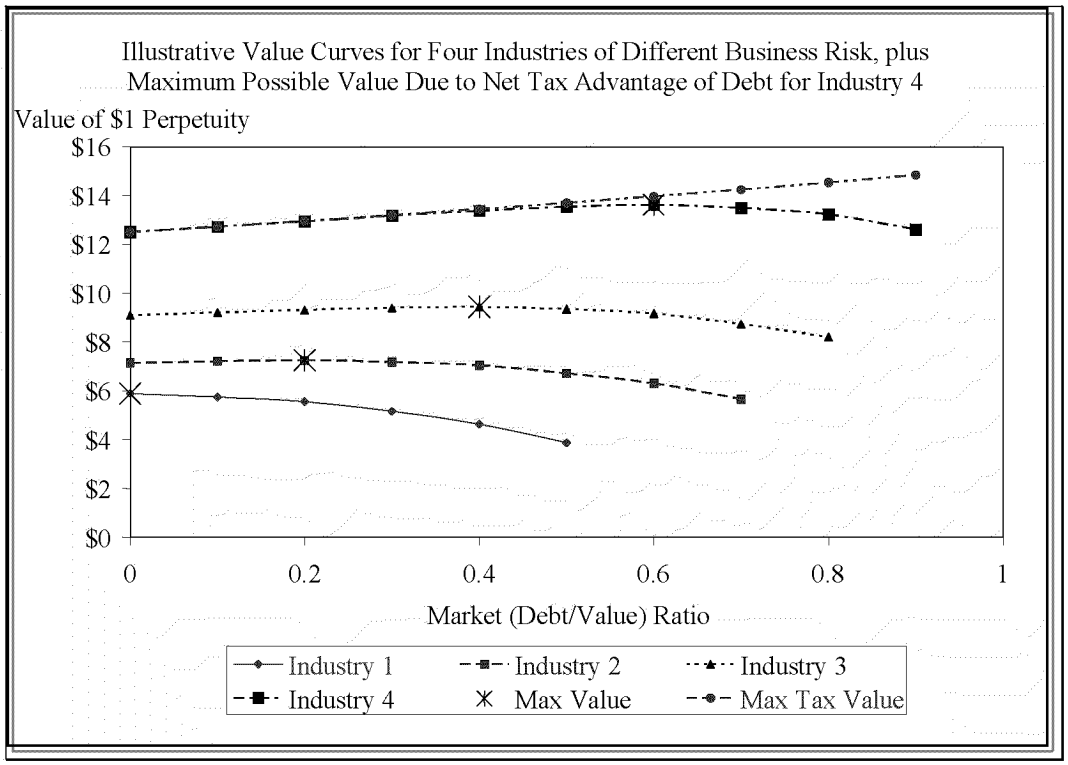

Figure E-4

Figure E-4 identifies a particular point as the maximum value on each of the four curves. However, the research shows that reliable identification of this maximum point, except in the extreme case where no debt should be used, is impossible. In accord with the research, the graph is prepared so that in none of the industries does a change in capital structure make much difference near the top of the curve. Even Industry 4, which increases in value at the maximum rate as quite a lot of debt is added, eventually must reach a broad range where changes in the debt ratio make little difference to firm value, given the research. For Industry 4, debt makes less than a 2 percent difference in the total value of the firm for debt-to-value ratios between 40 and 70 percent. (While these particular values are illustrative, numbers of this order of magnitude are the only ones consistent with the research.)

Q27. What does this imply for the overall cost of capital?

A27. Figure E-5 plots the after-tax weighted-average costs of capital ("ATWACCs") that correspond to the value curves in Figure E-4. This picture just turns Figure E-4 upside

down.[26] All the same conclusions remain, except that they are stated in terms of the overall cost of capital instead of the overall firm value. In particular, except for high-risk industries, the overall cost of capital is essentially flat across a broad middle range of capital structures for each industry, which is the only outcome consistent with the research. For Industry 4, for example, the ATWACC changes by less than 15 basis points for debt-to-value ratios between 40 and 70 percent.

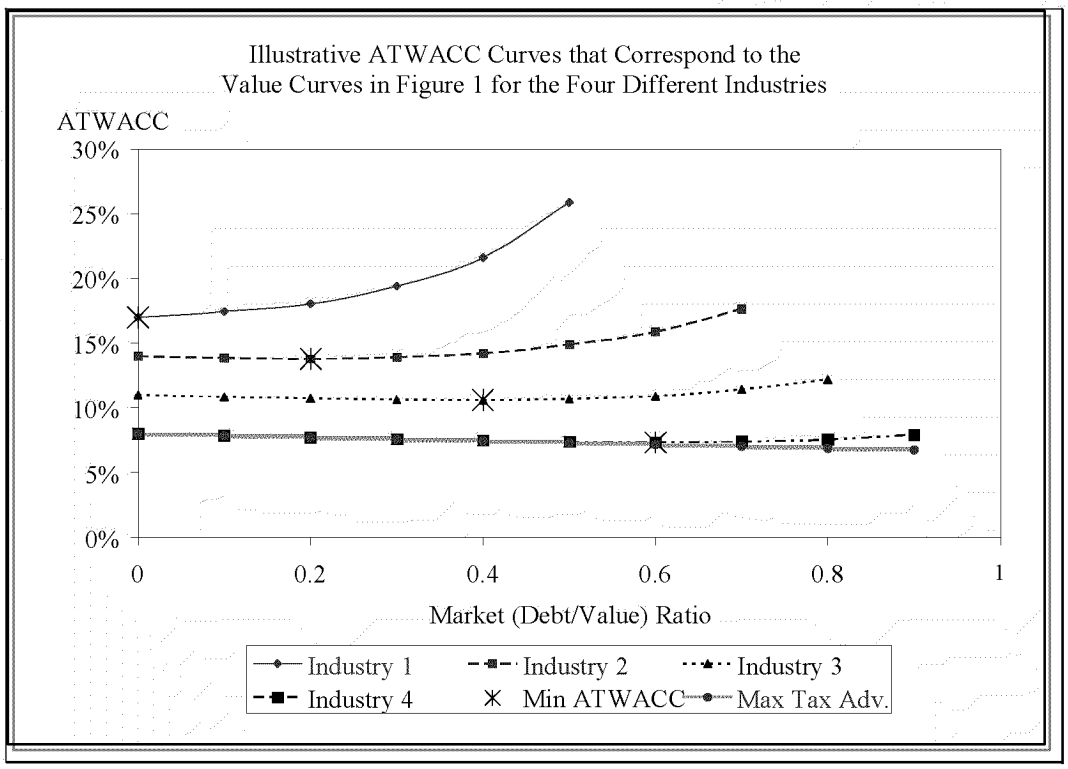

Figure E-5

Q28. How does this discussion relate to estimation of the right cost of equity for ratemaking purposes?

A28. When an analyst estimates the cost of equity for a sample of companies, s/he does so at the sample's actual market-value capital structure. That is, the sample evidence corresponds to ATWACCs that are already out somewhere in the broad middle range in

[26] Note that the actual estimated ATWACC at higher debt ratios will tend to underestimate the ATWACC that corresponds to the value curves in Figure E-4, which are depicted in Figure E-5, and so will tend to overestimate the value of debt to the firm. The reason is that some of the non-tax effects of excessive debt, such as a loss of financial flexibility, may be hard to detect and not show up in cost of capital measurement.

which changes in the debt ratio have little or no impact on the overall value of the firm or the ATWACC.

An analyst therefore should assume the ATWACCs for the sample companies are literally flat. This assumption always provides the exact tradeoff between the cost of equity and capital structure at the literal minimum of the company's ATWACC curve. The research shows that this minimum is actually a broad, flat region, as depicted above. If the company happens to be somewhat to one side or the other of the literal minimum within this region, the recommended procedure may lead to a small understatement or overstatement of the amount that the cost of equity will change as capital structure changes. The degree of this under- or overstatement, however, is very small compared to the inherent uncertainty in estimating the cost of equity in the first place. Otherwise, the financial research would have found very different results about the existence of a narrowly defined optimal capital structure.

D. COMBINED EFFECTS

Q29. Please summarize the implications for the combined impact of the tax and non-tax effects of debt.

A29. The most profitable firms do not behave as if the precise amount of debt they use makes any material difference to value, and competition does not force them into an alternative decision, as it would if debt were genuinely valuable. The explanation that fits the facts and the research is that within an industry, there is no well-defined optimal capital structure. Use of some debt does convey an advantage in most industries, but that advantage is offset by other costs as firms add more debt. The range of capital structures over which the value of the firm in any industry is maximized is wide and should be treated as flat. The location and level of that range, however, does vary from industry to industry, just as the overall cost of capital varies from industry to industry. To conclude that more debt does add more value, once the firm is somewhere in the normal range for the industry, is to conclude that corporate management in general is either blind to an easy source of value or otherwise incompetent (and that their competitors let them get away with it).

The finding that there is no narrowly defined optimal capital structure implies that analysts should estimate the ATWACCs for a sample of companies in a given industry and treat the average ATWACC value as independent of capital structure (at least within a broad middle range of capital structures). The right cost of equity for a rate-regulated company in the same industry is the number that yields the same ATWACC at the capital structure used to set the revenue requirement, since that is the cost of equity that (estimation problems aside) the sample companies would have had if their market-value capital structures had been equal to the regulatory capital structure.

Table No. MJV-1

Index to Tables for the Written Evidence of Michael J. Vilbert

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Table No. MJV-6	DCF Cost of Equity of the US Electric Sample
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Table No. MJV-2

US Electric Sample

Regulated Assets by Category

Company	Company Category
Cleco Corp	R
Consolidated Edison Inc	R
Empire District Electric Co/The	R
Entergy Corp	R
MGE Energy Inc	MR
NSTAR	R
Pinnacle West Capital Corp	R
PPL Corp	MR
Southern Co	R

Sources and Notes:
R = Regulated (greater than 80 percent of total assets are regulated).
MR-- Mostly Regulated (50 to 80 percent of total assets are regulated).
EEI 2006 Financial Review.

Table No. MJV-3

Market Value of the US Electric Sample

Panel A: Cleco Corp

($MM)

	DCF Capital Structure	Year End, 2006	Year End, 2005	Year End, 2004	Year End, 2003	Year End, 2002	Notes
MARKET VALUE OF COMMON EQUITY							
Book Value, Common Shareholder's Equity	$876	$876	$684	$538	$483	$562	[a]
Shares Outstanding (in millions) - Common	58	58	50	50	47	47	[b]
Price per Share - Common	$26	$25	$21	$20	$18	$14	[c]
Market Value of Common Equity	$1,507	$1,463	$1,037	$1,007	$853	$661	[d] = [b] x [c].
Market to Book Value of Common Equity	1.72	1.67	1.52	1.87	1.77	1.17	[e] = [d] / [a].
MARKET VALUE OF PREFERRED EQUITY							
Book Value of Preferred Equity	$20	$20	$22	$23	$19	$18	[f]
Market Value of Preferred Equity	$20	$20	$22	$23	$19	$18	[g] = [f].
MARKET VALUE OF DEBT							
Current Assets	$537	$537	$434	$288	$253	$285	[h]
Current Liabilities	$389	$389	$294	$338	$346	$519	[i]
Current Portion of Long-Term Debt	$50	$50	$40	$160	$5	$45	[j]
Net Working Capital	$199	$199	$180	$110	($87)	($188)	[k] = [h] - ([i] - [j]).
Notes Payable (Short-Term Debt)	$0	$0	$0	$9	$201	$315	[l]
Adjusted Short-Term Debt	$0	$0	$0	$0	$87	$188	[m] = See Sources and Notes.
Long-Term Debt	$619	$619	$610	$451	$907	$869	[n]
Book Value of Long-Term Debt	$669	$669	$650	$611	$999	$1,103	[o] = [n] + [j] + [m].
Adjustment to Book Value of Long-Term Debt	$11	$11	$14	$34	$35	$23	[p] = See Sources and Notes.
Market Value of Long-Term Debt	$680	$680	$664	$644	$1,034	$1,126	[q] = [p] + [o].
Market Value of Debt	$680	$680	$664	$644	$1,034	$1,126	[r] = [q].
MARKET VALUE OF FIRM	$2,207	$2,163	$1,723	$1,674	$1,906	$1,804	[s] = [d] + [g] + [r].
DEBT AND EQUITY TO MARKET VALUE RATIOS							
Common Equity - Market Value Ratio	68.29%	67.64%	60.21%	60.13%	44.75%	36.62%	[t] = [d] / [s].
Preferred Equity - Market Value Ratio	0.91%	0.93%	1.27%	1.40%	0.98%	0.97%	[u] = [g] / [s].
Debt - Market Value Ratio	30.80%	31.43%	38.53%	38.47%	54.27%	62.41%	[v] = [r] / [s].

Sources and Notes:
Bloomberg as of April 09, 2007
Capital structure from Year End, 2006 calculated using respective balance sheet information and 5-day average prices ending at period end.
The DCF Capital structure is calculated using 4th Quarter, 2006 balance sheet information and a 15-trading day average closing price ending on 4/9/2007.
Prices are reported in Workpaper #1 to Table No. MJV-6.
[m] =
(1): 0 if [k] > 0.
(2): The absolute value of [k] if [k] < 0 and |[k]| < [l].
(3): [l] if [k] < 0 and |[k]| > [l].
[p]: Difference between fair value of Long-Term debt and carrying amount of Long-Term debt per company 10-K. Data for adjustment is from 2006 10-K.

Table No. MJV-3

Market Value of the US Electric Sample

Panel B: Consolidated Edison Inc

($MM)

	DCF Capital Structure	Year End, 2006	Year End, 2005	Year End, 2004	Year End, 2003	Year End, 2002	Notes
MARKET VALUE OF COMMON EQUITY							
Book Value, Common Shareholder's Equity	$8,004	$8,004	$7,310	$7,054	$6,423	$5,921	[a]
Shares Outstanding (in millions) - Common	257	257	245	243	226	214	[b]
Price per Share - Common	$51	$48	$47	$44	$43	$43	[c]
Market Value of Common Equity	$13,122	$12,362	$11,462	$10,662	$9,729	$9,161	[d] = [b] x [c].
Market to Book Value of Common Equity	1.64	1.54	1.57	1.51	1.51	1.55	[e] = [d] / [a].
MARKET VALUE OF PREFERRED EQUITY							
Book Value of Preferred Equity	$213	$213	$213	$213	$213	$213	[f]
Market Value of Preferred Equity	$213	$213	$213	$213	$213	$213	[g] = [f].
MARKET VALUE OF DEBT							
Current Assets	$2,937	$2,937	$3,072	$1,715	$1,592	$1,706	[h]
Current Liabilities	$2,917	$2,917	$3,321	$2,224	$1,911	$2,275	[i]
Current Portion of Long-Term Debt	$374	$374	$22	$469	$166	$473	[j]
Net Working Capital	$394	$394	($227)	($40)	($153)	($96)	[k] = [h] - ([i] - [j]).
Notes Payable (Short-Term Debt)	$117	$117	$755	$156	$159	$162	[l]
Adjusted Short-Term Debt	$0	$0	$227	$40	$153	$96	[m] = See Sources and Notes.
Long-Term Debt	$8,324	$8,324	$7,428	$6,594	$6,769	$6,204	[n]
Book Value of Long-Term Debt	$8,698	$8,698	$7,677	$7,103	$7,088	$6,773	[o] = [n] + [j] + [m].
Adjustment to Book Value of Long-Term Debt	$0	$0	$0	$0	$0	$0	[p] = See Sources and Notes.
Market Value of Long-Term Debt	$8,698	$8,698	$7,677	$7,103	$7,088	$6,773	[q] = [p] + [o].
Market Value of Debt	$8,698	$8,698	$7,677	$7,103	$7,088	$6,773	[r] = [q].
MARKET VALUE OF FIRM	$22,033	$21,273	$19,352	$17,978	$17,030	$16,147	[s] = [d] + [g] + [r].
DEBT AND EQUITY TO MARKET VALUE RATIOS							
Common Equity - Market Value Ratio	59.56%	58.11%	59.23%	59.31%	57.13%	56.73%	[t] = [d] / [s].
Preferred Equity - Market Value Ratio	0.97%	1.00%	1.10%	1.18%	1.25%	1.32%	[u] = [g] / [s].
Debt - Market Value Ratio	39.48%	40.89%	39.67%	39.51%	41.62%	41.95%	[v] = [r] / [s].

Sources and Notes:

Bloomberg as of April 09, 2007

Capital structure from Year End, 2006 calculated using respective balance sheet information and 5-day average prices ending at period end.

The DCF Capital structure is calculated using 4th Quarter, 2006 balance sheet information and a 15-trading day average closing price ending on 4/9/2007.

Prices are reported in Workpaper #1 to Table No. MJV-6.

[m] =

(1): 0 if [k] > 0.

(2): The absolute value of [k] if [k] < 0 and |[k]| < [l].

(3): [l] if [k] < 0 and |[k]| > [l].

[p]: Difference between fair value of Long-Term debt and carrying amount of Long-Term debt per company 10-K. Data for adjustment is from 2006 10-K.

Table No. MJV-3

Market Value of the US Electric Sample

Panel C: Empire District Electric Co/The

($MM)

	DCF Capital Structure	Year End, 2006	Year End, 2005	Year End, 2004	Year End, 2003	Year End, 2002	Notes
MARKET VALUE OF COMMON EQUITY							
Book Value, Common Shareholder's Equity	$469	$469	$393	$379	$379	$329	[a]
Shares Outstanding (in millions) - Common	30	30	26	26	25	23	[b]
Price per Share - Common	$25	$25	$20	$23	$22	$18	[c]
Market Value of Common Equity	$749	$750	$534	$585	$543	$411	[d] = [b] x [c].
Market to Book Value of Common Equity	1.60	1.60	1.36	1.54	1.43	1.25	[e] = [d] / [a].
MARKET VALUE OF PREFERRED EQUITY							
Book Value of Preferred Equity	$0	$0	$0	$0	$0	$50	[f]
Market Value of Preferred Equity	$0	$0	$0	$0	$0	$50	[g] = [f].
MARKET VALUE OF DEBT							
Current Assets	$128	$128	$116	$90	$94	$96	[h]
Current Liabilities	$146	$146	$108	$58	$56	$88	[i]
Current Portion of Long-Term Debt	$0	$0	$0	$11	$0	$0	[j]
Net Working Capital	($18)	($18)	$9	$42	$38	$8	[k] = [h] - ([i] - [j]).
Notes Payable (Short-Term Debt)	$77	$77	$31	$0	$13	$23	[l]
Adjusted Short-Term Debt	$18	$18	$0	$0	$0	$0	[m] = See Sources and Notes.
Long-Term Debt	$462	$462	$408	$400	$410	$361	[n]
Book Value of Long-Term Debt	$480	$480	$408	$411	$411	$361	[o] = [n] + [j] + [m].
Adjustment to Book Value of Long-Term Debt	$0	$0	$0	$14	$10	$4	[p] = See Sources and Notes.
Market Value of Long-Term Debt	$480	$480	$408	$425	$420	$365	[q] = [p] + [o].
Market Value of Debt	$480	$480	$408	$425	$420	$365	[r] = [q].
MARKET VALUE OF FIRM							
	$1,229	$1,231	$942	$1,010	$963	$826	[s] = [d] + [g] + [r].
DEBT AND EQUITY TO MARKET VALUE RATIOS							
Common Equity - Market Value Ratio	60.91%	60.96%	56.67%	57.94%	56.36%	49.75%	[t] = [d] / [s].
Preferred Equity - Market Value Ratio	-	-	-	-	-	6.06%	[u] = [g] / [s].
Debt - Market Value Ratio	39.09%	39.04%	43.33%	42.06%	43.64%	44.19%	[v] = [r] / [s].

Sources and Notes:

Bloomberg as of April 09, 2007

Capital structure from Year End, 2006 calculated using respective balance sheet information and 5-day average prices ending at period end.

The DCF Capital structure is calculated using 4th Quarter, 2006 balance sheet information and a 15-trading day average closing price ending on 4/9/2007.

Prices are reported in Workpaper #1 to Table No. MJV-6.

[m] =

(1): 0 if [k] > 0.

(2): The absolute value of [k] if [k] < 0 and |[k]| < [l].

(3): [l] if [k] < 0 and |[k]| > [l].

[p]: Difference between fair value of Long-Term debt and carrying amount of Long-Term debt per company 10-K. Data for adjustment is from 2006 10-K.

Table No. MJV-3

Market Value of the US Electric Sample

Panel D: Entergy Corp

($MM)

	DCF Capital Structure	Year End, 2006	Year End, 2005	Year End, 2004	Year End, 2003	Year End, 2002	Notes
MARKET VALUE OF COMMON EQUITY							
Book Value, Common Shareholder's Equity	$8,198	$8,198	$7,748	$8,297	$8,704	$7,838	[a]
Shares Outstanding (in millions) - Common	203	203	208	217	229	222	[b]
Price per Share - Common	$106	$93	$69	$68	$57	$46	[c]
Market Value of Common Equity	$21,383	$18,786	$14,323	$14,669	$13,008	$10,189	[d] = [b] x [c].
Market to Book Value of Common Equity	2.61	2.29	1.85	1.77	1.49	1.30	[e] = [d] / [a].
MARKET VALUE OF PREFERRED EQUITY							
Book Value of Preferred Equity	$345	$345	$446	$365	$334	$359	[f]
Market Value of Preferred Equity	$345	$345	$446	$365	$334	$359	[g] = [f].
MARKET VALUE OF DEBT							
Current Assets	$3,325	$3,325	$4,063	$3,000	$2,919	$3,206	[h]
Current Liabilities	$2,465	$2,465	$3,112	$2,332	$2,282	$3,172	[i]
Current Portion of Long-Term Debt	$335	$335	$234	$626	$684	$1,345	[j]
Net Working Capital	$1,195	$1,195	$1,185	$1,294	$1,321	$1,379	[k] = [h] - ([i] - [j]).
Notes Payable (Short-Term Debt)	$25	$25	$40	$0	$0	$0	[l]
Adjusted Short-Term Debt	$0	$0	$0	$0	$0	$0	[m] = See Sources and Notes.
Long-Term Debt	$8,997	$8,997	$9,013	$7,180	$7,498	$7,465	[n]
Book Value of Long-Term Debt	$9,331	$9,331	$9,248	$7,807	$8,182	$8,810	[o] = [n] + [j] + [m].
Adjustment to Book Value of Long-Term Debt	($692)	($692)	($815)	($403)	($199)	$184	[p] = See Sources and Notes.
Market Value of Long-Term Debt	$8,640	$8,640	$8,433	$7,404	$7,983	$8,993	[q] = [p] + [o].
Market Value of Debt	$8,640	$8,640	$8,433	$7,404	$7,983	$8,993	[r] = [q].
MARKET VALUE OF FIRM	$30,368	$27,771	$23,202	$22,439	$21,325	$19,541	[s] = [d] + [g] + [r].
DEBT AND EQUITY TO MARKET VALUE RATIOS							
Common Equity - Market Value Ratio	70.41%	67.65%	61.73%	65.37%	61.00%	52.14%	[t] = [d] / [s].
Preferred Equity - Market Value Ratio	1.14%	1.24%	1.92%	1.63%	1.57%	1.84%	[u] = [g] / [s].
Debt - Market Value Ratio	28.45%	31.11%	36.35%	33.00%	37.43%	46.02%	[v] = [r] / [s].

Sources and Notes:

Bloomberg as of April 09, 2007

Capital structure from Year End, 2006 calculated using respective balance sheet information and 5-day average prices ending at period end.

The DCF Capital structure is calculated using 4th Quarter, 2006 balance sheet information and a 15-trading day average closing price ending on 4/9/2007.

Prices are reported in Workpaper #1 to Table No. MJV-6.

[m] =

(1): 0 if [k] > 0.

(2): The absolute value of [k] if [k] < 0 and |[k]| < [l].

(3): [l] if [k] < 0 and |[k]| > [l].

[p]: Difference between fair value of Long-Term debt and carrying amount of Long-Term debt per company 10-K. Data for adjustment is from 2006 10-K.

Table No. MJV-3

Market Value of the US Electric Sample

Panel E: MGE Energy Inc

($MM)

	DCF Capital Structure	Year End, 2006	Year End, 2005	Year End, 2004	Year End, 2003	Year End, 2002	Notes
MARKET VALUE OF COMMON EQUITY							
Book Value, Common Shareholder's Equity	$375	$375	$344	$338	$263	$227	[a]
Shares Outstanding (in millions) - Common	21	21	20	20	18	18	[b]
Price per Share - Common	$36	$36	$34	$36	$32	$28	[c]
Market Value of Common Equity	$745	$764	$700	$735	$584	$484	[d] = [b] x [c].
Market to Book Value of Common Equity	1.99	2.04	2.04	2.17	2.22	2.13	[e] = [d] / [a].
MARKET VALUE OF PREFERRED EQUITY							
Book Value of Preferred Equity	$0	$0	$0	$0	$0	$0	[f]
Market Value of Preferred Equity	$0	$0	$0	$0	$0	$0	[g] = [f].
MARKET VALUE OF DEBT							
Current Assets	$149	$149	$161	$144	$112	$97	[h]
Current Liabilities	$144	$144	$153	$118	$106	$81	[i]
Current Portion of Long-Term Debt	$15	$15	$0	$0	$20	$0	[j]
Net Working Capital	$21	$21	$8	$26	$27	$16	[k] = [h] - ([i] - [j]).
Notes Payable (Short-Term Debt)	$57	$57	$83	$53	$32	$34	[l]
Adjusted Short-Term Debt	$0	$0	$0	$0	$0	$0	[m] = See Sources and Notes.
Long-Term Debt	$237	$237	$222	$202	$202	$192	[n]
Book Value of Long-Term Debt	$252	$252	$222	$202	$222	$192	[o] = [n] + [j] + [m].
Adjustment to Book Value of Long-Term Debt	$8	$8	$13	$15	$13	$17	[p] = See Sources and Notes.
Market Value of Long-Term Debt	$260	$260	$235	$217	$235	$209	[q] = [p] + [o].
Market Value of Debt	$260	$260	$235	$217	$235	$209	[r] = [q].
MARKET VALUE OF FIRM							
	$1,006	$1,025	$935	$952	$819	$693	[s] = [d] + [g] + [r].
DEBT AND EQUITY TO MARKET VALUE RATIOS							
Common Equity - Market Value Ratio	74.11%	74.59%	74.86%	77.21%	71.27%	69.83%	[t] = [d] / [s].
Preferred Equity - Market Value Ratio	-	-	-	-	-	-	[u] = [g] / [s].
Debt - Market Value Ratio	25.89%	25.41%	25.14%	22.79%	28.73%	30.17%	[v] = [r] / [s].

Sources and Notes:

Bloomberg as of April 09, 2007

Capital structure from Year End, 2006 calculated using respective balance sheet information and 5-day average prices ending at period end.

The DCF Capital structure is calculated using 4th Quarter, 2006 balance sheet information and a 15-trading day average closing price ending on 4/9/2007.

Prices are reported in Workpaper #1 to Table No. MJV-6.

[m] =

(1): 0 if [k] > 0.

(2): The absolute value of [k] if [k] < 0 and |[k]| < [l].

(3): [l] if [k] < 0 and |[k]| > [l].

[p]: Difference between fair value of Long-Term debt and carrying amount of Long-Term debt per company 10-K. Data for adjustment is from 2006 10-K.

Table No. MJV-3

Market Value of the US Electric Sample

Panel F: NSTAR

($MM)

	DCF Capital Structure	Year End, 2006	Year End, 2005	Year End, 2004	Year End, 2003	Year End, 2002	Notes
MARKET VALUE OF COMMON EQUITY							
Book Value, Common Shareholder's Equity	$1,583	$1,583	$1,535	$1,441	$1,362	$1,299	[a]
Shares Outstanding (in millions) - Common	107	107	107	107	106	106	[b]
Price per Share - Common	$35	$35	$29	$27	$24	$22	[c]
Market Value of Common Equity	$3,779	$3,689	$3,055	$2,883	$2,576	$2,352	[d] = [b] x [c].
Market to Book Value of Common Equity	2.39	2.33	1.99	2.00	1.89	1.81	[e] = [d] / [a].
MARKET VALUE OF PREFERRED EQUITY							
Book Value of Preferred Equity	$0	$0	$0	$43	$43	$43	[f]
Market Value of Preferred Equity	$0	$0	$0	$43	$43	$43	[g] = [f].
MARKET VALUE OF DEBT							
Current Assets	$960	$960	$1,021	$798	$643	$507	[h]
Current Liabilities	$1,240	$1,240	$1,162	$898	$956	$886	[i]
Current Portion of Long-Term Debt	$176	$176	$123	$149	$230	$213	[j]
Net Working Capital	($104)	($104)	($18)	$49	($83)	($167)	[k] = [h] - ([i] - [j]).
Notes Payable (Short-Term Debt)	$436	$436	$418	$161	$239	$199	[l]
Adjusted Short-Term Debt	$104	$104	$18	$0	$83	$167	[m] = See Sources and Notes.
Long-Term Debt	$2,404	$2,404	$2,445	$2,101	$1,980	$2,091	[n]
Book Value of Long-Term Debt	$2,684	$2,684	$2,586	$2,251	$2,293	$2,471	[o] = [n] + [j] + [m].
Adjustment to Book Value of Long-Term Debt	$86	$86	$117	$233	$276	$118	[p] = See Sources and Notes.
Market Value of Long-Term Debt	$2,770	$2,770	$2,703	$2,483	$2,568	$2,589	[q] = [p] + [o].
Market Value of Debt	$2,770	$2,770	$2,703	$2,483	$2,568	$2,589	[r] = [q].
MARKET VALUE OF FIRM	$6,549	$6,459	$5,758	$5,409	$5,187	$4,984	[s] = [d] + [g] + [r].
DEBT AND EQUITY TO MARKET VALUE RATIOS							
Common Equity - Market Value Ratio	57.70%	57.11%	53.06%	53.29%	49.66%	47.19%	[t] = [d] / [s].
Preferred Equity - Market Value Ratio	-	-	-	0.80%	0.83%	0.86%	[u] = [g] / [s].
Debt - Market Value Ratio	42.30%	42.89%	46.94%	45.91%	49.51%	51.95%	[v] = [r] / [s].

Sources and Notes:

Bloomberg as of April 09, 2007

Capital structure from Year End, 2006 calculated using respective balance sheet information and 5-day average prices ending at period end.

The DCF Capital structure is calculated using 4th Quarter, 2006 balance sheet information and a 15-trading day average closing price ending on 4/9/2007.

Prices are reported in Workpaper #1 to Table No. MJV-6.

[m] =

(1): 0 if [k] > 0.

(2): The absolute value of [k] if [k] < 0 and |[k]| < [l].

(3): [l] if [k] < 0 and |[k]| > [l].

[p]: Difference between fair value of Long-Term debt and carrying amount of Long-Term debt per company 10-K. Data for adjustment is from 2006 10-K.

Table No. MJV-3

Market Value of the US Electric Sample

Panel G: Pinnacle West Capital Corp

($MM)

	DCF Capital Structure	Year End, 2006	Year End, 2005	Year End, 2004	Year End, 2003	Year End, 2002	Notes
MARKET VALUE OF COMMON EQUITY							
Book Value, Common Shareholder's Equity	$3,446	$3,446	$3,425	$2,950	$2,830	$2,686	[a]
Shares Outstanding (in millions) - Common	100	100	99	92	91	91	[b]
Price per Share - Common	$49	$51	$42	$44	$40	$34	[c]
Market Value of Common Equity	$4,859	$5,061	$4,160	$4,072	$3,615	$3,097	[d] = [b] x [c].
Market to Book Value of Common Equity	1.41	1.47	1.21	1.38	1.28	1.15	[e] = [d] / [a].
MARKET VALUE OF PREFERRED EQUITY							
Book Value of Preferred Equity	$0	$0	$0	$0	$0	$0	[f]
Market Value of Preferred Equity	$0	$0	$0	$0	$0	$0	[g] = [f].
MARKET VALUE OF DEBT							
Current Assets	$1,480	$1,480	$1,891	$1,137	$984	$860	[h]
Current Liabilities	$1,459	$1,459	$2,272	$1,626	$1,433	$1,233	[i]
Current Portion of Long-Term Debt	$2	$2	$385	$617	$705	$281	[j]
Net Working Capital	$23	$23	$4	$128	$256	($92)	[k] = [h] - ([i] - [j]).
Notes Payable (Short-Term Debt)	$36	$36	$16	$71	$86	$228	[l]
Adjusted Short-Term Debt	$0	$0	$0	$0	$0	$92	[m] = See Sources and Notes.
Long-Term Debt	$3,233	$3,233	$2,608	$2,585	$2,617	$2,744	[n]
Book Value of Long-Term Debt	$3,234	$3,234	$2,993	$3,202	$3,321	$3,116	[o] = [n] + [j] + [m].
Adjustment to Book Value of Long-Term Debt	($40)	($40)	$10	$110	$150	$100	[p] = See Sources and Notes.
Market Value of Long-Term Debt	$3,194	$3,194	$3,003	$3,312	$3,471	$3,216	[q] = [p] + [o].
Market Value of Debt	$3,194	$3,194	$3,003	$3,312	$3,471	$3,216	[r] = [q].
MARKET VALUE OF FIRM	$8,053	$8,256	$7,164	$7,384	$7,086	$6,313	[s] = [d] + [g] + [r].
DEBT AND EQUITY TO MARKET VALUE RATIOS							
Common Equity - Market Value Ratio	60.33%	61.31%	58.08%	55.14%	51.01%	49.05%	[t] = [d] / [s].
Preferred Equity - Market Value Ratio	-	-	-	-	-	-	[u] = [g] / [s].
Debt - Market Value Ratio	39.67%	38.69%	41.92%	44.86%	48.99%	50.95%	[v] = [r] / [s].

Sources and Notes:

Bloomberg as of April 09, 2007

Capital structure from Year End, 2006 calculated using respective balance sheet information and 5-day average prices ending at period end.

The DCF Capital structure is calculated using 4th Quarter, 2006 balance sheet information and a 15-trading day average closing price ending on 4/9/2007.

Prices are reported in Workpaper #1 to Table No. MJV-6.

[m] =

(1): 0 if [k] > 0.

(2): The absolute value of [k] if [k] < 0 and |[k]| < [l].

(3): [l] if [k] < 0 and |[k]| > [l].

[p]: Difference between fair value of Long-Term debt and carrying amount of Long-Term debt per company 10-K. Data for adjustment is from 2006 10-K.

Table No. MJV-3

Market Value of the US Electric Sample

Panel H: PPL Corp

($MM)

	DCF Capital Structure	Year End, 2006	Year End, 2005	Year End, 2004	Year End, 2003	Year End, 2002	Notes
MARKET VALUE OF COMMON EQUITY							
Book Value, Common Shareholder's Equity	$5,122	$5,122	$4,418	$4,239	$3,259	$2,224	[a]
Shares Outstanding (in millions) - Common	385	385	380	378	355	331	[b]
Price per Share - Common	$41	$36	$30	$27	$22	$17	[c]
Market Value of Common Equity	$15,742	$13,855	$11,291	$10,088	$7,711	$5,773	[d] = [b] x [c].
Market to Book Value of Common Equity	3.07	2.71	2.56	2.38	2.37	2.60	[e] = [d] / [a].
MARKET VALUE OF PREFERRED EQUITY							
Book Value of Preferred Equity	$301	$301	$51	$51	$51	$82	[f]
Market Value of Preferred Equity	$301	$301	$51	$51	$51	$82	[g] = [f].
MARKET VALUE OF DEBT							
Current Assets	$3,630	$3,630	$2,906	$2,276	$2,039	$1,819	[h]
Current Liabilities	$3,348	$3,348	$3,354	$2,295	$1,773	$2,613	[i]
Current Portion of Long-Term Debt	$1,107	$1,107	$1,126	$866	$395	$366	[j]
Net Working Capital	$1,389	$1,389	$678	$847	$661	($428)	[k] = [h] - ([i] - [j]).
Notes Payable (Short-Term Debt)	$42	$42	$214	$42	$56	$943	[l]
Adjusted Short-Term Debt	$0	$0	$0	$0	$0	$428	[m] = See Sources and Notes.
Long-Term Debt	$6,728	$6,728	$6,044	$6,881	$8,145	$6,562	[n]
Book Value of Long-Term Debt	$7,835	$7,835	$7,170	$7,747	$8,540	$7,356	[o] = [n] + [j] + [m].
Adjustment to Book Value of Long-Term Debt	$123	$123	$504	$483	$584	$390	[p] = See Sources and Notes.
Market Value of Long-Term Debt	$7,958	$7,958	$7,674	$8,230	$9,124	$7,746	[q] = [p] + [o].
Market Value of Debt	$7,958	$7,958	$7,674	$8,230	$9,124	$7,746	[r] = [q].
MARKET VALUE OF FIRM	$24,001	$22,114	$19,016	$18,369	$16,886	$13,601	[s] = [d] + [g] + [r].
DEBT AND EQUITY TO MARKET VALUE RATIOS							
Common Equity - Market Value Ratio	65.59%	62.65%	59.38%	54.92%	45.66%	42.44%	[t] = [d] / [s].
Preferred Equity - Market Value Ratio	1.25%	1.36%	0.27%	0.28%	0.30%	0.60%	[u] = [g] / [s].
Debt - Market Value Ratio	33.16%	35.99%	40.36%	44.80%	54.03%	56.95%	[v] = [r] / [s].

Sources and Notes:

Bloomberg as of April 09, 2007

Capital structure from Year End, 2006 calculated using respective balance sheet information and 5-day average prices ending at period end.

The DCF Capital structure is calculated using 4th Quarter, 2006 balance sheet information and a 15-trading day average closing price ending on 4/9/2007.

Prices are reported in Workpaper #1 to Table No. MJV-6.

[m] =

(1): 0 if [k] > 0.

(2): The absolute value of [k] if [k] < 0 and |[k]| < [l].

(3): [l] if [k] < 0 and |[k]| > [l].

[p]: Difference between fair value of Long-Term debt and carrying amount of Long-Term debt per company 10-K. Data for adjustment is from 2006 10-K.

Table No. MJV-3

Market Value of the US Electric Sample

Panel I: Southern Co

($MM)

	DCF Capital Structure	Year End, 2006	Year End, 2005	Year End, 2004	Year End, 2003	Year End, 2002	Notes
MARKET VALUE OF COMMON EQUITY							
Book Value, Common Shareholder's Equity	$11,371	$11,371	$10,689	$10,278	$9,648	$8,710	[a]
Shares Outstanding (in millions) - Common	746	746	742	742	735	717	[b]
Price per Share - Common	$37	$37	$35	$34	$30	$29	[c]
Market Value of Common Equity	$27,483	$27,609	$25,879	$24,939	$22,142	$20,522	[d] = [b] x [c].
Market to Book Value of Common Equity	2.42	2.43	2.42	2.43	2.30	2.36	[e] = [d] / [a].
MARKET VALUE OF PREFERRED EQUITY							
Book Value of Preferred Equity	$744	$744	$596	$561	$423	$298	[f]
Market Value of Preferred Equity	$744	$744	$596	$561	$423	$298	[g] = [f].
MARKET VALUE OF DEBT							
Current Assets	$4,019	$4,019	$4,205	$3,491	$3,060	$2,929	[h]
Current Liabilities	$6,353	$6,353	$5,240	$3,798	$3,505	$4,987	[i]
Current Portion of Long-Term Debt	$1,418	$1,418	$901	$983	$741	$1,679	[j]
Net Working Capital	($916)	($916)	($134)	$676	$296	($379)	[k] = [h] - ([i] - [j]).
Notes Payable (Short-Term Debt)	$1,941	$1,941	$1,258	$426	$568	$972	[l]
Adjusted Short-Term Debt	$916	$916	$134	$0	$0	$379	[m] = See Sources and Notes.
Long-Term Debt	$12,503	$12,503	$12,846	$12,449	$12,064	$11,094	[n]
Book Value of Long-Term Debt	$14,837	$14,837	$13,881	$13,432	$12,805	$13,152	[o] = [n] + [j] + [m].
Adjustment to Book Value of Long-Term Debt	($122)	($122)	$10	$243	$212	$284	[p] = See Sources and Notes.
Market Value of Long-Term Debt	$14,715	$14,715	$13,891	$13,675	$13,017	$13,436	[q] = [p] + [o].
Market Value of Debt	$14,715	$14,715	$13,891	$13,675	$13,017	$13,436	[r] = [q].
MARKET VALUE OF FIRM	$42,942	$43,068	$40,366	$39,175	$35,582	$34,256	[s] = [d] + [g] + [r].
DEBT AND EQUITY TO MARKET VALUE RATIOS							
Common Equity - Market Value Ratio	64.00%	64.11%	64.11%	63.66%	62.23%	59.91%	[t] = [d] / [s].
Preferred Equity - Market Value Ratio	1.73%	1.73%	1.48%	1.43%	1.19%	0.87%	[u] = [g] / [s].
Debt - Market Value Ratio	34.27%	34.17%	34.41%	34.91%	36.58%	39.22%	[v] = [r] / [s].

Sources and Notes:

Bloomberg as of April 09, 2007

Capital structure from Year End, 2006 calculated using respective balance sheet information and 5-day average prices ending at period end.

The DCF Capital structure is calculated using 4th Quarter, 2006 balance sheet information and a 15-trading day average closing price ending on 4/9/2007.

Prices are reported in Workpaper #1 to Table No. MJV-6.

[m] =

(1): 0 if [k] > 0.

(2): The absolute value of [k] if [k] < 0 and |[k]| < [l].

(3): [l] if [k] < 0 and |[k]| > [l].

[p]: Difference between fair value of Long-Term debt and carrying amount of Long-Term debt per company 10-K. Data for adjustment is from 2006 10-K.

Table No. MJV-4

US Electric Sample

Capital Structure Summary

Company	DCF Capital Structure			5-Year Average Capital Structure		
	Common Equity - Value Ratio [1]	Preferred Equity - Value Ratio [2]	Debt - Value Ratio [3]	Common Equity - Value Ratio [4]	Preferred Equity - Value Ratio [5]	Debt - Value Ratio [6]
Cleco Corp	0.68	0.01	0.31	0.54	0.01	0.45
Consolidated Edison Inc	0.60	0.01	0.39	0.58	0.01	0.41
Empire District Electric Co/The	0.61	-	0.39	0.56	0.01	0.42
Entergy Corp	0.70	0.01	0.28	0.62	0.02	0.37
MGE Energy Inc	0.74	-	0.26	0.74	-	0.26
NSTAR	0.58	-	0.42	0.52	0.00	0.47
Pinnacle West Capital Corp	0.60	-	0.40	0.55	-	0.45
PPL Corp	0.66	0.01	0.33	0.53	0.01	0.46
Southern Co	0.64	0.02	0.34	0.63	0.01	0.36
Average	0.65	0.01	0.35	0.58	0.01	0.41

Sources and Notes:
[1], [4]:Workpaper #1 to Table No. MJV-4.
[2], [5]:Workpaper #2 to Table No. MJV-4.
[3], [6]:Workpaper #3 to Table No. MJV-4.
Values in this table may not add up exactly to 1.0 because of rounding.

Workpaper #1 to Table No. MJV-4

US Electric Sample

Calculation of the Average Common Equity - Market Value Ratio

Company	DCF Capital Structure [1]	Year End, 2006 [2]	2005 [3]	2004 [4]	2003 [5]	2002 [6]	5-Year Average [7]
Cleco Corp	0.68	0.68	0.60	0.60	0.45	0.37	0.54
Consolidated Edison Inc	0.60	0.58	0.59	0.59	0.57	0.57	0.58
Empire District Electric Co/The	0.61	0.61	0.57	0.58	0.56	0.50	0.56
Entergy Corp	0.70	0.68	0.62	0.65	0.61	0.52	0.62
MGE Energy Inc	0.74	0.75	0.75	0.77	0.71	0.70	0.74
NSTAR	0.58	0.57	0.53	0.53	0.50	0.47	0.52
Pinnacle West Capital Corp	0.60	0.61	0.58	0.55	0.51	0.49	0.55
PPL Corp	0.66	0.63	0.59	0.55	0.46	0.42	0.53
Southern Co	0.64	0.64	0.64	0.64	0.62	0.60	0.63

Sources and Notes:
[1] - [6]: Table No. MJV-3; Panels A - I, [t].
[7]: {[2] + [3] + [4] + [5] + [6]} / 5.

Workpaper #2 to Table No. MJV-4

US Electric Sample

Calculation of the Average Preferred Equity - Market Value Ratio

Company	DCF Capital Structure [1]	Year End, 2006 [2]	2005 [3]	2004 [4]	2003 [5]	2002 [6]	5-Year Average [7]
Cleco Corp	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Consolidated Edison Inc	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Empire District Electric Co/The	-	-	-	-	-	0.06	0.01
Entergy Corp	0.01	0.01	0.02	0.02	0.02	0.02	0.02
MGE Energy Inc	-	-	-	-	-	-	-
NSTAR	-	-	-	0.01	0.01	0.01	0.00
Pinnacle West Capital Corp	-	-	-	-	-	-	-
PPL Corp	0.01	0.01	0.00	0.00	0.00	0.01	0.01
Southern Co	0.02	0.02	0.01	0.01	0.01	0.01	0.01

Sources and Notes:
[1] - [6]: Table No. MJV-3; Panels A - I, [u].
[7]: {[2] + [3] + [4] + [5] + [6]} / 5.

Workpaper #3 to Table No. MJV-4

US Electric Sample

Calculation of the Average Debt - Market Value Ratio

Company	DCF Capital Structure [1]	Year End, 2006 [2]	2005 [3]	2004 [4]	2003 [5]	2002 [6]	5-Year Average [7]
Cleco Corp	0.31	0.31	0.39	0.38	0.54	0.62	0.45
Consolidated Edison Inc	0.39	0.41	0.40	0.40	0.42	0.42	0.41
Empire District Electric Co/The	0.39	0.39	0.43	0.42	0.44	0.44	0.42
Entergy Corp	0.28	0.31	0.36	0.33	0.37	0.46	0.37
MGE Energy Inc	0.26	0.25	0.25	0.23	0.29	0.30	0.26
NSTAR	0.42	0.43	0.47	0.46	0.50	0.52	0.47
Pinnacle West Capital Corp	0.40	0.39	0.42	0.45	0.49	0.51	0.45
PPL Corp	0.33	0.36	0.40	0.45	0.54	0.57	0.46
Southern Co	0.34	0.34	0.34	0.35	0.37	0.39	0.36

Sources and Notes:
[1] - [6]: Table No. MJV-3; Panels A - I, [v].
[7]: {[2] + [3] + [4] + [5] + [6]} / 5.

Table No. MJV-5

US Electric Sample

Combined Bloomberg Estimated and Value Line Estimated Growth Rates

Company	Bloomberg Estimate		Value Line			Combined BEst and Value Line Growth Rate
	BEst Long-Term Growth Rate	Number of Estimates	EPS Year 2008 Estimate	EPS Year 2010 - 2012 Estimate	Annualized Growth Rate	
	[1]	[2]	[3]	[4]	[5]	[6]
Cleco Corp	12.0%	1	$1.40	$2.00	12.6%	12.3%
Consolidated Edison Inc	4.0%	5	$3.20	$3.30	1.0%	3.5%
Empire District Electric Co/The	3.0%	1	$1.45	$1.75	6.5%	4.7%
Entergy Corp	9.0%	5	$5.45	$6.20	4.4%	8.2%
MGE Energy Inc	n/a	n/a	$2.00	$2.45	7.0%	7.0%
NSTAR	5.0%	3	$2.30	$3.00	9.3%	6.1%
Pinnacle West Capital Corp	3.0%	2	$3.00	$3.25	2.7%	2.9%
PPL Corp	12.5%	5	$2.35	$3.75	16.9%	13.2%
Southern Co	5.3%	4	$2.25	$2.50	3.6%	4.9%

Sources and Notes:
[1] - [2]: Bloomberg as of April 09, 2007.
[3] - [4]: Value Line Standard Edition as of March 20, 2007. Dated as of December 29, 2006, February 9, 2007 and March 2, 2007.
[5]: ([4] / [3]) ^ (1/3) - 1.
[6]: ([1] x [2] + [5]) / ([2] + 1).

Table No. MJV-6

DCF Cost of Equity of the US Electric Sample

Panel A: Simple DCF Method (Quarterly)

Company	Stock Price [1]	Quarterly Dividend Q4, 2006 [2]	Combined BEst and Value Line Long-Term Growth Rate [3]	Quarterly Growth Rate [4]	DCF Cost of Equity [5]
Cleco Corp	$26.20	$0.23	12.3%	2.9%	16.2%
Consolidated Edison Inc	$50.97	$0.58	3.5%	0.9%	8.3%
Empire District Electric Co/The	$24.74	$0.32	4.7%	1.2%	10.3%
Entergy Corp	$105.51	$0.54	8.2%	2.0%	10.5%
MGE Energy Inc	$35.54	$0.35	7.0%	1.7%	11.3%
NSTAR	$35.38	$0.30	6.1%	1.5%	9.7%
Pinnacle West Capital Corp	$48.61	$0.53	2.9%	0.7%	7.4%
PPL Corp	$40.88	$0.28	13.2%	3.2%	16.3%
Southern Co	$36.82	$0.39	4.9%	1.2%	9.4%

Sources and Notes:
[1]: Workpaper #1 to Table No. MJV-6.
[2]: Workpaper #2 to Table No. MJV-6.
[3]: Table No. MJV-5, [6].
[4]: {(1 + [3]) ^ (1/4)} - 1.
[5]: {(([2] / [1]) x (1 + [4]) + [4] + 1) ^ 4} - 1.

Table No. MJV-6

DCF Cost of Equity of the US Electric Sample

Panel B: Multi-Stage DCF (Using Blue Chip Long-Term GDP Growth Forecast as the Perpetual Rate)

Company	Stock Price [1]	Quarterly Dividend Q4, 2006 [2]	Combined BEst and *Value Line* Long-Term Growth Rate [3]	Growth Rate: FY 2012 [4]	Growth Rate: FY 2013 [5]	Growth Rate: FY 2014 [6]	Growth Rate: FY 2015 [7]	Growth Rate: FY 2016 [8]	GDP Long-Term Growth Rate [9]	DCF Cost of Equity [10]
Cleco Corp	$26.20	$0.23	12.3%	11.1%	9.9%	8.7%	7.5%	6.3%	5.1%	10.7%
Consolidated Edison Inc	$50.97	$0.58	3.5%	3.8%	4.0%	4.3%	4.6%	4.8%	5.1%	9.4%
Empire District Electric Co/The	$24.74	$0.32	4.7%	4.8%	4.9%	4.9%	5.0%	5.0%	5.1%	10.5%
Entergy Corp	$105.51	$0.54	8.2%	7.7%	7.2%	6.7%	6.1%	5.6%	5.1%	7.7%
MGE Energy Inc	$35.54	$0.35	7.0%	6.7%	6.4%	6.0%	5.7%	5.4%	5.1%	9.8%
NSTAR	$35.38	$0.30	6.1%	5.9%	5.7%	5.6%	5.4%	5.3%	5.1%	8.9%
Pinnacle West Capital Corp	$48.61	$0.53	2.9%	3.3%	3.6%	4.0%	4.4%	4.7%	5.1%	9.1%
PPL Corp	$40.88	$0.28	13.2%	11.9%	10.5%	9.2%	7.8%	6.5%	5.1%	9.8%
Southern Co	$36.82	$0.39	4.9%	4.9%	5.0%	5.0%	5.0%	5.1%	5.1%	9.5%

Sources and Notes:
[1]: Workpaper #1 to Table No. MJV-6.
[2]: Workpaper #2 to Table No. MJV-6.
[3]: Table No. MJV-5, [6].
[4]: [3] - {([3] - [9])/ 6}.
[5]: [4] - {([3] - [9])/ 6}.
[6]: [5] - {([3] - [9])/ 6}.
[7]: [6] - {([3] - [9])/ 6}.
[8]: [7] - {([3] - [9])/ 6}.
[9]: Blue Chip Economic Indicators published March 10, 2007 This number is assumed to be the perpetual growth rate.
[10]: Workpaper #3 to Table No. MJV-6.

Workpaper #1 to Table No. MJV-6

US Electric Sample

Common Stock Prices from March 19, 2007 to April 9, 2007

Company	4/9/2007	4/5/2007	4/4/2007	4/3/2007	4/2/2007	3/30/2007	3/29/2007	3/28/2007	3/27/2007	3/26/2007	3/23/2007	3/22/2007	3/21/2007	3/20/2007	3/19/2007	Average
Cleco Corp	$26.55	$26.26	$26.25	$25.99	$26.16	$25.83	$26.09	$26.01	$26.12	$26.37	$26.49	$26.54	$26.34	$26.15	$25.90	$26.20
Consolidated Edison Inc	$52.14	$52.05	$51.84	$52.00	$51.72	$51.06	$51.25	$50.92	$50.96	$50.93	$50.42	$50.23	$50.19	$49.75	$49.05	$50.97
Empire District Electric Co/The	$25.14	$24.86	$24.77	$24.71	$24.84	$24.80	$24.58	$24.65	$24.69	$24.86	$24.78	$24.79	$24.85	$24.51	$24.33	$24.74
Entergy Corp	$110.35	$109.30	$108.47	$108.66	$107.64	$104.92	$105.16	$104.12	$104.68	$104.24	$104.06	$104.14	$104.17	$102.09	$100.65	$105.51
MGE Energy Inc	$36.05	$36.02	$35.92	$36.09	$35.82	$35.46	$35.72	$35.73	$35.87	$35.99	$35.43	$35.39	$35.13	$34.32	$34.18	$35.54
NSTAR	$36.27	$36.09	$36.26	$36.41	$35.75	$35.12	$35.06	$34.87	$34.99	$35.27	$35.26	$35.21	$35.20	$34.81	$34.14	$35.38
Pinnacle West Capital Corp	$49.61	$49.50	$49.37	$49.30	$49.27	$48.25	$48.62	$48.45	$48.51	$48.25	$48.32	$47.92	$48.42	$48.07	$47.23	$48.61
PPL Corp	$43.10	$42.83	$42.67	$42.49	$42.08	$40.90	$41.23	$41.05	$41.14	$40.05	$39.64	$39.20	$39.40	$38.92	$38.55	$40.88
Southern Co	$37.31	$37.20	$37.10	$37.19	$37.08	$36.65	$36.91	$36.64	$36.80	$37.04	$36.85	$36.68	$36.76	$36.28	$35.82	$36.82

Sources and Notes:
Bloomberg as of April 09, 2007.
The prices chosen are the daily closing prices from Bloomberg starting from the most recent prices available in Bloomberg as of April 09, 2007 and ending fifteen trading days before.

Workpaper #2 to Table No. MJV-6

US Electric Sample

4th Quarter, 2006 Dividend Payments

Company	Q4, 2006
Cleco Corp	$0.23
Consolidated Edison Inc	$0.58
Empire District Electric Co/The	$0.32
Entergy Corp	$0.54
MGE Energy Inc	$0.35
NSTAR	$0.30
Pinnacle West Capital Corp	$0.53
PPL Corp	$0.28
Southern Co	$0.39

Sources and Notes:
Bloomberg as of April 09, 2007.

Workpaper #3 to Table No. MJV-6

DCF Cost of Equity of the US Electric Sample

Multi - Stage DCF (using Blue Chip Economic Indicator Long-Term GDP as the Perpetual Growth Rate)

Year	Company	Cleco Corp	Consolidated Edison Inc	Empire District Electric Co/The	Entergy Corp	MGE Energy Inc	NSTAR	Pinnacle West Capital Corp	PPL Corp	Southern Co
	Current Stock Price	($26.20)	($50.97)	($24.74)	($105.51)	($35.54)	($35.38)	($48.61)	($40.88)	($36.82)
YEAR 2007	Dividend Q1 Estimate	$0.23	$0.58	$0.32	$0.55	$0.35	$0.31	$0.53	$0.28	$0.39
YEAR 2007	Dividend Q2 Estimate	$0.24	$0.58	$0.33	$0.56	$0.36	$0.31	$0.53	$0.29	$0.40
YEAR 2007	Dividend Q3 Estimate	$0.25	$0.59	$0.33	$0.57	$0.37	$0.32	$0.54	$0.30	$0.40
YEAR 2007	Dividend Q4 Estimate	$0.25	$0.60	$0.34	$0.58	$0.37	$0.32	$0.54	$0.31	$0.41
YEAR 2008	Dividend Q1 Estimate	$0.26	$0.60	$0.34	$0.60	$0.38	$0.33	$0.54	$0.32	$0.41
YEAR 2008	Dividend Q2 Estimate	$0.27	$0.61	$0.34	$0.61	$0.39	$0.33	$0.55	$0.33	$0.42
YEAR 2008	Dividend Q3 Estimate	$0.28	$0.61	$0.35	$0.62	$0.39	$0.34	$0.55	$0.34	$0.42
YEAR 2008	Dividend Q4 Estimate	$0.28	$0.62	$0.35	$0.63	$0.40	$0.34	$0.56	$0.35	$0.43
YEAR 2009	Dividend Q1 Estimate	$0.29	$0.62	$0.36	$0.65	$0.41	$0.35	$0.56	$0.36	$0.43
YEAR 2009	Dividend Q2 Estimate	$0.30	$0.63	$0.36	$0.66	$0.41	$0.35	$0.56	$0.38	$0.44
YEAR 2009	Dividend Q3 Estimate	$0.31	$0.63	$0.36	$0.67	$0.42	$0.36	$0.57	$0.39	$0.44
YEAR 2009	Dividend Q4 Estimate	$0.32	$0.64	$0.37	$0.68	$0.43	$0.36	$0.57	$0.40	$0.45
YEAR 2010	Dividend Q1 Estimate	$0.33	$0.64	$0.37	$0.70	$0.43	$0.37	$0.58	$0.41	$0.45
YEAR 2010	Dividend Q2 Estimate	$0.34	$0.65	$0.38	$0.71	$0.44	$0.37	$0.58	$0.42	$0.46
YEAR 2010	Dividend Q3 Estimate	$0.35	$0.65	$0.38	$0.73	$0.45	$0.38	$0.58	$0.44	$0.46
YEAR 2010	Dividend Q4 Estimate	$0.36	$0.66	$0.39	$0.74	$0.46	$0.38	$0.59	$0.45	$0.47
YEAR 2011	Dividend Q1 Estimate	$0.37	$0.67	$0.39	$0.76	$0.46	$0.39	$0.59	$0.47	$0.48
YEAR 2011	Dividend Q2 Estimate	$0.38	$0.67	$0.39	$0.77	$0.47	$0.39	$0.60	$0.48	$0.48
YEAR 2011	Dividend Q3 Estimate	$0.39	$0.68	$0.40	$0.79	$0.48	$0.40	$0.60	$0.50	$0.49
YEAR 2011	Dividend Q4 Estimate	$0.40	$0.68	$0.40	$0.80	$0.49	$0.41	$0.61	$0.51	$0.49
YEAR 2012	Dividend Q1 Estimate	$0.41	$0.69	$0.41	$0.82	$0.50	$0.41	$0.61	$0.53	$0.50
YEAR 2012	Dividend Q2 Estimate	$0.42	$0.70	$0.41	$0.83	$0.50	$0.42	$0.62	$0.54	$0.50
YEAR 2012	Dividend Q3 Estimate	$0.44	$0.70	$0.42	$0.85	$0.51	$0.42	$0.62	$0.56	$0.51
YEAR 2012	Dividend Q4 Estimate	$0.45	$0.71	$0.42	$0.86	$0.52	$0.43	$0.63	$0.57	$0.52
YEAR 2013	Dividend Q1 Estimate	$0.46	$0.72	$0.43	$0.88	$0.53	$0.44	$0.63	$0.59	$0.52
YEAR 2013	Dividend Q2 Estimate	$0.47	$0.72	$0.43	$0.89	$0.54	$0.44	$0.64	$0.60	$0.53
YEAR 2013	Dividend Q3 Estimate	$0.48	$0.73	$0.44	$0.91	$0.55	$0.45	$0.64	$0.62	$0.54
YEAR 2013	Dividend Q4 Estimate	$0.49	$0.74	$0.44	$0.93	$0.55	$0.45	$0.65	$0.63	$0.54
YEAR 2014	Dividend Q1 Estimate	$0.50	$0.75	$0.45	$0.94	$0.56	$0.46	$0.65	$0.65	$0.55
YEAR 2014	Dividend Q2 Estimate	$0.51	$0.75	$0.45	$0.96	$0.57	$0.47	$0.66	$0.66	$0.56
YEAR 2014	Dividend Q3 Estimate	$0.52	$0.76	$0.46	$0.97	$0.58	$0.47	$0.67	$0.68	$0.56
YEAR 2014	Dividend Q4 Estimate	$0.53	$0.77	$0.46	$0.99	$0.59	$0.48	$0.67	$0.69	$0.57
YEAR 2015	Dividend Q1 Estimate	$0.54	$0.78	$0.47	$1.00	$0.60	$0.49	$0.68	$0.70	$0.58
YEAR 2015	Dividend Q2 Estimate	$0.55	$0.79	$0.48	$1.02	$0.60	$0.49	$0.69	$0.72	$0.58
YEAR 2015	Dividend Q3 Estimate	$0.56	$0.80	$0.48	$1.03	$0.61	$0.50	$0.70	$0.73	$0.59
YEAR 2015	Dividend Q4 Estimate	$0.57	$0.80	$0.49	$1.05	$0.62	$0.51	$0.70	$0.74	$0.60
YEAR 2016	Dividend Q1 Estimate	$0.58	$0.81	$0.49	$1.06	$0.63	$0.51	$0.71	$0.76	$0.61
YEAR 2016	Dividend Q2 Estimate	$0.59	$0.82	$0.50	$1.08	$0.64	$0.52	$0.72	$0.77	$0.61
YEAR 2016	Dividend Q3 Estimate	$0.60	$0.83	$0.51	$1.09	$0.65	$0.53	$0.73	$0.78	$0.62
YEAR 2016	Dividend Q4 Estimate	$0.61	$0.84	$0.51	$1.11	$0.66	$0.53	$0.74	$0.79	$0.63
YEAR 2017 Q1	Year 10 Stock Price	$47.51	$84.04	$41.33	$179.84	$60.76	$59.78	$79.73	$73.74	$61.61
	Trial COE: Quarterly Rate	2.6%	2.3%	2.5%	1.9%	2.4%	2.2%	2.2%	2.4%	2.3%
	Trial COE: Annual Rate	10.7%	9.4%	10.5%	7.7%	9.8%	8.9%	9.1%	9.8%	9.5%
	Cost of Equity	10.7%	9.4%	10.5%	7.7%	9.8%	8.9%	9.1%	9.8%	9.5%
	(Trial COE - COE) x 100	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Sources and Notes:

All Growth Rate Estimates: Table No. MJV-6; Panel B.

Stock Prices and Dividends are from Bloomberg as of April 09, 2007.

1. See Workpaper #1 to Table No. MJV-6 for the average closing stock price obtained from Bloomberg.
2. See Workpaper #2 to Table No. MJV-6 for the for the quarterly dividend obtained from Bloomberg.
3. The Blue Chip Economic Indicator Long-Term GDP Growth Rate is used to calculate the Year 10 Stock Price.
   {{the Dividend Year 2016 Q4 Estimate) x ((1 + the Perpetual Growth Rate) ^ (1/2))} /
   {(Trial COE - Quarterly Rate) - ((1 + the Perpetual Growth Rate) ^ (1/4) -1)}.

Table No. MJV-7

Overall Cost of Capital of the US Electric Sample

Panel A: Simple DCF Method (Quarterly)

Company	4th Quarter, 2006 Bond Rating [1]	4th Quarter, 2006 Preferred Equity Rating [2]	DCF Cost of Equity [3]	DCF Common Equity to Market Value Ratio [4]	Cost of Preferred Equity [5]	DCF Preferred Equity to Market Value Ratio [6]	DCF Cost of Debt [7]	DCF Debt to Market Value Ratio [8]	The Ohio EDU's's Income Tax Rate [9]	Overall After- Tax Cost of Capital [10]
Cleco Corp	BBB	BBB	16.2%	0.68	6.0%	0.01	6.1%	0.31	37.1%	12.3%
Consolidated Edison Inc	A	A	8.3%	0.60	5.9%	0.01	5.9%	0.39	37.1%	6.4%
Empire District Electric Co/The	BBB	-	10.3%	0.61	-	-	6.1%	0.39	37.1%	7.7%
Entergy Corp	BBB	BBB	10.5%	0.70	6.0%	0.01	6.1%	0.28	37.1%	8.5%
MGE Energy Inc	AA	-	11.3%	0.74	-	-	5.7%	0.26	37.1%	9.3%
NSTAR	A	-	9.7%	0.58	-	-	5.9%	0.42	37.1%	7.2%
Pinnacle West Capital Corp	BBB	-	7.4%	0.60	-	-	6.1%	0.40	37.1%	6.0%
PPL Corp	BBB	BBB	16.3%	0.66	6.0%	0.01	6.1%	0.33	37.1%	12.0%
Southern Co	A	A	9.4%	0.64	5.9%	0.02	5.9%	0.34	37.1%	7.4%
Average			11.0%	0.65	6.0%	0.01	6.0%	0.35	37.1%	8.5%

Sources and Notes:

[1]: Bloomberg as of April 09, 2007.

[2]: Preferred ratings were assumed equal to debt ratings.

[3]: Table No. MJV-6; Panel A, [5].

[4]: Table No. MJV-4, [1].

[5]: Workpaper #2 to Table No. MJV-11, Panel B, [6].

[6]: Table No. MJV-4, [2].

[7]: Workpaper #2 toTable No. MJV-11, Panel A, [6].

[8]: Table No. MJV-4, [3].

[9]: Provided by The Ohio EDU's.

[10]: ([3] x [4]) + ([5] x [6]) + {[7] x [8] x (1 - [9])}.

Table No. MJV-7

Overall Cost of Capital of the US Electric Sample

Panel B: Multi-Stage DCF (Using Blue Chip Long-Term GDP Growth Forecast as the Perpetual Rate)

Company	4th Quarter, 2006 Bond Rating [1]	4th Quarter, 2006 Preferred Equity Rating [2]	DCF Cost of Equity [3]	DCF Common Equity to Market Value Ratio [4]	Cost of Preferred Equity [5]	DCF Preferred Equity to Market Value Ratio [6]	DCF Cost of Debt [7]	DCF Debt to Market Value Ratio [8]	The Ohio EDU's's Income Tax Rate [9]	Overall After- Tax Cost of Capital [10]
Cleco Corp	BBB	BBB	10.7%	0.68	6.0%	0.01	6.1%	0.31	37.1%	8.5%
Consolidated Edison Inc	A	A	9.4%	0.60	5.9%	0.01	5.9%	0.39	37.1%	7.1%
Empire District Electric Co/The	BBB	-	10.5%	0.61	-	-	6.1%	0.39	37.1%	7.9%
Entergy Corp	BBB	BBB	7.7%	0.70	6.0%	0.01	6.1%	0.28	37.1%	6.6%
MGE Energy Inc	AA	-	9.8%	0.74	-	-	5.7%	0.26	37.1%	8.2%
NSTAR	A	-	8.9%	0.58	-	-	5.9%	0.42	37.1%	6.7%
Pinnacle West Capital Corp	BBB	-	9.1%	0.60	-	-	6.1%	0.40	37.1%	7.0%
PPL Corp	BBB	BBB	9.8%	0.66	6.0%	0.01	6.1%	0.33	37.1%	7.7%
Southern Co	A	A	9.5%	0.64	5.9%	0.02	5.9%	0.34	37.1%	7.4%
Average			9.5%	0.65	6.0%	0.01	6.0%	0.35	37.1%	7.5%

Sources and Notes:

[1]: Bloomberg as of April 09, 2007.

[2]: Preferred ratings were assumed equal to debt ratings.

[3]: Table No. MJV-6; Panel B, [10].

[4]: Table No. MJV-4, [1].

[5]: Workpaper #2 to Table No. MJV-11, Panel B, [6].

[6]: Table No. MJV-4, [2].

[7]: Workpaper #2 toTable No. MJV-11, Panel A, [6].

[8]: Table No. MJV-4, [3].

[9]: Provided by The Ohio EDU's.

[10]: ([3] x [4]) + ([5] x [6]) + {[7] x [8] x (1 - [9])}.

Table No. MJV-8

DCF Cost of Equity at The Ohio EDU's Capital Structure

US Electric Sample

	Overall Cost of Capital [1]	The Ohio EDU's's Regulatory % Debt [2]	The Ohio EDU's's Cost of Debt [3]	The Ohio EDU's's Income Tax Rate [4]	The Ohio EDU's's Regulatory % Equity [5]	Estimated Return on Equity [6]
Using All Companies with Bloomberg Forecast						
Simple DCF Quarterly	8.5%	0.51	6.1%	37.1%	0.49	13.4%
Multi-Stage DCF - Using the Blue Chip Economic Indicator Long-Term GDP as the Perpetual Rate	7.5%	0.51	6.1%	37.1%	0.49	11.2%

Sources and Notes:

[1]: Table No. MJV-7; Panels A-B, [10].

[2]: Provided by The Ohio EDU's.

[3]: Based off an BBB rating, as provided by The Ohio EDU's. Yield from Bloomberg as of March 27, 2007.

[4]: Provided by The Ohio EDU's.

[5]: Provided by The Ohio EDU's.

[6]: {[1] - ([2] x [3] x (1 - [4]))} / [5].

Table No. MJV-9 - Interest Rate Forecasts

US Electric Sample

Panel A: US Interest Rate Series (All Constant Maturity Series)

	Trading Date	30 Day	90 Day	180 Day	1 Year	2 Year	3 Year	5 Year	7 Year	10 Year	Long Term
	3/20/2007	5.22%	5.06%	5.12%	4.94%	4.60%	4.51%	4.47%	4.49%	4.56%	4.79%
	3/21/2007	5.24%	5.05%	5.08%	4.89%	4.51%	4.44%	4.43%	4.45%	4.53%	4.78%
	3/22/2007	5.23%	5.06%	5.08%	4.91%	4.58%	4.51%	4.49%	4.52%	4.60%	4.86%
	3/23/2007	5.24%	5.08%	5.10%	4.93%	4.60%	4.54%	4.52%	4.54%	4.62%	4.88%
	3/26/2007	5.22%	5.06%	5.09%	4.91%	4.56%	4.50%	4.48%	4.51%	4.60%	4.86%
	3/27/2007	5.20%	5.08%	5.09%	4.91%	4.58%	4.51%	4.50%	4.53%	4.62%	4.89%
	3/28/2007	5.18%	5.06%	5.08%	4.90%	4.53%	4.49%	4.50%	4.53%	4.62%	4.90%
	3/29/2007	5.05%	5.05%	5.06%	4.90%	4.58%	4.52%	4.53%	4.55%	4.64%	4.90%
	3/30/2007	5.07%	5.04%	5.06%	4.90%	4.58%	4.54%	4.54%	4.58%	4.65%	4.92%
	4/2/2007	5.12%	5.04%	5.09%	4.92%	4.60%	4.53%	4.54%	4.57%	4.65%	4.92%
	4/3/2007	5.15%	5.05%	5.09%	4.93%	4.63%	4.57%	4.56%	4.59%	4.67%	4.93%
	4/4/2007	5.16%	5.07%	5.08%	4.92%	4.61%	4.55%	4.55%	4.58%	4.66%	4.92%
	4/5/2007	5.10%	5.04%	5.07%	4.93%	4.63%	4.57%	4.57%	4.60%	4.68%	4.95%
	4/6/2007	5.10%	5.05%	5.10%	4.98%	4.75%	4.68%	4.67%	4.69%	4.76%	5.00%
	4/9/2007	5.08%	5.02%	5.11%	4.98%	4.73%	4.67%	4.66%	4.68%	4.75%	5.00%
[A]	Average:	5.16%	5.05%	5.09%	4.92%	4.60%	4.54%	4.53%	4.56%	4.64%	4.90%
[B]	Maturity Premium:	0.00%	0.10%	0.20%	0.33%	0.59%	0.75%	1.00%	1.15%	1.27%	1.50%
[C]	Implied Short-Term Yield:	5.16%	4.95%	4.89%	4.59%	4.01%	3.79%	3.53%	3.41%	3.37%	3.40%

Sources and Notes:

[A]: Average over the last 15 trading days.

[B]: Workpaper #1 to Table No. MJV-9, Panel C, [2].

[C]: [A] - [B].

Bloomberg as of April 09, 2007

Table No. MJV-9 - Interest Rate Forecasts

US Electric Sample

Panel B: Forecasted Short-Term Interest Rates

		30 Day [1]	90 Day [2]	180 Day [3]	1 Year [4]	2 Year [5]	3 Year [6]	5 Year [7]	7 Year [8]	10 Year [9]	Total Days [10]	Implicit Short-Term Rate [11]
[A]	Implied Short-Term Yield:	5.16%	4.95%	4.89%	4.59%	4.01%	3.79%	3.53%	3.41%	3.37%		
[B]	Days Remaining in 2007	30	60	90	86						266	4.84%
[C]	Days Remaining in 2008				99	266					365	4.17%
[D]	Days Remaining in 2009					99	266				365	3.85%
[E]	Days Remaining in 2010						99	266			365	3.60%
[F]	Days Remaining in 2011							99	266		365	3.44%
[G]	Days Remaining in 2012								99	266	365	3.38%
[H]	Total Days	30	60	90	185	365	365	730	730	1095		
[I]	Implicit Short-Term Rate for 2008-2011										1460	3.77%
[J]	Implicit Short-Term Rate for 2008-2012										1825	3.69%

Sources and Notes:

[A]: Table No. MJV-9 - Interest Rate Forecasts Panel A, [C].

[B] - [G]: Total number of days remaining for each period, beginning with March 20, 2007.

[H]: Sum of [B] through [G] for the respective period.

[11]: [(1+ Implied Short-Term $Yield_1$)^(days remaining in $period_1$)x…x(1+Implied Short-Term $Yield_n$)^(days remaining in $period_n$)]^(1/[9])-1.

This formula is applied to all periods from 1 to n in each year.

[I]: ((1+[10][C])^[9][C]x…x(1+10[F])^[9][F]))^(1/[9][I])-1.

[J]: ((1+[10][C])^[9][C]x…x(1+10[G])^[9][G]))^(1/[9][J])-1.

Workpaper #1 to Table No. MJV-9 - Risk Premium Forecast

US Electric Sample

Panel A: Historical Bond Yield Averages

	Treasury Bill Yield [1]	Intermediate-Term Government Bond Yield [2]	Long-Term Government Bond Yield [3]	Long-Term Corporate Bonds (Total Return) [4]
1926	3.27%	3.61%	3.54%	7.37%
1927	3.12%	3.40%	3.17%	7.44%
1928	3.56%	4.01%	3.40%	2.84%
1929	4.75%	3.62%	3.40%	3.27%
1930	2.41%	2.91%	3.30%	7.98%
1931	1.07%	4.12%	4.07%	-1.85%
1932	0.96%	3.04%	3.15%	10.82%
1933	0.30%	3.25%	3.38%	10.38%
1934	0.16%	2.49%	2.93%	13.84%
1935	0.17%	1.63%	2.76%	9.61%
1936	0.18%	1.29%	2.55%	6.74%
1937	0.31%	1.14%	2.73%	2.75%
1938	-0.02%	1.52%	2.52%	6.13%
1939	0.02%	0.98%	2.26%	3.97%
1940	0.00%	0.57%	1.94%	3.39%
1941	0.06%	0.82%	2.04%	2.73%
1942	0.27%	0.72%	2.46%	2.60%
1943	0.35%	1.45%	2.48%	2.83%
1944	0.33%	1.40%	2.46%	4.73%
1945	0.33%	1.03%	1.99%	4.08%
1946	0.35%	1.12%	2.12%	1.72%
1947	0.50%	1.34%	2.43%	-2.34%
1948	0.81%	1.51%	2.37%	4.14%
1949	1.10%	1.23%	2.09%	3.31%
1950	1.20%	1.62%	2.24%	2.12%
1951	1.49%	2.17%	2.69%	-2.69%
1952	1.66%	2.35%	2.79%	3.52%
1953	1.82%	2.18%	2.74%	3.41%
1954	0.86%	1.72%	2.72%	5.39%
1955	1.57%	2.80%	2.95%	0.48%
1956	2.46%	3.63%	3.45%	-6.81%
1957	3.14%	2.84%	3.23%	8.71%
1958	1.54%	3.81%	3.82%	-2.22%
1959	2.95%	4.98%	4.47%	-0.97%
1960	2.66%	3.31%	3.80%	9.07%
1961	2.13%	3.84%	4.15%	4.82%
1962	2.73%	3.50%	3.95%	7.95%
1963	3.12%	4.04%	4.17%	2.19%
1964	3.54%	4.03%	4.23%	4.77%
1965	3.93%	4.90%	4.50%	-0.46%
1966	4.76%	4.79%	4.55%	0.20%
1967	4.21%	5.77%	5.56%	-4.95%
1968	5.21%	5.96%	5.98%	2.57%
1969	6.58%	8.29%	6.87%	-8.09%
1970	6.52%	5.90%	6.48%	18.37%
1971	4.39%	5.25%	5.97%	11.01%
1972	3.84%	5.85%	5.99%	7.26%
1973	6.93%	6.75%	7.26%	1.14%
1974	8.00%	7.12%	7.60%	-3.06%
1975	5.80%	7.19%	8.05%	14.64%
1976	5.08%	6.00%	7.21%	18.65%
1977	5.12%	7.51%	8.03%	1.71%
1978	7.18%	8.83%	8.98%	-0.07%
1979	10.38%	10.33%	10.12%	-4.18%
1980	11.24%	12.45%	11.99%	-2.62%
1981	14.71%	13.96%	13.34%	-0.96%
1982	10.54%	9.90%	10.95%	43.79%
1983	8.80%	11.41%	11.97%	4.70%
1984	9.85%	11.04%	11.70%	16.39%
1985	7.72%	8.55%	9.56%	30.90%
1986	6.16%	6.85%	7.89%	19.85%
1987	5.47%	8.32%	9.20%	-0.27%
1988	6.35%	9.17%	9.19%	10.70%
1989	8.37%	7.94%	8.16%	16.23%
1990	7.81%	7.70%	8.44%	6.78%
1991	5.60%	5.97%	7.30%	19.89%
1992	3.51%	6.11%	7.26%	9.39%
1993	2.90%	5.22%	6.54%	13.19%
1994	3.90%	7.80%	7.99%	-5.76%
1995	5.60%	5.38%	6.03%	27.20%
1996	5.21%	6.16%	6.73%	1.40%
1997	5.26%	5.73%	6.02%	12.95%
1998	4.86%	4.68%	5.42%	10.76%
1999	4.68%	6.45%	6.82%	-7.45%
2000	5.89%	5.07%	5.58%	12.87%
2001	3.83%	4.42%	5.75%	10.65%
2002	1.65%	2.61%	4.84%	16.33%
2003	1.02%	2.97%	5.11%	5.27%
2004	1.20%	3.47%	4.84%	8.72%
2005	2.98%	4.34%	4.61%	5.87%
2006	4.80%	4.65%	4.91%	3.24%

[1] - [4]: Ibbotson Associates Stocks Bonds Bills (SBBI) and Inflation monthly paper reports.

Workpaper #1 to Table No. MJV-9

US Electric Sample

Panel B: Calculation of Maturity Premia for Different Bond Series

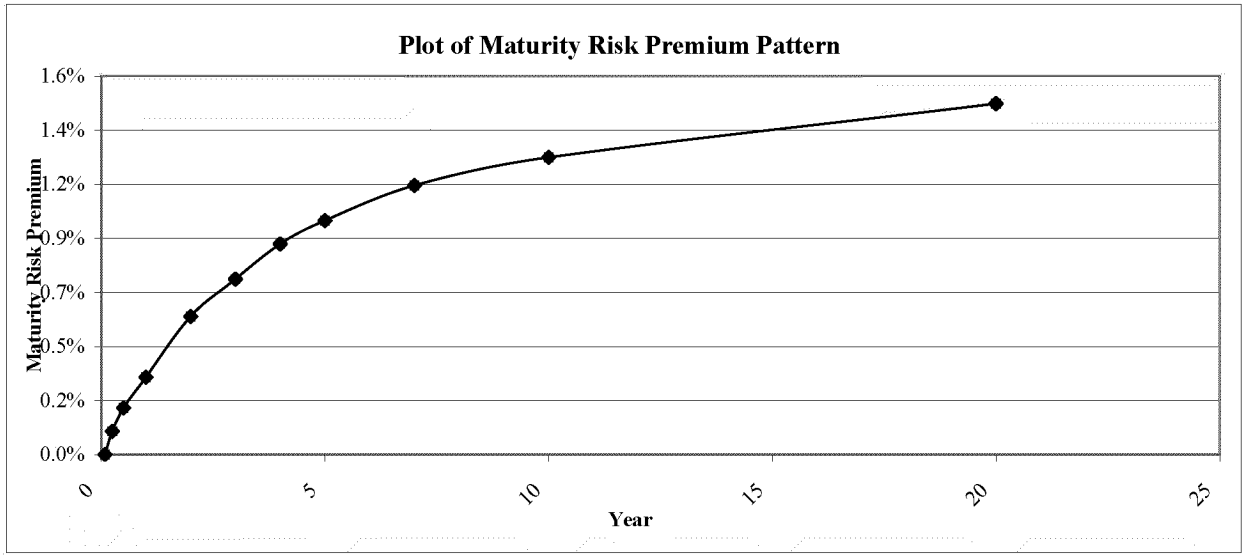
	Annual Historical Average			Maturity Premium Calculation		
	T-Bill Total Return [1]	Intermediate Term Bond Yields [2]	Long-Term Government Bond Yield [3]	T-Bill Total Return [4]	Intermediate Term Bond Yields [5]	Long-Term Government Bond Yield [6]
1926 - 2006	3.77%	4.74%	5.29%	0.00%	0.97%	1.52%
1947 - 2006	4.72%	5.66%	6.16%	0.00%	0.94%	1.44%
1947 - 1966	2.20%	3.03%	3.37%	0.00%	0.83%	1.17%
1967 - 1986	7.41%	8.25%	8.57%	0.00%	0.83%	1.16%
1987 - 2006	4.54%	5.71%	6.54%	0.00%	1.16%	1.99%
Current	5.16%	4.53%	4.90%	0.00%	-0.62%	-0.26%

Sources and Notes:
[1] - [3] : Workpaper #1 to Table No. MJV-9, Panel A.
Maturity Premium is defined as the Average Bond Yield (for each series) less Risk Free Total Return.
[4]: [1] - [1].
[5]: [2] - [1].
[6]: [3] - [1].
Current data from Table No. MJV-9, Panel A.

Workpaper #1 to Table No. MJV-9

US Electric Sample

Panel C: Maturity Premium Graph and Calculations (Using Annual Series Data)



Maturity of Bond (Years) [1]	Maturity Risk Premium [2]	Annualized Difference [3]
0.083	0.00%	
0.25	0.10%	0.60%
0.5	0.20%	0.40%
1	0.33%	0.26%
2	0.59%	0.26%
3	0.75%	0.16%
4	0.90%	0.15%
5	1.00%	0.10%
7	1.15%	0.08%
10	1.27%	0.04%
20	1.50%	0.02%

Sources and Notes:

[1]: The maturity of a bond in years.

[2]: Workpaper #1 to Table No. MJV-9, Panel B; [4] - [6] and MJV Testimony.

[3]: MJV Testimony.

Table No. MJV-10

Risk Positioning Cost of Equity of the US Electric Sample

Panel A: Using the Long-Term Risk-Free Rate

Company	US Long-Term Risk-Free Rate [1]	Value Line Betas [2]	Long-Term Market Risk Premium [3]	CAPM Cost of Equity [4]	ECAPM (0.5%) Cost of Equity [5]	ECAPM (1.5%) Cost of Equity [6]
Cleco Corp	4.9%	1.30	6.50%	13.4%	13.2%	12.9%
Consolidated Edison Inc	4.9%	0.75	6.50%	9.8%	9.9%	10.2%
Empire District Electric Co/The	4.9%	0.80	6.50%	10.1%	10.2%	10.4%
Entergy Corp	4.9%	0.85	6.50%	10.4%	10.5%	10.7%
MGE Energy Inc	4.9%	0.75	6.50%	9.8%	9.9%	10.2%
NSTAR	4.9%	0.80	6.50%	10.1%	10.2%	10.4%
Pinnacle West Capital Corp	4.9%	1.00	6.50%	11.4%	11.4%	11.4%
PPL Corp	4.9%	0.95	6.50%	11.1%	11.1%	11.2%
Southern Co	4.9%	0.70	6.50%	9.5%	9.6%	9.9%

Sources and Notes:
[1]: Table No. MJV-9 - Interest Rate Forecasts, Panel A, Row [A].
[2]: Workpaper # 1 to Table No. MJV-10, column [1].
[3]: Vilbert Written Evidence, Appendix B.
[4]: [1] + ([2] x [3]).
[5]: ([1] + 0.5%) + [2] x ([3] - 0.5%).
[6]: ([1] + 1.5%) + [2] x ([3] - 1.5%).

Table No. MJV-10

Risk Positioning Cost of Equity of the US Electric Sample

Panel B: Using the Short-Term Risk-Free Rate.

Company	US Short-Term Risk-Free Rate [1]	Value Line Betas [2]	Short-Term Market Risk Premium [3]	CAPM Cost of Equity [4]	ECAPM (1%) Cost of Equity [5]	ECAPM (2%) Cost of Equity [6]	ECAPM (3%) Cost of Equity [7]
Cleco Corp	3.8%	1.30	8.0%	14.2%	13.9%	13.6%	13.3%
Consolidated Edison Inc	3.8%	0.75	8.0%	9.8%	10.1%	10.3%	10.6%
Empire District Electric Co/The	3.8%	0.80	8.0%	10.2%	10.4%	10.6%	10.8%
Entergy Corp	3.8%	0.85	8.0%	10.6%	10.8%	10.9%	11.1%
MGE Energy Inc	3.8%	0.75	8.0%	9.8%	10.1%	10.3%	10.6%
NSTAR	3.8%	0.80	8.0%	10.2%	10.4%	10.6%	10.8%
Pinnacle West Capital Corp	3.8%	1.00	8.0%	11.8%	11.8%	11.8%	11.8%
PPL Corp	3.8%	0.95	8.0%	11.4%	11.5%	11.5%	11.6%
Southern Co	3.8%	0.70	8.0%	9.4%	9.7%	10.0%	10.3%

Sources and Notes:
[1]: Table No. MJV-9 - Interest Rate Forecasts, Panel B, Row [I].
[2]: Workpaper # 1 to Table No. MJV-10, column [1].
[3]: Vilbert Written Evidence, Appendix B.
[4]: [1] + ([2] x [3]).
[5]: ([1] + 1%) + [2] x ([3] - 1%).
[6]: ([1] + 2%) + [2] x ([3] - 2%).
[7]: ([1] + 3%) + [2] x ([3] - 3%).

Workpaper # 1 to Table No. MJV-10

US Electric Sample

Value Line Betas

Company	Value Line Betas [1]
Cleco Corp	1.30
Consolidated Edison Inc	0.75
Empire District Electric Co/The	0.80
Entergy Corp	0.85
MGE Energy Inc	0.75
NSTAR	0.80
Pinnacle West Capital Corp	1.00
PPL Corp	0.95
Southern Co	0.70
Average:	0.88

Sources and Notes:
[1]: Value Line Standard Edition as of March 20, 2007. Dated as of December 29, 2006, February 9, 2007 and March 2, 2007.

Table No. MJV-11

Overall Cost of Capital of the US Electric Sample

Panel A: CAPM Cost of Equity Based on the Long-Term Risk-Free Rate

Company	CAPM Cost of Equity [1]	5-Year Average Common Equity to Market Value Ratio [2]	Weighted - Average Cost of Preferred Equity [3]	5-Year Average Preferred Equity to Market Value Ratio [4]	Weighted Average Cost of Debt [5]	5-Year Average Debt to Market Value Ratio [6]	The Ohio EDU's's Income Tax Rate [7]	Overall After- Tax Cost of Capital [8]
Cleco Corp	13.4%	0.54	6.0%	0.01	6.1%	0.45	37.1%	9.0%
Consolidated Edison Inc	9.8%	0.58	5.9%	0.01	5.9%	0.41	37.1%	7.2%
Empire District Electric Co/The	10.1%	0.56	6.0%	0.01	6.1%	0.42	37.1%	7.4%
Entergy Corp	10.4%	0.62	6.0%	0.02	6.1%	0.37	37.1%	7.9%
MGE Energy Inc	9.8%	0.74	-	-	5.7%	0.26	37.1%	8.1%
NSTAR	10.1%	0.52	5.9%	0.00	5.9%	0.47	37.1%	7.0%
Pinnacle West Capital Corp	11.4%	0.55	-	-	6.1%	0.45	37.1%	8.0%
PPL Corp	11.1%	0.53	6.0%	0.01	6.1%	0.46	37.1%	7.7%
Southern Co	9.5%	0.63	5.9%	0.01	5.9%	0.36	37.1%	7.3%
Average	10.6%	0.58	6.0%	0.01	6.0%	0.41	37.1%	7.7%

Sources and Notes:
[1]: Table No. MJV-10; Panel A, [4].
[2]: Table No. MJV-4, [4].
[3]: Workpaper #2 to Table No. MJV-11 ; Panel B, [1].
[4]: Table No. MJV-4, [5].
[5]: Workpaper #2 to Table No. MJV-11 ; Panel A, [1].
[6]: Table No. MJV-4, [6].
[7]: Provided by The Ohio EDU's.
[8]: ([1] x [2]) + ([3] x [4]) + {[5] x [6] x (1 - [7])}.

Table No. MJV-11

Overall Cost of Capital of the US Electric Sample

Panel B: ECAPM (0.5%) Cost of Equity Based on the Long-Term Risk-Free Rate

Company	ECAPM (0.5%) Cost of Equity [1]	5-Year Average Common Equity to Market Value Ratio [2]	Weighted - Average Cost of Preferred Equity [3]	5-Year Average Preferred Equity to Market Value Ratio [4]	Weighted Average Cost of Debt [5]	5-Year Average Debt to Market Value Ratio [6]	The Ohio EDU's's Income Tax Rate [7]	Overall After- Tax Cost of Capital [8]
Cleco Corp	13.2%	0.54	6.0%	0.01	6.1%	0.45	37.1%	8.9%
Consolidated Edison Inc	9.9%	0.58	5.9%	0.01	5.9%	0.41	37.1%	7.3%
Empire District Electric Co/The	10.2%	0.56	6.0%	0.01	6.1%	0.42	37.1%	7.5%
Entergy Corp	10.5%	0.62	6.0%	0.02	6.1%	0.37	37.1%	8.0%
MGE Energy Inc	9.9%	0.74	-	-	5.7%	0.26	37.1%	8.2%
NSTAR	10.2%	0.52	5.9%	0.00	5.9%	0.47	37.1%	7.1%
Pinnacle West Capital Corp	11.4%	0.55	-	-	6.1%	0.45	37.1%	8.0%
PPL Corp	11.1%	0.53	6.0%	0.01	6.1%	0.46	37.1%	7.7%
Southern Co	9.6%	0.63	5.9%	0.01	5.9%	0.36	37.1%	7.4%
Average	10.7%	0.58	6.0%	0.01	6.0%	0.41	37.1%	7.8%

Sources and Notes:
[1]: Table No. MJV-10; Panel A, [5].
[2]: Table No. MJV-4, [4].
[3]: Workpaper #2 to Table No. MJV-11 ; Panel B, [1].
[4]: Table No. MJV-4, [5].
[5]: Workpaper #2 to Table No. MJV-11 ; Panel A, [1].
[6]: Table No. MJV-4, [6].
[7]: Provided by The Ohio EDU's.
[8]: ([1] x [2]) + ([3] x [4]) + {[5] x [6] x (1 - [7])}.

Table No. MJV-11

Overall Cost of Capital of the US Electric Sample

Panel C: ECAPM (1.5%) Cost of Equity Based on the Long-Term Risk-Free Rate

Company	ECAPM (1.5%) Cost of Equity [1]	5-Year Average Common Equity to Market Value Ratio [2]	Weighted - Average Cost of Preferred Equity [3]	5-Year Average Preferred Equity to Market Value Ratio [4]	Weighted Average Cost of Debt [5]	5-Year Average Debt to Market Value Ratio [6]	The Ohio EDU's's Income Tax Rate [7]	Overall After- Tax Cost of Capital [8]
Cleco Corp	12.9%	0.54	6.0%	0.01	6.1%	0.45	37.1%	8.7%
Consolidated Edison Inc	10.2%	0.58	5.9%	0.01	5.9%	0.41	37.1%	7.5%
Empire District Electric Co/The	10.4%	0.56	6.0%	0.01	6.1%	0.42	37.1%	7.6%
Entergy Corp	10.7%	0.62	6.0%	0.02	6.1%	0.37	37.1%	8.1%
MGE Energy Inc	10.2%	0.74	-	-	5.7%	0.26	37.1%	8.4%
NSTAR	10.4%	0.52	5.9%	0.00	5.9%	0.47	37.1%	7.2%
Pinnacle West Capital Corp	11.4%	0.55	-	-	6.1%	0.45	37.1%	8.0%
PPL Corp	11.2%	0.53	6.0%	0.01	6.1%	0.46	37.1%	7.7%
Southern Co	9.9%	0.63	5.9%	0.01	5.9%	0.36	37.1%	7.6%
Average	10.8%	0.58	6.0%	0.01	6.0%	0.41	37.1%	7.9%

Sources and Notes:
[1]: Table No. MJV-10; Panel A, [6].
[2]: Table No. MJV-4, [4].
[3]: Workpaper #2 to Table No. MJV-11 ; Panel B, [1].
[4]: Table No. MJV-4, [5].
[5]: Workpaper #2 to Table No. MJV-11 ; Panel A, [1].
[6]: Table No. MJV-4, [6].
[7]: Provided by The Ohio EDU's.
[8]: ([1] x [2]) + ([3] x [4]) + {[5] x [6] x (1 - [7])}.

Table No. MJV-11

Overall Cost of Capital of the US Electric Sample

Panel D: CAPM Cost of Equity Based on the Short-Term Risk-Free Rate

Company	CAPM Cost of Equity [1]	5-Year Average Common Equity to Market Value Ratio [2]	Weighted - Average Cost of Preferred Equity [3]	5-Year Average Preferred Equity to Market Value Ratio [4]	Weighted Average Cost of Debt [5]	5-Year Average Debt to Market Value Ratio [6]	The Ohio EDU's's Income Tax Rate [7]	Overall After- Tax Cost of Capital [8]
Cleco Corp	14.2%	0.54	6.0%	0.01	6.1%	0.45	37.1%	9.4%
Consolidated Edison Inc	9.8%	0.58	5.9%	0.01	5.9%	0.41	37.1%	7.3%
Empire District Electric Co/The	10.2%	0.56	6.0%	0.01	6.1%	0.42	37.1%	7.5%
Entergy Corp	10.6%	0.62	6.0%	0.02	6.1%	0.37	37.1%	8.0%
MGE Energy Inc	9.8%	0.74	-	-	5.7%	0.26	37.1%	8.2%
NSTAR	10.2%	0.52	5.9%	0.00	5.9%	0.47	37.1%	7.1%
Pinnacle West Capital Corp	11.8%	0.55	-	-	6.1%	0.45	37.1%	8.2%
PPL Corp	11.4%	0.53	6.0%	0.01	6.1%	0.46	37.1%	7.9%
Southern Co	9.4%	0.63	5.9%	0.01	5.9%	0.36	37.1%	7.3%
Average	10.8%	0.58	6.0%	0.01	6.0%	0.41	37.1%	7.9%

Sources and Notes:
[1]: Table No. MJV-10; Panel B, [4].
[2]: Table No. MJV-4, [4].
[3]: Workpaper #2 to Table No. MJV-11 ; Panel B, [1].
[4]: Table No. MJV-4, [5].
[5]: Workpaper #2 to Table No. MJV-11 ; Panel A, [1].
[6]: Table No. MJV-4, [6].
[7]: Provided by The Ohio EDU's.
[8]: ([1] x [2]) + ([3] x [4]) + {[5] x [6] x (1 - [7])}.

Table No. MJV-11

Overall Cost of Capital of the US Electric Sample

Panel E: ECAPM (1%) Cost of Equity Based on the Short-Term Risk-Free Rate

Company	ECAPM (1%) Cost of Equity [1]	5-Year Average Common Equity to Market Value Ratio [2]	Weighted - Average Cost of Preferred Equity [3]	5-Year Average Preferred Equity to Market Value Ratio [4]	Weighted Average Cost of Debt [5]	5-Year Average Debt to Market Value Ratio [6]	The Ohio EDU's's Income Tax Rate [7]	Overall After- Tax Cost of Capital [8]
Cleco Corp	13.9%	0.54	6.0%	0.01	6.1%	0.45	37.1%	9.3%
Consolidated Edison Inc	10.1%	0.58	5.9%	0.01	5.9%	0.41	37.1%	7.4%
Empire District Electric Co/The	10.4%	0.56	6.0%	0.01	6.1%	0.42	37.1%	7.6%
Entergy Corp	10.8%	0.62	6.0%	0.02	6.1%	0.37	37.1%	8.1%
MGE Energy Inc	10.1%	0.74	-	-	5.7%	0.26	37.1%	8.3%
NSTAR	10.4%	0.52	5.9%	0.00	5.9%	0.47	37.1%	7.2%
Pinnacle West Capital Corp	11.8%	0.55	-	-	6.1%	0.45	37.1%	8.2%
PPL Corp	11.5%	0.53	6.0%	0.01	6.1%	0.46	37.1%	7.9%
Southern Co	9.7%	0.63	5.9%	0.01	5.9%	0.36	37.1%	7.5%
Average	10.9%	0.58	6.0%	0.01	6.0%	0.41	37.1%	7.9%

Sources and Notes:
[1]: Table No. MJV-10; Panel B, [5].
[2]: Table No. MJV-4, [4].
[3]: Workpaper #2 to Table No. MJV-11 ; Panel B, [1].
[4]: Table No. MJV-4, [5].
[5]: Workpaper #2 to Table No. MJV-11 ; Panel A, [1].
[6]: Table No. MJV-4, [6].
[7]: Provided by The Ohio EDU's.
[8]: ([1] x [2]) + ([3] x [4]) + {[5] x [6] x (1 - [7])}.

Table No. MJV-11

Overall Cost of Capital of the US Electric Sample

Panel F: ECAPM (2%) Cost of Equity Based on the Short-Term Risk-Free Rate

Company	ECAPM (2%) Cost of Equity [1]	5-Year Average Common Equity to Market Value Ratio [2]	Weighted - Average Cost of Preferred Equity [3]	5-Year Average Preferred Equity to Market Value Ratio [4]	Weighted Average Cost of Debt [5]	5-Year Average Debt to Market Value Ratio [6]	The Ohio EDU's's Income Tax Rate [7]	Overall After- Tax Cost of Capital [8]
Cleco Corp	13.6%	0.54	6.0%	0.01	6.1%	0.45	37.1%	9.1%
Consolidated Edison Inc	10.3%	0.58	5.9%	0.01	5.9%	0.41	37.1%	7.6%
Empire District Electric Co/The	10.6%	0.56	6.0%	0.01	6.1%	0.42	37.1%	7.7%
Entergy Corp	10.9%	0.62	6.0%	0.02	6.1%	0.37	37.1%	8.2%
MGE Energy Inc	10.3%	0.74	-	-	5.7%	0.26	37.1%	8.5%
NSTAR	10.6%	0.52	5.9%	0.00	5.9%	0.47	37.1%	7.3%
Pinnacle West Capital Corp	11.8%	0.55	-	-	6.1%	0.45	37.1%	8.2%
PPL Corp	11.5%	0.53	6.0%	0.01	6.1%	0.46	37.1%	7.9%
Southern Co	10.0%	0.63	5.9%	0.01	5.9%	0.36	37.1%	7.7%
Average	11.1%	0.58	6.0%	0.01	6.0%	0.41	37.1%	8.0%

Sources and Notes:
[1]: Table No. MJV-10; Panel B, [6].
[2]: Table No. MJV-4, [4].
[3]: Workpaper #2 to Table No. MJV-11 ; Panel B, [1].
[4]: Table No. MJV-4, [5].
[5]: Workpaper #2 to Table No. MJV-11 ; Panel A, [1].
[6]: Table No. MJV-4, [6].
[7]: Provided by The Ohio EDU's.
[8]: ([1] x [2]) + ([3] x [4]) + {[5] x [6] x (1 - [7])}.

Table No. MJV-11

Overall Cost of Capital of the US Electric Sample

Panel G: ECAPM (3%) Cost of Equity Based on the Short-Term Risk-Free Rate

Company	ECAPM (3%) Cost of Equity [1]	5-Year Average Common Equity to Market Value Ratio [2]	Weighted - Average Cost of Preferred Equity [3]	5-Year Average Preferred Equity to Market Value Ratio [4]	Weighted Average Cost of Debt [5]	5-Year Average Debt to Market Value Ratio [6]	The Ohio EDU's's Income Tax Rate [7]	Overall After- Tax Cost of Capital [8]
Cleco Corp	13.3%	0.54	6.0%	0.01	6.1%	0.45	37.1%	9.0%
Consolidated Edison Inc	10.6%	0.58	5.9%	0.01	5.9%	0.41	37.1%	7.7%
Empire District Electric Co/The	10.8%	0.56	6.0%	0.01	6.1%	0.42	37.1%	7.8%
Entergy Corp	11.1%	0.62	6.0%	0.02	6.1%	0.37	37.1%	8.3%
MGE Energy Inc	10.6%	0.74	-	-	5.7%	0.26	37.1%	8.7%
NSTAR	10.8%	0.52	5.9%	0.00	5.9%	0.47	37.1%	7.4%
Pinnacle West Capital Corp	11.8%	0.55	-	-	6.1%	0.45	37.1%	8.2%
PPL Corp	11.6%	0.53	6.0%	0.01	6.1%	0.46	37.1%	7.9%
Southern Co	10.3%	0.63	5.9%	0.01	5.9%	0.36	37.1%	7.9%
Average	11.2%	0.58	6.0%	0.01	6.0%	0.41	37.1%	8.1%

Sources and Notes:
[1]: Table No. MJV-10; Panel B, [7].
[2]: Table No. MJV-4, [4].
[3]: Workpaper #2 to Table No. MJV-11 ; Panel B, [1].
[4]: Table No. MJV-4, [5].
[5]: Workpaper #2 to Table No. MJV-11 ; Panel A, [1].
[6]: Table No. MJV-4, [6].
[7]: Provided by The Ohio EDU's.
[8]: ([1] x [2]) + ([3] x [4]) + {[5] x [6] x (1 - [7])}.

Workpaper #1 to Table No. MJV-11

US Electric Sample

Panel A: Bond Rating Summary

Company	Year End, 2006 [1]	2005 [2]	2004 [3]	2003 [4]	2002 [5]
Cleco Corp	BBB	BBB	BBB	BBB	BBB
Consolidated Edison Inc	A	A	A	A	A
Empire District Electric Co/The	BBB	BBB	BBB	BBB	BBB
Entergy Corp	BBB	BBB	BBB	BBB	BBB
MGE Energy Inc	AA	AA	AA	AA	AA
NSTAR	A	A	A	A	A
Pinnacle West Capital Corp	BBB	BBB	BBB	BBB	BBB
PPL Corp	BBB	BBB	BBB	BBB	BBB
Southern Co	A	A	A	A	A

Sources and Notes:
[1] - [5]: Bloomberg as of April 09, 2007.

Workpaper #1 to Table No. MJV-11

US Electric Sample

Panel B: Preferred Equity Rating Summary

Company	Year End, 2006 [1]	2005 [2]	2004 [3]	2003 [4]	2002 [5]
Cleco Corp	BBB	BBB	BBB	BBB	BBB
Consolidated Edison Inc	A	A	A	A	A
Empire District Electric Co/The	-	-	-	-	BBB
Entergy Corp	BBB	BBB	BBB	BBB	BBB
MGE Energy Inc	-	-	-	-	-
NSTAR	-	-	A	A	A
Pinnacle West Capital Corp	-	-	-	-	-
PPL Corp	BBB	BBB	BBB	BBB	BBB
Southern Co	A	A	A	A	A

Sources and Notes:

[1] - [5]: Preferred equity ratings are assumed equal to the company's bond ratings reported in Workpaper #1 to Table No. MJV-11, Panels A and B.

Workpaper #1 to Table No. MJV-11

US Electric Sample

Panel C: Rating to Yield Conversion

Rating	Bond Yield	Preferred Yield
AA	5.72%	5.76%
A	5.85%	5.85%
BBB	6.11%	6.04%

Sources and Notes:
Bond Yields from Bloomberg as of March 27, 2007.
Preferred Yields from Mergent Bond Record, as of
AA estimated as A - 0.5 * (BBB - A).

Workpaper #2 to Table No. MJV-11

US Electric Sample

Panel A: Bond Yield Summary

Company	Year End, 2006 [1]	2005 [2]	2004 [3]	2003 [4]	2002 [5]	5-Year Weighted Average [6]
Cleco Corp	6.11%	6.11%	6.11%	6.11%	6.11%	6.11%
Consolidated Edison Inc	5.85%	5.85%	5.85%	5.85%	5.85%	5.85%
Empire District Electric Co/The	6.11%	6.11%	6.11%	6.11%	6.11%	6.11%
Entergy Corp	6.11%	6.11%	6.11%	6.11%	6.11%	6.11%
MGE Energy Inc	5.72%	5.72%	5.72%	5.72%	5.72%	5.72%
NSTAR	5.85%	5.85%	5.85%	5.85%	5.85%	5.85%
Pinnacle West Capital Corp	6.11%	6.11%	6.11%	6.11%	6.11%	6.11%
PPL Corp	6.11%	6.11%	6.11%	6.11%	6.11%	6.11%
Southern Co	5.85%	5.85%	5.85%	5.85%	5.85%	5.85%

Sources and Notes:
[1] - [5]: Ratings based on Workpaper #1 to Table No. MJV-11, Panel A and bond yields from Bloomberg as of March 27, 2007.
[6]: {[1] + [2] + [3] + [4] + [5]} / 5.

Workpaper #2 to Table No. MJV-11

US Electric Sample

Panel B: Preferred Equity Yield Summary

Company	Year End, 2006 [1]	2005 [2]	2004 [3]	2003 [4]	2002 [5]	5-Year Weighted Average [6]
Cleco Corp	6.04%	6.04%	6.04%	6.04%	6.04%	6.04%
Consolidated Edison Inc	5.85%	5.85%	5.85%	5.85%	5.85%	5.85%
Empire District Electric Co/The	-	-	-	-	6.04%	6.04%
Entergy Corp	6.04%	6.04%	6.04%	6.04%	6.04%	6.04%
MGE Energy Inc	-	-	-	-	-	-
NSTAR	-	-	5.85%	5.85%	5.85%	5.85%
Pinnacle West Capital Corp	-	-	-	-	-	-
PPL Corp	6.04%	6.04%	6.04%	6.04%	6.04%	6.04%
Southern Co	5.85%	5.85%	5.85%	5.85%	5.85%	5.85%

Sources and Notes:

[1] - [5]: Ratings based on Workpaper #1 to Table No. MJV-11, Panel A are assumed to equal preferred ratings. Preferred equity yields are from Mergent Bond Record, as of March 2007.
[6]: {[1] + [2] + [3] + [4] + [5]} / 5.

The report does not publish yield data for AA-rated preferred equity. Therefore, when there is a AA we assumed:
Yield on AA-rated preferred equity = Yield on A-rated bond - {(1/2) x (Yield on BBB-rated bond - Yield on A-rated bond)}.

Table No. MJV-12

Risk Positioning Cost of Equity at The Ohio EDU's Capital Structure

US Electric Sample

Using Value Line Betas

	Overall Cost of Capital [1]	The Ohio EDU's's Regulatory % Debt [2]	The Ohio EDU's's Cost of Debt [3]	The Ohio EDU's's Income Tax Rate [4]	The Ohio EDU's's Regulatory % Equity [5]	Estimated Return on Equity [6]
Using Long-Term Risk-Free Rates:						
CAPM using Value Line Betas	7.7%	0.51	6.1%	37.1%	0.49	11.8%
ECAPM (0.50%) using Value Line Betas	7.8%	0.51	6.1%	37.1%	0.49	11.9%
ECAPM (1.50) using Value Line Betas	7.9%	0.51	6.1%	37.1%	0.49	12.1%
Using Short-Term Risk-Free Rates:						
CAPM using Value Line Betas	7.9%	0.51	6.1%	37.1%	0.49	12.1%
ECAPM (1%) using Value Line Betas	7.9%	0.51	6.1%	37.1%	0.49	12.2%
ECAPM (2%) using Value Line Betas	8.0%	0.51	6.1%	37.1%	0.49	12.4%
ECAPM (3%) using Value Line Betas	8.1%	0.51	6.1%	37.1%	0.49	12.5%

Sources and Notes:
[1]: Table No. MJV-11; Panels A - G, [8].
[2]: Provided by The Ohio EDU's.
[3]: Based off an BBB rating, as provided by The Ohio EDU's. Yield from Bloomberg as of March 27, 2007.
[4]: Provided by The Ohio EDU's.
[5]: Provided by The Ohio EDU's.
[6]: {[1] - ([2] x [3] x (1 - [4]))} / [5].

Company Exhibit 8-B

BEFORE THE

PUBLIC UTILITIES COMMISSION OF OHIO

In the Matter of the Application of Ohio Edison Company, The Cleveland Electric Illuminating Company, and The Toledo Edison Company for Authority to Increase Rates for Distribution Service, Modify Certain Accounting Practice And for Tariff Approvals	))))))	**Case No. 07-551-EL-AIR** **Case No. 07-552-EL-ATA** **Case No. 07-553-EL-AAM** **Case No. 07-554-EL-UNC**

SUPPLEMENTAL TESTIMONY OF

MICHAEL J. VILBERT

ON BEHALF OF

OHIO EDISON COMPANY
THE TOLEDO EDISON COMPANY, AND
THE CLEVELAND ELECTRIC ILLUMINATING COMPANY

__ Management policies, practice, and organization

__ Operating income

__ Rate base

__ Allocations

X Rate of return

__ Rates and tariffs

__ Other – Cost of Service

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I. INTRODUCTION AND SUMMARY

Q1. Please state your name and address for the record.

A1. My name is Michael J. Vilbert. My business address is The Brattle Group, 44 Brattle Street, Cambridge, MA 02138, USA.

Q2. Did you previously file testimony in this proceeding?

A2. Yes, I filed Direct Testimony ("Vilbert Direct") on behalf of Ohio Edison Company ("OE"), The Cleveland Electric Illuminating Company ("CEI") and The Toledo Electric Company ("TE"), (collectively, the "Companies" or the Ohio Electric Distribution Utilities ("Ohio EDUs")) in June 2007 regarding the return on equity that the Ohio EDUs should be allowed an opportunity to earn on the equity financed portion of their rate bases. For my professional qualifications, please see the detailed resume attached to my Direct Testimony.

Q3. What is the purpose of your supplemental testimony?

A3. I have been asked by the Companies to provide supplemental testimony that responds to the Staff of the Public Utilities Commission of Ohio's Report ("Staff Report") regarding the rate of return findings.[1] Specifically, I address the Companies' Objections III.1, III.5, III.6, III.7, III.8, III.9, III.10, and III.11. Unless otherwise indicated, my testimony applies to each of the Staff Reports on behalf of all of the Companies.

Q4. Please summarize your supplemental testimony.

A4. This supplemental testimony first addresses the importance of taking financial risk into consideration. The Staff Report underestimates the cost of equity for the Ohio EDUs because it ignores the fact that the Ohio EDUs are more leveraged, i.e., have more financial risk, than the comparable companies used in the Staff Report. Second, the Staff Report suggests relying on the consolidated capital structure of FirstEnergy rather than the capital structures of the Ohio EDUs. This again underestimates the cost of equity for

[1] A Report by the Staff of the Public Utilities Commission of Ohio, FirstEnergy Cleveland Electric Illuminating Company, dated December 4, 2007; A Report by the Staff of the Public Utilities Commission of Ohio, FirstEnergy Ohio Edison Company, dated December 4, 2007, and A Report by the Staff of the Public Utilities Commission of Ohio, FirstEnergy Toledo Edison company, dated December 4, 2007 (jointly "Staff Report").

the Ohio EDUs unless an adjustment is made for differences in capital structure. Third, some of the Staff Report's comparable companies also have significantly different business risks (they are engaged in oil and gas exploration rather than utility activities) and substantially different capital structures. Further, the Staff Report eliminates companies with beta estimates above 1.0 from consideration, which leads to a bias in the sample selection. Specifically, comparable companies should be selected based on their inherent business risk characteristics not based on parameters that are a consequence of the underlying business risk in combination with financial leverage. Two companies with the identical business risk from their operations can have very different betas for their equity claims. Fourth, the Staff Report's implementation of its cost of equity estimation models is problematic. Finally, and importantly, the Staff Report "has explicitly *not* considered any additional risk factors relating to provision of electric generation service ..."[2] Because the pending legislation in Ohio may substantially change the competitive landscape in the state[3] for the already de-regulated Ohio EDUs, failing to analyze additional risk factors leads to an underestimation in the cost of equity for the Ohio EDUs. Specifically, the uncertainty about the final form of the legislation and its impact on the Companies' ability to fully recover all costs from the Standard Service Offer ("SSO") imposes additional risks on the Companies and its investors.

II. FINANCIAL RISK AND CAPITAL STRUCTURE

Q5. What does this section of your supplemental testimony address?

A5. This section, which addresses Companies' Objection III.7, first discusses financial risk and how it is properly measured by reference to a company's market value capital structure, not its book value capital structure. It then explains how the ATWACC approach addresses the issue of differences in financial risk among the sample companies and relative to the Ohio EDUs. In Section B, it discusses the capital structure of the Ohio EDUs and explains the treatment of the Ohio EDUs under the stand-alone principle.

[2] Staff Report; Cleveland Electric Illuminating Company, p. 16. The identical statement appears in the other two Staff Reports.

[3] See, for example, Ohio SSB 221: Deregulation, Regulation and Creditworthiness, December 14, 2007.

A. FINANCIAL RISK IS IMPORTANT

Q6. Please define financial risk.

A6. Recall that business risk is the risk of a company's assets if the company used no debt to finance the assets. Financial risk is the additional risk imposed on equity holders from the use of debt when a company finances its assets. Changing a company's capital structure by replacing equity with debt increases the risk that remaining equity holders bear. This is because debt holders are paid a fixed payment stream first before any payments are available to equity holders, but the total risk of the underlying assets is unchanged by the refinancing. As the percentage of equity in the capital structure shrinks, more of the residual risk is left to be shouldered by a smaller equity base.[4] (The interaction of capital structure and financial risk are discussed in my direct testimony in Section II.B and C.)

Q7. Did the Staff Report consider financial risk?

A7. No. The Staff Report submitted on December 4, 2007 did not discuss the difference in financial risk between the comparable companies and the Ohio EDUs nor did the Staff Report take financial risk into consideration in arriving at its cost of equity estimates. Because the Staff Report's sample companies have substantially higher equity percentages in their capital structures on average than do the Ohio EDUs, ignoring the differences in leverage between the comparable companies and the Ohio EDUs substantially underestimates the cost of equity for the Ohio EDUs.

Q8. Why is consideration of financial risk important?

A8. If differences in financial risk are not considered, the rate of return allowed for the regulated company may not fully compensate equity holders for the risks that they in fact face. For example, two otherwise identical companies with different capital structures will have different costs of equity.

Q9. How did the Vilbert Direct take financial risk into account?

A9. In my direct testimony in Section II.C, I used the ATWACC approach to compensate for differences in financial risk. The fundamental premise of the ATWACC approach is that

[4] Vilbert Direct, p.4.

the risk of the assets of a company is divided between the debt holders and equity holders, *i.e.*, the company's investors.[5] This reflects perhaps the most basic and fundamental concept in corporate finance theory and practice. When estimating the cost of equity using standard models, the estimated cost of equity reflects *both* the business risk and the financial risk of the sample company, based upon the sample company's *market value* capital structures. In particular, note that if the market value capital structures were different, the estimated cost of equity would be different as well because of the differences in financial risk.

The ATWACC approach takes the effect of capital structure into account and allows computation of the market cost of equity for any capital structure within a broad range.[6] The details of this approach are discussed in Section II.C of my direct testimony, but briefly the ATWACC approach estimates the overall weighted-average cost of capital of the sample companies. The overall cost of capital estimate captures the market cost of the underlying business risk in a single number. Unlike the cost of equity which varies with capital structure, even for otherwise identical companies, the overall cost of capital does not. If a firm with 60 percent equity and an 8 percent overall cost of capital were to refinance itself into a firm with 50 percent equity instead, leaving assets unchanged, then its cost of equity would rise, but the overall cost of capital would stay at 8 percent. This approach therefore enables an "apples to apples" comparison among the sample companies with similar business risk but very different capital structures. This is why the ATWACC approach is the best way of approaching the cost of equity estimation problem – it is the only cost common to all companies of similar business risk and can therefore provide the only reliable anchor point.

B. The Relevant Capital Structure is That of the Utility

Q10. What capital structure does Staff Report suggest?

A10. Staff Report suggests

[5] Preferred equity is ignored for simplicity, but the principles do not change with the addition of preferred stock to the capital structure.

[6] That is, a capital structure that does not include extreme leveraging or very little debt.

> [s]ubstituting the parent Company's capital structure for the wholly owned subsidiary is legitimate as parent and subsidiary capital structures would be equivalent under a regimen of efficient capital budgeting, and capital costs would not be separated for each corporate entity.[7]

In other words, the Staff Report relies on the capital structure of FirstEnergy Corp. as opposed to the capital structures of the Ohio EDUs.

Q11. How do you respond to this recommendation?

A11. Entities with very similar business risks will have overall costs of capital that are the same, but efficient capital budgeting does not imply that the capital structures of the parent and subsidiary companies would be the same. In support of the Companies' Objection III.1, and as noted in the Vilbert Direct in Section II.C, the ATWACC (After Tax Weighted Average Cost of Capital) – a company's overall cost of capital -- is constant over a broad range of capital structures. However, the cost of equity is not. Therefore, it is incorrect to rely on the parent's capital structure without an adjustment for the additional risk inherent in that capital structure compared to the capital structure of the Ohio EDUs.

The consolidated capital structure of FirstEnergy reflects the choices of the parent company regarding how to finance FirstEnergy's consolidated assets which consist not only of the Ohio EDUs' regulated assets but also of non-regulated generation and other assets. Therefore, the business risks of these assets may well be different from the risks of the Ohio EDUs' assets. Consequently, a capital structure reflective of the Ohio EDUs is preferable because it more accurately reflects the decisions on how to finance the Companies' distribution assets rather than the aggregate of all of the assets of the parent and all of its subsidiaries. In addition, the required return on equity depends on the risk of the investment and not on the parent's financing costs. The cost of equity for the Companies should reflect the risk of the underlying assets and be comparable to the return that is achievable on investments of comparable risk.

[7] Staff Report, p. 15.

Q12. What about the Staff Report's reference to a "regimen of efficient capital budgeting" in the above quote? Does the Staff Report justify the use of the parent company's capital structure?

A12. No. This rationale of efficient capital budgeting only makes sense in the context of an overall cost of capital approach, i.e., the ATWACC approach. Efficient capital budgeting means that the overall rate of return for investments of comparable business risk is the same. If differences in capital structure were not considered, the overall rate of return in the comparable investments would not be the same and capital budgeting would be inefficient. In other words, the Staff Report's justification relies implicitly on a constant overall cost of capital for entities with similar business risk. Moreover, taking into account its non-regulated businesses and other operations, FirstEnergy as a whole may well face business risks that differ from just those of the Ohio EDUs. I would expect management to make discretionary, marginal investments in the Ohio EDUs and other subsidiaries based on the specific subsidiary's risk/return tradeoff taking into account the business as well as the financial risk of the entity. This makes the allowed return on equity for the Ohio EDUs a critical component of the parent company's capital budgeting analysis.

Q13. Why would it be inefficient to disregard differences in capital structure for capital budgeting purposes?

A13. Capital budgeting is the process of allocating investment funds to projects. One test of the process is to insure that the rate of return expected on the investment is equal to or greater than the risk-adjusted required return on the investments. If differences in capital structures are not considered, projects of similar risk may be incorrectly accepted or rejected. In other words, projects cannot be made more desirable by altering the capital structure used to finance the projects. If that were true, we would simply finance all projects with "cheap" debt, but of course we know that at some point we can raise no more debt. This is the standard financial theory that underlies the reference to efficient capital budgeting.[8]

[8] Thomas E. Copeland and J. Fred Weston, *Financial Theory and Corporate Policy*, Reading, Massachusetts: Addison-Wesley Publishing Company, 2nd Edition, pp. 17-45.

Q14. Have you reviewed the Staff Report's recommendation for the capital structure for Duke Energy of Ohio?

A14. Yes. The report was filed on December 20, 2007, and it seems to accept the concept inherent in the Companies' recommendation here to use a capital structure reflective of the Ohio EDUs. The Staff appears to have changed its view regarding the appropriate capital structure for a regulated, wholly-owned subsidiary of a much larger parent company. Specifically, the Staff Report for Duke Energy of Ohio says

> The Applicant, Duke Energy Ohio, is a wholly-owned subsidiary of Duke Energy Corporation which is a publicly traded, public utility holding company. The Staff used the capital structure of Duke Energy Ohio, from Applicant's D-1A, in the rate of return determination.[9]

That approach, if adopted in this proceeding, would be consistent with use of the representative capital structure of the Ohio EDUs as was filed by the Companies.

III. COMPARABLE COMPANIES MUST BE COMPARABLE

Q15. Are there any issues with the comparable companies relied upon in the Staff Report?

A15. Yes. This portion of my testimony is in support of Companies' Objection III.5. The selected "comparable" companies include companies that operate in a different industry or substantially different regulatory environment. More troublesome, however, is the choice to drop any company with a reported *Value Line* beta greater than 1.0 without any consideration of that company's characteristics while at the same time leaving in companies with relatively low betas.

Q16. How was the comparable group of companies selected in the Staff Report?

A16. According to the Staff Report and supplemented by its workpapers,[10] Staff looked at publicly traded utilities followed by *Value Line*. The comparable sample companies were selected based on several criteria including the following: (1) *Value Line* beta not above 1.0, (2) market capitalization greater than $1.5 billion, (3) retail revenue ratio greater than

[9] Staff Report, Duke Energy of Ohio, December 20, 2007, p. 13.

[10] Staff Report, Cleveland Electric Illuminating Company, p. 15 and Workpaper p. 2 of 274.

75 percent,[11] (4) pays dividends, (5) investment grade bond rating by Fitch Ratings, and (6) screening criteria pertaining to customers, customer mix, volumes sold, generated, or purchased, etc.[12]

Q17. Please explain your concerns with the Staff Report's "comparable" companies?

A17. First and foremost, companies should be selected for inclusion in the sample because they are of comparable business risk. Recall that business risk is the risk of the assets if financed entirely by equity. The Staff Report's sample includes companies from several of *Value Line's* industry groups: Natural Gas Utility (4), Electricity (16), and Natural Gas Diversified (3). Some of these companies face risks and/or regulatory circumstances that differ substantially from those of the Companies. As such, there is no reason to believe they would have a similar cost of capital. Among the sample companies are three companies: Energen Corp., National Fuel Gas Co., and Questar Corp., classified by *Value Line* as being in the Natural Gas Diversified industry. These entities own significant natural gas pipelines, exploration and production facilities which face a different regulatory environment than do electric utilities or gas distribution companies and thus differ in their business risk. This is particularly true for Energen and Questar, who report generating 85% and 80%, respectively, of their net incomes from oil and gas exploration, marketing, and other non-regulated activities.[13] Moreover, even assuming for the sake of argument that these companies did have similar costs of capital, there are serious comparability problems stemming from differences in financial risks. These entities have a significantly higher equity thickness measured at both book and market values than do electric utilities or gas LDCs. While these companies have book value capital structures with 65-70% equity and market value capital structures with approximately 80% equity,

[11] This criterion seems to be the ratio of revenues resulting from the provision of retail energy services to total revenues for the sample company, although the workpapers are not clear on this point.

[12] Staff Report, p. 15. The full selection criteria are not listed there but have been retrieved from Staff Workpapers. However, the selection criteria are difficult to extract fully from the workpapers due to the quality of the copies and due to the vague nature of the footnotes.

[13] According to the companies' 2006 annual reports, Energen Corporation derives 85% of its net income from non-regulated oil and gas exploration and production while Questar derives 80% of its net income from oil and gas exploration and production, energy trading, and other non-regulated activities. National Fuel Gas derives the majority (about 61%) of its net income from regulated activities in the pipeline, storage, and utility industries with about 35% originating from oil and gas exploration and production.

the average electric utility has a much lower equity thickness measured at book value or at market value. Therefore, without an explicit adjustment for the difference in capital structures, they are not comparable to the Ohio EDUs. Table 1 below calculates the overall cost of capital that results from the Natural Gas Diversified companies while Table 2 converts the overall after-tax cost of capital into a cost of equity for the Ohio EDUs at their requested regulatory capital structure.

Table 1: Overall After-Tax Cost of Capital of Natural Gas Diversified Companies

Company*	DCF Cost of Equity [1]	Market Value Equity Ratio [2]	Cost of Debt [3]	Market Value Debt Ratio [4]	The Ohio EDU's Income Tax Rate [5]	Overall After-Tax Cost of Capital [6]
Energen Corp	7.9%	0.86	6.1%	0.14	37.1%	7.3%
Questar Corp	8.0%	0.89	5.9%	0.11	37.1%	7.5%
National Fuel Gas Co	9.3%	0.79	6.1%	0.21	37.1%	8.1%
Full Sample Average	8.4%	0.84	6.0%	0.16	37.1%	7.6%
Subsample Average	7.9%	0.87	6.0%	0.13	37.1%	7.4%

Sources and Notes:
[1]: Staff Report, Schedule D-1.2., page 2 of 2.
[2],[4]: Workpaper #1 to Table 2, Panel's A-C.
[3]: Direct Testimony, Workpaper #2 toTable No. MJV-11, Panel A, [6].
[5]: Provided by the Ohio EDUs.
[6]: ([1] x [2]) + ([3] x [4]) x (1 - [5])}.
There are approximately 23 diversified companies listed in Value Line. Staff's sample includes only these three.

Note: Full sample includes Energen, Questar, and National Fuel Gas. Sub-sample consists of Energen and Questar.

Table 2: Cost of Equity for Ohio EDUs corresponding to the ATWACC of the Natural Gas Diversified Companies

	Overall Cost of Capital [1]	The Ohio EDU's Regulatory % Debt [2]	The Ohio EDU's Cost of Debt [3]	The Ohio EDU's Income Tax Rate [4]	The Ohio EDU's Regulatory % Equity [5]	Estimated Return on Equity [6]
Multi-Stage DCF*	7.6%	0.51	6.1%	37.1%	0.49	11.6%
Multi-Stage DCF**	7.4%	0.51	6.1%	37.1%	0.49	11.1%

Sources and Notes:
[1]: Table 2.
[2]: Provided by the Ohio EDUs.
[3]: Based off a BBB rating, as provided by the Ohio EDU's. Yield from Bloomberg as of March 27, 2007.
[4]: Provided by the Ohio EDUs.
[5]: Provided by the Ohio EDUs.
[6]: {[1] - ([2] x [3] x (1 - [4]))} / [5].
*Including Energen Corp, Questar Corp, and National Fuel Gas Co.
**Including Energen Corp and Questar Corp.

Q18. What are the implications of Table 1 and Table 2?

A18. Even if the Natural Gas Diversified companies had the same business risk as the Ohio EDUs (as is the implication to be drawn from the Staff Report's inclusion of them within

its "comparable" group of companies), the results shown in Table 2 and Table 3 would indicate that the Ohio EDUs should be allowed a return on equity in the range of 11¼% to 11¾%, which is well above the DCF estimates which range from 7.9% to 9.3% as reported in the Staff Report.[14] This illustrates why the Staff Report substantially underestimates the cost of equity when ignoring differences in financial risk.

Q19. You mentioned other concerns regarding the screening of these companies as well. Could you please elaborate?

A19. Yes. After companies of comparable business risk have been selected, the Staff screens out companies with characteristics that the Staff believes may bias the cost of equity estimates. However, it is a fundamental scientific principle that the screening process should not drive the results themselves. In particular, sample companies should not be screened out because they may have too high an estimated cost of equity. For example, screening out any company with a *Value Line* beta above 1.0 effectively means that the company was excluded because its estimated cost of equity would be too high and not because of fundamental analysis of any other characteristics of the company.

Q20. Why is it inappropriate to exclude companies with beta greater than 1.0?

A20. It is inappropriate to exclude companies with high betas if the companies have comparable risks to those of the Companies, and it is inappropriate to automatically delete high-beta companies when low-beta companies are not also deleted. In this case, American Electric Power, Dominion Resources Inc.[15] and Edison International had *Value Line* betas above 1.0 but met all of the other criteria specified in the Staff Report.

For example, these three companies are publicly traded entities on the New York Stock Exchange, reported by *Value Line* as electric utilities, have investment grade bond ratings, pay dividends, have market capitalizations greater than $1.5 billion, operate in the continental U.S., and have data available for analysis. Including these three companies in the sample would increase the Staff Report's CAPM estimated cost of equity by about 25

[14] See Schedule D-1.2, page 2 of 2.

[15] Dominion Resources failed the criterion that gas operating income to gas revenue be >= 5%, but in the context of a rate case for an electric distribution company, the relevance of this criterion is questionable.

basis points because the average beta increases from about 0.85 to about 0.89. A summary of the revised Staff Report's estimates is provided in Table 1 below.

Table 3

Staff CAPM Methodology	
Risk-free Rate	4.85%
MRP	6.50%
Average Value Line Beta	0.85
Return on Equity	10.39%

Sources and Notes:
Reports by the Staff of the Public Utilities Commission of Ohio.

Staff CAPM Methodology - Revised	
Risk-free Rate	4.85%
MRP	6.50%
Average Value Line Beta (Revised)	0.89
Return on Equity	10.62%

Sources and Notes:
Reports by the Staff of the Public Utilities Commission of Ohio.
Workpapers on Sample Selection of the Commission's Staff.

As noted above, the main problem with the exclusion of companies with betas above 1.0 is that the criterion drives the results whereas the purpose of sample selection criteria is to ensure that the sample companies and the target utility or utilities are of comparable business risk. The selection of sample companies should be based on the risk characteristics of the underlying assets – not on a measure, *e.g.,* beta, of the company's cost of capital.

Q21. Do you have any other concerns with the comparability of the Staff's proxy group?

A21. Yes. As noted above, the Staff Report does not consider differences in financial risk so even if the sample companies were of comparable business risk, their estimated cost of equity would not in general be appropriate for the regulated company. Also importantly, the Staff Report does not consider other risk factors that may affect the cost of equity. For example, many of the sample companies do not have a POLR obligation. This is a significant factor that must be considered when extrapolating results from the proxy group to the Ohio EDU's.

IV. IMPLEMENTATION OF THE DCF AND CAPM METHODOLOGIES

Q22. Please discuss Staff Report's implementation of the CAPM.

A22. This area of my testimony addresses Companies' Objection III.8. The Staff Report and the Vilbert Direct both relied on *Value Line* reported betas to apply to their selected comparable companies and both used a similar market risk premium of 6.5%.

However, the Staff Report did not consider a version of the CAPM that relies upon short-term interest rates. Short-term rates currently are very nearly the same as long-term interest rates, which is another way of saying that the yield curve is nearly flat. The short-term version of the CAPM provides additional information on the cost of capital for the sample companies. In this case, the short-term version is indicating that the cost of capital is higher than when it is estimated using the long-term version of the model. This provides one more reason that the allowed rate of return on equity should be set at the upper end of the range of estimates. In addition, as to determining the risk-free rate, Staff took the average of the yield on 10-year and 30-year Government bonds over a period of 52 weeks. Because the intent is to estimate the cost of equity going forward, the use of the average risk-free rate over 52-weeks seriously weakens one of the strengths of the model, i.e., that changes in interest rates are reflected in the cost of equity estimates. The data from as long as a year ago would be representative of today's environment only by coincidence. An average over a shorter period is much more likely to be representative of the cost of capital in the market. For example, I use an average bond yield over a period of 15 trading days (about 3 weeks) consistent with the time period the cost of equity models were estimated.[16] While the current difference between the 13-week average yield and the 52-week average yield is less than 10 basis points at this time, the procedure is nonetheless unreliable irrespective of the current outcome.

Nor did the Staff Report adjust for the fact that the CAPM is well known to underestimate (overestimate) the cost of equity for companies with betas less than (greater than) 1.0.[17] Additionally, by using an average beta for all of the companies in

[16] See Vilbert Direct, Table No. MJV-9.

[17] A matter compensated for with the use of the Empirical Capital Asset Pricing Model (ECAPM) as discussed in detail in the Vilbert Direct.

the sample, the Staff Report loses the ability to distinguish differences in financial risk among the sample companies. A company's estimated beta reflects both the business and financial risk of the company so valuable information is lost when using an average beta. In contrast, the use of the ATWACC approach captures both the business and financial risk of the sample companies so that the companies can be compared on a comparable basis.

Moreover, as discussed above, a significant problem inherent in the Staff Report's implementation of the CAPM is the exclusion of companies simply because they have a higher cost of capital than other sample companies. In this case, the omission of companies with a beta estimate above 1.0 is wrong.

Q23. Please describe the Staff Report's implementation of the DCF model.

A23. This portion of my testimony addresses Companies' Objection III.9. The DCF methodology used in the Staff Report is described as a so-called non-constant growth rate DCF or multi-stage DCF model. During the first five years, dividend and earnings are assumed to grow at a company's specific rate derived from forecasts of securities analysts. From year 25 onwards, the growth rate is assumed to equal an economy-wide GNP growth rate while the growth rates during years six to 24 linearly transition from the company specific rate to the economy-wide rate. Further, the Staff Report relies on company specific growth rates from several sources: Reuters, MSN, Yahoo, and various *Value Line* estimates. The relied-upon growth rate for each company is the average of the growth estimates from these four data sources. The economy-wide rate is calculated as the average of the U.S. GNP growth over the period 1929 to 2005.

Q24. Are there problems with the implementation of the DCF model in the Staff Report?

A24. Yes. There are several problems with the Staff Report's described implementation of the multi-stage DCF model. First, Staff Report's model is an annual version of the multi-stage DCF model, which fails to recognize that dividends are paid quarterly. The result is a downward bias in the cost of equity estimates because the dividend used in the annual model is calculated as the sum of the most recent four quarterly dividends instead of "annualizing" the most recent quarterly dividend by multiplying the most recent dividend by 4. The DCF model is derived using the assumption that dividends grow at a constant

rate. To the extent that dividends have increased over the most recent four quarters, the current dividend will be higher than the 4-quarter average. Moreover, the current stock price will reflect the fact that the current quarterly dividend is higher. Failing to recognize that the dividend has increased results in a mismatch between the stock price and the dividend in the model. As a test on the effect of this issue, I have replaced the sum of the dividend over the last four quarters with the annualized current dividend in the Staff Report's sample and replicated the Staff Report's DCF model. The average estimated return on equity for the sample increases by about 10 bps.

Second, the analysts' forecasts growth rates provided by Reuters, MSN, and Yahoo overlap. In other words, some individual analyst's forecasts may be counted more than once in the average upon which the Staff Report relies. The reliance on several sources does not necessarily provide additional information and is likely to lead to an unknown bias in the estimated growth rates. For example, if an individual analyst's forecast which is either very high or very low is included in each source, the impact of that estimate is multiplied by the number of sources used, whereas an analyst reported in only one source gets less weight. The solution is to rely upon one source of analyst forecasts as is done in the Vilbert Direct. [18]

Finally, the stock price used in the model is a 52-week average price. The use of such a long historical period obviates one of the primary advantages of the DCF model, i.e., that it is forward looking. Prices over a full calendar year cover the payment of at least four quarterly dividends and represents stale information. The estimated returns on equity will be too high if prices have generally been increasing or be too low if prices have generally decreased. In either case, the estimated cost of equity is not as accurate as it would be by relying on a shorter period to determine the initial price for use in the model.

[18] This problem does not arise in the Vilbert Direct's application of the model because only the average of the *Value Line* and Bloomberg analyst forecasts enters the calculation.

Q25. You have criticized the use of a 52-week average stock price in the DCF model. Does the use of an average price over a period of time avoid potential instability of the DCF estimates based upon spot stock prices?

A25. Yes, but the issue is not whether to use an average price over a period of time, but how long a period is reasonable. In my direct testimony, I use the average price over a period of 15 trading days (about a three week period) to avoid the potential problems with spot prices. In my judgment, that is preferable to a 52-week average which is unnecessarily long and is likely to lead to less accurate estimates of the cost of equity for the sample companies.

V. RISK, RETURN AND THE RELEVANT RETURN ON EQUITY

Q26. What topics do you cover in this section?

A26. First, I discuss additional risk factors facing the Ohio EDUs that the Staff Report did not consider. Second, I discuss recent legislative initiatives that will affect the Companies and investors' perceptions of risk - - hence the required cost of capital. Third, I discuss how the additional risk factors and recent developments in legislative initiatives must be taken into account in determining the cost of capital for the companies. Specifically, if the Ohio EDUs face asymmetric risk, then the Companies would not expect to earn their cost of capital on average.[19] This portion of my testimony addresses Companies' Objections III.6, III.10, and III.11.

Q27. Please elaborate on your first point regarding additional risk factors.

A27. Page 16 of the Staff Report reads:

> The Staff has explicitly not considered any additional risk factors relating to provision of electric generation service, inasmuch as FirstEnergy's proposed auction plan is designed to relieve the Company of such risk.

From this quote it is clear that the Staff Report did not consider additional risk factors. In doing so, the Staff Report failed to take into consideration whether the Companies' risk factors were comparable to those faced by the companies in the sample.

[19] See the Vilbert Direct pp. 9-10 for additional explanations.

It is important to note that the Ohio EDUs face some unique risk factors. For example, the Ohio EDUs have an obligation to serve as Providers of Last Resort ("POLR") in Ohio. If, for any reason, the Ohio EDUs do not expect to recover fully the costs of this obligation, then the Companies face an additional and asymmetric risk - - asymmetric because they would not expect to over-recover but may under recover the costs of providing the service. In addition, the outcome of the auction proposed by FirstEnergy is uncertain.[20] I am advised by counsel for the Companies that this is a proposal that has been filed with the Commission but has not been approved. Moreover, it is unknown when or whether the proposal may be approved by the Commission as filed or whether it will be modified in some way. I am further advised that no schedule for further proceedings on the proposal has yet been established. The proposal includes a three-year rate-increase phase-in if the auction results in prices that would increase residential rates by more than 15%.[21] The delay in recovery of costs imposes a cost on the Ohio EDUs and makes full recovery more uncertain.

Q28. Above you stated that legislative initiatives in Ohio likely will affect the Ohio EDUs and their investors. Please explain the relevant portions of the legislation.

A28. Currently, the Ohio legislature is considering legislation that may affect competition in Ohio. The current version of the bill (SSB 221, passed by the Senate) delays the adoption of a market-based process to procure power supply in Ohio. However, the bill has yet to emerge from the House of Representatives and may undergo revisions not only in that legislative chamber but in subsequent conference with the Senate. The bill likely would impact the Ohio EDUs substantially, as it may delay or (partially) abandon competition in Ohio.[22] According to FitchRatings, the current bill

> proposes two choices under the standard service offer (SSO): 1) a quasi cost-of-service electric security plan (ESP); and 2) a market rate option, under which the utility's SSO prices are periodically determined through an open, competitive bidding process, subject to numerous restrictions. Fitch believes

[20] FirstEnergy would procure supply for the Ohio EDUs.

[21] Energy Outlook, Ohio Market Update, July 31, 2007.

[22] The Ohio EDUs no longer own generation.

> that the restrictions imposed on the market rate option render this option unworkable as proposed ...[23]

In addition, the bill contains provisions regarding renewable standards, energy efficiency, ownership of generation, and other measures impacting utilities.[24]

Q29. How might this legislation affect the Ohio EDUs?

A29. First, because the legislation is currently under consideration and the final outcome is uncertain, the uncertainty adds risk to the Companies' operating environment. Second, the Ohio EDUs, pursuant to deregulation, divested their generation assets, so that a return to a "quasi" cost-of-service model may put them at a disadvantage compared to integrated electric utilities. Many of the companies included in the Staff Report's group of comparable companies are integrated electric utilities or located in jurisdictions that currently have no legislative efforts that might change or restructure their business environment with respect to competition and regulation. Therefore, this is a risk faced by the Ohio EDUs over and above that of the companies in the comparable sample. Third, if and when whatever proposed legislation is enacted into statute, there will still be a great deal of uncertainty surrounding the regulatory implementation of the statute's provisions. In general, investors dislike uncertainty and require a higher return as compensation for the risk inherent in such uncertainty. The Staff Report did not take these factors into account and therefore underestimated the Companies' cost of equity.

Q30. Based on the discussion above, what are your comments on Staff Report recommended range of 10.06% to 11.09% for return on equity?

A30. Based on the discussion above, the uncertainty about Ohio energy legislation, the possible changes in the competitive environment in Ohio, the Ohio EDUs' obligations to provide Standard Service Offer (or POLR), it is vital that the Ohio EDUs be capable of attracting capital on reasonable terms. The costs of underestimating the true cost of equity are often greater than overestimating it. An inadequate allowed rate of return on equity can deter capital investment particularly in a situation where access to capital

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[23] FitchRatings, Ohio SSB 221: Deregulation, Reregulation and Creditworthiness, December 14, 2007. The assessment of risk, by investors and financial analysts -- and hence the determination of the required return and cost of capital -- is based upon the information, such as this report, which is published and available to the financial community.

[24] See, FitchRatings, *Op. Cit.*

markets may be more limited or more expensive than in the relatively recent past due to the effects of the sub-prime mortgage crisis. In situations where the regulated entity faces greater risks on average than the sample as well as possible asymmetric risk, it is important to look towards the upper end of the reasonable range. In this instance, the Staff Report estimates a range of 10.06% to 11.09%[25] compared to the estimated range of 11¼ to 12¼ percent in my direct testimony.[26] Because the Staff Report does not take the Ohio EDUs financial risk and other risk factors into account and because some of the sample companies and estimation procedures may bias Staff Report' cost of equity estimates downward, I continue to believe that a reasonable return on equity for the Ohio EDUs is in the range of 11¼ to 12¼ percent.

Q31. Does this conclude your Supplemental Testimony?

A31. Yes.

[25] Staff Report, Schedule D-1.1.

[26] Vilbert Direct, p. 5

Company Exhibit 8-C

BEFORE THE

PUBLIC UTILITIES COMMISSION OF OHIO

In the Matter of the Application of Ohio Edison Company, The Cleveland Electric Illuminating Company, and The Toledo Edison Company for Authority to Increase Rates for Distribution Service, Modify Certain Accounting Practice And for Tariff Approvals	))))))	**Case No. 07-551-EL-AIR** **Case No. 07-552-EL-ATA** **Case No. 07-553-EL-AAM** **Case No. 07-554-EL-UNC**

REBUTTAL TESTIMONY OF

MICHAEL J. VILBERT

ON BEHALF OF

OHIO EDISON COMPANY
THE TOLEDO EDISON COMPANY, AND
THE CLEVELAND ELECTRIC ILLUMINATING COMPANY

__ Management policies, practice, and organization

__ Operating income

__ Rate base

__ Allocations

X Rate of return

__ Rates and tariffs

__ Other – Cost of Service

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I. INTRODUCTION AND SUMMARY

Q1. Please state your name and address for the record.

A1. My name is Michael J. Vilbert. My business address is The Brattle Group, 44 Brattle Street, Cambridge, MA 02138, USA.

Q2. Did you previously file testimony in this proceeding?

A2. Yes, I filed Direct Testimony[1] ("Vilbert Direct") on behalf of Ohio Edison Company ("OE"), The Cleveland Electric Illuminating Company ("CEI") and The Toledo Electric Company ("TE"), (collectively, the "Companies" or the Ohio Electric Distribution Utilities ("Ohio EDUs")) in June 2007 regarding the return on equity that the Ohio EDUs should be allowed an opportunity to earn on the equity financed portion of their rate bases. I filed Supplemental Testimony ("Vilbert Supplemental") on behalf of the Companies in January 2008. Please see the detailed resume in Appendix A attached to my Direct Testimony for my professional qualifications.

Q3. What is the purpose of your rebuttal testimony?

A3. I have been asked by the Companies to comment on the testimonies of Mr. Aster R. Adams ("Adams Direct") on behalf of the Office of the Ohio Consumers' Counsel, of Mr. Richard C. Cahaan as Staff Witness ("Cahaan Direct"), and of Mr. Howard Sogalnick on behalf of the Ohio School Council ("Sogalnick Direct") with regard to the appropriate return on equity.

II. FINANCIAL RISK AND CAPITAL STRUCTURE

Q4. What are the issues in the Adams Direct regarding capital structure?

A4. The Adams Direct recommends using FirstEnergy's capital structure,[2] but that capital structure is not necessarily representative for the Ohio EDUs. Although financial risk is acknowledged as a component of a firm's risk[3], the Adams Direct does not consider the

[1] Company Exhibit 8.

[2] Adams Direct, pp. 5-6 and Attachment ARA-2.

[3] Adams Direct, p. 16.

impact on the required return on equity due to any difference in financial leverage between the sample and the regulated companies.

Q5. Please address the financial risk issue in the Adams Direct.

A5. The estimated costs of equity reflect *both* the business risk and the financial risk of the sample companies based upon the sample companies' *market value* capital structures.[4] If the market value capital structures of the sample firms were different, the estimated costs of equity would be different as well. As noted in the Vilbert Supplemental and the Vilbert Direct in Section II.C, "the ATWACC (After Tax Weighted Average Cost of Capital) – a company's overall cost of capital -- is constant over a broad range of capital structures. However, the cost of equity is not. The cost of equity for the Companies should reflect the risk of their underlying assets and be comparable to the return that is achievable on investments of comparable risk."[5] In other words, the Adams Direct does not adjust for the differences in the sample's capital structure nor for the fact that FirstEnergy's capital structure has greater financial risk than the regulatory capital structure filed by the Companies. Therefore a cost of equity recommendation that relied on the parent's capital structure would be higher than one that relies on the Companies' filed capital structure.

A. ATWACC AND MARKET-TO-BOOK ISSUES

Q6. Is it appropriate to estimate the cost of equity for the sample companies using market data?

A6. Yes. The Adams Direct, the Staff Reports and the Vilbert Direct all estimate the cost of equity for the sample companies using market information. The Discounted Cash Flow Model ("DCF" model) and the risk positioning model (i.e., the CAPM and ECAPM) rely upon market information, and the cost of equity estimates derived from those estimation models reflect the business risk and financial risk of the sample companies at their *market*

[4] Vilbert Supplemental, pp. 2-4.

[5] Vilbert Supplemental, pp. 4-7.

value capital structures.[6] The returns on equity recommended by the Adams Direct as well as by the Cahaan Direct and the Vilbert Direct are derived from these models.

B. THE ADAMS DIRECT'S CRITIQUE OF THE ATWACC METHOD

Q7. The Adams Direct claims that the ATWACC "method is flawed in that it tends to overstate the true cost of equity" and that "the underlying flawed assumption is that the Commission is obligated to maintain current stock price levels..."[7] Are these statements an accurate assessment of the ATWACC approach?

A7. No. The comments in the Adams Direct testimony demonstrate a misunderstanding of the ATWACC approach and its adjustment for financial risk. The Adams Direct claims that the ATWACC approach is an attempt to maintain a particular ratio of the market value of equity to the book value of equity (the "market-to-book value"), but this is incorrect. The market-to-book value is irrelevant to the ATWACC approach.

Q8. Please explain why the market-to-book ratio is irrelevant to the ATWACC approach?

A8. Note that in the formula (1) for the ATWACC displayed on p. 14 of the Vilbert Direct, book values do not appear in the calculation; therefore, there is no way that the ATWACC can anchor the market-to-book ratio. Regardless of the market-to-book ratio, what matters is the percentage of the market value capital structure that is equity relative to the percentage that is debt.

Q9. Please explain the apparent source of the misunderstanding of the ATWACC approach.

A9. One source of the misunderstanding is that the ATWACC is a *rate of return* not a dollar amount of return. The flaw in reasoning can be illustrated in the following simplified example. Suppose that the cost of equity estimated using the DCF or the risk positioning method is 10 percent for a regulated company with a market value capital structure with 67 percent equity and 33 percent debt. (See Step 1 in Figure 1 below.) Suppose that the

[6] This is well accepted financial theory. See, for example, Richard A. Brealey, Stewart C. Myers, and Franklin Allen, *Principles of Corporate Finance*, New York: McGraw-Hill/Irwin 8th ed. (2006) pp. 503-06.

[7] Adams Direct, pp. 18-19.

book value regulatory capital structure is 50 percent equity and 50 percent debt and that the ATWACC adjusted rate of return on equity is 12.1 percent. (See Step 2 in Figure 1 below.) Does this mean that if the Commission allows a 12.1 percent return on equity that the return on the market value of equity will be 12.1 percent? The answer, of course, is no.

Q10. Please illustrate why allowing an ATWACC adjusted return on rate base will not provide a rate of return on the market value of equity equal to 12.1 percent in the example.

A10. The reason is that the ATWACC adjusted return on equity is applied to the *book value* of equity in the rate base not the market value of equity. In this example, the market-to-book ratio is 2.0, so that the market value of equity is $1000 but the book value is only $500. A 12.1 percent rate of return on equity times a $500 book value of equity gives a return of about $60.70 which would be about 6 percent (i.e., 60.70/1000) on the $1000 of market value of equity. In other words, although the return on the book value rate base would be 12.1 percent in the example, the return on the market value of equity would be about 6 percent, ½ of the allowed return on the equity financed portion of the rate base. A 6 percent return on the market value of equity is likely to be less than the company's current market cost of debt. (See Step 3 in Figure 1 below.)

Figure 1: Example of ATWACC approach, and the resulting return on the market value of equity.

Step 1: Compute ATWACC using market values

	Market Values		Return	Tax Rate	Wt. Average
Equity	1000	67%	10.0%		0.067
Debt	500	33%	6.0%	40%	0.012
	1500	100%		ATWACC	**0.079**

Step 2: Using book value capital structure, compute allowed return on equity that yields the ATWACC determined in Step 1

	Book Values		Return	Tax Rate	Wt. Average
Equity	500	50%	12.1%		0.061
Debt	500	50%	6.0%	40%	0.018
	1000	100%		ATWACC	**0.079**

Step 3: Implied allowed equity return on market value of equity

	Dollar Amount	Rate of Return
Equity Return	60.7	**6.07%**

The example in Figure 1 illustrates an additional advantage of the ATWACC approach: rate payers are indifferent to the regulatory capital structure. The cost to customers would be unaffected by a different regulatory capital structure because the return on equity would change as capital structure changes in order to maintain a constant ATWACC, but the capital costs (i.e., the sum of interest expense, equity return and income taxes) paid by customers would not be affected by changes in capital structure.

Q11. If the allowed return on equity is 12.1 percent instead of 10 percent are you saying that this will or will not maintain the current market-to-book ratio?

A11. The ATWACC approach does not say anything about this. Instead, the ATWACC approach simply says that the estimated return on investments of comparable business risk to the regulated company is equal to the ATWACC. Therefore the regulated company should be allowed an overall *rate of return* equal to the ATWACC on the *book value* rate base.

Q12. Is the ATWACC method incompatible with the use of a book value rate base?

A12. No. The use of book value rate base is perfectly consistent with the use of a rate of return calculated from market data using the ATWACC method. The book value rate base is

merely a historical record of the costs of assets purchased by investors to provide service to customers. All rate-of-return analysts estimate a market cost of capital to apply to that investment, and as noted above, all three testimonies use market data to estimate the cost of equity for the sample companies. The only difference is that the Vilbert Direct calculates the overall market rate of return on all of the sources of capital for the sample firms and applies that overall rate of return to the rate base. Because the regulated capital structure differs from the market value capital structures of the sample companies, the allowed return on equity must be adjusted so that the weighted-average cost of capital used to set rates is equal to the market-determined overall cost of capital from the sample of companies with comparable business risk.

Q13. Do you have any comments on Table 3 in the Adams Direct?

A13. Yes. Table 3 is misleading. In Table 3, p. 21 the Adams Direct presents the average of Vilbert Direct's cost of equity estimates before any financial risk adjustment which he calls the "traditional methods". Mr. Adams then calculates what he characterizes as the "overstatement" of cost of equity as the average difference between the Vilbert Direct's cost of equity estimates before and after financial risk considerations. The differences average about 1.4 percent. The table goes on to calculate the adjusted ROE as my recommended cost of equity of 11¾ percent minus the 1.4 percent. This fails to take into consideration that the average of the Vilbert Direct's DCF and risk positioning estimates is 10.7 percent not the 10.3 percent that results from subtracting 1.4 percent from 11.75 percent. The Adams Direct simply misrepresents the Vilbert Direct's results. If the Adams Direct wants to refer to an average of the "traditional" cost of equity estimates in the Vilbert Direct, the proper figure is 10.7 percent shown in Table 3, not the 10.3 percent cited, but in any event this value ignores the financial risk and would not be correct for the Companies.

C. THE CAHAAN DIRECT'S CRITIQUE OF THE ATWACC METHOD

Q14. How does the Cahaan Direct address financial risk?

A14. The Cahaan Direct also accepts the importance of financial risk and evaluates the ATWACC approach. The Cahaan Direct concludes that because the market value capital structure of FirstEnergy is not substantially different from the average market capital

structure of the sample companies, there is no need for an adjustment for differences in financial risk.[8]

Q15. Is the Cahaan Direct correct that the financial risk of FirstEnergy, the parent company, is comparable to the sample compared on a market value basis?

A15. Yes, but that is not the right question. This proceeding is directed toward setting the appropriate return on equity on the rate base for the Ohio EDUs not FirstEnergy. The appropriate comparison is between the regulatory capital structure of the Ohio EDUs and the (market value) capital structure of the sample companies because the costs of equity estimated by the models (i.e., the DCF and the CAPM) reflect the business and financial risk of the sample companies at their market value capital structures.

Q16. Please continue.

A16. The Cahaan Direct's concern seems to stem from the relatively high market-to-book value ratios of the sample companies, but that issue is a distraction from the point being made by the ATWACC approach. The market-to-book ratios are irrelevant to the ATWACC approach. This was discussed above but another way to think about this is to consider a world in which the market-to-book ratios are always equal to one for all of the sample companies. If the sample companies' average capital structure was one with 67 percent equity and the regulated company's capital structure was one with 50 percent equity, there would seem to be little disagreement that the financial risk of the sample was lower than for the regulated company, but it would have absolutely nothing to do with the market-to-book ratio. In particular, the ATWACC method is not a method to introduce the market-to-book ratio through the "backdoor" as is of concern in the Cahaan Direct.[9]

Q17. Do the cost of equity estimates from the DCF model and the CAPM depend upon the market value or book value capital structures of the sample companies?

A17. The market value capital structure is the relevant measure of financial risk. The market determined cost-of-equity estimates from the sample depend upon both the business and the financial risk of the sample. The financial risk of the sample companies depends

[8] Cahaan Direct, pp. 26-28.

[9] Cahaan Direct, p. 28.

upon the market value not the book value capital structures. There is no debate in financial theory that financial risk is a function of market value capital structures.

Q18. Please continue with the example.

A18. In the example, the average capital structure of the sample companies is 67 percent equity even though the market-to-book ratios are all equal to one, but the regulated company's capital structure has only 50 percent equity. Applying the cost of equity from the sample in this situation without consideration of the differences in financial risk would clearly be wrong. Anyone disagreeing with the last statement should consider whether their answer would change if the regulatory capital structure had 80 percent equity or 90 percent equity instead of 50 percent.

Q19. But the sample companies and FirstEnergy's market-to-book ratios are not equal to one. Doesn't that change the example?

A19. No. First, again note that the market-to-book ratio does not enter the calculation of the ATWACC for the sample companies. It is all based upon the market value capital structures and the market costs of debt, preferred stock and equity. Second, the cost of equity estimated from the market models still reflects the business and financial risk of the sample companies at their market value capital structures not their book value capital structures. Third, applying the cost of equity estimated from the market models to the regulated entity still requires consideration of the differences in capital structures between the sample and the regulated company just as when the market-to-book ratios were all equal to one. Nothing of consequence has changed for application of the ATWACC to the regulated entity due to the market-to-book ratios. Finally, note that there is nothing inconsistent with applying the ATWACC to a book value capital structure. Nothing I am recommending would change the way the Ohio EDUs are regulated or would change the reliance on a rate base established on a book value basis. What the ATWACC approach does do is change the way that the information from the market models is interpreted for application to the book value rate base. Specifically, the ATWACC approach recognizes that as the capital structure changes, the return on equity must change as well in order to be consistent with the market determined cost of equity estimates from the sample.

III. ESTIMATING THE SAMPLE COMPANIES' COSTS OF EQUITY

Q20. Do you have any comments on the cost of equity methodologies relied upon by the Adams Direct and the Cahaan Direct?

A20. Yes. My comments in this section are primarily addressed to the Adams Direct because the methodologies used by the Staff were addressed in my Supplemental Testimony. I do note several places, however, that the Cahaan Direct agrees with my approach and rejects several aspects of the way the Adams Direct implements the models. With regard to the Adams Direct, I first address the implementation of the DCF method. Next, I address the implementation of the CAPM, and finally, I discuss the Adams Direct's critique of the Empirical Capital Asset Pricing Model ("ECAPM").

A. THE DCF MODEL

Q21. What comments do you have regarding the Adams Direct's implementation of the DCF model?

A21. The Adams Direct implements the DCF model in a manner very similar to the Staff's implementation, so the comments in my Supplemental Testimony apply equally to the Adams Direct's implementation.[10] Specifically, there are two problems with the DCF model in the Adams Direct. The first is that the Adams Direct relies on stock prices that are up to a year old. Because the DCF model is intended to be a forward-looking model, it is important that the stock prices in the model reflect current information. The calculation of the dividend yield in the Adams Direct with reference to a yearly average price destroys one of the primary advantages of the DCF model in that it is a forward looking model. Stock prices averaged over an entire year reflect stale and out of date information. One need only consider the developments in the credit markets due to the subprime mortgage crisis to realize how out of date information from a year ago truly is. A year is simply too long a time period to rely on for the purpose of calculating the current price and yield.

[10] Vilbert Supplemental, pp. 13-14.

Q22. What is the second problem in the Adams Direct implementation of the DCF model?

A22. The Adams Direct summarizes the dividend payments over the last four quarters rather than annualizing the most recent dividend, i.e., multiplying the most recent dividend by four. This procedure will definitely *underestimate* the cost of equity using the DCF model. As noted above the DCF model assumes that dividends growth each period by the assumed constant growth rate. Using historical dividends from as much as a year ago violates the constant growth assumption and in general will underestimate future dividends to the extent that dividends paid have increased over the last four quarters. As with using historical prices from a year ago, this procedure weakens the forward looking nature of the model.

Q23. Do you have any other comments on the Adams Direct's reliance on the DCF model

A23. The Adams Direct seems to believe that the DCF model provides more reliable estimates of the cost of capital for the sample companies than the risk positioning model does at this time, but that belief is highly debatable at best.[11] As noted in the Vilbert Direct,[12] the DCF model can be a useful model if its assumptions are fully met, but those assumptions are so unlikely to be satisfied and also have such a large effect on the estimated cost of equity it produces that it is unusual for the conditions necessary for the completely reliable implementation of the model to be present. In other words, changing the "assumed" terminal growth rate as well as when the terminal growth rate will be achieved in the non-constant growth formulation of the model changes the DCF estimates substantially, but there is literally no information upon which to base those assumptions.

[11] The Surface Transportation Board recently decided to switch from using the constant growth DCF to the CAPM to determine the cost of capital for railroads citing among other factors, the assumption of a constant growth rate and a constant dividend payout ratio not being generally true. See *Surface Transportation Board* Decision STB Ex Parte No. 664, "Methodology To Be Employed In Determining The Railroad Industry's Cost Of Capital," January 17, 2008.

[12] Vilbert Direct, p. 23.

B. THE CAPM

Q24. Do you have a general comment on the Adams Direct's implementation of the CAPM?

A24. Yes. In general, most of the procedures used in the Adams Direct have the effect of an unwarranted reduction in the estimated return on equity, a point with which the Cahaan Direct agrees when it says that "[c]onsidering the current yields on FirstEnergy operating companies' long-term bonds, and bonds of similar quality, the risk premium implied by the [Adams Direct's] 8.61% or the 8.33% estimates are simply too low to be credible."[13]

Q25. Do you have any comment on the method that the Adams Direct uses to estimate the parameters for use in the CAPM?

A25. Yes. The Adams Direct estimates all of the parameters in the model by taking averages of different information sources irrespective of whether it is appropriate to do so. For example, Mr. Adams calculated the sample companies' betas as the average of the betas estimated by *Value Line*, Bloomberg's, and Reuters,[14] two of which adjust betas and one of which does not. Rather than make a judgment whether betas should be adjusted or not, the Adams Direct simply averages different estimates. A similar approach is used for the risk-free rate where the Adams Direct relied on the average of yield on 10-year and 30-year Treasury bonds for a full year ending in November 2007. This is a problem because the MRP should be matched with the measure of the risk-free being used. The average yields on 10-year Treasury bonds are generally lower than the yields on 30-year Treasury bonds, so the MRP used with the yields on 10-year Treasury bonds compared to 30-year Treasury bonds should be different as well. Moreover, interest rates that are as much as a year old are stale and out of date which destroys the forward looking aspect of the CAPM. Similarly, the Adams Direct averages many estimates of the MRP including geometric and arithmetic from many sources to determine the MRP for use in the models. While

[13] Cahaan Direct, p. 25.

[14] *Value Line* betas are estimated using five years of weekly returns and the New York Stock Exchange Composite Index as the market proxy. *Value Line* betas are adjusted. Reuter's betas are estimated using five years of monthly returns and the S&P 500 as the market proxy. Reuter betas are not adjusted. Bloomberg allows its user to determine the frequency as well as the time horizon over which betas are estimated. However, the standard is two years of weekly data. Bloomberg generally uses the S&P 500 index and allows its user to determine whether the betas are adjusted. In this case, the Bloomberg betas are quite similar to those obtained from *Value Line*.

such an approach reduces the effect of the analyst's judgment, it also has the effect of making the analyst more of a calculating machine than an expert making judgments about the weight of the evidence. The point is that simply averaging many values for a parameter does not improve the estimate if the values being averaged are not appropriate.

Q26. The Adam Direct relies on estimates of the MRP based upon the geometric mean. Is this appropriate for use in the CAPM?

A26. No. Although the Adams Direct cites a few sources in favor of relying on the geometric average in some circumstances to determine the market risk premium, this is not currently standard practice in finance and is specifically recommended against by nearly every academic source. The Cahaan Direct agrees that the arithmetic average is correct for use in the CAPM.[15] The inappropriate use of the geometric estimate of the MRP accounts, in part, for the exceptionally low CAPM cost of equity estimates in the Adams Direct.

Q27. Do you have other comments on the Adams Direct's estimation of the MRP for use in the CAPM?

A27. Yes. The Adams Direct's discussion of the literature on the market risk premium does not include any articles more recent than 2005. Many of the more recent articles support a higher estimate of the MRP. In addition, the Adams Direct goes through substantial effort to calculate the ex ante risk premium based upon an original article by Ibbotson and Chen and subsequently relied upon by Professor Randall Woolridge in a different proceeding, but these calculations are unnecessary because Morningstar publishes the Ibbotson and Chen ex ante risk premium in their *Valuation Edition* yearbook.

Q28. Please elaborate on the market risk premium issue.

A28. As discussed in the Vilbert Direct, there is currently no consensus on the market risk premium. However, the Adams Direct does not cite a full spectrum of the literature that focuses on this issue. For example, the Adams Direct cites a 2003 publication of Dimson, March and Staunton in support of a relatively low market risk premium.[16] However, in

[15] Cahaan Direct, p. 12 cites p. 77 in the Ibbotson SBBI Valuation Edition Yearbook 2007 which states that the arithmetic mean is the appropriate measure of the MRP for use in the CAPM.

[16] Adams Direct, p. 40.

their most recent publication, Dimson March and Stauton (2007) estimate the arithmetic mean historical market risk premium at 6.6 percent relative to Treasury bonds for the U.S.[17] It is also noteworthy that another regulator, the Surface Transportation Board, in its recent decision to rely on the CAPM decided after extensive review that the Morningstar/Ibbotson historical arithmetic average from 1926 to today was the most appropriate estimate of the MRP.

> We are now persuaded that basing the equity-risk premium on returns dating from 1926 is the superior and more standard approach. We are cognizant of the literature, cited by several parties, indicating that some experts believe that the forward-looking equity-risk premium should be lowered to reflect the impact of higher price/earnings ratios. For example, the expert for the AAR directed the agency to an adjusted equity-risk premium published by Morningstar/Ibbotson that seeks to reflect the upward trend in price-earnings ratios and reduces the forward-looking equity-risk premium. We acquired the cost-of-capital book published by Morningstar/Ibbotson so that we might carefully review that alternative figure. But while Morningstar/Ibbotson does report such a figure, which falls in the 6% range, the company itself continues to rely on returns dating from 1926 in its own CAPM calculations. Moreover, WCTL submitted evidence showing that most commercial vendors of cost-of-capital information use this same figure in their CAPM calculation. Accordingly, we will follow the standard approach and use the historical average from 1926. [footnotes omitted][18]

Q29. Earlier you noted that the Morningstar publishes its forecast of the Ibbotson and Chen ex ante risk premium in its Valuation Edition Yearbook so that there was no need to calculate the value. What is the forecast in the 2007 Yearbook?

A29. The arithmetic forecast is 6.35 percent over Treasury bonds, which is very similar to the 6.5 percent MRP used by both the Vilbert Direct and the Staff Reports. The geometric mean ex ante MRP is 4.33 percent.[19] Note that the Adams Direct calculates the ex ante geometric risk premium to be 4.64 percent, which is equal to 6.66 percent on an arithmetic basis. As noted in the Morningstar *Valuation Edition*, for "use as the expected equity risk premium in either the CAPM or the building block approach, the arithmetic

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[17] Elroy Dimson, Paul Marsh, and Mike Stauton (2007), *Global Investment Returns Yearbook 2007*, London Business School and ABN-AMRO, March 2007, p. 48.

[18] *Surface Transportation Board*, "Methodology to Be Employed in Determining the Railroad Industry's Cost of Capital," Decision, STB Ex Parte No. 664, November 27, 2007, p. 13.

[19] Morningstar, SBBI Valuation Edition, 2007 Yearbook, p. 96.

calculation is the relevant number."[20] In other words, the Adams Direct ex ante MRP should be about 200 basis points higher than the 4.64 percent geometric average used in the calculations.

Q30. The Adams Direct also argues that survivorship bias leads to an overstatement of the historical market risk premium by as much a 1.50 percent.[21] Does this represent the most recent view in the academic literature?

A30. No. There are newer academic articles that find the survivorship bias to be very minor. As noted in the Vilbert Direct, Jorion and Goetzmann (1999) found the survivorship bias to be only 29 basis points.[22] The 2006 version of the Dimson, Marsh and Staunton article cited by the Adams Direct calculates that the survivorship bias is de minimus, about $1/10^{th}$ of 1 percent, i.e., 0.1 percent not 1.50 percent referenced in the Adams Direct.[23] Dimson et al note that higher estimates of the survivorship bias requires implausibly low probabilities of the long-term market survival, but such low probabilities contradict the history of world equity markets.

Q31. The Adams Direct relies on the geometric market risk premium which is inconsistent with standard financial economics. Please explain why the geometric market risk premium is inappropriate for cost of capital estimation.

A31. While the Adams Direct cites a few sources in support of the geometric market risk premium, it is not standard practice in finance. In general, those articles rely on serial correlation in market returns as justification of use of the geometric average, but those articles also suggest weighting the arithmetic and geometric means with by far the greatest weight on the arithmetic mean. Although the geometric mean return is appropriate for consideration of achieved returns over a period of time, it is well established that the geometric mean is not correct for estimating the expected return. Based on current academic and other literature, the geometric average based MRP is not

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[20] *Ibid.*, p. 96.

[21] Adams Direct p. 39.

[22] Jorion, P., and W. Goetzmann (1999), "Global Stock Markets in the Twentieth Century," *Journal of Finance* 54:953-980. See also the Vilbert Direct, pp. B-6 to B-7.

[23] *The Worldwide Equity Premium: A Smaller Puzzle*, Revised 7 April 2006, by Elroy Dimson, Paul Marsh, and Mike Staunton, London Business School, p. 22.

appropriate for estimating cost of capital in a regulatory setting because the CAPM requires a forward looking perspective. This is well understood in the broader finance community. A few examples of current publications stating that the arithmetic mean not the geometric mean is correct are Ibbotson Associates, *Stock, Bonds, Bills and Inflation, Valuation Edition*, 2007 Yearbook, p. 77, Roger A. Morin (2006), *New Regulatory Finance*, Public Utilities Reports, Inc., pp. 116-117, the *Investments* text by Professors Bodie, Kane, and Marcus (2005) Zvi Bodie, Alex Kane, and Alan J. Marcus (2005), *Investments*, 6th Edition, McGraw-Hill, p. 865, and *Principles of Corporate Finance*, 8th Edition, McGraw-Hill, by Richard A. Brealey, Stewart C. Myers, and Franklin Allen (2006), pp. 150-151.

Q32. The Adams Direct also claims that the *Value Line* betas are over estimated because they are calculated with regard to the NYSE Index as opposed to the S&P 500 Index for the market proxy.[24] Is this a valid concern?

A32. No, not in my opinion. In fact, I have never heard anyone claim that the choice of either the S&P 500 Index or the NYSE Index has a significant effect on the estimation of beta. Moreover, I am highly skeptical of this assertion because the correlation between the NYSE Index and the S&P 500 Index is very high, on the order of 0.98 depending upon time period,[25] so that betas estimated against one index are likely to be very similar to betas against the other index. Recall that beta is a measure of the correlation of a company's stock returns with the returns on the market.

[24] Adams Direct, p. 35.

[25] The correlation is 0.98 for the period January 1988 to September 2007.

C. THE ECAPM

Q33. The Adams Direct claims that "an ECAPM analysis using adjusted betas rather than raw betas double-counts the empirical effect of historical Betas"[26] and that "The use of Value Line betas in Dr. Vilbert's ECAPM analysis results in an overstatement of the cost of equity."[27] Do you understand the nature of the Adams Direct's concern?

A33. Yes. The Adams Direct does not dispute the fact that the security market line is flatter than predicted by the CAPM nor does it dispute that this can be captured by the ECAPM as modeled in the Vilbert Direct. Indeed, the Adams Direct states the belief that: "If one is going to use the results of the ECAPM to adjust a CAPM result, one must begin in the same place that the ECAPM begins – with raw Betas."[28] This explicitly acknowledges the Adams Direct's acceptance of the validity of the ECAPM relationship. The Adams Direct does dispute, however, the use of *Value Line* betas in conjunction with the ECAPM framework. Specifically, Mr. Adams believes that *Value Line's* adjustment of the estimated betas towards one already captures the ECAPM relationship.

Q34. Is this true?

A34. No. The interpretation of the literature on the ECAPM contained in the Adams Direct is not accurate. Mr. Adams makes the unsubstantiated claim that "the use of a Value Line Beta in a CAPM equation more than adequately compensates for the empirical evidence relied upon by Dr. Vilbert."[29] The argument relies upon the faulty premise that the ECAPM empirical results are formed with "raw betas" and *Value Line* betas are something else. The important point to remember is that the *Value Line* adjustment is made to an *estimated* beta, not the actual underlying beta.[30] If the actual beta were known, adjustment would not be necessary – indeed, there would be no need for

[26] Adams Direct, p. 22.

[27] *Ibid.*, p. 22.

[28] *Ibid.*, p. 22.

[29] Adams Direct, p. 23, ll. 9-11.

[30] It should be noted that this adjustment is a common one in the industry (e.g., Merill-Lynch, Bloomberg).

estimation at all.[31,32] The purpose of *Value Line* beta adjustment is to compensate for beta estimation error in order to produce as accurate an estimate of the actual (unobservable) beta as possible. Contrary to the claims in the Adams Direct, the empirical research underlying the ECAPM does not describe a relationship between estimated betas (i.e., "raw betas") and expected returns.[33] Instead, these studies typically use an alternative method to correct for sampling errors in order to form unbiased estimates of actual betas.[34] Specifically, they typically employ a sophisticated methodology relying on specially designed portfolios to remove the sampling error. These studies therefore tell us that after adjusting for sampling error as much as possible, there is still a flattening of the security market line relative to the CAPM relationship. So whether one uses an adjustment as done in these studies, or one uses a (2/3, 1/3) weighting as done by *Value Line* to transform raw beta estimates into unbiased estimates of true betas, an adjustment is still unaccounted for in the security market line. This point is particularly clear from the results in the article by Litzenberger, Ramaswamy, and Sosin (1980), which explicitly uses both "raw" and "adjusted" betas to map the empirical market line. With "raw" betas, the results support the use of a 3.912 percent alpha factor, whereas with adjusted betas, this alpha factor is about 1.932 percent.[35] In other words, even if the actual beta of a stock were known, an "alpha" term of almost 2 percent would still be necessary to capture the empirical relationship between individual security excess

[31] If the actual beta were unchanging, then an over-estimate of beta in one time period will make it more likely that an underestimate will be observed in the next – which results in the regression towards mean phenomenon. There is also evidence that betas of continuing firms tend to trend towards one. Together, these suggest that historical betas are biased estimators of true betas – using the *Value Line* type adjustment has been shown to be a very good estimator of true betas in this circumstance.

[32] Professor Blume first documented the need for the *Value Line* style adjustment. See Blume, Marshall E. (1971), "On the Assessment of Risk," *The Journal of Finance*, 26(1), pp. 785-795. The empirical fact has been replicated and widely acknowledged ever since.

[33] A representative list of articles that support the ECAPM approach is included in Appendix C, Table No. MJV-C1 included in the Vilbert Direct. See also "The Capital Asset Pricing Model: Theory and Evidence," Eugene F. Fama and Kenneth R. French, *The Journal of Economic Perspectives*, Vol. 18, No. 3 (Summer, 2004), pp. 25-46.

[34] Litzenberger, Robert H. and Krishna Ramaswamy and Howard Sosin. (1980), "On the CAPM Approach to Estimation of a Public Utility's Cost of Equity Capital," *The Journal of Finance* 35 (2), pp. 369-387.

[35] Although one might suggest that one should use the same portfolio methodology as in the papers instead of the *Value Line* adjustment, this is cannot be used to provide an unbiased estimate of an individual company's beta without excessive complication (i.e., it is designed for portfolios).

returns and market excess returns. This is precisely what I have done in the Vilbert Direct.

IV. DETERMINING THE OHIO EDUs' COSTS OF EQUITY

Q35. Mr. Adams claims that his recommended return on equity and resulting overall weighted-average cost of capital is reasonable because it is consistent with historical returns on total capital earned by a group of electric utilities covered by *Value Line*. Are the returns reported by *Value Line* a relevant comparison for this rate case?

A35. No. There are several problems with the return comparisons in Tables 6 and 7 of the Adams Direct. First, the realized returns listed are those of FirstEnergy and not those of the Companies. Second, the historical returns are not necessarily compatible with those required going forward, and third, the method of calculating these returns makes them meaningless for comparison to the required returns for the regulated companies.

Q36. Do you have any comments on the level of the recommended return on equity?

A36. Yes. The Adams Direct recommends a cost of equity below what is the norm for investment grade rated public utilities which in and of itself indicates that the recommendation is too low. The 9.26 percent return on equity that Adams Direct recommends is well below the median return on equity for utilities that have a BBB credit rating as determined by Standard & Poor's.[36] This is an indication that the recommendation is likely to be viewed as very low by the investment community which is troublesome given the planned capital expenditure by the Ohio EDUs of almost $1.8 billion through 2011.[37] In this regard it is noteworthy that while Moody's Investors Services, Inc. ("Moody's) rates Ohio Edison Company Baa2, both The Toledo Edison Company and The Cleveland Electric Illuminating Company have Baa3 credit ratings by Moody's. The Baa3 rating corresponds to the lowest investment grade rating from Moody's.[38] In the current environment of substantial need for infrastructure expenditure

[36] Standard & Poor's, Corporate Ratings Criteria 2007, p. 43.

[37] Actual and forecast for the period 2006 to 2011, FirstEnergy 2006 10-K, p. 12.

[38] Direct Testimony of James F. Pearson on behalf of the Ohio EDUs ("Pearson Direct"), pp. 6-7.

and "[m]ore-expensive and less-available credit",[39] setting the allowed rate of return below what investors expect is likely to hurt not only the Companies but in the long run consumers as well, because the funds for needed investments may be more costly, more difficult to obtain, or both in today's credit markets. Given that two of the three Ohio EDUs are at the bottom at the investment grade credit ratings scale, it is essential that the Ohio EDUs' credit ratings remain investment grade in order to maintain full access to capital markets.

Q37. Please elaborate on need to access capital markets.

A37. The September 28, 2007 *Value Line* report points to the need for substantial investment in generation and transmission,[40] a point also mentioned in several reports commissioned by the *Edison Electric Institute,*[41,42] but the industry is in a period of great uncertainty. For example, the prices of fossil fuels have increased dramatically and have become much more volatile over the last few years. Construction prices for all facilities have recently increased rapidly, and uncertainties exist about how the rise in prices will affect the infrastructure investment strategy:

> However, rising construction costs will put additional upward pressure on retail rates over time, and may alter the pace and composition of investments going forward. The overall impact on the industry and on customers, however, will be borne out in various ways, depending on how utilities, markets and regulators respond to these cost increases.[43]

Second, public concern with environmental sustainability and the need for renewable sources of energy has led to the adoption in many states of renewable generation requirements.[44] It seems certain that environmental concerns will increase in the future and may lead to new restrictions on emissions from power plants, but the impact of these

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[39] Testimony of Chairman Ben S. Bernanke, "The Economic Outlook," before the Committee on the Budget, U.S. House of Representatives, January 17, 2008.

[40] Electric Utility Industry Report, *Value Line Investment Survey*, Plus Edition, as of September 28, 2007.

[41] Basheda, Gregory et al., "*Why Are Electricity Prices Increasing: An Industry-Wide Perspective*", report prepared for *The Edison Foundation* (June 2006).

[42] Chupka, Mark and Gregory Basheda, *Rising Utility Construction Costs: Sources and Impacts*, report prepared for *The Edison Foundation* (September 2007).

[43] *Ibid.*, p. 31.

[44] "The Impact of a Federal Renewable Portfolio Standard," North American Power Service Insight, Wood Mackenzie, February 2007.

concerns on renewable energy requirements and restrictions on green house gases is uncertain. These uncertainties are a clear source of risks for electric utility investors. For example, at the Federal level, the House passed a bill this summer proposing a 15 percent renewable energy requirement by 2020, while an earlier Senate bill on energy did not include a similar requirement.[45] Clearly, environmental issues are an important source of uncertainty about future costs and regulation, and increase the risk of regulated electric utilities.

Q38. Please summarize your conclusions regarding the stability of the electric utility industry at this time.

A38. The future development of the electric industry is uncertain at this time, and the natural gas industry must deal with rapidly increasing commodity prices and decreasing average consumption so the stable conditions necessary for the reliable implementation of the DCF model are not present at this time for either industry. The future structure of the electric utility industry is far from certain, and the uncertainty regarding the future direction of the electric industry makes access to capital markets more difficult. The industry faces the need for substantial capital investment going forward to meet the challenges of new environmental and safety standards as well as the need for conservation. Acquiring the capital necessary for the required investments will require a supportive regulatory environment including an adequate return on equity.

Q39. Aren't most of the factors leading to instability in the electric industry factors that affect generation or transmission only and as such would not be relevant to the risk of the Ohio EDUs?

A39. No. While many of the risks specifically affect generation, the risks are not restricted to that portion of the industry, and investors are well aware of the turmoil and uncertainty in the electric industry. Although generation is not part of the Ohio EDUs rate base, the Companies have a Provider of Last Resort ("POLR") obligation which is accompanied by a great deal of uncertainty at this time. To the extent that the mechanisms for the recovery of the costs of procuring power for customers have not been resolved, the

[45] These pieces of legislation have been widely reported in the national press. For a specific reference, see *Edison Electric Institute* press release of August 4, 2007, available at http://www.eei.org/newsroom/press_releases/070804.htm.

uncertainty throughout the electric industry and particularly in the cost of power will increase the risk and uncertainty of the Ohio EDUs.

Q40. Are there other issues with how the Adams Direct arrived at its cost of equity recommendation?

A40. Yes. Mr. Adams does not address Ohio specific risk factors in his testimony. As I explained in my Supplemental Testimony, the fact that the Ohio legislature is considering legislation that may affect competition in Ohio adds uncertainty to the Ohio EDUs operating environment. In the Vilbert Supplemental, I discussed the potential impact of the legislation and concluded that not considering these factors will likely lead to an underestimation of the cost of equity. Details are provided in the Vilbert Supplemental at pp. 15-17.

Q41. Are these risk concerns similar to the POLR concerns you noted in the Vilbert Direct.

A41. Yes. POLR obligations may also impose an asymmetric risk on the company which must be recognized and evaluated when drawing cost of capital conclusions from the benchmark samples.

Q42. Mr. Adams also testified about the risk arising from the Ohio EDUs' POLR obligations and whether the pending legislation in Ohio increased the Ohio EDUs' risks.[46] What is your response?

A42. The Ohio EDUs' POLR obligations increase the risk of the Ohio EDUs relative to the sample companies in the Vilbert Direct because the precise mechanisms by which the recovery of the costs of acquiring power for the Companies' customers has not been resolved. The outcome of the pending legislation in Ohio may or may not increase the risk of the Ohio EDUs' POLR obligations, but my point is that the outcome of the legislation as well as the mechanism for acquiring power for customers and recovering the costs of the power have not been finalized. As a result, there is a great deal of uncertainty facing the Ohio EDUs with regard to their POLR obligations. As a general observation, investors dislike uncertainty and demand higher returns in compensation.

[46] Hearing Transcript, February 12, 2008, pp. 70-74.

Q43. Do you have any evidence that POLR risk has been a problem in other jurisdictions?

A43. Yes. The experience of distribution utilities in some other states has not been favorable. Note that the point in the following examples is not whether the regulatory environment in Ohio is similar to that in other states, but rather that investors are well aware of the kinds of things that can go wrong. Investors must make judgments as to the ultimate resolution of the issues in Ohio and will recognize and price the uncertainty of the outcome. For example, in Illinois the legislation arbitrarily renewed a price cap in spite of the fact that the cost of power had increased substantially. As a result, the rating agencies immediately downgraded some of the state's utilities' credit ratings.[47] In Maryland, similar uncertainty occurred regarding the full recovery of the costs of acquiring power as the prices of power increased dramatically.[48] As with a policy of reducing the cost of equity only in an era of declining performance, POLR obligations typically impose significant asymmetric risks on a company's equity returns. All else equal, investors respond to this by lowering the value they place on equity which has a direct impact on the company's cost of capital. To ignore this fact and treat the Companies as if they are of the same business risk (and have the same cost of capital) as the benchmark samples risks a material error in the cost of capital for the Companies.

Q44. But is the risk of the Companies' POLR obligations a topic that should be considered here given the notion that the Commission and/or the legislature will take care of things and not leave the Companies in a bind?

A44. In my opinion, this proceeding should consider the uncertainty and corresponding risk of the Companies' POLR obligations because it is a risk that is relevant to the Companies at this time and will continue to be a risk until the uncertainty is resolved. Although some parties here may have confidence that the POLR issue will be adequately dealt with by the Commission, this confidence does not set the cost of capital – investor expectations and uncertainty does. Since there has been no settlement of this issue as yet, investors

[47] See for example, Moody's Investors Service, Rating Action, "Union Electric Company," 12 March 2007 and "Fitch Downgrades ComEd's Ratings; Remains on Rating Watch Negative," Fitch Ratings, 9 March 2007.

[48] See for example, Fitch Ratings, "U.S. Power and Gas 2007 Outlook for Key Credits," Corporate Finance, December 16, 2006 and "BGE: Cap on Rates May Force Bankruptcy," *Baltimore Business Journal*, February 17, 2006.

still face material uncertainty as to how this issue will ultimately be resolved, when it will be resolved, and even if it will be resolved. This continuing uncertainty means continuing additional risk for investors, which means a higher cost of capital relative to a sample of companies without POLR obligations.

Q45. Do you have any evidence that investors feel this way?

A45. Yes. For example, Moody's Industry Outlook for the U.S. Electric Utility Sector specifically mentions the risk associated with the transformation of the industry in the states that started on the path of restructuring in the late 1990s.[49] Similarly, S&P in its "Top 10 U.S. Electric Utility Credit Issues For 2008 And Beyond," discusses the issue of regulatory and legislative backlash against rising energy prices as a risk for investors and notes "[l]ooming battles over transition rules in Ohio and Pennsylvania may not be as contentious [as those in Maryland and Illinois], but there is risk that electric providers could be harmed."[50] Fitch Ratings also notes that "[e]lectric utilities that emerge from rate freezes or multi-year tariff settlements or subject to disproportionate increases in costs and in greatest need of tariff increases remain most at risk. The risk is heightened by the convergence of rising costs for fuel, equipment and maintenance materials, pension and medical benefits, and infrastructure investments."[51]

Q46. But if you consider POLR obligations as a basis for moving towards the higher end of a cost of equity range, should you not also consider mechanisms that reduce the risks faced by the Companies?

A46. If such mechanisms existed and actually reduced the systematic risk of the Companies, then certainly they should be considered as well.

Q47. The Solganick Direct identifies the new rate design proposal by the Companies as one such mechanism. In fact, Mr. Solganick recommends reducing the recommended cost of equity by 50 basis points for the cost of service allocation to a specific set of customers because of the rate design supposed reduction in the

[49] "Industry Outlook – U.S. Electric Utility Sector," January 2008, Moody's Corporate Finance, pp. 7-9.

[50] "Top 10 U.S. Electric Utility Credit Issues For 2008 And Beyond," Standard & Poor's Ratings Direct, January 28, 2008, p.3.

[51] U.S. Utilities, Power and Gas 2008 Outlook," Fitch Ratings, Corporates, December 11, 2007, p.5.

Companies' business risks.[52] Do you believe that this reduction in the cost of equity is appropriate?

A47. No. First, I disagree with the claim that this mechanism reduces the risk that is *relevant* to the required rate of return on equity. The Solganick Direct draws a parallel between the new rate design policy and decoupling mechanisms observed in other industries. Based upon the assumed similarity, the Solganick Direct then argues that because the adoption of decoupling mechanisms in other industries sometimes results in a reduction in the allowed return on equity that a reduction of 50 basis points is appropriate here.[53] The Solganick Direct provides no evidence that the Companies' new rate design proposal will reduce the Companies' systematic risk, i.e., the risk that affects the cost of capital. It merely asserts that risk will be reduced, but the cost of capital is only affected by changes in *systematic* risk, as described in the Vilbert Direct.[54] Without such evidence of a reduction in systematic risk, a reduction is the cost of equity is not warranted. Second, the Solganick Direct's recommendation is a selective adjustment to one particular class of customers based upon one particular revision in the rate design for that one class of customers without consideration of the totality of the risks for that class of customers compared to the totality of risks for all classes of customers. I believe that such a selective adjustment to the cost of service for one particular class of customers is not warranted and likely to lead to endless debates about the relative risk of one class of customers compared to another. Such selective rate making should be rejected.

Q48. Does the fact that you have not addressed everything discussed in the Adams Direct, the Cahaan Direct, or the Solganick Direct imply that you agree with everything you have not addressed?

A48. No, it does not.

Q49. Does this conclude your Rebuttal Testimony?

A49. Yes.

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[52] Solganick Direct, pp. 34-35, and 37.

[53] *Ibid.*

[54] Vilbert Direct, Appendix C, pp. 9-10.

BEFORE THE

STATE CORPORATION COMMISSION OF VIRGINIA

DIRECT TESTIMONY OF

MICHAEL J. VILBERT

ON BEHALF OF

VIRGINIA ELECTRIC AND POWER COMPANY

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TABLES AND WORKPAPERS

I. INTRODUCTION AND SUMMARY

Q1. Please state your name and address for the record.

A1. My name is Michael J. Vilbert. My business address is The Brattle Group, 44 Brattle Street, Cambridge, MA 02138, USA.

Q2. Please describe your job and your educational experience.

A2. I am a Principal of The Brattle Group, ("Brattle"), an economic, environmental and management consulting firm with offices in Cambridge, Washington, London, San Francisco and Brussels. My work concentrates on financial and regulatory economics. I hold a B.S. from the U.S. Air Force Academy and a Ph.D. in finance from the Wharton School of Business at the University of Pennsylvania.

Q3. What is the purpose of your testimony in this proceeding?

A3. I have been asked by Virginia Electric and Power Company ("Dominion Virginia Power" or the "Company"), to estimate the cost of equity that the Virginia State Corporation Commission (the "SCC" or the "Commission") should allow Dominion Virginia Power an opportunity to earn on the equity financed portion of its rate base.

To accomplish this task, I estimate the overall cost of capital for a sample of regulated electric companies using the discounted cash flow ("DCF") and the risk positioning models. I then evaluate the relative risk of Dominion Virginia Power compared to the sample companies to determine the recommended cost of equity for a regulatory capital structure with 50.7 percent equity, which is the percentage of equity in Dominion Virginia Power's proposed capital structure in the filing for this proceeding. (By "regulatory capital structure," I mean the capital structures that Dominion Virginia Power utilizes in its application.[1])

[1] The capital structure that I customarily use in these analyses is based upon the long-term sources of capital, i.e., long-term debt, preferred equity and common equity. I do not use short-term debt because long-term assets are not generally financed with short-term debt. This approach is consistent with the information that I use for the sample companies.

Q4. Please summarize the parts of your background and experience that are particularly relevant to your testimony on these matters.

A4. Brattle's specialties include financial economics, regulatory economics, and the gas and electric industries. I have worked in the areas of cost of capital, investment risk and related matters for many industries, regulated and unregulated alike, in many forums. I have testified or filed cost of capital testimony before the Federal Energy Regulatory Commission, the Arizona Corporation Commission, the Pennsylvania Public Utility Commission, the Public Service Commission of West Virginia, the Tennessee Regulatory Authority, the Public Service Commission of Wisconsin, the South Dakota Utilities Board, the Public Utilities Commission of Ohio, the California Public Utilities Board, the Canadian National Energy Board, Alberta Energy and Utilities Board, the Ontario Energy Board, and the Labrador & Newfoundland Board of Commissioners of Public Utilities. I have not previously testified before this Commission. Appendix A contains more information on my professional qualifications.

Q5. Please summarize how you approached this task.

A5. I review the evidence from a sample of regulated electric utilities which were selected to be of comparable business risk to Dominion Virginia Power. My analyses consider cost of capital evidence from the risk positioning and discounted cash flow models, but I rely primarily on the risk positioning results because I do not believe that the DCF method is completely reliable at this time.

Specifically, I estimate the cost of equity for the companies in the sample group using both cost-of-equity estimation methods. For each cost-of-equity estimate, I combine this value with the sample company's market costs of debt and preferred stock to calculate each firm's overall cost of capital, i.e. its after-tax weighted-average cost of capital ("ATWACC"), using each company's market value capital structure as the weights. For each method of estimating the return on equity, I report the sample average ATWACC and the estimated cost of equity for this line of business at a capital structure with 50.7 percent equity. I thus present the cost of equity that is consistent with both the sample's market information and Dominion Virginia Power's regulatory capital structure.

This method automatically avoids problems that can arise when an analyst focuses separately on the individual components (i.e., the cost of equity and the appropriate capital structure) of the overall cost of capital. The danger with that approach is that the estimated cost of equity from the sample may correspond to a very different level of financial risk than would exist at the regulated company's capital structure. The result could be an inconsistency between the allowed return on equity and the financial risk inherent in the regulatory capital structure.

Q6. Why do you believe that the DCF model is less reliable for this industry at this time than the risk positioning model?

A6. Results for the DCF model depend critically on the estimate of the dividend growth rate. A one percent error in the estimate of the growth rate results in a greater than one percent error in the cost of equity estimates. The move toward a restructured industry featuring greater competition among providers of generation services has stalled and the future structure of the electric industry remains in doubt. The legislature in Virginia has approved legislation that effectively ends electric deregulation in the Commonwealth,[2] and the legislature in Illinois proposed a one-year extension of the rate cap on the cost of power that is less than the current market price of power.[3] Natural gas prices have increased dramatically and have been much more volatile lately relative to just a few years ago. Although most of the companies in the sample have fuel cost adjustment clauses, the increased volatility of gas prices has increased the uncertainty of the industry's earnings going forward. These facts are not a description of an industry that could be characterized as stable with earnings and dividends likely to grow at a constant rate over the foreseeable future, but that is precisely the condition necessary for the reliable implementation of the DCF model.

The DCF model results display a greater spread and are more variable and less reliable than those based upon the risk positioning model; however, I provide results using the DCF method, because it is a method that has been relied upon by commissions frequently

[2] H.B. 3068 and S.B. 1416 (commonly called "re-regulation legislation") were approved by the General Assembly on April 4, 2007. See, for example, www.dom.com/about/companies/vapower/rereg.jsp.

in the past. In addition, results from the DCF model serve as a check on the results from the equity risk positioning approach.

Q7. What are the results for the DCF model?

A7. Results from the simple DCF model and for the multistage model are set out in the accompanying tables. (See Table No. MJV-6, Panel A - simple DCF and Panel B - multistage DCF) After properly adjusting for financial risk, the sample average for the simple DCF model is 11.4 percent and for the multistage DCF model is 10.3 percent. (See Table No. MJV-8) I believe that the highly variable DCF results company-to-company displayed in Table No. MJV-7 demonstrate that the conditions necessary for a completely reliable implementation of the DCF model do not obtain at this time.

Q8. What are the results for the risk positioning model?

A8. The sample average risk positioning results, adjusted for differences in financial risk, range from a low of 11.2 to 11.5 percent when using the long-term risk-free rate. The results for the risk positioning model using the short-term risk-free rate range from 11.5 to 12.0 percent, but I place less weight on those estimates in this proceeding. (See Table No. MJV-12)

Q9. You mentioned the importance of considering financial risk when evaluating the results of the models. Please explain how you adjust for financial risk.

A9. Both the DCF and the risk positioning models rely on market data to estimate the cost of equity for the sample companies. That cost of equity estimate captures both the business risk and the financial risk of the assets. Business risk is the risk that the company would have if it were financed entirely with equity. Financial risk is the additional risk carried by the equity holders when debt is used to finance some of the assets. The more debt that is used by a company, the riskier the company's equity becomes. As explained in more detail below, the procedures I use consider both the business risk and the financial risk of the sample companies in comparison to Dominion Virginia Power in determining my recommended cost of equity.

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[3] See http://www.ilga.gov/legislation/billstatus.asp?DocNum=1750&GAID=9&GA=95&DocTypeID=HB&LegID=30576&SessionID=51

Q10. What is your conclusion on the market-determined cost of capital for Dominion Virginia Power based upon the results from the sample of regulated companies you selected?

A10. As explained more fully below, the best point estimate of the cost of equity for Dominion Virginia Power is 11¾ percent for a capital structure with 50.7 percent equity, but it is more correct to say that the sample results and the risk level of Dominion Virginia Power indicate a range for the cost of equity estimates for the Company from 11¼ to 12¼ percent. The corresponding midpoint of the range of the overall after-tax weighted-average cost of capital estimates, i.e., the ATWACC, for the benchmark sample companies is 8 percent with a range of 7¾ to 8¼ percent. Note, that I specify a plus or minus ½ percent range for the return on equity and specify the point estimate to the nearest ¼ percent because I do not believe that it is possible to estimate the cost of equity more precisely than that.

Q11. How is your testimony organized?

A11. *Section II* formally defines the cost of capital and touches on the principles relating to the cost of capital and capital structure for a business. *Section III* presents the methods used to estimate the cost of capital for the benchmark sample and the associated numerical analyses, and explains the basis of my conclusions for the benchmark sample's returns on equity and overall costs of capital. *Section IV* presents the results of these methods applied to the benchmark sample group, and presents the costs of equity implied by the results. My conclusion on the cost of equity for Dominion Virginia Power is presented in *Section V*. Appendix B provides additional details on the selection of the sample and the calculation of the market value capital structures of the sample companies. Appendices C and D support *Sections III and IV* with additional details on the risk positioning model and DCF approach, respectively, including the details of the numerical analyses. Appendix E discusses the effect of debt on the cost of equity in more detail.

II. COST OF CAPITAL THEORY

A. THE COST OF CAPITAL AND RISK

Q12. Please formally define the "Cost of Capital."

A12. The cost of capital can be defined as *the expected rate of return in capital markets on alternative investments of equivalent risk*. In other words, it is the rate of return investors require based on the risk-return alternatives available in competitive capital markets. The cost of capital is a type of opportunity cost: it represents the rate of return that investors could expect to earn elsewhere without bearing more risk. "Expected" is used in the statistical sense: the mean of the distribution of possible outcomes. The terms "expect" and "expected" in this testimony, as in the definition of the cost of capital itself, refer to the probability-weighted average over all possible outcomes.

The definition of the cost of capital recognizes a tradeoff between risk and return that is known as the "security market risk-return line," or "security market line" for short. This line is depicted in Figure 1. The higher the risk, the higher is the cost of capital. A version of Figure 1 applies for all investments. However, for different types of securities, the location (i.e., the intercept and the slope) of the line may depend on corporate and personal tax rates.

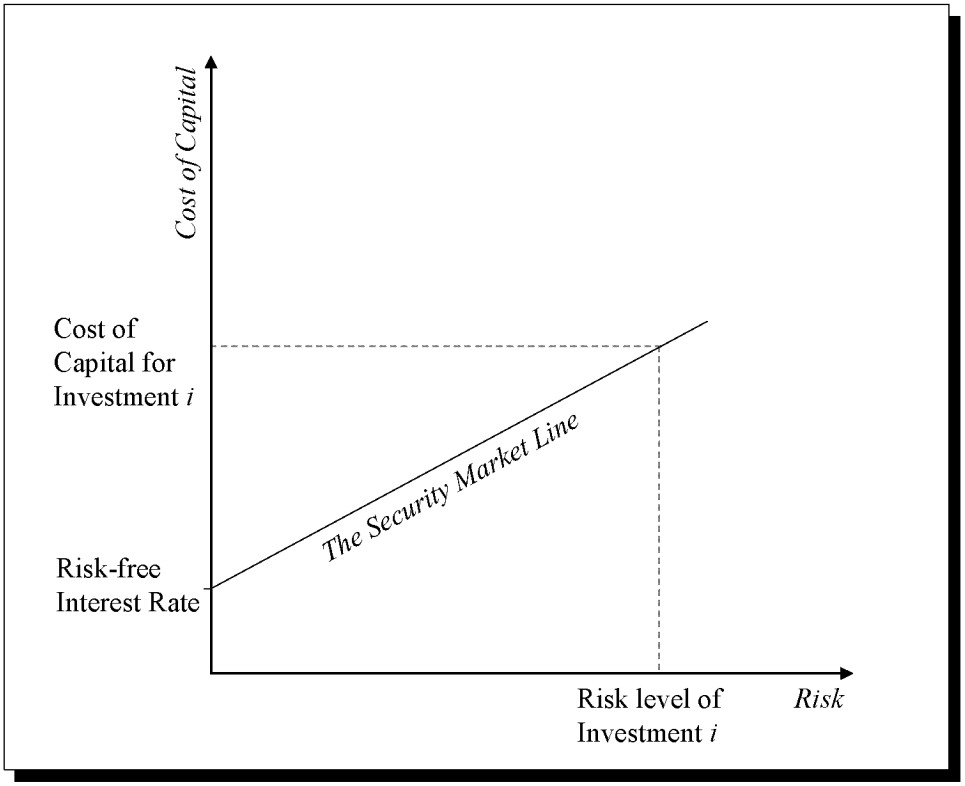

Figure 1: The Security Market Line

Q13. Why is the cost of capital relevant in rate regulation?

A13. It has become routine in U.S. rate regulation to accept the "cost of capital" as the right expected rate of return on utility investment.[4] That practice is normally viewed as consistent with the U.S. Supreme Court's opinions in *Bluefield Waterworks & Improvement Co. v. Public Service Commission*, 262 U.S. 678 (1923), and *Federal Power Commission v. Hope Natural Gas*, 320 U.S. 591 (1944).

From an economic perspective, rate levels that give investors a fair opportunity to earn the cost of capital are the lowest levels that compensate investors for the risks they bear. Over the long run, an expected return above the cost of capital makes customers overpay for service. Regulatory commissions normally try to prevent such outcomes, unless there are offsetting benefits (e.g., from incentive regulation that reduces future costs). At the same time, an expected return below the cost of capital does a disservice not just to

[4] A formal link between the cost of capital as defined by financial economics and the right expected rate of return for utilities is established by Stewart C. Myers, "Application of Finance Theory to Public Utility Rate Cases," *The Bell Journal of Economics and Management Science*, 3:58-97 (Spring 1972).

investors but, importantly, to customers as well. In the long run, such a return denies the company the ability to attract capital, to maintain its financial integrity, and to expect a return commensurate with that of other enterprises attended by corresponding risks and uncertainties.

More important for customers, however, are the economic issues an inadequate return raises for them. In the short run, deviations of the expected rate of return on the rate base from the cost of capital may seemingly create a "zero-sum game"-- investors gain if customers are overcharged, and customers gain if investors are shortchanged. But in fact in the short run, such action may adversely affect the utility's ability to provide stable and favorable rates because some potential efficiency investments may be delayed or because the company is forced to file more frequent rate cases. In the long run, inadequate returns are likely to cost customers -- and society generally -- far more than is gained in the short run. Inadequate returns lead to inadequate investment, whether for maintenance or for new plant and equipment. The costs of an undercapitalized industry can be far greater than the short-run gains from shortfalls in the cost of capital. Moreover, in capital-intensive industries (such as the electric utility industry), systems that take a long time to decay cannot be fixed overnight. Thus, it is in the customers' interest not only to make sure the return investors expect does not exceed the cost of capital, but also to make sure that it does not fall short of the cost of capital, either.

Of course, the cost of capital cannot be estimated with perfect certainty, and other aspects of the way the revenue requirement is set may mean investors expect to earn more or less than the cost of capital even if the allowed rate of return equals the cost of capital exactly. However, a commission that sets rates so investors expect to earn the cost of capital on average treats both customers and investors fairly, and acts in the long-run interests of both groups.

Q14. If a regulator sets the allowed return equal to the cost of capital is that sufficient to insure that the regulated company has a fair opportunity to earn its cost of capital?

A14. In general, yes, but there are circumstances in which it would not. Specifically, if the regulated company faces a substantial level of asymmetric risk, the regulated company

may not expect to earn its cost of capital on average. Asymmetric risk for a regulated company exists when the possibility of a large negative outcome is not balanced by the possibility of a corresponding positive outcome. For example, if a regulated electric distribution company serving as provider of last resort ("PoLR") were unable to pass through to customers the full costs of acquiring power due a rate cap, setting the allowed return equal to the cost of capital would not provide a fair opportunity to earn it. This is the situation currently faced by the utilities in Illinois with the proposed extension of a price cap that is less than the current price of power. In such a situation, the regulated company will expect to earn less than its cost of capital if there is any possibility that the market cost of power exceeds the rate cap. The solution would be to either remove the source of the asymmetric risk (e.g., the price cap) or set the allowed return high enough so that the regulated company can again expect to earn its cost of capital.

Q15. Does asymmetric risk affect the cost of capital?

A15. Maybe. In general, asymmetric risk definitely affects the probability that a regulated utility would expect to earn its allowed return, but it may not affect its cost of capital. The cost of capital would be affected only if the asymmetric risk were correlated with changes in the capital market. However, if a regulated utility faces substantial asymmetric risk, the allowed return on equity would have to be increased in order for the regulated company to expect to earn its cost of capital on average.

Q16. Please expand the discussion how a regulator can correct the effect of asymmetric risk?

A16. There are two ways to correct asymmetric risk. The first is to add a premium to the allowed rate of return on equity for the regulated company so that it can again expect to earn its cost of capital. The second method is to remove the source of the asymmetric risk which in this example means allowing full recovery of the cost of providing PoLR service to the regulated company's customers. I believe that removing the source of the asymmetric risk is a more efficient and cost effective way to establish the conditions necessary for the regulated company to expect to earn its cost of capital.

Q17. Is this an issue for Dominion Virginia Power at this time?

A17. Perhaps. There are aspects of the re-regulation legislation that are asymmetric in that the Company could be treated differently in generally similar circumstances. For example, if the Company were to earn more than its allowed return by more than 50 basis points ("bps"), it may be required to refund up to 60 percent of the amount greater than 50 bps. On the other hand, if the Company were to earn less than its allowed return by more than 50 bps, there is no additional recovery of the amount of the shortfall comparable to the repayment of the amount of earnings greater than 50 bps. Effectively, this provision imposes the downside on the Company, but takes away a portion of the upside in earnings.

Q18. Does your recommended return in this proceeding include any increase as compensation for asymmetric risk in the re-regulation legislation?

A18. No.

B. Business Risk & Financial Risk: Capital Structure and the Cost of Equity

Q19. Please explain briefly the difference between business risk and financial risk.

A19. Business risk is the risk of a company from its line of business if it used no debt financing. When a firm uses debt to finance its assets, the business risk of the assets is shared between the debt holders and the equity holders, but the equity holders bear more of the risk because debt holders have a prior claim on the company's cash flows. Equity holders are residual claimants, which simply means that equity holders get paid last. In other words, the use of debt imposes financial risk on the equity holders. Therefore, the goal of selecting a sample is to choose companies whose business risk is judged to be comparable to Dominion Virginia Power.

Q20. Please explain why it is necessary to report the cost of equity adjusted for capital structure.

A20. Briefly, rate regulation in North America tends to focus on the components of the overall cost of capital, and in particular, on what the "right" cost of equity and capital structure

should be. Frequently, there is no consideration of whether the financial risks of the sample companies differ among themselves or differ from the regulated company. The cost of equity estimated using the standard models (e.g., the DCF model or the risk positioning model) reflects both the business and financial risk of the sample companies. However, the overall cost of capital depends primarily on the business the firm is in, i.e., business risk, while the costs of the debt and equity components depend not only on this business risk alone but also on the distribution of revenues between debt and equity, i.e. financial risk. The overall cost of capital is thus the more basic concept. As I explain in Appendix E, the overall cost of capital is constant within a broad middle range of values of capital structures, but the distribution of the costs and risks among debt and equity is not. Appendix E sets out the principles and procedures on which I rely.

C. IMPLICATIONS FOR ANALYSIS

Q21. Please explain the implications of the relationship between capital structure and the cost of equity in your testimony.

A21. The risk equity holders carry, and therefore the cost of equity, depends on the capital structure. As leverage increases, financial risk increases, and hence the required return on equity increases. An approach that estimates the cost of equity for each of the sample firms without explicit consideration of the market value capital structure (i.e., the financial risk) underlying those costs risks material errors. The costs of equity of the sample companies at their actual market-value capital structures do not necessarily reflect the same degree of financial risk as faced by equity holders in the regulated company, and thus could lead to an unfair rate of return if the sample's cost of equity estimate were simply and mechanically applied to the regulated company's capital structure. I avoid this problem by calculating each sample company's ATWACC using its market value capital structure. Using the sample's average overall cost of capital (i.e., the average of the sample companies' ATWACCs) as an estimate of Dominion Virginia Power's cost of capital, I then determine the corresponding return on equity at Dominion Virginia Power's filed regulatory capital structure as sponsored by Company Witness M. Stuart Bolton, Jr. This procedure ensures that the capital structure (i.e., financial risk) and the estimated cost of equity are consistent with the market derived sample information.

In the following analyses, I estimate the cost of equity for each of the sample firms using the DCF and risk positioning estimation methods. I use each company's estimated cost of equity along with Dominion Virginia Power's estimated 2008 marginal tax rate and each sample company's cost of debt and market-value capital structure to estimate the company's overall cost of capital.[5] I then calculate the sample's average overall cost of capital for each equity estimation method. Using the procedure discussed above, I then determine the cost of equity at Dominion Virginia Power's regulated capital structure that is consistent with the sample's overall cost of capital information for each estimation method.

Q22. To assess the magnitude of financial risk for a rate regulated company, should you use the market-value or the book-value capital structure?

A22. The market-value capital structure is the relevant quantity for analyzing the cost of equity evidence, which is based on market information.

Q23. Has the need to use market-value capital structures to estimate the cost of equity been widely recognized in the academic community?

A23. Yes. The need to use market-value capital structures to analyze the effect of debt on the cost of equity has been recognized in the financial literature for a long time. For example, the initial reconciliation of the Modigliani-Miller theories of capital structure with the Capital Asset Pricing Model, in Robert S. Hamada, "Portfolio Analysis, Market Equilibrium and Corporate Finance," The Journal of Finance 24: 13-31 (March 1969) works with market-value capital structures. For a more recent presentation of the concept, see, for example, Richard A. Brealey, Stewart C. Myers, and Franklin Allen, *Principles of Corporate Finance*, New York: McGraw-Hill/Irwin 8th ed. (2006) pp. 503-06. Book values may be relevant for some issues, e.g., for covenants on individual bond issues, but as explained in the text, market values are the determinants of the impact of debt on the cost of equity.

[5] The marginal tax rate was provided by the Company.

Q24. Is the use of market values to calculate the impact of capital structure on the risk of equity incompatible with use of a book-value rate base for a regulated company?

A24. No, no more than it is incompatible to use market-based cost of equity estimation methods (such as DCF or the risk positioning model) with a book-value rate base. That is, the cost of capital is the fair rate of return on regulatory investment (i.e., rate base) for both investors and customers. Most regulatory jurisdictions in North America measure the rate base using the net book value of assets, not current replacement value or historical cost trended for inflation, but the jurisdictions still apply market-derived measures of the cost of equity to that net book-value rate base.

The issue here is "what level of risk is reflected in that cost of equity estimate?" That equity risk level depends on the sample company's market-value capital structure, not its book-value capital structure. *That risk level would be different if the sample company's market-value capital structure exactly equaled its book-value capital structure, so the estimated cost of equity would be different, too.*

Q25. Please sum up the implications of this section.

A25. The market risk, and therefore the cost of equity, depends directly on the market-value capital structure of the company or asset in question. It therefore is impossible to compare validly the measured costs of equity of different companies without taking capital structure into account. Capital structure and the cost of equity are unbreakably linked, and any effort to treat the two as separate and distinct questions violates both everyday experience (e.g., with home mortgages as shown in the extended example in Appendix E) and basic financial principles.

Q26. How should a cost of capital analyst implement this principle?

A26. As discussed further in Appendix E, there has been a great deal of financial research on the effects of capital structure on the value of the firm. One of the key conclusions that results from the research is that no narrowly defined optimal capital structure exists within industries, although the typical range of capital structures does vary among

industries.[6] Instead, there is a relatively wide range of capital structures within any industry in which fine-tuning the debt ratio makes little or no difference to the value of the firm, and hence to its overall after-tax cost of capital.

Accordingly, analysts should treat the market-value weighted average of the cost of equity and the after-tax current cost of corporate debt, or the "ATWACC" for short,[7] as constant within a broad middle range of capital structures for the industry. Sample evidence should be analyzed to determine the sample's average ATWACC, which can be compared across different firms or industries. The economically appropriate cost of equity for a regulated firm is the quantity that, when applied to the *regulatory* capital structure, produces the same ATWACC. That value is the cost of equity that the sample would have had, estimation problems aside, if the sample's market-value capital structure had been equal to the regulatory capital structure in question.

Q27. Can you provide an example of the calculation of the cost of equity consistent with the market-determined estimate of the sample's average overall cost of capital?

A27. Yes. Consider the following equation to calculate the ATWACC:[8]

$$ATWACC = r_D \times (1 - T_C) \times D + r_E \times E \quad (1)$$

where r_D = market cost of debt,
r_E = market cost of equity,
T_C = corporate marginal income tax rate,
D = percentage of debt in the capital structure, and
E = percentage of equity in capital structure.

[6] An exception is that very high-risk industries should avoid debt entirely, which makes their optimal capital structure zero percent debt.

[7] This quantity typically is called the "weighted-average cost of capital" or "WACC" in finance textbooks. The textbook WACC equals the *market*-value weighted average of the cost of equity and the *after-tax*, *current* cost of debt. However, rate regulation in North America has a legacy of working with another, and very different, weighted-average cost of capital, the *book*-value weighted average of the cost of equity and the *before-tax*, *embedded* cost of debt. Accordingly, in regulatory settings it's useful to refer to the textbook WACC as the "ATWACC," or "after-tax weighted-average cost of capital." I follow that practice here.

[8] Note that this equation assumes that only debt and equity are in the capital structure, but one can add preferred equity to the equation if appropriate.

The cost of equity consistent with overall cost of capital estimate (ATWACC), the market cost of debt and equity, the marginal corporate income tax rate and the amount of debt and equity in the capital structure can be determined by solving equation (1) for r_E.

III. COST OF CAPITAL METHODOLOGY

Q28. How is this section of your testimony organized?

A28. As noted in Section II, I estimate the cost of capital using a sample of comparable risk companies. This section first outlines the steps involved in selecting the benchmark sample, in determining the market-value capital structures, and in estimating the sample companies' costs of debt. It then turns to the procedures for estimating the cost of equity and describes the two cost of equity estimation methodologies used in this testimony, the DCF method and the risk positioning approach. These are the foundations of my cost of capital calculations which I present in the following section and which I use to derive a recommended cost of equity for Dominion Virginia Power at its regulatory capital structure.

A. SAMPLE SELECTION

Q29. How do you select the benchmark sample of regulated electric utilities?

A29. The overall cost of capital for a part of a company depends on the risk of the business in which the part is engaged, not on the overall risk of the parent company on a consolidated basis. According to financial theory, the overall risk of a diversified company equals the market-value-weighted average of the risks of its components.

Estimating the cost of capital for Dominion Virginia Power's SCC regulated assets is the subject of this proceeding. Normally, the ideal sample would be a number of publicly traded "pure play" integrated electric companies or perhaps electric distribution companies with a PoLR responsibility. "Pure Play" is an investment term referring to companies with operations only in one line of business. Publicly traded firms, firms whose shares are freely traded on stock exchanges, are ideal because the best way to infer the cost of capital is to examine evidence from capital markets on companies in the given line of business.

Currently, Dominion Virginia Power is a regulated distribution and transmission company with a PoLR responsibility, but the re-regulation legislation noted earlier will alter the Company's status. A limited PoLR obligation, subject to conditions set forth in the restructuring legislation, will remain after December 31, 2008 for the larger customers with a load of 5 MW or more, or for certain aggregation customers, but most small consumers will no longer be able to choose retail access. As a regulated utility in a partially deregulated state that is transitioning to a fully integrated electric utility, Dominion Virginia Power's current situation is unique. As a result, I selected a sample of 15 companies whose operations are concentrated in the regulated portions of the electric industry. Some of the sample companies are integrated electric utilities in traditionally regulated states and some are transmission and distribution electric utilities in deregulated states. To select the sample, I start with the companies listed as electric utilities in *Value Line*. I then apply my standard selection procedures which require, for example, that data from S&P or Moody's, *Value Line*, I/B/E/S and Bloomberg be available for all sample companies. Moreover, the companies must have a high percentage of regulated electric utility assets, no significant merger activity in the previous five years, and no recent dividend cuts or other activity that could cause the growth rates or beta estimates to be biased.

Q30. Does your sample differ from the one used by Company Witness Bolton?

A30. Yes. Mr. Bolton selected the peer group sample by reference to the direction contained in the re-regulation legislation. The legislation restricts the sample geographically and requires the peer group companies to be integrated electric utilities with an investment grade credit rating from Moody's. The companies in the peer group do not have traded stock, but this is not a problem for the cost of equity estimation technique encompassed in the legislation. The cost of equity is estimated in a manner similar to a comparable earnings approach in which the sample companies' realized accounting return on book equity is used as a benchmark.

Q31. Why didn't you select your sample companies using the same set of critera?

A31. I did employ some similar criteria such as restricting the sample to investment grade companies, but implementation of the DCF and risk positioning models requires that the

sample companies have traded stock so it is impossible to use the same peer group sample. There is a tradeoff between selecting companies that are close to pure plays in the electric utility industry and finding companies with traded stock. The peer group consists of companies that are more nearly pure plays in the electric industry compared to my sample which generally consists of holding companies. On the other hand, the peer group estimates make no use of market information such as capital gains or losses and dividend payments or market measures of risk.

Q32. Please summarize your comparison of the peer group approach and your approach to estimating the cost of equity for the Company.

A32. The two approaches are complementary in that they attempt to estimate the cost of equity for the Company using different information sets. The peer group approach can be more restrictive in company selection because it is not restricted to companies with traded stock and uses accounting information. My approach relies upon market information, but requires traded stock. Because there are fewer companies with traded stock from which to choose, I include companies in the sample that would have been eliminated had I applied the same restrictions as required by the legislation, resulting in a very small sample. The problem would have been exacerbated by the legislation's requirement to drop the two highest and two lowest estimates.

B. CAPITAL STRUCTURE & THE COST OF DEBT

1. Market-Value Capital Structure

Q33. What capital structure information do you require?

A33. For reasons discussed in Appendix E, explicit evaluation of the market-value capital structures of the sample companies is vital for a correct interpretation of the market evidence on the return on equity. This requires estimates of the market values of common equity, preferred equity and debt, and the current market costs of preferred equity and debt.

Q34. Please describe how you calculate the market values of common equity, preferred equity and debt.

A34. I estimate the capital structure for each sample company by estimating the market values of common equity, preferred equity and debt from the most recent publicly available data. The details are in Appendix B.

Briefly, the market value of common equity is the price per share times the number of shares outstanding. For the risk positioning approach, I use the last five trading days of each year to calculate the market value of equity for the year. I then calculate the average capital structure over the corresponding five-year period used to estimate the "beta" risk measures for the sample companies.[9] This procedure matches the estimated beta to the degree of financial risk present during its estimation period. In the DCF analyses, I use the average closing stock price over the 15 trading days ending on the day that the earnings growth rate forecasts are obtained from Bloomberg.[10]

The market value of debt is estimated at its book value adjusted by the difference between the "estimated fair (market) Value" and the "carrying cost" of long-term debt reported in each company's 10-K.[11] The market value of preferred stock for the samples is set equal to its book value because the percent of preferred stock in the capital structures of the sample companies is relatively small compared to the debt and common equity components.

2. Market Costs of Debt and Preferred Equity

Q35. How do you estimate the current market cost of debt?

A35. The fifteen-day average market cost of debt for each company is set equal to the yield on an index of public utility bonds that have the same credit rating, and the yield is reported by Bloomberg's for an index of public utility company bonds with the same S&P

[9] *Value Line* uses five years of historical data to estimate its forecasted betas.

[10] Forecasts were obtained on June 11, 2007 for all companies in the benchmark sample.

[11] The book value of debt from Bloomberg includes all interest-bearing financial obligations that are not current and includes capitalized leases and mandatory redeemable preferred and trust preferred securities in accordance with FASB 150 effective June 2003. See Bloomberg definition of long-term debt for additional detail.

rating.[12] The DCF analyses use the current credit rating whereas the risk positioning analyses use the current yield of a utility bond that corresponds to the five-year average debt rating of each company so as to match consistently the horizon of information used by *Value Line* to estimate company's beta.

Q36. How do you estimate the market cost of preferred equity?

A36. For each company with preferred stock, the cost of preferred equity for each company is set equal to the yield on an index of preferred stock as reported in the Mergent Bond Record[13] corresponding to the S&P rating of that company's debt.

3. Risk-Free Interest Rate Forecast

Q37. What is the risk-free rate?

A37. The risk-free rate is the interest rate that can be earned with certainty. A common measure of this rate is the return on the government's Treasury bills and bonds. This rate is usually significantly below the rate which other borrowers pay for debt.

Q38. How do you obtain the forecasts of the risk-free interest rates over the period the utility rates set here are to be in effect?

A38. I obtain these forecast rates using data provided by Bloomberg. In particular, I use the reported government debt yields from the "constant maturity series". This information is displayed in Panels A and B of Table No. MJV-9.

Q39. What values do you use for the short-term and long-term risk-free interest rates?

A39. I use a value of 5.1 percent for the long-term risk-free interest rate as the benchmark risk-free interest rates in the equity risk premium analyses and a value of 4.1 percent for the short-term risk-free interest rate. The short-term rate is derived by using historical yield curve data to find the long-run average implied term premia on government securities,

[12] See Workpaper #2, Panel A to Table No. MJV-11.

[13] Published monthly, *Mergent's Bond Record* offers a comprehensive review of over 68,000 bond issues including coverage of corporate, government, municipal, industrial development/environmental control revenue and international bonds, plus structured finance and equipment trust issues, medium-term notes, convertible issues, preferred stocks and commercial paper issues.

and combining these with recent yield curve data. Details of their calculation can be found in the Workpapers to Table No. MJV-9.

C. Cost of Equity Methods

Q40. How do you estimate the cost of equity for your sample companies?

A40. Recall the definition of the cost of capital from the outset of my testimony: the expected rate of return in capital markets on alternative investments of equivalent risk. My cost of capital estimation procedures address three key points implied by the definition:

1. Since the cost of capital is an expected rate of return, it cannot be directly observed; it must be inferred from available evidence.

2. Since the cost of capital is determined in capital markets (e.g., the New York Stock Exchange), data from capital markets provide the best evidence from which to infer it.

3. Since the cost of capital depends on the return offered by alternative investments of equivalent risk, measures of the risks that matter in capital markets are part of the evidence that needs to be examined.

Q41. How does the above definition help in cost of capital estimation?

A41. The definition of the cost of capital recognizes a tradeoff between risk and expected return, plotted above in Figure 1, the security market line. Cost of capital estimation methods take one of two approaches: (1) they try to identify a comparable-risk sample of companies and to estimate the cost of capital directly; or (2) they establish the location of the security market line and estimate the relative risk of the security, which jointly determine the cost of capital. In terms of Figure 1, the first approach focuses directly on the vertical axis, while the second focuses both on the security's position on the horizontal axis and on the position of the security market line.

The first type of approach is more direct, but ignores the wealth of information available on securities not thought to be of precisely comparable risk. The "discounted cash flow" or "DCF" model is an example. The second type of approach, sometimes known as "equity risk premium approach," requires an extra step, but as a result can make use of information on all securities, not just a very limited subset. The Capital Asset Pricing

Model ("CAPM") is an example. While both approaches can work equally well if conditions are right, one may be preferable to the other under a given set of circumstances. In particular, approaches that rely on the entire security market line (e.g., the risk positioning model) are less sensitive to deviations from the assumptions that underlie the model, all else equal. In this proceeding, I examine sample evidence from both the DCF and risk positioning models.

1. The Risk Positioning Approach

Q42. Please explain the risk positioning method.

A42. The risk positioning method estimates the cost of equity as the sum of a current interest rate and a company specific risk premium. It is therefore sometimes also known as the "risk premium" approach. This approach may sometimes be applied informally. For example, an analyst or Commission may check the spread between interest rates and what is believed to be a reasonable estimate of the cost of capital at one time, and then apply that spread to changed interest rates to get a new estimate of the cost of capital at another time.

More formal applications of the risk positioning approach take full advantage of the security market line depicted in Figure 1: they use information on all securities to identify the security market line and derive the cost of capital for the individual security based on that security's relative risk. This reliance on the entire security market line makes the method less vulnerable to the kinds of problems that arise for the DCF method, which relies on one stock at a time. The risk positioning approach is widely used and underlies most of the current research published in academic journals on the nature, determinants and magnitude of the cost of capital.

Section I of Appendix C to this testimony provides more detail on the principles that underlie the risk positioning approach. Section II of Appendix C provides the details of the risk positioning approach empirical estimates I obtain.

Q43. How are the "more formal" applications of risk positioning approach implemented?

A43. The first step is to specify the current values of the parameters that determine the security market line. The second is to determine the security's or the investment's relative risk. The third is to specify exactly how the parameters combine to produce the security market line, so the company's cost of capital can be calculated based on its relative risk. All of these elements and how they relate are usefully formulated in the framework of the CAPM.

a) The Capital Asset Pricing Model

Q44. Please start with the CAPM, by describing the model.

A44. As noted above, the modern models of capital market equilibrium express the cost of equity as the sum of a risk-free rate and a market risk premium. The CAPM is the longest-standing and most widely used of these theories. The CAPM states that the cost of capital for an investment, *s*, (e.g., a particular common stock) is given by the following equation:

$$k_s = r_f + \beta_s \times MRP \qquad (2)$$

where k_s is the cost of capital for investment *s*; r_f is the risk-free rate, β_s is the beta risk measure for the investment *s*; and *MRP* is the market risk premium.

The CAPM relies on the empirical fact that investors price risky securities to offer a higher expected rate of return than safe securities do. It says that the security market line starts at the risk-free interest rate (that is the return on a zero-risk security, the y-axis intercept in Figure 1, equals the risk-free interest rate). It further says that the risk premium over the risk-free rate equals the product of beta and the risk premium on a value-weighted portfolio of all investments, which by definition has average risk.

b) The Empirical Capital Asset Pricing Model

Q45. What other equity risk premium model do you use?

A45. Empirical research has long shown that the CAPM tends to overstate the actual sensitivity of the cost of capital to beta: low-beta stocks tend to have higher risk premia than predicted by the CAPM and high-beta stocks tend to have lower risk premia than predicted. A number of variations on the original CAPM theory have been proposed to explain this finding, but this finding can also be used to estimate the cost of capital directly, using beta to measure relative risk without simultaneously relying on the CAPM.

The second model makes use of these empirical findings. It estimates the cost of capital with the equation, where α is the "alpha" adjustment of the risk-return line, a constant,

$$k_s = r_f + \alpha + \beta_s \times (MRP - \alpha) \quad (3)$$

and the other symbols are defined as above. I label this model the Empirical Capital Asset Pricing Model, or "ECAPM." The alpha adjustment has the effect of increasing the intercept but reducing the slope of the security market line in Figure 1, which results in a security market line that more closely matches the results of empirical tests.

Q46. Why is it appropriate for you to use the empirical CAPM?

A46. Although the CAPM is still the most widely used cost of capital estimation model, it has not been completely satisfactory as an empirical model; however, its short-comings are directly addressed by the ECAPM. The ECAPM recognizes the consistent empirical observation that the CAPM underestimates (overestimates) the cost of capital for low (high) beta stocks. In other words, the ECAPM is based on the recognition that the actual slope of the risk-return tradeoff is flatter than predicted and the intercept higher based upon repeated empirical tests of the CAPM. The alpha parameter (α) in the ECAPM adjusts for this fact. The difference between the CAPM and the type of relationship identified in the empirical studies is depicted in Figure 2.

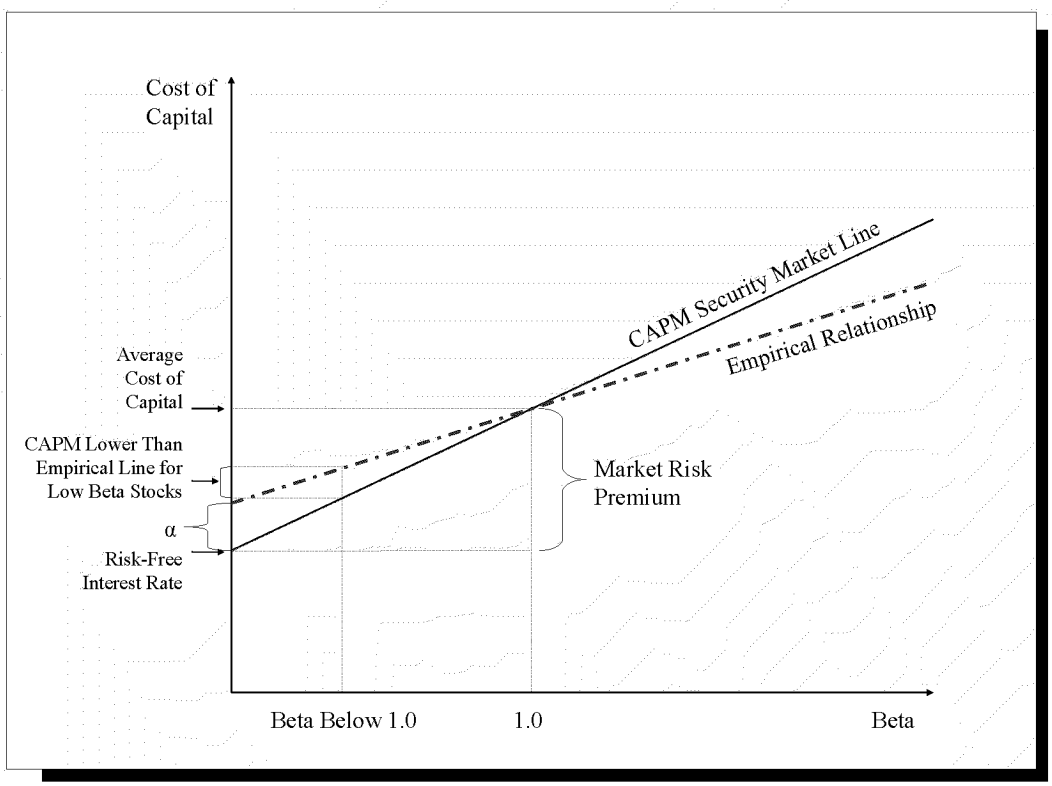

Figure 2: The Empirical Security Market Line

Research supports values for α of one to seven percent when using a short-term interest rate. I use baseline values of α of 2 percent for the short-term risk-free rate and 0.5 percent for the long-term risk-free rate. I also conduct sensitivity tests for different values of α. For the short-term risk-free rate I use values for α of 1, 2 and 3 percent. These α values are lower than would be justified by the magnitude of the correction revealed in the tests of the CAPM. For the long-term risk-free rate, the corresponding values for α are 0, 0.5 and 1.5 percent. The use of a long-term risk-free rate incorporates some of the desired effect of using the ECAPM. That is, the long-term risk-free rate version of the security market line has a higher intercept and a flatter slope than the short-term risk-free version which has been extensively tested. Thus, I do not need to make the same degree of refinement when I use the long-term risk-free rate. Please see Table No. MJV-C1 in Appendix C for a summary of the empirical evidence on the size of the required adjustment necessary to better match the results of the empirical tests.

2. Discounted Cash Flow Method

Q47. Please describe the discounted cash flow approach.

A47. The DCF model takes the first approach to cost of capital estimation, i.e., to attempt to estimate the cost of capital in one step. The method assumes that the market price of a stock is equal to the present value of the dividends that its owners expect to receive. The method also assumes that this present value can be calculated by the standard formula for the present value of a cash flow stream:

$$P = \frac{D_1}{(1+k)} + \frac{D_2}{(1+k)^2} + \frac{D_3}{(1+k)^3} + \cdots + \frac{D_T}{(1+k)^T} \quad (4)$$

where "P" is the market price of the stock; "D_t" is the dividend cash flow expected at the end of period t (i.e., subscript period 1, 2, 3 or T in the equation); "k" is the cost of capital; and "T" is the last period in which a dividend cash flow is to be received. The formula just says that the stock price is equal to the sum of the expected future dividends, each discounted for the time and risk between now and the time the dividend is expected to be received.

Very often, when the DCF is applied in regulatory proceedings, very strong (i.e., unrealistic) assumptions are used that yield a simplification of the standard formula, which then can be rearranged to estimate the cost of capital. Specifically, it is assumed that investors expect a dividend stream that will grow *forever* at a steady rate, and if so, the market price of the stock will be given by a very simple formula,

$$P = \frac{D_1}{(k-g)} \quad (5)$$

where "D_1" is the dividend expected at the end of the first period, "g" is the perpetual growth rate, and "P" and "k" are the market price and the cost of capital, as before. Equation (5) is a simplified version of equation (4) that can be solved to yield the well known "DCF formula" for the cost of capital:

$$k = \frac{D_1}{P} + g$$
$$= \frac{D_0 \times (1+g)}{P} + g \qquad (6)$$

where "D_0" is the current dividend, which investors expect to increase at rate g by the end of the next period, and the other symbols are defined as before. Equation (6) says that if equation (5) holds, the cost of capital equals the expected dividend yield plus the (perpetual) expected future (forever constant) growth rate of dividends. I refer to this as the simple DCF model. Of course, the "simple" model is simple because it relies on very strong (i.e., very unrealistic) assumptions.

Q48. Are there other versions of the DCF models besides the "simple" one?

A48. Yes. The constant growth rate DCF model requires that dividends and earnings grow at the same rate for companies that earn their cost of capital on average.[14] It is inconsistent with the theory on which the model is based to have different growth rates in earnings and dividends over the period when growth is assumed to be constant. If the growth in dividends and earnings were expected to vary over some number of years before settling down into a constant growth period, then it would be appropriate to estimate a multistage DCF model. In the multistage model, earnings and dividends can grow at different rates, but must grow at the same rate in the final, constant growth rate period. A difference between forecasted dividend and earnings rates therefore is a signal that the facts do not fit the assumptions of the simple DCF model.

So, I consider a variant of the DCF model that relies on slightly less strong assumptions in that it allows for varying dividend growth rates in the near term before assuming a perpetual growth rate beginning in year eleven. I use the forecast growth of GDP as the forecast of the long-term growth rate, i.e. year eleven on. This is a "multistage" variant

[14] Why must the two growth rates be equal in a steady-growth DCF model? Think of earnings as divided between reinvestment, which funds future growth, and dividends. If dividends grow faster than earnings, there is less investment and slower growth each year. Sooner or later dividends will equal earnings. At that point, growth is zero because nothing is being reinvested (dividends are constant). If dividends grow slower than earnings, each year a bigger fraction of earnings are reinvested. That makes for ever faster growth. Both scenarios contradict the steady-growth assumption. So if you observe a company with different expectations for dividend and earnings growth, you know the company's stock price and its dividend growth forecast are inconsistent with the assumptions of the steady-growth DCF model.

of the DCF method. The DCF models are described in detail in Section I.A of Appendix D. (Section II of Appendix D provides the details of my empirical DCF results.)

Q49. What are the merits of the DCF approach?

A49. The DCF approach is conceptually sound if its assumptions are met, but can run into difficulty in practice because those assumptions are so strong[15], and hence so unlikely to correspond to reality. Dividends, earnings and prices are unlikely to grow at a constant rate literally forever. Two conditions are also well known to be necessary for the DCF approach to yield a reliable estimate of the cost of capital: the variant of the present value formula that is used must actually match the variations in investor expectations for the growth of dividends, and the growth rate(s) used in that formula must match current investor expectations. Less frequently noted conditions may also create problems (see Appendix D for details).

Q50. Is estimating the "right" dividend growth rate the most difficult part for the implementation of the DCF approach?

A50. Yes. Finding the right growth rate(s) is the usual "hard part" of a DCF application. The original approach to estimation of *g* relied on average historical growth rates in observable variables, such as dividends or earnings, or on the "sustainable growth" approach, which estimates *g* as the average book rate of return times the fraction of earnings retained within the firm. But it is highly unlikely that these historical averages over periods with widely varying rates of inflation and costs of capital will equal current growth rate expectations. As discussed above, this is particularly true for the electric industry at present because the ultimate structure of the industry is uncertain. The movement toward restructuring nationwide has stalled and, in Virginia the restructuring process is being reversed. Similar proposal are under consideration other locations. In addition, there is uncertainty associated with the possible imposition of new environmental regulations and the effect of the relatively rapid increase in fuel prices. These facts are not a description of the stable conditions necessary for the reliable implementation of the DCF model.

[15] In this context "strong" means that the assumption is unlikely to match reality and that it also has a substantial impact on the model's results.

IV. DOMINION VIRGINIA POWER's COST OF CAPITAL

A. DOMINION VIRGINIA POWER'S OPERATIONS AND RISKS

Q51. Please describe the operating characteristics of Dominion Virginia Power.

A51. Dominion Virginia Power is a regulated public utility that serves 2.4 million customers in Virginia and northeastern North Carolina. Currently rates are unbundled cost-based rates for distribution and transmission. Dominion Virginia Power owns generation assets but total rates are capped at 1999 levels until December 31, 2008.[16] Currently, the Company is a net importer of power. Retail choice has been available in Virginia since January 1, 2003; however, to date competition in Virginia has not developed to any significant extent.[17] Dominion Virginia Power's fuel adjustment clause was revised in June 2007 to change the way the fuel factor is set beginning on July 1, 2007. Deferred fuel costs are to be recovered over a 3½ period beginning July 1, 2007 with no interest received on deferred balances. Dominion Virginia Power is a member of PJM Interconnection, LLC ("PJM") and has integrated its electric transmission facilities in the PJM wholesale electricity markets.

B. SAMPLE SELECTION

Q52. How did you select your sample of electric utilities?

A52. The goal was to create a sample of companies whose primary business is as a regulated electric utility with business risk generally similar to that of Dominion Virginia Power. To construct this sample, I started with a universe of 68 companies by combining the electric companies under East, Central and West electric utility categories listed in *Value Line*.[18] From this group companies were first eliminated if their operating regions were outside of the continental USA or if they were primarily engaged in generation and/or transmission. I then applied my standard selection criteria outlined earlier to remove companies without sufficient data to estimate their cost of capital, companies showing

[16] This was changed from December 31, 2010 by the re-regulation legislation.

[17] See Dominion Resources Form 10-K, December 31, 2006, p. 4.

[18] These three categories include all companies followed by *Value Line* that are classified as electric utilities.

signs of financial distress (i.e. less than an investment grade credit rating from S&P), with large recent merger and acquisition ("M&A") activity, recent dividend cuts, companies with a small market capitalization, and companies whose share of regulated assets was estimated to be less than 50 percent.

Specifically, I required the sample companies to have an investment grade credit rating (i.e., BBB- or above), have had no dividend cuts in the past five years, have revenues of at least $300 million and have five years of historical data in Bloomberg. I also required that the companies have engaged in no major merger or acquisition during the last five years. A total of 15 companies met all of these requirements: Cleco Corp, Consolidated Edison, DTE Energy, Empire District Electric, Entergy Corp, FirstEnergy Corp, MGE Energy, NSTAR, Pinnacle West Capital Corp, Otter Tail Corp., PPL Corp, Puget Energy, Southern Co., and SCANA. Details on the sample selection process are in Appendix B. Characteristics of the sample companies are outlined in Table 1 below.

Table 1: Benchmark Electric Sample

Company	Revenue (2006) ($MM) [1]	Regulated Electric Assets [2]	Market Cap. (2006) ($MM) [3]	S&P Bond Rating (2007) [4]	Beta [5]	Long-Term Growth Estimate [6]
Cleco Corp	1,001	R	1,463	BBB	1.30	7.2%
Consolidated Edison Inc	12,137	R	12,362	A	0.75	3.4%
DTE Energy Co	9,022	MR	8,620	BBB	0.75	6.2%
Empire District Electric Co	413	R	750	BBB-	0.85	4.8%
Energy East Corp	5,231	R	3,705	BBB+	0.95	5.2%
Entergy Corp	10,932	R	18,786	BBB	0.85	10.7%
FirstEnergy Corp	11,501	MR	19,375	BBB	0.85	8.1%
MGE Energy Inc	508	R	764	AA-	0.80	5.0%
NSTAR	3,578	R	3,689	A+	0.80	6.0%
Otter Tail Corp	1,105	MR	927	BBB+	0.65	4.5%
Pinnacle West Capital Corp	3,402	R	5,061	BBB-	1.00	3.4%
PPL Corp	6,899	MR	13,855	BBB	0.95	11.0%
Puget Energy Inc	2,906	R	2,975	BBB-	0.85	5.4%
SCANA Corp	4,563	MR	4,781	A-	0.85	4.2%
Southern Co	14,356	R	27,609	A	0.70	5.3%
Dominion Virginia Power †	*5,451*	*R*	*29,260* *	*BBB*	*1.05* *	*7.6%* *

Sources and Notes:

† Data for Dominion Virginia Power is taken from Dominion's 2006 10-K. * Where noted, data is not available for Dominion Virginia Power's operations and instead reflects Dominion Resources' consolidated operations.

[1] Bloomberg.

[2] R – Regulated (More than 80 % of assets regulated).
MR – Mostly Regulated (50 % to 80 % of assets regulated)
Source: EEI Quarterly Report of the U.S. Shareholder-Owned Electric Utility Industry, Q1 2007 Financial Update, *Stock Performance* . See Table MJV-2.

[3] Bloomberg.

[4] Provided by Bloomberg on June 11, 2007.

[5] Value Line Investment Survey – see Workpaper # 1 to Table MJV-10

[6] See Table MJV-5.

1. Characteristics of the Sample

Q53. Table 1 lists the characteristics of the sample. Does the sample exactly match the risk characteristics of Dominion Virginia Power?

A53. No, the sample does not perfectly match the risk characteristics of the Dominion Virginia Power. In general, there is no perfect sample, and matching Dominion Virginia Power's business risk is particularly difficult at this time due to the process of re-regulation that is

set to begin in 2009. In addition, there is always a trade-off between sample size and imposing sample selection criteria designed to remove companies from the sample that may potentially bias the estimated costs of capital. In this case, I believe that this sample is the best currently available given the ongoing changes in the electric industry in general and in the Commonwealth of Virginia in particular.

2. Comparison of the Risk of the Sample to Risk of Dominion Virginia Power

Q54. Please summarize the general risk characteristics of the companies in the sample and those of Dominion Virginia Power.

A54. The sample consists of eight integrated utilities in traditionally regulated states, six companies with a PoLR obligation operating in states that have already transitioned to a deregulated electricity market and one company in a state (Arizona) that is partially deregulated. A summary of their risk characteristics is provided in Table 2 below.

Table 2a: Risk Characteristics of Sample Companies

	States Served	Electric Subsidiaries	PoLR [1]	Rate Cap for PoLR Utilities [2]	Fuel Cost Adjustment [3]	S&P Business Profile [4]	S&P Business Class [5]
States with Full Restructuring							
Consolidated Edison Inc	NY	Con Edison of New York	Yes	No	Yes	2	TD
	NY	Orange and Rockland	Yes	No	Yes		
	NJ		Yes	No	No		
	PA		Yes	No	No		
DTE Energy Co	MI	DTE Energy	Yes	No	Yes	6	D
Energy East Corp	NY	RG&E and NYSEG	Yes	No	Yes	n/a	IE
	ME	Central Maine Power Co.	Yes	No	Yes		
FirstEnergy Corp	OH	Ohio Edison / Cleveland Electric Illuminating / Toledo Edison / ATSI	Yes	Yes - settlements allow some increase.	Yes	6	D
	NJ	JCP&L	Yes	No	No		
	PA	Met-ED and Penelec	Yes	Yes	No		
NSTAR	MA	NSTAR	Yes	No	Yes	1	TD
PPL Corp	PA	PPL Electric Utilities Co	Yes	Yes [until 2009]	No	7	D
Partially Restructured States							
Pinnacle West Capital Corp [a]	AZ	Arizona Public Service Co.	No	-	Yes	6	IE
Dominion Resources Inc.	*VA*	*Dominion Virginia Power*	*Yes**	*Yes*	*Yes* *	*5*	*IE*
	NC			*Yes*	*Yes*		

Sources:

Company 10-K's, 2006.

U.S. Utility and Power Ranking List, April 28, 2006, published by Standard and Poor's.

Notes:

* Fuel-cost adjustment mechanism modified July 2007.

[1] PoLR is an acronym for "Provider of Last Resort".

[2] Yes indicates rate caps are in place as part of PoLR obligations.

[3] Yes indicates a mechanism was reported in company 10-Ks, but different mechanisms exist by company and by state. If a mechanism exists, it generally allows for eventual recovery of most if not all prudent costs.

[4] S&P Business Profile as published on April 28, 2006 in S&P's U.S. Utility and Power Ranking List where available.

Table 2b: Risk Characteristics of Sample Companies

	States Served	Electric Subsidiaries	Fuel Cost Adjustment [1]	S&P Business Profile [2]	S&P Business Class [3]
Traditionally Regulated States					
Cleco Corp	LA	Cleco Power LLC	Yes	6	D
Empire District Electric Co	KS	Empire District Electric Co	Yes	n/a	IE
	MO		No		
	OK[b]		Yes		
	AR[b]		Yes		
Entergy Corp	AR[b]	Entergy Arkansas	Yes	6	D
	TX[c]	Entergy Gulf States	Yes		
	LA	Entergy Louisiana / Entergy Gulf States / Entergy New Orleans[a]	Yes		
	MS	Entergy Mississippi	Yes		
MGE Energy Inc	WI	Madison Gas and Electric Co	Yes	4	IE
Southern Co	AL	Alabama Power Company	Yes	4	IE
	GA	Georgia Power Company	Yes		
	FL	Gulf Power Company	Yes		
	MS	Mississippi Power Company	Yes		
Otter Tail Corp	MN	Otter Tail Power Company	Yes	8	D
	ND		Yes		
	SD		Yes		
Puget Energy Inc	WA	Puget Energy Inc	Yes	4	IE
SCANA Corp	SC	SCE&G	Yes	4	IE

Sources:

Company 10-K's, 2006.

U.S. Utility and Power Ranking List , April 28, 2006, published by Standard and Poor's.

Notes:

[1] Yes indicates a mechanism was reported in company 10-Ks, but different mechanisms exist by company and by state. If a mechanism exists, it generally allows for eventual recovery of most if not all prudent costs.

[2] S&P Business Profile as published on April 28, 2006 in S&P's U.S. Utility and Power Ranking List where available.

[3] TD- Regulated Transmission and Distribution T- Transmission Only IE- Integrated Electric
D- Diversified Energy and Diversified Non-Energy.
Classification based on S&P's U.S. Utility and Power Ranking List where available.

[a] Entergy New Orleans is currently in Chapter 11 reorganization, but it represents less than 3% of the assets of Entergy Corp.

[b] States either repealed or delayed restructuring.

[c] Although Texas has a restructured market, Entergy operates in a traditionally regulated region of the state.

Q55. How does the risk of the sample compare to the risk of Dominion Virginia Power?

A55. At this time, the sample appears to be less risky than Dominion Virginia Power. Only six of the sample companies appear to have a PoLR obligation, and they are in states that have already moved to market costs for electric power. As a result, they face a different kind of regulatory uncertainty than Dominion Virginia Power currently does. Dominion Virginia Power faces the uncertainty of exactly how the Commission will interpret and implement the changes stemming from the passage of the re-regulation legislation. The goal of the legislation appears to be to reverse the process of electric restructuring in Virginia and to return the Commonwealth's electric utilities to fully integrated, traditionally regulated electric utilities. Although the legislation attempts to spell out the process by which re-regulation is to occur, there is substantial need for interpretation of the law by the Commission. There is uncertainty inherent in this need for interpretation, and investors generally dislike uncertainty. As a result Dominion Virginia Powers risk and its cost of capital will be higher until that uncertainty is resolved. Moreover, the legislation contains a number of provisions that potentially impose asymmetric risk on the Company. If the provisions of the law were implemented in a manner that realizes the concern regarding asymmetric risk, the Company would not expect to earn its cost of capital on average. As noted above, asymmetric risk may or may not affect the Company's cost of capital, but it definitely affects the Company's ability to earn the allowed rate of return.

Q56. How do the general risks of the integrated utilities in the sample compare to the risks faced by Dominion Virginia Power?

A56. The risks faced by the integrated utilities are generally less than those faced by Dominion Virginia Power at this time because the integrated electric companies do not face the uncertainty of the re-regulation process faced by Dominion Virginia Power. At some point in the future, Dominion Virginia Power's risk is expected to again be comparable to a traditionally regulated integrated electric utility, but that will occur only after the transition period is complete.

C. COST OF CAPITAL ESTIMATES

Q57. Please summarize the results of the risk positioning and DCF methodologies in estimating the average cost of capital for the benchmark sample, and the implications for Dominion Virginia Power's cost of equity?

A57. Table 3 summarizes the sample average ATWACCs derived from the risk positioning and DCF models, along with the implied cost of equity for Dominion Virginia Power at its filed regulatory capital structure with 50.7 percent equity.

Table 3: Cost of Equity Results

Regulatory Capital Structure: 50.7% Equity / 6.1% Preferred / 43.2% Debt *2008 Tax Rate: 38.8%*

	METHODS								
	RISK POSITIONING (Long-Term Risk-Free Rate)			RISK POSITIONING (Short-Term Risk-Free Rate)				DCF	
	CAPM	α = 0.5%	α = 1.5%	CAPM	α = 1%	α = 2%	α = 3%	Simple	Multi
[1] **Electric Sample***									
Cost of Equity	11.2%	11.3%	11.5%	11.5%	11.7%	11.8%	12.0%	11.4%	10.3%
Average ATWACC	7.7%	7.8%	7.9%	7.9%	8.0%	8.1%	8.2%	7.8%	7.3%

[2] Risk Positioning Security Market Line Parameters:

Long-Term: Risk Free Rate Estimate: 5.1%; Estimated MRP: 6.5%

Short-Term: Risk Free Rate Estimate: 4.1%; Estimated MRP: 8.0%

Multi-Stage DCF Parameter: GDP Growth: 5.1%

Sources and Notes:

* Risk Positioning data is from Table No. MJV-12 and DCF data from Table No. MJV-8.

[1] The electric sample consists of Cleco Corp, Consolidated Edison, DTE Energy, Empire District Electric, Energy East Corp, Entergy Corp, FirstEnergy Corp, MGE Energy, NSTAR, Otter Tail Corp, Pinnacle West Capital Corp, PPL Corp, Puget Energy, SCANA Corp, and Southern Co.

[2] See Appendix C and D for details on the Risk Positioning and DCF parameters used in the estimates.

Q58. How did you determine a representative tax rate to use in your cost of capital estimation?

A58. The expected marginal income tax rate of 38.8 percent for Dominion Virginia Power was provided by the Company.

Q59. How are the cost of equity estimates derived from the risk positioning approach for the benchmark sample?

A59. I derive two sets of risk-positioning estimates, one using long-term forecasts of the risk-free rate and market risk premium, and one using short-term forecasts. The long-term interest rate forecast is 5.1 percent and the corresponding estimated market risk premium is 6.5 percent. When using the short-term risk-free rate of 4.1 percent, the estimated

MRP is 8.0 percent. Details on the derivation of these forecasts can be found in Appendix C.

For each estimated risk-free rate, the two risk positioning models (CAPM and ECAPM) are estimated utilizing the different values of the ECAPM parameter (0.5% and 1.5% for the long-term model and 1%, 2%, and 3% for the short-term model). I therefore obtain three long-term and four short-term estimates of each sample company's cost of equity. The results using the long-term risk-free rate are displayed in Table MJV-10, Panel A, and the results using the short-term risk-free rate are displayed in Table MJV-10, Panel B. Next, the cost of equity estimates are combined with each company's estimated cost of debt and preferred equity to calculate the company's ATWACC using each company's market value capital structure. These calculations and the resulting sample average ATWACCs are presented in Table No. MJV-11. Panels A-C rely on the cost of equity estimates from the long-term version of the model, while Panels D-G utilize the estimates from the short-term version of the model. The sample average ATWACCs and costs of equity at Dominion Virginia Power's 50.7 percent equity capital structure for each risk positioning cost of equity estimate are displayed in Table No. MJV-12. These results are summarized in Table 3 above.

Q60. What are the DCF estimates for the benchmark sample?

A60. For each sample company, cost-of-equity estimates are calculated for the two versions of the DCF method, the simple DCF model and multistage DCF model. The DCF estimates for each company are displayed in Table No. MJV-6, Panel A (simple DCF) and Panel B (multistage DCF). The sample average ATWACC for each method is calculated in Table No. MJV-7 and the resulting sample average ATWACC is used in Table No. MJV-8 to derive returns on equity at Dominion Virginia Power's 50.7 percent equity capital structure. These results are shown in Table 3 above, along with the sample average ATWACC numbers. Table 3 shows the estimated costs of equity to be 11.4 percent (simple DCF model) and 10.3 percent (multistage DCF model). The estimates from the simple DCF are comparable to the estimates from long-term risk positioning model but are slightly lower than the estimates from the short-term version of the risk positioning

model. The estimates from the multistage DCF model are about 100 bps lower the long-term risk positioning estimates (see Table 3: Cost of Equity Results above).

V. CONCLUSIONS

Q61. What are your conclusions from the DCF model regarding the cost of equity at Dominion Virginia Power's 50.7 percent equity ratio?

A61. The estimated costs of equity from the simple DCF model are 110 bps higher than the estimates from the multistage model, but are comparable to the risk positioning model estimates. The simple DCF model relies on company-specific growth rate forecasts, but those forecasts vary significantly among the companies in the sample, with Entergy and PPL displaying estimates greater than 10.5 percent while Consolidated Edison's and Pinnacle West's estimates are only 3.4 percent. The variation in growth rate forecasts strongly suggests that the simple DCF estimates are unreliable at this time because the long-run growth rate forecast drives the results, and there are no objective data on the long-run growth rate investors truly expect, nor on when the industry is expected to settle down into some sort of stable-growth equilibrium. The multistage DCF estimate is lower at 10.3 percent, but it is not reliable either for an industry in flux as is the electric utility industry at this time. Although I do not put much weight upon the DCF model results in my recommended cost of equity for Dominion Virginia Power, I believe that DCF cost capital estimates provide a useful check on the risk positioning results.

Q62. Do you have any comments regarding the results of the risk positioning models?

A62. The risk positioning results are summarized above in Table 3. At this time, the estimated costs of equity displayed in Table No. MJV-12 for the long-term version of the model are lower than for the short-term version of the model. Of those results, the CAPM values deserve the least weight, because this method does not adjust for the empirical finding that the cost of capital is less sensitive to beta than predicted by the CAPM (which my testimony considers by using the ECAPM). Conversely, the ECAPM numbers deserve the most weight, because this method adjusts for the empirical findings. The cost of equity estimates using the long-term risk free rate and adjusted for a capital structure with

a 50.7 percent equity ratio range from 11.2 to 11.5 percent, while for the short-term risk-free rate estimates range from 11.5 to 12.0 percent.

The estimates based upon the short-term risk-free rate are about 50 basis points higher on average than the estimates using the long-term risk-free rate. This reflects the flatter slope of the yield curve at this time. Panel A of Table No. MJV-9 shows that 30-day Treasury bills are currently yielding an average of 4.86 percent compared to 5.14 percent for long-term Treasury bonds. This relationship between the yield on short-term and long-term Treasury securities is unusual. Yields on long-term Treasury bonds have averaged about 150 basis points more than the yields on 30-day Treasury bills over the last 80 years. (See Workpaper #1, Panel B to Table No. MJV-9) The yield on short-term Treasury bills reflects the efforts by the Federal Reserve ("Fed") to prevent the rate of inflation from increasing any further. If the Fed believes that inflation is not yet contained, short-term rates and perhaps long-term rates as well are likely to increase further. Long-term rates have been increasing somewhat in recent months, and much of the relatively recent decline in market prices can be attributed to fears of increases in interest rates. On the other hand, if inflation is judged to be under control, short-term rates may decline as fears of recession replace those of inflation. In its most recent Open Market Committee meeting, the Fed decided to keep the Federal Funds rate constant at 5¼ percent but expressed concern that the risk of "inflation will fail to moderate as expected."[19] The implication is that interest rates will increase if inflation does not moderate.

Q63. Given the results of the two models and the comparison of the risk of Dominion Virginia Power to the sample, what is your conclusion regarding the cost of equity for the Company?

A63. Focusing on the middle values in Table 3 for the results from the long-term risk positioning model (ECAPM with $\alpha = 0.5$), the average ATWACC for the sample is 7.8 percent, with a corresponding cost of equity estimate of 11.3 percent. The results for the short-term version of the risk positioning model (ECAPM with $\alpha = 2.0$) is 8.1 percent ATWACC with a corresponding cost of equity estimate of 11.8 percent. As noted above,

the current uncertainty regarding the transition from a partially deregulated company to a fully integrated, traditionally regulated utility imposes additional risk on the Company at this time which means that the Company is somewhat more risky on average than the sample. In addition, there are fears that long-term interest rates may increase in the near future which means that current cost of equity estimates would be underestimated.

Considering all of the evidence from both models and the risk of the Company, the best point estimate for the cost of equity for Dominion Virginia Power is 11¾ percent. However, it is more correct to say that the estimates from the sample adjusted for differences in risk provide a range of values from a low of 11¼ percent to a high of 12¼ percent. This result is slightly above the upper end of the range of estimates from the risk positioning model using the long-term risk free rate and reflects the higher risk level of the Company currently compared to the sample. The short-term version of the model captures some of the effect of an increase in long-term interest rates in future because short-term interest rates are already high relative to long-term rates. The 11¾ percent estimate is about the middle of the estimates from the short-term version of the model. Although I rely primarily on the long-tem version of the model, the slight increase in the estimate for the Company over the range from the long-term model is supported by both the differences in risk and by consideration of increasing interest rates. As previously noted, in estimating the cost of equity I round to the nearest ¼ percent (25 basis points) and estimate a range of plus and minus ½ percent around the point estimate because I do not believe that cost of capital estimates can be made more precisely than that.

Q64. Does this conclude your testimony?

A64. Yes.

[19] See Federal Reserve Release, *Press Release*, June 28, 2007.

APPENDIX A

RESUMÉ

MICHAEL J. VILBERT **PRINCIPAL**

Michael Vilbert is an expert in cost of capital, financial planning and valuation who has advised clients on these matters in the context of a wide variety of investment and regulatory decisions. He received his Ph.D. in Financial Economics from the Wharton School of the University of Pennsylvania, an MBA from the University of Utah, an M.S. from the Fletcher School of Law and Diplomacy, Tufts University, and a B.S. degree from the United States Air Force Academy. He joined The Brattle Group in 1994 after a career as an Air Force officer, where he served as a fighter pilot, intelligence officer, and professor of finance at the Air Force Academy.

REPRESENTATIVE CONSULTING EXPERIENCE

- In a securities fraud case, Dr. Vilbert designed and created a model to value the private placement stock of a drug store chain as if there had been full disclosure of the actual financial condition of the firm. He analyzed key financial data and security analyst's reports regarding the future of the industry in order to recreate pro forma balance sheet and income statements under a variety of scenarios designed to establish the value of the firm.

- For pharmaceutical companies rebutting price-fixing claims in antitrust litigation, Dr. Vilbert was a member of a team which prepared a comprehensive analysis of industry profitability. The analysis replicated, tested and critiqued the major recent analyses of drug costs, risks and returns. The analyses helped develop expert witness testimony to rebut allegations of excess profits.

- For an independent electric power producer, Dr. Vilbert created a model that analyzed the reasonableness of rates and costs filed by a natural gas pipeline. The model not only duplicated the pipeline's rates, but it also allowed simulation of a variety of "what if" scenarios associated with cost recovery under alternative time patterns and joint cost allocations. Results of the analysis were adopted by the intervenor group for negotiation with the pipeline.

- For the CFO of an electric utility, Dr. Vilbert developed the valuation model used to support a stranded cost estimation filing. The case involved a conflict between two utilities over the responsibility for out-of-market costs associated with a power purchase contract between them. In addition, he advised and analyzed cost recovery mechanisms

that would allow full recovery of the stranded costs while providing a rate reduction for the company's rate payers.

- Dr. Vilbert has testified as well as assisted in the preparation of testimony and the development of estimation models in numerous cost of capital cases for natural gas pipeline, water utility and electric utility clients before the Federal Energy Regulatory Commission ("FERC") and state regulatory commissions. These have spanned standard estimation techniques (e.g., Discounted Cash Flow and Risk Positioning models). He has also developed and applied more advanced models specific to the industries or lines of business in question, e.g., based on the structure and risk characteristics of cash flows, or based on multi-factor models that better characterize regulated industries.

- Dr. Vilbert has valued several large, residual oil-fired generating stations to evaluate the possible conversion to natural gas or other fuels. In these analyses, the expected pre- and post-conversion station values were computed using a range of market electricity and fuel cost conditions.

- For a major western electric utility, Dr. Vilbert helped prepare testimony that analyzed the prudence of QF contract enforcement. The testimony demonstrated that the utility had not been compensated in its allowed cost of capital for major disallowances stemming from QF contract management.

- Dr. Vilbert analyzed the economic need for a major natural gas pipeline expansion to the Midwest. This involved evaluating forecasts of natural gas use in various regions of the United States and the effect of additional supplies on the pattern of natural gas pipeline use. The analysis was used to justify the expansion before the FERC and the National Energy Board of Canada.

- For a Public Utility Commission in the Northeast, Dr. Vilbert analyzed the auction of an electric utilities purchase power agreements to determine whether the outcome of the auction was in the ratepayers' interest. The work involved the analysis of the auction procedures as well as the benefits to ratepayers of transferring risk of the PPA payments to the buyer.

- Dr. Vilbert led a team tasked to determine whether bridge tolls were "just and reasonable" for a non-profit port authority. Determination of the cost of service for the authority required estimation of the value of the authority's assets using the trended original cost methodology as well as evaluation of the operations and maintenance budgets. Investment costs, bridge traffic information and inflation indices covering a 75 year period were utilized to estimate the value of four bridges and a passenger transit line valued in excess of $1 billion.

- Dr. Vilbert helped a recently privatized railroad in Brazil develop an estimate of its revenue requirements, including a determination of the railroad's cost of capital. He also helped evaluate alternative rate structures designed to provide economic incentives to shippers as well as to the railroad for improved service. This involved the explanation

and analysis of the contribution margin of numerous shipper products, improved cost analysis and evaluation of bottlenecks in the system.

- For a utility in the Southeast, Dr. Vilbert quantified the company's stranded costs under several legislative electric restructuring scenarios. This involved the evaluation of all of the company's fossil and nuclear generating units, its contracts with Qualifying Facilities and the prudence of those QF contracts. He provided analysis concerning the impact of securitizing the company's stranded costs as a means of reducing the cost to the rate payers and several alternative designs for recovering stranded costs.

- For a recently privatized electric utility in Australia, Dr. Vilbert evaluated the proposed regulatory scheme of the Australian Competition and Consumer Commission for the company's electric transmission system. The evaluation highlighted the elements of the proposed regulation which would impose uncompensated asymmetric risks on the company and the need to either eliminate the asymmetry in risk or provide additional compensation so that the company could expect to earn its cost of capital.

- For an electric utility in the Southwest, Dr. Vilbert helped design and create a model to estimate the stranded costs of the company's portfolio of Qualifying Facilities and Power Purchase contracts. This exercise was complicated by the many variations in the provisions of the contracts that required modeling in order to capture the effect of changes in either the performance of the plants or in the estimated market price of electricity.

- Dr. Vilbert helped prepare the testimony responding to a FERC request for further comments on the appropriate return on equity for electric transmission facilities. In addition, Dr. Vilbert was a member of the team that made a presentation to the FERC staff on the expected risks of the unbundled electric transmission line of business.

- Dr. Vilbert and Mr. Frank C. Graves, also of The Brattle Group, prepared testimony evaluating an innovative Canadian stranded cost recovery procedure involving the auctioning of the output of the province's electric generation plants instead of the plants themselves. The evaluation required the analysis of the terms and conditions of the long-term contracts specifying the revenue requirements of the plants for their entire forecasted remaining economic life and required an estimate of the cost of capital for the plant owners under this new stranded cost recovery concept.

- Dr. Vilbert served as the neutral arbitrator for the valuation of a petroleum products tanker. The valuation required analysis of the Jones Act tanker market and the supply and demand balance of the available U.S. constructed tanker fleet.

PRESENTATIONS

"Utility Distribution Cost of Capital," *EEI Electric Rates Advanced Course*, Bloomington, IN, 2002, 2003.

"Issues for Cost of Capital Estimation," with Bente Villadsen, *Edison Electric Institute Cost of Capital Conference*, Chicago, IL, February 2004.

"Not Your Father's Rate of Return Methodology," *Utility Commissioners/Wall Street Dialogue*, NY, May 2004.

"Current Issues in Cost of Capital," *EEI Electric Rates Advanced Course*, Madison, WI, July 2004.

"Cost of Capital Estimation: Issues and Answers," *MidAmerican Regulatory Finance Conference*, Des Moines, IA, April 7, 2005.

"Cost of Capital - Explaining to the Commission - Different ROEs for Different Parts of the Business," *EEI Economic Regulation & Competition Analysts Meeting*, May 2, 2005.

"Current Issues in Cost of Capital," with Bente Villadsen, *EEI Electric Rates Advanced Course*, Madison, WI, 2005.

"Current Issues in Estimating the Cost of Capital," *EEI Electric Rates Advanced Course*, Madison, WI, 2006.

"Revisiting the Development of Proxy Groups and Relative Risk Analysis," Society of Utility and Regulatory Financial Analysts: 39th Financial Forum, April 2007.

ARTICLES

"Flaws in the Proposed IRS Rule to Reinstate Amortization of Deferred Tax Balances Associated with Generation Assets Reorganized in Industry Restructuring," by Frank C. Graves and Michael J. Vilbert, white paper for *Edison Electric Institute* (EEI) to the IRS, July 25, 2003.

"The Effect of Debt on the Cost of Equity in a Regulatory Setting," by A. Lawrence Kolbe, Michael J. Vilbert, Bente Villadsen and The Brattle Group, *Edison Electric Institute*, April 2005.

"Measuring Return on Equity Correctly: Why current estimation models set allowed ROE too low," by A. Lawrence Kolbe, Michael J. Vilbert and Bente Villadsen, *Public Utilities Fortnightly*, August 2005.

"Understanding Debt Imputation Issues," by Michael J. Vilbert, Bente Villadsen and Joseph B. Wharton, *Edison Electric Institute*, forthcoming August 2007.

TESTIMONY

Direct and rebuttal testimony before the Alberta Energy and Utilities Board on behalf of TransAlta Utilities Corporation in the matter of an application for approval of its 1999 and 2000 generation tariff, transmission tariff, and distribution revenue requirement, October 1998.

Direct testimony before the Federal Energy Regulatory Commission on behalf of Central Maine Power in Docket No. ER00-982-000, December 1999.

Direct testimony before the Alberta Energy and Utilities Board on behalf of TransAlta Utilities Corporation for approval of its 2001 transmission tariff, May 2000.

Direct testimony before the Federal Energy Regulatory Commission on behalf of Mississippi River Transmission Corporation in Docket No. RP01-292-000, March 2001.

Written evidence, rebuttal, reply and further reply before the National Energy Board in the matter of an application by TransCanada PipeLines Limited for orders pursuant to Part I and Part IV of the *National Energy Board Act*, Order AO-1-RH-4-2001, May 2001, Nov. 2001, Feb. 2002.

Written evidence before the Public Utility Board on behalf of Newfoundland & Labrador Hydro - Rate Hearings, October 2001.

Direct testimony (with Bill Lindsay) before the Federal Energy Regulatory Commission on behalf of DTE East China, LLC in Docket No. ER02-1599-000, April 2002.

Direct and rebuttal reports before the Arbitration Panel in the arbitration of stranded costs for the City of Casselberry, FL, Case No. 00-CA-1107-16-L, July 2002.

Direct reports before the Arbitration Board for Petroleum products trade in the Arbitration of the Military Sealift Command vs. Household Commercial Financial Services, fair value of sale of the Darnell, October 2002.

Direct testimony and hearing before the Arbitration Panel in the arbitration of stranded costs for the City of Winter Park, FL, In the Circuit Court of the Ninth Judicial Circuit in and for Orange County, FL, Case No. C1-01-4558-39, December 2002.

Direct testimony before the Federal Energy Regulatory Commission on behalf of Florida Power Corporation, dba Progress Energy Florida, Inc. in Docket No. SC03-___-000, March 2003.

Direct report before the Arbitration Panel in the arbitration of stranded costs for the Town of Belleair, FL, Case No. 000-6487-C1-007, April 2003.

Direct and rebuttal reports before the Alberta Energy and Utilities Board in the matter of the Alberta Energy and Utilities Board Act, R.S.A. 2000, c. A-17, and the Regulations under it; in the matter of the Gas Utilities Act, R.S.A. 2000, c. G-5, and the Regulations under it; in the matter of the Public utilities Board Act, R.S.A. 2000, c. P-45, as amended, and the Regulations

under it; and in the matter of Alberta Energy and Utilities Generic Cost of Capital Hearing, Proceeding No. 1271597, July 2003, November 2003.

Written evidence before the National Energy Board in the matter of the National Energy Board Act, R.S.C. 1985, c. N–7, as amended, (Act) and the Regulations made under it; and in the matter of an application by TransCanada PipeLines Limited for orders pursuant to Part IV of the *National Energy Board Act*, for approval of Mainline Tolls for 2004, RH-2-2004, January 2004.

Direct and rebuttal testimony before the Public Service Commission of West Virginia, on Cost of Capital for West Virginia-American Water Company, Case No 04-0373-W-42T, May 2004.

Direct and rebuttal testimony before the Federal Energy Regulatory Commission, on Energy Allocation of Debt Cost for Incremental Shipping Rates for Edison Mission Energy, Docket No. RP04-274-000, December 2004 and March 2005.

Direct testimony before the Arizona Corporation Commission, Cost of Capital for Paradise Valley Water Company, a subsidiary of Arizona-American Water Company, Docket No. WS-01303A-05, May 2005.

Written evidence before the Ontario Energy Board, Cost of Capital for Union Gas Limited, Inc., Docket No. EB-2005-0520, January 2006.

Direct and rebuttal testimony before the Pennsylvania Public Utility Commission, Return on Equity for Metropolitan Edison Company, Docket No. R-00061366 and Pennsylvania Electric Company, Docket No. R-00061367, April 2006 and August 2006.

Expert report in the United States Tax Court, Docket No. 21309-05, 34th Street Partners, DH Petersburg Investment, LLC and Mid-Atlantic Finance, Partners Other than the Tax Matters Partner, Petitioner, v. Commissioner of Internal Revenue, Respondent, July 28, 2006.

Direct and supplemental testimony before the Federal Energy Regulatory Commission, Docket No. ER06-427-003, on behalf of Mystic Development, LLC on the Cost of Capital for Mystic 8 and 9 Generating Plants Operating Under an Reliability Must Run Contract, August 2006 and September 2006.

Direct testimony before the Federal Energy Regulatory Commission, Docket No. ER07-46-000, on behalf of Northwestern Corporation on the Cost of Capital for Transmission Assets, October 2006.

Direct and rebuttal testimony before the Tennessee Regulatory Authority, Case No. 06-00290, on behalf of Tennessee American Water Company, on the Cost of Capital, November, 2006 and April 2007.

Direct testimony before the Public Service Commission of Wisconsin, Docket No. _____, on behalf of Wisconsin Energy Corporation, on the Cost of Capital for Wisconsin Electric Power Company and Wisconsin Gas LLC, May 2007.

Rebuttal testimony before the California Public Utilities Commission, Docket No. A. 07-01-036-39, on behalf of California-American Water Company, on the Cost of Capital, May 2007.

Direct testimony before the Public Utilities Commission of the State of South Dakota, Docket No. NG-07-____, on behalf of NorthWestern Corporation, on the Cost of Capital for NorthWestern Energy Company's natural gas operations in South Dakota, June 2007.

Direct testimony before the Public Utilities Commission of Ohio, Case No. 07-551-EL-AIR, Case No. 07-552-EL-ATA, Case No. 07-553-EL-AAM, and Case No. 07-554-EL-UNC, on behalf of Ohio Edison Company, The Toledo Edison Company, and The Cleveland Electric Illuminating Company, on the cost of capital for the FirstEnergy Company's Ohio electric distribution utilities, June 2007.

APPENDIX B

SELECTING THE GAS LDC SAMPLE AND USE OF MARKET VALUES

I. SAMPLE SELECTION AND THE SAMPLE'S CHARACTERISTICS 2

II. MARKET VALUE CAPITAL STRUCTURE, COSTS OF DEBT & COSTS OF PREFERRED EQUITY 6

I. SAMPLE SELECTION AND THE SAMPLE'S CHARACTERISTICS

Q1. How did you select your sample of electric utilities?

A1. The goal was to create a sample of companies whose primary business is as a regulated electric utility with business risk generally similar to that of Dominion Virginia Electric Power Company ("Dominion Virginia Power"). To construct this sample, I started with the universe of 68 electric companies under the East, Central and West categories listed in the *Value Line Plus Edition*. From this group, companies were first eliminated if their operating regions were outside of the continental USA or if they were primarily or solely engaged in generation and/or transmission. I then applied my standard selection criteria outlined in my direct testimony to remove companies that have characteristics that may bias the cost of capital estimates.

Specifically, I eliminated all companies whose S&P bond rating as reported by Bloomberg was not investment grade, i.e., less than BBB-. To guard against measurement bias caused by "thin trading," I also restricted the sample to companies with total operating revenues greater than $300 million (USD) in 2006 as reported by Bloomberg.[1] Companies were also required to have no significant mergers and acquisition activity over the past five years, again to guard against measurement bias. The screen for merger activity was primarily done by scanning each company's news history on Bloomberg and a search of company web pages. To further ensure comparability to Dominion Virginia Power's regulated electric operations, companies whose share of regulated assets were not estimated to be at least "Mostly Regulated", as classified by the Edison Electric Institute ("EEI"), were removed.[2]

Finally, I required that the companies have historical data available from Bloomberg and that they had no dividend cuts or restatement of financial statements in the past five years, since the latter can be signs of financial distress.

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[1] Data was reviewed during the second week of June 2007.

[2] EEI has three classifications for electric utilities based upon the percentage of total assets that are regulated. The categories are Regulated (> 80% regulated), Mostly Regulated (50% to 80% regulated) and Diversified (< 50% regulated). See *EEI Stock Performance, Q1 2007 Financial Update,* pg. 4.

A total of 15 companies met all of these requirements: Cleco Corp, Consolidated Edison, DTE Energy Co, Empire District Electric, Energy East Corp, Entergy Corp, FirstEnergy Corp, MGE Energy, NSTAR, Otter Tail Corp, Pinnacle West Capital Corp, PPL Corp, Puget Energy Inc., SCANA Corp, and Southern Corp.

Q2. Please elaborate on how companies were eliminated from your sample?

A2. Eight companies were excluded due to less than investment grade credit rating – namely Avista Corp, Central Vermont Public Service Corp, CH Energy Group Inc, Mirant Corp, PG&E Corp, Reliant Energy Inc, Sierra Pacific Resources, and UIL Holdings Corp. Four more companies – AMEN Properties, Green Mountain Power Corp, ITC Holdings Corp, and Maine & Maritimes Corp - were excluded for less than $300 million in 2006 revenues. Of the remaining 56 companies, 18 had excessive merger and acquisition activity ("M&A") and 16 had dividend cuts over the past five years. Hawaiian Electric Industries Inc was excluded for being outside of the continental U.S., Pepco Holdings Inc because it did not issue dividends until late 2002, and Vectren Corp because it receives a substantial portion of its income from regulated gas activities. Finally, Dominion Resources Inc, MDU Resources Group, OGE Energy Corp and Sempra were excluded because EEI classifies them as having less than fifty percent of regulated assets.

Q3. Are there any issues with the remaining companies in your sample?

A3. Possibly. Although not enough merger and acquisition activity to eliminate them from the sample, three of nine companies had more activity over the past five years than the others: Cleco, Empire District Electric and Entergy. Cleco Corp.'s beta is also substantially higher at 1.30 than any of the other sample companies'. Two sample companies, Empire District and MGE Energy, are smaller companies compared to the others in the sample, but both have a book value of assets of about a $1 billion making them "large" by most standards. DTE Energy, FirstEnergy Corp, Otter Tail Corp, PPL Corp, and SCANA Corp only fall into EEI's "Mostly Regulated" category, indicating that between 50 and 80 percent of their assets are subject to regulation. (See Table No. MJV-2 for a list of the regulated asset categorizations by EEI for each sample company.) A potential problem for the DCF estimates is that sample companies growth rate forecasts vary substantially company-to-company. For example, Entergy and PPL each have a

combined growth rate estimate of over 10.5 percent, while Consolidated Edison's and Pinnacle West's combined estimate are both 3.4 percent (see column [6], Table No. MJV-5).[3] As such, the growth rates estimates do not support the view that investors are expecting growth rates equal to the single perpetual growth rate assumed in the simple DCF model. Again, this may be an indication that the industry conditions are not fully met for the reliable application of the DCF model. Recall that the DCF model requires stable industry conditions so that dividends, earnings, stock prices etc. are all growing at a constant rate.

Q4. How does the risk of the sample compare to the risk of Dominion Virginia Power?

A4. In general, the sample appears to be less risky than Dominion Virginia Power at this time. The sample consists of eight integrated utilities in traditionally regulated states, six companies with a provider of last resort ("PoLR") obligation operating in states that have already transitioned to a deregulated electricity market and one company in a state (Arizona) that is partially deregulated. A summary of their risk characteristics is provided in Table 2 in my Direct Testimony. All but Empire Electric and PPL Corp have some form of fuel-cost adjustment mechanisms covering the bulk of their operations. Of the six PoLR companies, two are in states that still have capped rates, but four are in states that have moved to market based rates. As a result, they face a different kind of regulatory uncertainty than does Dominion Virginia Power. All sample companies face the uncertainty associated with the recent volatility of fuel prices. Consumers have demonstrated an aversion to highly volatile energy prices, so regulatory authorities may be reluctant to allow full recovery of energy prices that are too variable.

Depending upon the recovery mechanism for the costs of providing POLR service, the risks faced by electric distribution companies with a POLR obligation may be greater than or less than those of an integrated utility. The biggest risk difference between the two is that integrated utilities own or contract for the generation capacity to meet the power needs of their customers. Although they are still exposed to changes in fuel prices

[3] Moreover, Bloomberg does not provide a BEst Estimate for MGE Energy, which means there is only one growth estimate for this company, and it only provides one growth estimate for Cleco Corp and Empire District Electric.

as well as the construction and operating risk of owning generation, they have a natural hedge against volatile energy prices through their ownership of generation assets. POLR companies, on the other hand, are potentially exposed to changes in market prices not related to the volatility of fuel prices, because they must purchase power at market prices.

Dominion Virginia Power's current situation is unique in that it is in a transition from being a partially deregulated utility with a PoLR responsibility to becoming a traditionally-regulated integrated electric utility. The Company owns generation to meet its PoLR responsibilities, but it is also currently a net importer of power so it faces market risk on the cost of power that is imported. In addition, the Company is operating under a rate cap which may prevent the full cost of providing service from being passed through to customers. As noted above, only two of the sample companies with a PoLR responsibility are operating in states with a rate cap. The other sample companies are traditionally regulated utilities, but they are not undergoing restructuring at this time. For these reasons, Dominion Virginia Power is more risky than the sample.

Q5. How does the restructuring legislation affect the risk of Dominion Virginia Power?

A5. Ultimately, I believe that the legislation will result in a modest decrease in risk for the Company, but during the transition period there will be substantial uncertainty. The legislation must be implemented by the Commission, and implementation will require interpretation of a number of the provisions of the legislation. As a result, there will be a transition period during which the Commission will work through and interpret the steps envisioned in the legislation. The outcomes of the judgments necessary to implement the legislation are unknown at this time and may be different than currently anticipated by investors, customers, legislators or the Company. Investors dislike uncertainty and generally require a higher return in compensation. Until that uncertainty is resolved, the Company will be perceived as more risky by investors than it will be when the transition period is complete.

II. MARKET VALUE CAPITAL STRUCTURE, COSTS OF DEBT & COSTS OF PREFERRED EQUITY

Q6. What capital structure information do you require?

A6. For reasons discussed in my written evidence and explained in detail in Appendix E, explicit evaluation of the market-value capital structures of the sample companies versus the capital structure used for rate making is vital for a correct interpretation of the market evidence. This requires estimates of the market values of common and preferred equity and debt, and the current market costs of preferred equity and debt.

Q7. How do you calculate the market-value capital structures of the sample companies?

A7. I estimate the capital structure for each company by estimating the market values of common equity, preferred equity and debt from publicly available data. The calculations are in Panels A to O of Table No. MJV-3.

The market value of equity is straightforward: the price per share times the number of shares outstanding. The market value of preferred is set equal to its book value because the portion of the capital structure financed with preferred equity is generally small. The market value of debt is estimated at the book value of debt reported by Bloomberg plus or minus the difference in the estimated fair (market) value and book value of long-term debt as reported in the companies' 10-K's or annual reports.[4]

For purposes of assessing financial risk to common shareholders, I add an adjustment for short-term debt to the debt portion of the capital structure. This adjustment is used only for those companies whose short-term (current) liabilities exceed their short-term (current) assets. I add an amount equal to the minimum of the difference between short-term liabilities and short-term assets or the amount of short-term debt. The reason for this adjustment is to recognize that when current liabilities exceed current assets, a portion of the companies long-term assets are being financed, in effect, by short-term debt.

[4] See Panels A through O in Tables No. MJV-3 for details. The adjustment relies on the difference between the companies' self-reported fair value of long-term debt and the carrying value of the same line items. This information was obtained from the sample companies' annual reports.

The market value capital structure is calculated to be consistent with the time period over which the cost of capital is estimated for the sample. The capital structure is determined over the historical period over which the relevant risk positioning parameters were determined and as of the date analysts provide forward looking growth forecasts. Therefore, Table No. MJV-3 reports the market value capital structure at year end for the years ending 2002 – 2006, and the first quarter of 2007. The output of this table is the market equity-to-value, debt-to-value, and preferred equity-to-value ratios. The overall cost of capital calculation for the risk positioning estimates rely on the average of the market value capital structure computed for the years 2002 through first quarter of 2007, as shown in Table No. MJV-4. The results in columns [1]-[3] are used in the DCF model calculations, while columns [4]-[6] are for the risk positioning models.

Q8. How do you estimate the current market cost of preferred equity?

A8. For companies with preferred equity, the cost of preferred equity for each company was set equal to the yield on an index of preferred stock as reported in the Mergent Bond Record corresponding to the S&P rating of that company's debt. The yields from *Mergent Bond Record* were as of May 2007. In general, the average amount of preferred equity in the sample companies' capital structures is very small and frequently zero. No company in either sample has more than two percent on average.[5]

Q9. How do you estimate the current market cost of debt?

A9. The market cost of debt for each company in the DCF analysis is the current yield reported by Bloomberg for a public utility company bond corresponding to the sample company's current debt rating as classified by S&P. The risk positioning analysis, on the other hand, uses the current yield of a utility bond that corresponds to the five-year average debt rating of each company so as to match consistently the horizon of information used by *Value Line* to estimate company betas. The current S&P debt ratings were obtained from Bloomberg.

[5] Dominion Virginia Power, on the other hand, has about six percent preferred equity in its regulatory capital structure.

The fifteen day average yield on A-rated Public Utility bonds was 6.23 percent as of June 11, 2007, and 6.43 percent on average for BBB-rated Public Utility bonds. (See Panel A of Workpaper #1 to Table No. MJV-11 for the yields on utility bonds and preferred stock by credit rating.) Calculation of the after-tax cost of debt uses the marginal tax rate 38.8 percent provided by the company.

APPENDIX C

RISK POSITIONING METHODOLOGY AND EMPIRICAL RESULTS

I. EQUITY RISK PREMIUM METHODOLOGY C-2

A. THE BASIC EQUITY RISK PREMIUM MODEL C-2
B. MARKET RISK PREMIUM C-3
C. RELATIVE RISK C-10
D. INTEREST RATE FORECAST C-13
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II. EMPIRICAL EQUITY RISK PREMIUM RESULTS C-16

A. RISK-FREE INTEREST RATE FORECAST C-16
B. BETAS AND THE MARKET RISK PREMIUM C-17
1. Beta Estimation Procedures C-17
2. Market Risk Premium Estimation C-17
C. COST OF CAPITAL ESTIMATES C-17

Q1. What is the purpose of this appendix?

A1. This appendix reviews the principles behind the risk positioning methodologies, describes the estimation of the parameters used in the models, and details the cost of capital estimates obtained from these methodologies. This appendix intentionally repeats portions of my direct testimony, because I want the reader to be able to have a full discussion of the issues addressed here, rather than having to continually turn back to the corresponding section of the testimony.

I. EQUITY RISK PREMIUM METHODOLOGY

Q2. How is this section of the appendix organized?

A2. It first reviews the basic nature of the equity risk premium approach. It then discusses the individual components of the model: the benchmark risk premium, the relative risk of the company or line of business in question, the appropriate interest rate, and the combination of these elements in a particular equity risk premium model.

A. THE BASIC EQUITY RISK PREMIUM MODEL

Q3. How does the equity risk premium model work?

A3. The equity risk premium approach estimates the cost of equity as the sum of a current interest rate and a risk premium. (It therefore is sometimes also known as the "risk premium" or the "risk positioning" approach.)

This approach may sometimes be applied informally. For example, an analyst or a commission may check the spread between interest rates and what is believed to be a reasonable estimate of the cost of capital at one time, and then apply that spread to changed interest rates to get a new estimate of the cost of capital at another time.

More formal applications of equity risk premium method implement the second approach to cost of capital estimation. They use information on all securities to identify the security market line (Figure 1 in the body of the testimony) and derive the cost of capital for the individual security based on that security's relative risk. This equity risk premium

approach is widely used and underlies most of the current scholarly research on the nature, determinants and magnitude of the cost of capital.

Q4. How are "more formal applications" put into practice?

A4. The essential benchmarks that determine the security market line are the risk-free interest rate and the premium that a security of average risk commands over the risk-free rate. This premium is commonly referred to as the "market risk premium" ("MRP"), i.e., the excess of the expected return on the average common stock over the risk-free interest rate. In the equity risk premium approach the risk-free interest rate and MRP are common to all securities. A security-specific measure of relative risk (beta) is estimated separately and combined with the MRP to obtain the company-specific risk premium.

In principle, there may be more than one factor affecting the expected stock return, each with its own security-specific measure of relative risk and its own benchmark risk premium. For example, the "arbitrage pricing theory" and other "multi-factor" models have been proposed in the academic literature. These models estimate the cost of capital as the sum of a risk-free rate and several security-specific risk premia. However, none of these alternative models has emerged in practice as "the" improvement to use instead of the original, single-factor model. I use the traditional single-factor model in this testimony.

Accordingly, the required elements in my formal equity risk premium approach are the market risk premium, an objective measure of relative risk, the risk-free rate that corresponds to the measure of the market risk premium, and a specific method to combine these elements into an estimate of the cost of capital.

B. MARKET RISK PREMIUM

Q5. Why is a risk premium necessary?

A5. Experience (e.g., the U.S. market's October Crash of 1987) demonstrates that shareholders, even well diversified shareholders, are exposed to enormous risks. By investing in stocks instead of risk-free Government bills, investors subject themselves not

only to the risk of earning a return well below those they expected in any year but also to the risk that they might lose much of their initial capital. This is why investors demand a risk premium.

I estimate two versions of the Capital Asset Pricing Model ("CAPM"). The first version measures the market risk premium as the risk premium of average risk common stocks over the long-term risk-free rate. The second version measures the risk premium relative to a short-term risk-free rate, which is the usual measure of the "market risk premium" used in capital market theories.

Q6. Please discuss some of the issues involved in selecting the appropriate MRP?

A6. To determine the cost of capital in a regulatory proceeding, the MRP should be used with a forecast of the same interest rate used to calculate the MRP (i.e., the short-term Treasury bill rate or the long-term Government rate). For example, it would be inconsistent to utilize a short-term risk-free with an estimate of the MRP derived from comparisons to long-term interest rates. In addition, the appropriate measure of the MRP should be based upon the arithmetic mean not the geometric mean return.[1] The arithmetic mean is the simple average while the geometric mean is the compound rate of return between two periods.

Q7. How do you estimate the MRP?

A7. There is presently little consensus on "best practice" for estimating the MRP, which does not mean that each approach is equally valid. For example, the latest edition of the leading graduate textbook in corporate finance, after recommending use of the arithmetic average realized excess return on the market for many years (which for a while was noticeably over 9 percent), now reviews the current state of the research and expresses the view that the a range between 5 to 8 percent is reasonable for the U.S.[2,3]

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[1] See, for example, Morningstar, Stocks, Bonds, Bills, and Inflation: Valuation Edition 2007 Yearbook, pp. 75-77.

[2] Richard A. Brealey, Stewart C. Myers, and Franklin Allen, *Principles of Corporate Finance*, McGraw-Hill, 8th edition, 2006, pp. 151-154.

My written testimony considers both the historical evidence and the results of scholarly studies of the factors that affect the risk premium for average-risk stocks in order to estimate the benchmark risk premium investors currently expect. I consider the historical difference in returns between the Standard and Poor's 500 Index ("S&P 500") and the risk-free rate, recent academic literature on the MRP and the results of recent surveys to estimate the market risk premium.

Q8. Please summarize the recent literature on the MRP and the conclusions you draw from it?

A8. Some recent research based upon U.S. data challenges the conventional wisdom of using the arithmetic average historical excess returns to estimate the MRP. However, after reviewing the issues in the debate, I remain skeptical for several reasons that the market risk premium has declined in the U.S. as much as is claimed in some of the literature.

First, despite eye-catching claims like "equity risk premium as low as three percent,"[4] and "the death of the risk premium,"[5] not all recent research arrives at the same conclusion. In his presidential address to the American Finance Association in 2001, Professor Constantinides seeks to estimate the unconditional equity premium based on average historical stock returns.[6] (Note that this address was based upon evidence just before the major fall in market value.) He adjusts the average returns downward by the change in price-earnings ratio because he assumes no change in valuations in an unconditional state. His estimates for 1926 to 2000 and 1951 to 2000 are 8.0 percent and 6.0 percent, respectively, over the 3-month T-bill rate. In another published study in 2001, Professors Harris and Marston use the DCF method to estimate the market risk

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[3] In past editions, the authors expressed the view that they are "most comfortable" with values toward the upper end of that range, but this language does not appear in the 8th edition. Although Professor Myers still holds this view, this language and other sections were dropped to accommodate a request to reduce the length of the text.

[4] Claus, J. and J. Thomas, (2001), "Equity Risk Premium as Low as Three Percent: Evidence from Analysts' Earnings Forecasts for Domestic and International Stocks," *Journal of Finance* 56:1629-1666.

[5] Arnott, R. and R. Ryan, (2001), "The Death of the Risk Premium," *Journal of Portfolio Management* 27(3):61-84.

[6] Constantinides, G.M. (2002), "Rational Asset Prices," *Journal of Finance* 57:1567-1591.

premium for the U.S. stocks.[7] Using analysts' forecasts to proxy for investors' expectation, they conclude that over the period 1982-1998 the MRP over the *long-term* risk-free rate is 7.14 percent. As yet another example, the paper by Drs. Ibbotson and Chen (2003) adopts a supply side approach to estimate the forward looking long-term sustainable equity returns and equity risk premium based upon economic fundamentals. Their equity risk premium over the *long-term* risk-free rate is estimated to be 3.97 percent in geometric terms and 5.90 percent on an arithmetic basis. They conclude their paper by stating that their estimate of the equity risk premium is "far closer to the historical premium than being zero or negative."[8]

Second, Professor Ivo Welch surveyed a large group of financial economists in 1998 and 1999. The average of the estimated MRP was 7.1 percent in Prof. Welch's first survey and 6.7 percent in his second survey which was based on a smaller number of individuals. However, a more recent survey[9] by Prof. Welch reported only a 5.5 percent MRP.[10] In characterizing these results Prof. Welch notes that "[T]he equity premium consensus forecast of finance and economics professors seems to have dropped during the last 2 to 3 years, a period with low realized equity premia."[11]

The above quotation from Prof. Welch emphasizes the caution that must attend survey data even from knowledgeable survey participants: the outcome is likely to change quickly with changing market circumstances. Regulatory commissions should not, in my opinion, attempt to keep pace with such rapidly changing opinions.

Third, some of the evidence for negative or close to zero market risk premium simply does not make sense. Despite the relatively high valuation levels, stock returns remain

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[7] Robert S. Harris and Felicia C. Marston, "The Market Risk Premium: Expectational Estimates Using Analysts' Forecasts," *Journal of Applied Finance* 11 (1) 6-16, 2001.

[8] Ibbotson, R. and P. Chen (2003), "Stock Market Returns in the Long Run: Participating in the Real Economy," *Financial Analyst Journal*, 59(1):88-98. Cited figures are on p. 97.

[9] Ivo Welch (2000), "Views of Financial Economists on the Equity Premium and on Professional Controversies," *Journal of Business*, 73(4):501-537. The cited figures are in Table 2, p. 514.

[10] Ivo Welch (2001), "The Equity Premium Consensus Forecast Revisited," School of Management at Yale University working paper. The cited figure is in Table 2.

[11] *Ibid*, p. 8.

much more volatile than Treasury bond returns. I am not aware of any empirical or theoretical evidence showing that investors would rationally hold equities and not expect to earn a positive risk premium for bearing their higher risk.

Fourth, I am unaware of a convincing theory for why the future MRP should have substantially declined. At the height of the stock market bubble in the U.S., many claimed that the only way to justify the high stock prices would be if the MRP had declined dramatically,[12] but this argument was heard less frequently after the market declined substantially from its tech bubble high. All else equal, a high valuation ratio such as price-earnings ratio implies a low required rate of return, hence a low MRP. However, there is considerable debate about whether the high level of stock prices (despite the burst of the internet bubble from its high in the summer of 2000) represents the transition to a new economy or is simply an "irrational exuberance," which cannot be sustained for the long term. If the former case is true, then the MRP may have decreased permanently. Conversely, the long-run MRP may remain the same even if expected market returns in the short-term are smaller.

Another common argument for a lower expected MRP is that the U.S. experienced very remarkable growth in the 20th century that was not anticipated at the start of the century. As a result, the average realized excess return is overestimated meaning the standard method of estimating the MRP would be biased upward. However, one recent study by Profs. Jorion and Goetzmann finds, under some simplifying assumptions, that the so-called "survivorship bias" is only 29 basis points.[13] Furthermore, "[I]f investors have overestimated the equity premium over the second half of the last century, Constantinides

[12] See Robert D. Arnott and Peter L. Bernstein, "What Risk Premium is 'Normal'?," *Financial Analysts Journal* 58:64-85, for an example.

[13] Jorion, P., and W. Goetzmann (1999), "Global Stock Markets in the Twentieth Century," *Journal of Finance* 54:953-980. Dimson, Marsh, and Staunton (2003) make a similar point when they comment on the equity risk premia for 16 countries based on returns between 1900 and 2001: "While the United States and the United Kingdom have indeed performed well, compared to other markets there is no indication that they are hugely out of line." p.4.

(2002) argues that 'we now have a bigger puzzle on our hands' Why have investors systematically biased their estimates over such a long horizon?"[14]

To sum up the above, I cite two passages from Profs. Mehra and Prescott's review of the theoretical literature on equity premium puzzle:[15]

> Even if the conditional equity premium given current market conditions is small, and there appears to be general consensus that it is, this in itself does not imply that it was obvious either that the historical premium was too high or that the equity premium has diminished.
>
> In the absence of this [knowledge of the future], and based on what we currently know, we can make the following claim: over the long horizon the equity premium is likely to be similar to what it has been in the past and the returns to investment in equity will continue to substantially dominate that in T-bills for investors with a long planning horizon.

Q9. Is there other scholarly support for the conclusion?

A9. Yes. Another line of research was pursued by Steven N. Kaplan and Richard S. Ruback. They estimate the market risk premium in their article, "The Valuation of Cash Flow Forecasts: An Empirical Analysis."[16] Professors Kaplan and Ruback compare published cash flow forecasts for management buyouts and leveraged recapitalization over the 1983 to 1989 period against the actual market values that resulted from these transactions. One of their results is an estimate of the market risk premium over the long-term Treasury bond yield that is based on careful analysis of actual major investment decisions, not realized market returns. Their median estimate is 7.78 percent and their mean estimate is 7.97 percent.[17] This is considerably higher than my estimate of 6.5 percent. Even if the maturity premium of Treasury bonds over Treasury bills were only 1 percent, well below the best estimate of 1.5 percent the resulting estimate of the market risk premium over Treasury bills is higher than my estimate of 8.0 percent.

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[14] Mehra, R., and E.C. Prescott (2003), "The Equity Premium in Retrospect," in *Handbook of the Economics of Finance*, Edited by G.M. Constantinides, M. Harris and R. Stulz, Elsevier B.V, p. 926

[15] *Ibid*, p. 926.

[16] *Journal of Finance*, 50, September 1995, pp. 1059-1093.

[17] *Ibid*, p. 1082.

Q10. In addition to the scholarly articles and survey evidence you discussed in Section I of your Direct Testimony, what other evidence do you consider to estimate the MRP?

A10. I also consider the long-run realized equity premia reported in Morningstar *SBBI Valuation Edition 2007 Yearbook*. The data provided cover the period 1926 through 2006. The results are discussed below.

Q11. What is the "long-run realized risk premium" in the U.S.?

A11. From 1926 to 2006, the full period reported, Morningstar's data show that the average premium of stocks over Treasury bills is 8.6 percent. I also examine the "post-War" period. The risk premium for 1947-2006 is 8.4 percent.[18] (I exclude 1946 because its economic statistics are heavily influenced by the War years; e.g., the end of price controls yielded an inflation rate of 18 percent. It is not really a "post-War" year, from an economic viewpoint.) These averages often change slightly when another year of data is added to the Ibbotson series. The average premium of stocks over the income returns on long-term Government bonds is 7.1 percent for the 1926 to 2006 period and 7.1 for the 1947 to 2006 period.

Recently there has been a great deal of academic research on the MRP. This research has put practitioners in a dilemma: there is nothing close to a consensus about how the MRP should be estimated, but a general agreement in the academic community seems to be emerging that the old approach of using the average realized return over long periods gives too high an answer.

Q12. What is your conclusion regarding the MRP?

A12. Estimation of the MRP remains controversial. There is no consensus on its value or even how to estimate it. Given a careful review of all of the information, I estimate the risk premium for average risk stocks to be 8.0 percent over Treasury bills and 6.5 percent over long-term Government bonds.

[18] Morningstar, SBBI Valuation Edition 2007 Yearbook, Appendix A.

C. RELATIVE RISK

Q13. How do you measure relative risk?

A13. The risk measure I examine is the "beta" of the stocks in question. Beta is a measure of the "systematic" risk of a stock — the extent to which a stock's value fluctuates more or less than average when the market fluctuates. It is the most commonly used measure of risk in capital market theories.

Q14. Please explain beta in more detail.

A14. The basic idea behind beta is that risks that cannot be diversified away in large portfolios matter more than those that can be eliminated by diversification. Beta is a measure of the risks that *cannot* be eliminated by diversification.

Diversification is a vital concept in the study of risk and return. (Harry Markowitz won a Nobel Prize for work showing just how important it was.) Over the long run, the rate of return on the stock market has a very high standard deviation, on the order of 15 - 20 percent per year. But many individual stocks have much higher standard deviations than this. The stock market's standard deviation is "only" about 15 - 20 percent because when stocks are combined into portfolios, some of the risk of individual stocks is eliminated by diversification. Some stocks go up when others go down, and the average portfolio return — positive or negative — is usually less extreme than that of individual stocks within it.

In the limiting case, if the returns on individual stocks were completely uncorrelated with one another, the formation of a large portfolio of such stocks would eliminate risk entirely. That is, the market's long-run standard deviation would be not 15-20 percent per year, but virtually zero.

The fact that the market's actual annual standard deviation is so large means that, in practice, the returns on stocks are correlated with one another, and to a material degree. The reason is that many factors that make a particular stock go up or down also affect other stocks. Examples include the state of the economy, the balance of trade, and inflation. Thus some risk is "non-diversifiable". Single-factor equity risk premium

models derive conditions in which all of these factors can be considered simultaneously, through their impact on the market portfolio. Other models derive somewhat less restrictive conditions under which several of them might be individually relevant.

Again, the basic idea behind all of these models is that risks that cannot be diversified away in large portfolios matter more than those that can be eliminated by diversification, because there are a large number of large portfolios whose managers actively seek the best risk-reward tradeoffs available. Of course, undiversified investors would like to get a premium for bearing diversifiable risk, but they cannot.

Q15. Why not?

A15. Well-diversified investors compete away any premium rates of return for diversifiable risk. Suppose a stock were priced especially low because it had especially high diversifiable risk. Then it would seem to be a bargain to well diversified investors. For example, suppose an industry is subject to active competition, so there is a large risk of loss of market share. Investors who held a portfolio of all companies in the industry would be immune to this risk, because the loss on one company's stock would be offset by a gain on another's stock. (Of course, the competition might make the whole industry more vulnerable to the business cycle, but the issue here is the diversifiable risk of shifts in market share among firms.)

If the shares were priced especially low because of the risk of a shift in market shares, investors who could hold shares of the whole industry would snap them up. Their buying would drive up the stocks' prices until the premium rates of return for diversifiable risk were eliminated. Since all investors pay the same price, even those who are not diversified can expect no premium for bearing diversifiable risk.

Of course, substantial non–diversifiable risk remains, as the October Crash of 1987 demonstrates. Even an investor who held a portfolio of all traded stocks could not diversify against that type of risk. Sensitivity to such market–wide movements is what beta measures. That type of sensitivity, whether considered in a single- or multi-factor model, determines the risk premium in the cost of equity.

Q16. What does a particular value of beta signify?

A16. By definition, a stock with a beta equal to 1.0 has average non-diversifiable risk: it goes up or down by 10 percent on average when the market goes up or down by 10 percent. Stocks with betas above 1.0 exaggerate the swings in the market: stocks with betas of 2.0 tend to fall 20 percent when the market falls 10 percent, for example. Stocks with betas below 1.0 are less volatile than the market. A stock with a beta of 0.5 will tend to rise 5 percent when the market rises 10 percent.

Q17. How is beta measured?

A17. The usual approach to calculating beta is a statistical comparison of the sensitivity of a stock's (or a portfolio's) return to the market's return. Many investment services report betas, including Merrill Lynch's quarterly Security Risk Evaluation, Bloomberg and the *Value Line Investment Survey*. Betas are not always calculated the same way, and therefore must be used with a degree of caution, but the basic point that a high beta indicates a risky stock has long been widely accepted by both financial theorists and investment professionals.

Q18. Are there circumstances when the "usual approach to calculating beta" should not be used?

A18. There are at least two cases where the standard estimate of beta should be viewed skeptically.

First, companies in serious financial distress seem to "decouple" from their normal sensitivity to the stock market. The stock prices of financially distressed companies tend to change based more on individual news about their particular circumstances than upon overall market movements. Thus, a risky stock could have a low estimated beta if the company was in financial distress. Other circumstances that may cause a company's stock to decouple include an industry restructuring or major changes in a company's supply or output markets.

Second, similar circumstances seem to arise for companies "in play" during a merger or acquisition. Once again, the individual information about the progress of the proposed

takeover is so much more important for that stock than day-to-day market fluctuations that, in practice, beta estimates for such companies seem to be too low.

Q19. How reliable is beta as a risk measure?

A19. Scholarly studies have long confirmed the importance of beta for a stock's required rate of return. It is widely regarded as the best single risk measure available. The merits of beta seemed to have been challenged by widely publicized work by Professors Eugene F. Fama and Kenneth R. French.[19] However, despite the early press reports of their work as signifying that "beta is dead," it turns out that beta is still a potentially important explanatory factor (albeit one of several) in their work. Thus, beta remains alive and well as the best single measure of relative risk.

D. INTEREST RATE FORECAST

Q20. What interest rates do your procedures require?

A20. Modern capital market theories of risk and return use the short-term risk-free rate of return as the starting benchmark. My measures of the MRP incorporate this approach, since they represent the excess of the expected return on the market over the 30-day U.S. Treasury bill rate and over the long-term U.S. Government bond rate. Accordingly, implementation of my procedures requires use of a forecast of the 30-day Treasury bill rate and the long-term Government bond rate.

E. COST OF CAPITAL MODELS

Q21. How do you combine the above components into an estimate of the cost of capital?

A21. By far the most widely used approach to estimation of the cost of capital is the "Capital Asset Pricing Model," and I do calculate CAPM estimates. However, the CAPM is only one equity risk premium approach technique, and I also use another.

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[19] See for example, "The Capital Asset Pricing Model: Theory and Evidence", Eugene F. Fama and Kenneth R. French, *Journal of Economic Perspectives*, Volume 18, Summer 2004, pp. 25-46.

Q22. Please start with the CAPM, by describing the model.

A22. As noted above, the modern models of capital market equilibrium express the cost of equity as the sum of a risk-free rate and a risk premium. The CAPM is the longest-standing and most widely used of these theories. The CAPM states that the cost of capital for investment *s* (e.g., a particular common stock) is given by the following equation:

$$k_s = r_f + \beta_s \times MRP \qquad \textbf{(C-1)}$$

where k_s is the cost of capital for investment *s*; r_f is the risk-free rate, β_s is the beta risk measure for the investment *s*; and *MRP* is the market risk premium.

The CAPM relies on the empirical fact that investors price risky securities to offer a higher expected rate of return than safe securities do. It says that the security market line starts at the risk-free interest rate (that is, that the return on a zero-risk security, the y-axis intercept in Figure 1 in the body of my testimony, equals the risk-free interest rate). Further, it says that the risk premium over the risk-free rate equals the product of beta and the risk premium on a value-weighted portfolio of all investments, which by definition has average risk.

Q23. What other equity risk premium approach model do you use?

A23. Empirical research has long shown that the CAPM tends to overstate the actual sensitivity of the cost of capital to beta: low-beta stocks tend to have higher risk premia than predicted by the CAPM and high-beta stocks tend to have lower risk premia than predicted. A number of variations on the original CAPM theory have been proposed to explain this finding. The difference between the CAPM and the type of relationship identified in the empirical studies is depicted in Figure MJV-C1.

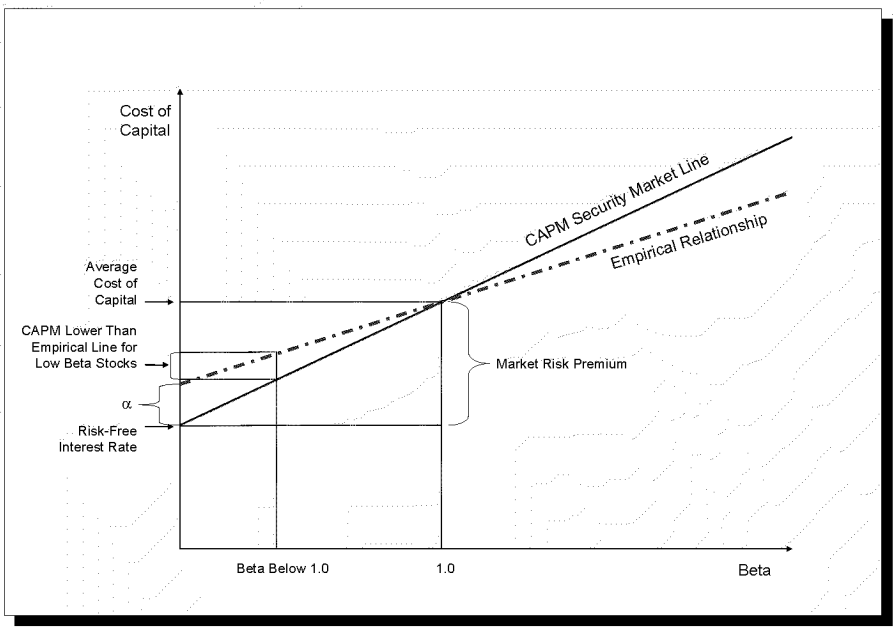

Figure MJV-C1: The Empirical Security Market Line

The second model makes use of these empirical findings. It estimates the cost of capital with the equation,

$$k_s = r_f + \alpha + \beta_s \times (MRP - \alpha) \qquad \textbf{(C-2)}$$

where α is the "alpha" of the risk-return line, a constant, and the other symbols are defined as above. I label this model the Empirical Capital Asset Pricing Model, or "ECAPM." For the short-term risk-free rate models, I set alpha equal to 1, 2, and 3 percent which are values somewhat lower than that estimated empirically. For low-beta stocks such as regulated utilities, the use of a lower value for alpha leads to a lower estimate of the cost of capital. For the long-term risk-free rate models, I set alpha equal to both 0.5 percent and 1.5 percent, but I rely more heavily on the 0.5 percent results. The use of a long-term risk-free rate incorporates some of the desired effect of using the ECAPM. That is, the long-term risk-free rate version of the Security Market Line has a higher intercept and a flatter slope than the short-term risk-free version which has been tested. Thus, it is likely that I do not need to make the same degree adjustment when I use the long-term risk-free rate. A summary of the empirical evidence on the magnitude of alpha is provided in Table No. MJV-C1 below.

II. EMPIRICAL EQUITY RISK PREMIUM RESULTS

Q24. How is this part of the appendix organized?

A24. This section presents the full details of my equity risk premium approach analyses, which are summarized in the body of my testimony. Details behind the forecasts of the short-term and the long-term risk-free interest rates are discussed. Next, the beta estimates, and the estimates of the MRP I use in the models are addressed. Finally, this section reports the CAPM and ECAPM results for the sample's costs of equity, and then describes the results of adjusting for differences between the benchmark sample and Dominion Virginia Power's regulated capital structures.

A. RISK-FREE INTEREST RATE FORECAST

Q25. How do you obtain the forecasts of the risk-free interest rates over the period the utility rates set here are to be in effect?

A25. I obtain these forecast rates using data provided by Bloomberg. In particular, I use their reported government debt yields from the "constant maturity series". This information is displayed in Panels A and B of Table No. MJV-9.

Q26. What values do you use for the short-term and long-term risk-free interest rates?

A26. I use a value of 4.1 percent for the short-term risk-free interest rate and a value of 5.1 percent for the long-term risk-free interest rate as the benchmark interest rates in the equity risk premium analyses. These forecasts are constructed by using historical yield curve data to find the long-run average implied term premia on government securities, and combining these with recent yield curve data. Details of their calculation can be found in the Workpapers to Table No. MJV-9.

B. Betas And The Market Risk Premium

1. Beta Estimation Procedures

Q27. How do you estimate beta?

A27. I use the beta estimates reported in the *Value Line* for the sample companies. The current *Value Line* beta estimates range from 0.70 to 1.30 for the benchmark sample (See Workpaper #1 to Table No. MJV-10).

2. Market Risk Premium Estimation

Q28. Given all of the evidence, what MRP do you use in your analysis?

A28. It is clear that market return information is volatile and difficult to interpret, but based on the collective evidence, the MRP I use for the short-term risk-free rate is 8 percent and for the long-term risk-free rate is 6.5 percent.

C. Cost Of Capital Estimates

Q29. Based on these data, what are the values you calculate for the overall cost of capital and the corresponding cost of equity for the sample?

A29. Panels A and B of Table No. MJV-10 present the cost of equity results using the equity risk positioning methods. Panel A uses the long-term risk-free rate forecast while Panel B uses the short-term risk-free rate forecast. These returns on equity are replicated and the overall cost of capital for the various equity risk positioning methods are reported in Table No. MJV-11, Panels A to G. Panels A through C utilize the long-term risk-free rate while Panels D through G use the short-term risk free rate. Panel A reports the cost of capital estimates using the CAPM results for the long-term risk-free rate, while Panels B and C report these estimates for the ECAPM cost of equity results using ECAPM parameters of 0.5 and 1.5 percent, respectively. Panel D reports the CAPM estimates using the short-term risk free rate, while Panels E, F and G report ECAPM results using ECAPM parameters of 1, 2 and 3 respectively. In each panel, column [8] reports the overall cost of capital for each company. The last row of each panel reports the sample and the subsample averages.

Q30. What does the sample market data imply about the sample's cost of equity at the proposed 50.7 percent equity ratio for Dominion Virginia Power Company?

A30. The sample average ATWACC from each panel of Table No. MJV-11 is reproduced in column [1] of Table No. MJV-12, which then reports the cost of equity for each of the risk positioning methods that is consistent with the sample information and the capital structure of Dominion Virginia Power. The sample average ATWACCs and corresponding costs of equity at a 50.7 percent equity ratio are also displayed in Table 3 of my testimony.

I discuss the implications of the equity risk positioning results for the sample in the main body of my testimony.

Table MJV-C1

EMPIRICAL EVIDENCE ON THE ALPHA FACTOR IN ECAPM*

AUTHOR	RANGE OF ALPHA	PERIOD RELIED UPON
Black (1993)[1]	1% for betas 0 to 0.80	1931-1991
Black, Jensen and Scholes (1972)[2]	4.31%	1931-1965
Fama and McBeth (1972)	5.76%	1935-1968
Fama and French (1992)[3]	7.32%	1941-1990
Litzenberger and Ramaswamy (1979)[4]	5.32%	1936-1977
Litzenberger, Ramaswamy and Sosin (1980)	1.63% to 3.91%	1926-1978
Pettengill, Sundaram and Mathur (1995)[5]	4.6%	1936-1990

*The figures reported in this table are for the longest estimation period available and, when applicable, use the authors' recommended estimation technique. Many of the articles cited also estimate alpha for sub-periods and those alphas may vary.

[1]Black estimates alpha in a one step procedure rather than in an un-biased two-step procedure.

[2]Estimate a negative alpha for the subperiod 1931-39 which contain the depression years 1931-33 and 1937-39.

[3]Calculated using Ibbotson's data for the 30-day treasury yield.

[4]Relies on Lizenberger and Ramaswamy's before-tax estimation results. Comparable after-tax alpha estimate is 4.4%.

[5]Pettengill, Sundaram and Mathur rely on total returns for the period 1936 through 1990 and use 90-day treasuries. The 4.6% figure is calculated using auction averages 90-day treasuries back to 1941 as no other series were found this far back.

Sources:

Black, Fischer. 1993. Beta and Return. *The Journal of Portfolio Management* 20 (Fall): 8-18.

Black, F., Michael C. Jensen, and Myron Scholes. 1972. The Capital Asset Pricing Model: Some Empirical Tests, from Studies in the theory of Capital Markets. In *Studies in the Theory of Capital Markets*, edited by Michael C. Jensen, 79-121. New York: Praeger.

Fama, Eugene F. and James D. MacBeth. 1972. Risk, Returns and Equilibrium: Empirical Tests. *Journal of Political Economy* 81 (3): 607-636.

Fama, Eugene F. and Kenneth R. French. 1992. The Cross-Section of Expected Stock Returns. *Journal of Finance* 47 (June): 427-465.

Litzenberger, Robert H. and Krishna Ramaswamy. 1979. The Effect of Personal Taxes and Dividends on Capital Asset Prices, Theory and Empirical Evidence. *Journal of Financial Economics* XX (June): 163-195.

Litzenberger, Robert H. and Krishna Ramaswamy and Howard Sosin. 1980. On the CAPM Approach to Estimation of a Public Utility's Cost of Equity Capital. *The Journal of Finance* 35 (2): 369-387.

Pettengill, Glenn N., Sridhar Sundaram and Ike Mathur. 1995. The Conditional Relation between Beta and Returns. *Journal of Financial and Quantitative Analysis* 30 (1): 101-116.

APPENDIX D

DISCOUNTED CASH FLOW METHODOLOGY:

DETAILED PRINCIPLES AND RESULTS

I. DISCOUNTED CASH FLOW METHODOLOGY PRINCIPLES D-2

A. SIMPLE AND MULTI-STAGE DISCOUNTED CASH FLOW MODELS D-2
B. CONCLUSIONS ABOUT DCF D-8

II. EMPIRICAL DCF RESULTS D-8

A. PRELIMINARY MATTERS D-9
B. GROWTH RATES D-9
C. DIVIDEND AND PRICE INPUTS D-12
D. COMPANY-SPECIFIC DCF COST OF CAPITAL ESTIMATES D-13

Q1. What is the purpose of this appendix?

A1. This appendix reviews the principles behind the discounted cash flow or "DCF" methodology and the details of the cost of capital estimates obtained from this methodology.

I. DISCOUNTED CASH FLOW METHODOLOGY PRINCIPLES

Q2. How is this section of the appendix organized?

A2. The first part discusses the general principles that underlie the DCF approach. The second portion describes the strengths and weaknesses of the DCF model and why it is generally less reliable for estimating the cost of capital for the sample companies at the present time than the risk positioning method discussed in Appendix C.

A. SIMPLE AND MULTI-STAGE DISCOUNTED CASH FLOW MODELS

Q3. Please summarize the DCF model.

A3. The DCF model takes the first approach to cost of capital estimation discussed with Figure 1 in Section II-A of my direct testimony. That is, it attempts to measure the cost of equity in one step. The method assumes that the market price of a stock is equal to the present value of the dividends that its owners expect to receive. The method also assumes that this present value can be calculated by the standard formula for the present value of a cash flow stream:

$$P = \frac{D_1}{(1+k)} + \frac{D_2}{(1+k)^2} + \frac{D_3}{(1+k)^3} + \cdots + \frac{D_T}{(1+k)^T} \qquad \textbf{(D-1)}$$

where "P" is the market price of the stock; "D_i" is the dividend cash flow expected at the end of period i; "k" is the cost of capital; and "T" is the last period in which a dividend cash flow is to be received. The formula just says that the stock price is equal to the sum of the expected future dividends, each discounted for the time and risk between now and the time the dividend is expected to be received.

Most DCF applications go even further, and make very strong (*i.e.*, unrealistic) assumptions that yield a simplification of the standard formula, which then can be rearranged to estimate the cost of capital. Specifically, if investors expect a dividend stream that will grow forever at a steady rate, the market price of the stock will be given by a very simple formula,

$$P = \frac{D_1}{(k-g)} \qquad \textbf{(D-2)}$$

where "D_1" is the dividend expected at the end of the first period, "g" is the perpetual growth rate, and "P" and "k" are the market price and the cost of capital, as before. Equation D-2 is a simplified version of Equation D-1 that can be solved to yield the well known "DCF formula" for the cost of capital:

$$\begin{aligned} k &= \frac{D_1}{P} + g \\ &= \frac{D_0 \times (1+g)}{P} + g \end{aligned} \qquad \textbf{(D-3)}$$

where "D_0" is the current dividend, which investors expect to increase at rate g by the end of the next period, and the other symbols are defined as before. Equation D-3 says that if Equation D-2 holds, the cost of capital equals the expected dividend yield plus the (perpetual) expected future growth rate of dividends. I refer to this as the simple DCF model. Of course, the "simple" model is simple because it relies on very strong (*i.e.*, very unrealistic) assumptions.

Q4. Are there other versions of the DCF models besides the "simple" one?

A4. Yes. If Equation D-2 and its underlying assumptions do not hold, sometimes other variations of the general present value formula, Equation D-1, can be used to solve for k in ways that differ from Equation D-3. For example, if there is reason to believe that investors do *not* expect a steady growth rate forever, but rather have different growth rate forecasts in the near term (e.g., over the next five or ten years as compared with subsequent periods), these forecasts can be used to specify the early dividends in Equation D-1. Once the near-term dividends are specified, Equation D-2 can be used to

specify the share price value at the end of the near-term (e.g., at the end of five or ten years), and the resulting cash flow stream can be solved for the cost of capital using Equation D-1.

More formally, the "multi-stage" DCF approach solves the following equation for k:

$$P = \frac{D_1}{(1+k)} + \frac{D_2}{(1+k)^2} + \frac{D_3}{(1+k)^3} + \cdots + \frac{D_T + P_{TERM}}{(1+k)^T} \quad \textbf{(D-4)}$$

The terminal price, P_{TERM} is estimated as

$$P_{TERM} = \frac{D_{T+1}}{(k - g_{LR})} \quad \textbf{(D-5)}$$

where T is the last of the periods in which a near term dividend forecast is made and g_{LR} is the long-run growth rate. Thus, Equation D-4 defers adoption of the very strong perpetual growth assumptions that underlie Equation D-2 — and hence the simple DCF formula, Equation D-3 — for as long as possible, and instead relies on near term knowledge to improve the estimate of k. I examine both simple and multi-stage DCF results below.

Q5. What are the merits of the DCF model?

A5. The DCF approach is conceptually sound only if its assumptions are met. In actual practice one can run into difficulty because those assumptions are so strong, and hence so unlikely to correspond to reality. Two conditions are well-known to be necessary for the DCF approach to yield a reliable estimate of the cost of capital: the variant of the present value formula, Equation D-1, that is used must actually match the variations in investor expectations for the dividend growth path; and the growth rate(s) used in that formula must match current investor expectations. Less frequently noted conditions may also create problems.

The DCF model assumes that investors expect the cost of capital to be the same in all future years. Investors may not expect the cost of capital to be the same, which can bias the DCF estimate of the cost of capital in either direction.

The DCF model only works for companies for which the standard present value formula works. The standard formula does *not* work for companies that operate in industries or markets options (*e.g.*, puts and calls on common stocks), and so it will not work for companies whose stocks behave as options do. Option-pricing effects will be important for companies in financial distress, for example, which implies the DCF model will *understate* their cost of capital, all else equal.

In recent years even the most basic DCF assumption, that the market price of a stock in the absence of growth options is given by the standard present value formula (*i.e.*, by Equation D-1 above), has been called into question by a literature on market volatility.[1] In any case, it is still too early to throw out the standard formula, if for no other reasons than that the evidence is still controversial and no one has offered a good replacement. But the evidence suggests that it must be viewed with more caution than financial analysts have traditionally applied. Simple models of stock prices may not be consistent with the available evidence on stock market volatility.

Q6. Normally DCF debates center on the right growth rate. What principles underlie that choice?

A6. Finding the right growth rate(s) is indeed the usual "hard part" of a DCF application. The original approach to estimation of g relied on average historical growth rates in observable variables, such as dividends or earnings, or on the "sustainable growth" approach, which estimates g as the average book rate of return times the fraction of earnings retained within the firm. But it is highly unlikely that historical averages over periods with widely varying rates of inflation, interest rates and costs of capital, such as in the relatively recent past, will equal current growth rate expectations.

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[1] See for example, Robert J. Shiller (1981), "Do Stock Prices Move Too Much to be Justified by Subsequent Changes in Dividends?," *The American Economic Review*, Vol. 71, No. 3, pp. 421-436. John Y. Campbell and Robert J. Shiller (1988), "The Dividend-Price Ratio and Expectations of Future Dividends and Discount Factors," *The Review of Financial Studies*, Vol. 1, No. 3, pp. 195-228. Lucy F. Ackert and Brian F. Smith (1993), "Stock Price Volatility, Ordinary Dividends, and Other Cash Flows to Shareholders," *Journal of Finance*, Vol. 48, No. 1, pp. 1147-1160. Eugene F. Fama and Kenneth R. French (2001), "Disappearing Dividends: Changing Firm Characteristics or Lower Propensity to Pay?," *Journal of Financial Economics*, Vol. 60, pp. 3-43. Borja Larrain and Motohiro Yogo (2005), "Does Firm Value

A better approach is to use the growth rates currently expected by investment analysts, if an adequate sample of such rates is available. If this approach is feasible and if the person estimating the cost of capital is able to select the appropriate version of the DCF formula, the DCF method should yield a reasonable estimate of the cost of capital for companies not in financial distress and without material option-pricing effects (always subject to recent concerns about the applicability of the basic present value formula to stock prices as well as issues of optimism bias). However, for the DCF approach to work, the basic stable-growth assumption must become reasonable and the underlying stable-growth rate must become determinable *within the period for which forecasts are available*.

Q7. What is the so called "optimism bias" in the earnings growth rate forecasts of security analysts and what is its effect on the DCF analysis?

A7. Optimism bias is related to the observed tendency for analysts to forecast earnings growth rates that are higher than are actually achieved. This tendency to over estimate growth rates is perhaps related to incentives faced by analysts that provide rewards not strictly based upon the accuracy of the forecasts. To the extent optimism bias is present in the analysts' earnings forecasts, the cost of capital estimates from the DCF model would be too high.

Q8. Does optimism bias mean that the DCF estimates are completely unreliable?

A8. No. The effect of optimism bias is least likely to affect DCF estimates for large, rate regulated companies in relatively stable segments of an industry. Furthermore, the magnitude of the optimism bias (if any) for regulated companies is not clear. This issue is addressed in a paper by Chan, Karceski, and Lakonishok (2003)[2] who sort companies on the basis of the size of the I/B/E/S forecasts to test the level of optimism bias. Utilities constitute 25 percent of the companies in lowest quintile, and by one measure the level of optimism bias is 4 percent. However, the 4 percent figure does not represent the

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Move Too Much to be Justified by Subsequent Changes in Cash Flow?," Federal Reserve Bank of Boston, *Working Paper*, No. 05-18.

[2] L. K.C. Chan, J. Karceski, and J. Lakonishok, 2003, "The Level and Persistence of Growth Rates," *Journal of Finance* 58(2):643-684.

complete characterization of the results in the paper. Table IX of the paper shows that the median I/B/E/S forecast for the first (lowest) quintile averages 6.0 percent. The realized "Income before Extraordinary Items" is 2.0 percent (implying a four percent upward bias in I/B/E/S forecasts), but the "Portfolio Income before Extraordinary Items" is 8.0 percent (implying a two percent downward bias in I/B/E/S forecasts).

The difference between the "Income before Extraordinary Items" and "Portfolio Income before Extraordinary Items" is whether individual firms or a portfolio are used in estimating the realized returns. The first is a simple average of all firms in the quintile while the second is a market value weighted-average. Although both measures of bias have their own drawbacks according to the authors,[3] the Portfolio Income measure gives more weight to the larger firms in the quintile such as regulated utilities. In addition, the paper demonstrates that "analysts' forecasts as well as investors' valuations reflect a wide-spread belief in the investment community that many firms can achieve streaks of high growth in earnings."[4] Therefore, it is not clear how severe the problem of optimism bias may be for regulated utilities or even whether there is a problem at all.

Finally, the two-stage DCF model also adjusts for any over optimistic (or pessimistic) growth rate forecasts by substituting the long-term GDP growth rate for the 5-year growth rate forecasts of the analysts in the years beginning in year 11. I linearly trend the 5-year forecast growth rate to the GDP forecast growth rate in years 6 to 10.

Q9. What about the reforms by the National Associate of Security Dealers (NASD) that were designed to reduce the conflicts of interest and pressures brought against security analysts? Have those reforms been generally successful?

A9. Yes. The conclusion from the Joint Report by NASD and the New York Stock Exchange ("NYSE") on the reforms states

> … the SRO Rules have been effective in helping restore integrity to research by minimizing the influences of investment banking and promoting transparency of other potential conflicts of interest. Evidence

[3] Chan, Karceski, and Lakonishok, *op. cit.*, p. 675.

[4] Chan, Karceski, and Lakonishok, *op. cit.*, p. 663.

> also suggests that investors are benefiting from more balanced and accurate research to aid their investment decisions.[5]

The report does note additional reforms are advisable, but the situation is far different today than during the height of the tech bubble when analyst objectivity was clearly suspect.

B. CONCLUSIONS ABOUT DCF

Q10. Please sum up the implications of this part of the appendix.

A10. The unavoidable questions about the DCF model's strong assumptions — whether the basic present value formula works for stocks, whether option pricing effects are important for the company, whether the right variant of the basic formula has been found, and whether the true growth rate expectations have been identified — cause me to view the DCF method as *inherently* less reliable than equity risk premium approach, the other approach I use. However, because the DCF method has been widely used in the past and in other forums when the industry's economic conditions were different from today's, I submit DCF evidence in this case. DCF estimates also serve as a check on the values provided by the risk positioning approach methods.

II. EMPIRICAL DCF RESULTS

Q11. How is this part of the appendix organized?

A11. This section presents the details of my DCF analyses for the sample, which are summarized in my written testimony. The first part describes some preliminary matters, such as the calculation of market value capital structures of the sample companies and the determination of the growth rates. It then turns to the details of the DCF estimates themselves.

In particular, implementation of the simple DCF models described above requires an estimate of the current price, the dividend, and near-term and long-run growth rate

[5] Joint Report by NASD and NYSE on the Operation and Effectiveness of the Research Analyst Conflict of Interest Rules, December 2005, p. 44.

forecasts. The simple DCF model relies only on a single growth rate forecast, while the multistage DCF model employs both near-term individual company forecasts and long-run GDP growth rate forecasts. The remaining parts of this section describe each of these inputs in turn.

A. PRELIMINARY MATTERS

Q12. In Appendix C you discuss estimating cost of capital and implied cost of equity using the risk positioning methodology. What, if anything, is different when you use the DCF method?

A12. First, the timing of the market value capital structure calculations is different in the DCF method than in the equity risk premium method. The equity risk premium method relies on the average capital structure over the five-year period *Value Line* uses to estimate beta while the DCF approach uses only current data, so the relevant market value capital structure measure is the most recent that can be calculated. This capital structure is reported in columns [1]-[3] of Table No. MJV-4.

B. GROWTH RATES

Q13. What growth rates do you use?

A13. For reasons discussed above, historical growth rates today are generally unreliable as forecasts of current investor expectations for the electric utility industry. I therefore use rates forecasted by security analysts.

The ideal in a DCF application would be a detailed forecast of future dividends, year by year well into the future, based on a large sample of investment analysts' expectations. I know of no source of such data. Dividends are ultimately paid from earnings, however, and earnings forecasts are available for a few years. Investors do not expect dividends to grow in lockstep with earnings, but for companies for which the DCF approach can be used reliably (*i.e.*, for relatively stable companies whose prices do not include the option-like values described previously), they do expect dividends to track earnings over the long-run. Thus, use of earnings growth rates as a proxy for expectations of dividend growth rates is a common practice.

Accordingly, the first step in my DCF analysis is to examine a sample of investment analysts' forecasted earnings growth rates. In particular, I utilize Bloomberg's BEst and *Value Line's* forecasted earnings growth.[6] The projected earnings growth rates for the sample companies are in Table No. MJV-5.[7] Column [1] reports Bloomberg's BEst analysts' forecasts of the long-term earnings growth for the sample companies. Column [2] reports the number of analysts that provided a forecast. Columns [3] and [4] report *Value Line's* forecasted earnings per share ("EPS") value for each company for 2008 and 2010-2012 respectively. Column [5] provides *Value Line's* implied long-term growth rate forecast, and column [6] provides a weighted average growth rate for each company across the two sources. (I treat the *Value Line* forecasts as though they overlap exactly with the forecasts from Bloomberg.) These growth rates underlie my simple and multi-stage DCF analyses.

In particular, the five-year average annual growth rate is the perpetual growth rate I employ in the simple DCF model.[8] In the multi-stage model, I rely on the company-specific growth rate until 2012 and on the long-term GDP forecast for year 2018 onwards. During the years from 2013 to 2017, I assume the growth rate converges linearly towards the long-term GDP forecast.[9]

Q14. Do these growth rates correspond to the ideal you mentioned above?

A14. No, not completely. While forecasted growth rates are the quantity required in principle, the forecasts need to go far enough out into the future so that it is reasonable to believe that investors expect a stable growth path afterwards. As can be seen from Table No. MJV-5, the growth rate estimates do not support the view that investors are expecting growth rates equal to the single perpetual growth rate assumed in the simple DCF model. Indeed, there is substantial variation across companies' combined growth rates. For

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[6] The BEst growth rates were downloaded from Bloomberg on June 11, 2007. *Value Line* estimates are from the most recent reports available, variously dated March 30, 2007, May 11, 2007, and June 1, 2007. (See Table No. MJV-5.)

[7] No Bloomberg BEst growth rate was available for MGE Energy Inc. at this time.

[8] This growth rate is in column [6] of Table No. MJV-5.

[9] I use the long-term U.S. GDP growth estimate from *Blue Chip Economic Indicators* (March 10, 2007).

example, Entergy and PPL each have a combined growth rate estimate of over 10 percent, while Consolidated Edison's and Pinnacle West's combined estimates are both 3.4 percent (see column [6], Table No. MJV-5).

It should be noted that except for MGE Energy, there are at least two analyst estimates for all of the sample companies, though Cleco Corp and Empire Electric have only two. The comparison between the average growth rate forecasts and the growth in GDP forecast indicates that these growth rates may be overly optimistic in the case of some electric companies.

Q15. How well are the conditions needed for DCF reliability met at present?

A15. The requisite conditions for the sample companies are not fully met at this time. Of particular concern for this proceeding is the uncertainty about what investors truly expect the long-run outlook for the sample companies to be. The longest time period available for growth rate forecasts of which I am aware is five years. The long-run growth rate (*i.e.*, the growth rate after the energy industry settles into a steady state, which is certainly *beyond* the next five years for this industry) drives the actual results one gets with the DCF model. Unfortunately, this implies that unless the company or industry in question is stable, so there is little doubt as to the growth rate investors expect. DCF results in practice can end up being driven by the subjective judgment of the analyst who performs the work.

This is a problem at present because it is hard to imagine that today's energy industry would accurately be described as stable. Inflation and interest rates have largely stabilized over the last ten years, but oil and natural gas prices have increased dramatically. The prices of natural gas and petroleum have also exhibited a great deal of volatility recently. These factors make demand for natural gas and electricity more uncertain. The electric industry (as well as both the pipeline industry and the gas distribution sector) are going through a series of mergers and acquisitions, which affects the companies' earnings growth rate estimates. This is one reason why companies heavily involved in mergers and acquisitions are normally excluded from the sample. A number of states are actively considering reversing the restructuring process for the

electric utility industry. There has also been financial distress among companies specializing in trading natural gas and electricity products which affects both regulated and unregulated companies. Taken together, these factors mean that it may be some time before the energy industry settles into anything investors will see as a stable equilibrium.

Such circumstances imply that a regulator may often be faced with a wide range of DCF numbers, none of which can be well grounded in objective data on true long-run growth expectations, *because no such objective data now exist*. DCF for firms or industries in flux is *inherently* subjective with regard to a parameter (the long-run growth rate) that drives the answer one gets.

It is clear that much longer detailed growth rate forecasts than currently available from Bloomberg and *Value Line* would be needed to implement the DCF model in a completely reliable way for the sample at this time.

C. DIVIDEND AND PRICE INPUTS

Q16. What values do you use for dividends and stock prices?

A16. Dividends are the last recorded dividend payments as reported by Bloomberg, the 1st-quarter 2007 dividend. This dividend is grown at the estimated growth rate and divided by the price described below to estimate the dividend yield for the simple and multi-stage DCF models.

For the sample calculations, stock prices are the average of the closing stock prices for the 15 trading days (approximately three weeks) ending May 9, 2007 for each company, the most recent data available on the date the growth rate estimates were downloaded from Bloomberg. I do not use a longer period to measure the price, because that would be inconsistent with the principles that underlie the DCF formula. The DCF approach assumes the stock price is the present value of future expected dividends. Stock prices six months or a year ago reflect expectations at that time, which are different from those that underlie the currently available growth forecasts. At the same time, use of an average over a brief period helps guard against a company's price on a particular day

price being unduly influenced by the release of information on a particular day, differences in trading frequency, and the like.

The closing stock price is used because it is at least as good as any other measure of the day's outcome, and may be better for DCF purposes. In particular, if there were any single price during the day that would affect investors' decisions to buy or sell a stock, I would suspect that it would be each day's closing price, not the high or low during the day. The daily price changes reported in the financial pages, for example, are from close to close, not from high to high or from low to low.

D. COMPANY-SPECIFIC DCF COST OF CAPITAL ESTIMATES

Q17. What DCF estimates do these data yield?

A17. The cost of equity results for the simple and multistage DCF models are shown in Table No. MJV-6. Panel A reports the results for the simple DCF method while Panel B reports the results for the multistage DCF method using the long-term GDP growth rate as the perpetual growth rate.

Q18. What overall cost of capital estimates result from the DCF cost of equity estimates?

A18. The capital structure, DCF cost of equity, and cost of debt estimates are combined to obtain the overall after-tax weighted-average cost of capital for each sample company. These results are presented in Table No. MJV-7. Again, Panel A relies on the simple DCF cost of equity results while Panel B relies on the multistage DCF cost of equity results.

Q19. What information do you report in Table No. MJV-8?

A19. This table reports the return on equity consistent with the sample's estimated overall after-tax weighted-average cost of capital and the proposed equity thickness of 50.7 percent for Dominion Virginia Power. For both the simple DCF and multistage DCF methods, the sample's average ATWACC is reported in column [1]. Column [6] reports the return on equity as if the sample companies' average market value capital structure had been that currently proposed for Dominion Virginia Power.

Q20. What are the implications of these results?

A20. The implication of these numbers is discussed in my written testimony, along with the findings of the equity risk premium approach.

APPENDIX E

EFFECT OF DEBT ON THE COST OF EQUITY

I. AN OVERVIEW OF THE ECONOMIC LITERATURE E-2

A. TAX EFFECTS E-2
1. Base Case: No Taxes, No Risk to High Debt Ratios E-3
2. Corporate Tax Deduction for Interest Expense E-4
3. Personal Tax Burden on Interest Expense E-5

B. NON-TAX EFFECTS E-8

II. EXPANDED EXAMPLE E-12

A. DETAILS OF DIFFERENT LEVELS OF DEBT E-12

B. THE IMPACT OF INCOME AND INTEREST E-16

C. THE EFFECT OF TAXES E-19

D. COMBINED EFFECTS E-24

Q1. What is the purpose of this Appendix?

A1. In this appendix, I provide details on the effects of debt on the cost of equity. First, I summarize a fairly large body of financial research on capital structure. Second, I provide an extended example to illustrate the effect of debt on the cost of equity.

I. AN OVERVIEW OF THE ECONOMIC LITERATURE

Q2. What is the focus of the economic literature on the effects of debt?

A2. The economic literature focuses on the effects of debt on the value of a firm. The standard way to recognize one of these effects, the impact of the fact that interest expense is tax-deductible, is to discount the all-equity after-tax operating cash flows generated by a firm or an investment project at a weighted average cost of capital, typically known in textbooks as the "WACC." The textbook WACC equals the *market*-value weighted average of the cost of equity and the *after-tax*, *current* cost of debt. However, rate regulation in North America has a legacy of working with another weighted-average cost of capital, the *book*-value weighted average of the cost of equity and the *before-tax*, *embedded* cost of debt. To distinguish the concepts, I refer to the after-tax weighted-average cost of capital as ATWACC.

Q3. How is this section of the appendix organized?

A3. It starts with the tax effects of debt. It then turns to other effects of debt.

A. TAX EFFECTS

Q4. What are the key findings in the literature regarding tax effects?

A4. Three seminal papers are vital for this literature. The first assumes no taxes and risk-free debt. The second adds corporate income taxes. The third adds personal income taxes.

1. Base Case: No Taxes, No Risk to High Debt Ratios

Q5. Please start by explaining the simplest case of the effect of debt on the value of a firm.

A5. The "base case," no taxes and no costs to excessive debt, was worked out in a classic 1958 paper by Franco Modigliani and Merton Miller, two economists who eventually won Nobel Prizes in part for their body of work on the effects of debt.[1] Their 1958 paper made what is in retrospect a very simple point: if there are no taxes and no risk to the use of excessive debt, use of debt will have no effect on a company's operating cash flows (i.e., the cash flows to investors as a group, debt plus equity combined). If the operating cash flows are the same regardless of whether the company finances mostly with debt or mostly with equity, then the value of the firm cannot be affected at all by the debt ratio. In cost of capital terms, this means the overall cost of capital is constant regardless of the debt ratio, too.

In the base case, issuing debt merely divides the cash flows into two pools, one for bondholders and one for shareholders. If the divided pools have different priorities in claims on the cash flows, the risks and costs of capital will differ for each pool. But the risk and overall cost of capital of the entire firm, the sum of the two pools, is constant regardless of the debt ratio. Thus,

$$r_1^* = r_{A1} \qquad \text{(E-1a)}$$

where r^*_1 is the overall after-tax cost of capital at any particular capital structure and r_{A1} is the all-equity cost of capital for the firm. (The "1" subscripts distinguish the case where there are no taxes from subsequent equations that consider first corporate and then both corporate and personal taxes.) With no taxes and no risk to debt, the overall cost of capital does not change with capital structure.

This implies that the relationship of the overall cost of capital to the component costs of debt and equity is

[1] Franco Modigliani and Merton H. Miller (1958), "The Cost of Capital, Corporation Finance and the Theory of Investment," *American Economic Review*, 48, pp. 261-297.

$$r_{E1} \times \left(\frac{E}{V}\right) + r_{D1} \times \left(\frac{D}{V}\right) = r_1^* \qquad \text{(E-1b)}$$

with the overall cost of capital (r^*) on the *right* side, as the *independent* variable, and the costs of equity (r_E) and debt (r_D) on the left side, as *dependent* variables determined by the overall cost of capital and by the capital structure (i.e., the shares of equity (E) and debt (D) in overall firm value (V=E+D)) that the firm happens to choose. Note that if equation (E-1a) were correct, the equation that solved it for the cost of equity would be,

$$r_{E1} = r_1^* + (r_1^* - r_D) \times \left(\frac{D}{E}\right) \qquad \text{(E-1c)}$$

Note also that (D/E) gets exponentially higher in this equation as the debt-to-value ratio increases[2] i.e., the cost of equity increases exponentially with leverage.

2. Corporate Tax Deduction for Interest Expense

Q6. What happens when you add corporate taxes to the discussion?

A6. If corporate taxes exist with risk-free debt (and if only taxes at the corporate level matter, not taxes at the level of the investor's personal tax return), the initial conclusion changes. Debt at the corporate level reduces the company's tax liability by an amount equal to the marginal tax rate times interest expense. All else equal, this will add value to the company because more of the operating cash flows will end up in the hands of investors as a group. That is, if only corporate taxes mattered, interest would add cash to the firm equal to the corporate tax rate times the interest expense. This increase in cash would increase the value of the firm, all else equal. In cost of capital terms, it would reduce the overall cost of capital.

How much the value of the firm would rise and *how far* the overall cost of capital would fall would depend in part on how often the company adjusts its capital structure, but this is a second-order effect in practice. (The biggest effect would be if companies could issue riskless perpetual debt, an assumption Profs. Modigliani and Miller explored in

[2] For example, at 20-80, 50-50, and 80-20 debt-equity ratios, (D/E) equals, respectively, (20/80) = 0.25, (50/50) = 1.0, and (80/20) = 4.0. The extra 30 percent of debt going from 20-80 to 50-50 has much less impact on (D/E) [i.e., by moving it from 0.25 to 1.0] than the extra 30 percent of debt going from 50-50 to 80-20 [i.e., by moving it from 1.0 to 4.0]. Since the cost of equity equals a constant risk premium times the debt-equity ratio, the cost of equity grows ever more rapidly as you add more and more debt.

1963, in the second seminal paper;[3] this assumption could *not* be true for a real company.) Prof. Robert A. Taggart provides a unified treatment of the main papers in this literature and shows how various cases relate to one another.[4] Perhaps the most useful set of benchmark equations for the case where only corporate taxes matter are:

$$r_2^* = r_{A2} - r_D \times t_C \times \left(\frac{D}{V}\right) \quad \text{(E-2a)}$$

$$r_2^* = r_{E2} \times \left(\frac{E}{V}\right) + r_D \times \left(\frac{D}{V}\right) \times (1 - t_C) \quad \text{(E-2b)}$$

which imply for the cost of equity,

$$r_{E2} = r_{A2} + (r_{A2} - r_D) \times \left(\frac{D}{E}\right) \quad \text{(E-2c)}$$

where the variables have the same meaning as before but the "2" subscripts indicate the case that considers corporate but not personal taxes.

Note that Equation (E-2a) implies that when only corporate taxes matter, the overall after-tax cost of capital declines steadily as more debt is added, until it reaches a minimum at 100 percent debt (i.e., when D/V = 1.0). Note also that Equation (E-2c) still implies an exponentially increasing cost of equity as more and more debt is added. In fact, except for the subscript, Equation (E-2c) looks just like Equation (E-1c).

However, whether any value is added and whether the cost of capital changes at all also depends on the effect of taxes at the personal level.

3. Personal Tax Burden on Interest Expense

Q7. How do personal taxes affect the results?

A7. Ultimately, the purpose of investment is to provide income for consumption, so personal taxes affect investment returns. For example, in the U.S., municipal bonds have lower interest rates than corporate bonds because their income is taxed less heavily at the

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[3] Franco Modigliani and Merton H. Miller (1963), "Corporate Income Taxes and the Cost of Capital: A Correction," *American Economic Review*, 53, pp. 433-443.

[4] Robert A. Taggart, Jr. (1991), "Consistent Valuation and Cost of Capital Expressions with Corporate and Personal Taxes," *Financial Management* 20, pp. 8-20.

personal level. In general, capital appreciation on common stocks is taxed less heavily than interest on corporate bonds because (1) taxes on unrealized capital gains are deferred until the gains are realized, and (2) the capital gains tax rate is lower. Dividends are taxed less heavily than interest, also, under current tax law.[5] The effects of personal taxes on the cost of common equity are hard to measure, however, because common equity is so risky.

Professor Miller, in his Presidential Address to the American Finance Association,[6] explored the issue of how personal taxes affect the overall cost of capital. The paper pointed out that personal tax effects could offset the effect of corporate taxes entirely.

Q8. Is it likely that the effect of personal taxes will completely neutralize the effect of corporate taxes?

A8. I do not believe so, although the likelihood of such a result would be increased if the current federal tax reductions on dividends and capital gains became permanent rather than expiring in 2010. However, personal taxes are important even if they do not make the corporate tax advantage on interest vanish entirely. Capital gains and dividend tax advantages definitely convey some personal tax advantage to equity, and even a partial personal advantage to equity reduces the corporate advantage to debt.

The Taggart paper explores the case of a partial offset, also. With personal taxes, the risk-free rate on the security market line is the after-personal-tax rate, which must be equal for risk-free debt and risk-free equity.[7] Therefore, the pre-personal-tax risk-free rate for equity will generally not be equal to the pre-personal-tax risk-free rate for debt. In particular, $r_{fE} = r_{fD} \times [(1-t_D)/(1-t_E)]$, where r_{fE} and r_{fD} are the risk-free costs of equity and debt and t_E and t_D are the personal tax rates for equity and debt, respectively. In

[5] The current maximum personal tax rate on dividend income was extended to the end of 2010 by the President on May 17, 2006. It is uncertain whether the reduced rates on dividend income will be further extended.

[6] Merton H. Miller (1977), "Debt and Taxes," *The Journal of Finance*, 32: 261-276, the third of the seminal papers mentioned earlier.

[7] As Prof. Taggart notes (his footnote 9), it is not necessary that a specific, risk-free equity security exist as long as one can be created synthetically, through a combination of long and short sales of traded assets. Such constructs are a common analytical tool in financial economics.

terms of the cost of debt, the Taggart paper's results imply that a formal statement of these effects can be written as:[8]

$$r_3^* = r_{A3} - r_D \times t_N \times \left(\frac{D}{V}\right) \quad \text{(E-3a)}$$

$$= r_{E3} \times \left(\frac{E}{V}\right) + r_D \times \left(\frac{D}{V}\right) \times (1 - t_C) \quad \text{(E-3b)}$$

which imply

$$r_{E3} = r_{A3} + \left[r_{A3} - r_D \times \left(\frac{1 - t_D}{1 - t_E}\right)\right] \times \left(\frac{D}{E}\right) \quad \text{(E-3c)}$$

Suppose, for example, that t_C = 0.35 percent, t_E = 7.7 percent and t_D = 40 percent. Then $[(1-t_D)/(1-t_E)] = 0.65 = (1-t_C)$. That condition corresponds to Miller's 1977 paper, in which the net personal tax advantage of equity fully offsets the net corporate tax advantage of debt. Note also that in that case, $t_N = 0$.[9] Therefore, if the personal tax advantage on equity fully offsets the corporate tax advantage on debt, Equation (E-3a) confirms that the overall after-tax cost of capital is a constant.

However, it is unlikely that the personal tax advantage of equity fully offsets the corporate tax advantage of debt. If taxes were all that mattered (i.e., if there were no other costs to debt), the overall after-corporate-tax cost of capital would still fall as debt was added, just not as fast.

Finally, note that the overall after-tax cost of capital, Equation (E-3b), still uses the corporate tax rate even when personal taxes matter. Equations (E-2b) and (E-3b) both correspond to the usual formula for the ATWACC. Personal taxes affect the way the cost of equity changes with capital structure -- Equation (E-3c) -- but not the formula for the overall after-tax cost of capital given that cost of equity.

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[8] The net all-tax effect of debt on the overall cost of capital, t_N, equals $\{[t_C+t_E-t_D-(t_C \times t_E)] / (1-t_E)\}$, where t_D is the personal tax rate on debt, as before. This measure of net tax effect is designed for use with the cost of debt in Equation (E-3a), which seems more useful in the present context. The Taggart paper works with a similar measure, but one which is designed for use with the cost of risk-free equity in the equivalent Taggart equation.

[9] In the above example, $t_N = \{[0.35+0.077-0.4-(0.35 \times 0.077)] / (1.0-0.077)\} = 0.0/0.923 = 0$.

B. NON-TAX EFFECTS

Q9. Please describe the non-tax effects of Debt.

A9. If debt is truly valuable, firms should use as much as possible, and competition should drive firms in a particular industry to the same, optimal capital structure for the industry. If debt is harmful on balance, firms should avoid it. Neither picture corresponds to what we actually see. A large economic literature has evolved to try to explain why.

Part of the answer clearly is the costs of excessive debt. Here the results cannot be reduced to equations, but they are no less real for that fact. As companies add too much debt, the costs come to outweigh the benefits. Too much debt reduces or eliminates financial flexibility, which cuts the firm's ability to take advantage of unexpected opportunities or weather unexpected difficulty. Use of debt rather than internal financing may be taken as a negative signal by the market.

Even if the company is generally healthy, more debt increases the risk that the company cannot use all of the interest tax shields in a bad year. As debt continues to grow, this problem grows and others may crop up. Management begins to worry about meeting debt payments instead of making good operating decisions. Suppliers are less willing to extend trade credit, and a liquidity shortage can translate into lower operating profits. Ultimately, the firm might have to go through the costs of bankruptcy and reorganization. Collectively, such factors are known as the costs of "financial distress."[10]

The net tax advantage to debt, if positive, is affected by costs such as a growing risk that the firm might have to bear the costs of financial distress. First, the expected present value of these costs offsets the value added by the interest tax shield. Second, since the likelihood of financial distress is greater in bad times when other investments also do poorly, the possibility of financial distress will increase the risks investors bear. These effects increase the variability of the value of the firm. Thus, firms that use too much debt can end up with a higher overall cost of capital than those that use none.

[10] See, for example, Section 18.3 of Brealey, Myers and Allen, 2006, *Principles of Corporate Finance*, 8th Edition, McGraw-Hill/Irwin, 2006.

Other parts of the answer include the signals companies send to investors by the decision to issue new securities, and by the type of securities they issue. Other threads of the literature explore cases where management acts against shareholder interests, or where management attempts to "time" the market by issuing specific securities under different conditions. For present purposes, the important point is that no theory, whether based on taxes or on some completely different issue, has emerged as "the" explanation for capital structure decisions by firms. Nonetheless, despite the lack of a single "best" theory, there is a great deal of relevant empirical research.

Q10. What does that research show?

A10. The research does not support the view that debt makes a material difference in the value of the firm, at least not once a modest amount of debt is in place. If debt were truly valuable, competitive firms should use as much debt as possible short of producing financial distress, and competitive firms that use less debt ought to be less profitable. The research shows exactly the opposite.

For example, Kester[11] found that firms in the same industry in both the U.S. and Japan do not band around a single, "optimal" capital structure, and the most profitable firms are the ones that use the *least* debt. This finding comes despite the fact that both countries at the time (unlike the U.S. currently) had fully "classical" tax systems, in which dividends are taxed fully at both the corporate and personal level. Wald[12] confirms that high profitability implies low debt ratios in France, Germany, Japan, the U.K., and the U.S. Booth *et al.* find the same result for a sample of developing nations.[13] Fama and French[14] analyze over 2000 firms for 28 years (1965-1992, inclusive) and conclude, "Our tests

[11] Carl Kester (1986), "Capital and Ownership Structure: A Comparison of United States and Japanese Manufacturing Concerns," *Financial Management*, 15:5-16.

[12] John K. Wald (1999), "How Firm Characteristics Affect Capital Structure: An International Comparison," *Journal of Financial Research*, 22:161-167.

[13] Laurence Booth *et al.* (2001), "Capital Structures in Developing Countries," *The Journal of Finance* Vol. LVI, pp. 87-130, finds at p. 105 that "[o]verall, the strongest result is that profitable firms use less total debt. The strength of this result is striking ..."

[14] Eugene F. Fama and Kenneth R. French (1998), "Taxes, Financing Decisions and Firm Value," *The Journal of Finance*, 53:819-843.

thus produce no indication that debt has net tax benefits."[15] A paper by Graham[16] carefully analyzes the factors that might have led a firm not to take advantage of debt. It confirms that a large proportion of firms that ought to benefit substantially from use of additional debt, including large, profitable, liquid firms, appear not to use it "enough."

This research leaves us with only three options: either (1) apparently good, profit-generating managers are making major mistakes or deliberately acting against shareholder interests, (2) the benefits of the tax deduction on debt are less than they appear, or (3) the non-tax costs to use of debt offset the potential tax benefits. Only the first of these possibilities is consistent with the view that the tax deductibility of debt conveys a material cost advantage. Moreover, if the first explanation were interpreted to mean that otherwise good managers are acting against shareholder interests, either deliberately or by mistake, it would require the additional assumption that their competitors (and potential acquirers) let them get away with it.

Q11. Are there any explanations in the financial literature for this puzzle other than stupid or self-serving managers at the most profitable firms?

A11. Yes. For example, Stewart C. Myers, a leading expert on capital structure, made it the topic of his Presidential Address to the American Finance Association.[17] The poor performance of tax-based explanations for capital structure led him to propose an entirely different mechanism, the "pecking order" hypothesis. This hypothesis holds that the net tax benefits of debt (i.e., corporate tax advantage over personal tax disadvantage) are at most of a second order of importance relative to other factors that drive actual debt decisions.[18] Similarly, Baker and Wurgler (2002)[19] observe a strong and persistent

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[15] *Ibid.*, p. 841.

[16] John R. Graham (2000), "How Big Are the Tax Benefits of Debt," *The Journal of Finance*, 55:1901-1942.

[17] Stewart C. Myers (1984), "The Capital Structure Puzzle," *The Journal of Finance*, 39: 575-592. See also S. C. Myers and N. S. Majluf (1984), "Corporate Financing Decisions When Firms Have Information Investors Do Not Have," *Journal of Financial Economics* 13:187-222.

[18] See also Stewart C. Myers (1989), "Still Searching for Optimal Capital Structure," *Are the Distinctions Between Debt and Equity Disappearing?,* R.W. Kopke and E. S. Rosengren, eds., Federal Reserve Bank of Boston.

[19] Malcolm Baker and Jeffrey Wurgler (2002), "Market Timing and Capital Structure," *The Journal of Finance* 57:1-32.

impact that fluctuations in market value have on capital structure. They argue that this impact is not consistent with other theories. The authors suggest a new capital structure theory based on market timing -- capital structure is the cumulative outcome of attempts to time the equity market.[20] In this theory, there is no optimal capital structure, so market timing financing decisions just accumulate over time into the capital structure outcome. (Of course, this theory only makes sense if investors do not recognize what managers are doing.)

Q12. Do inter-firm differences within an industry explain the wide variations in capital structure across the firms in an industry?

A12. No. This view is contradicted by the empirical research. As mentioned before, it has long been found that the most profitable firms in an industry, i.e., those in the best position to take advantage of debt, use the least.[21] Graham (2000) carefully examines differences in firm characteristics as possible explanations for why firms use "too little" debt and concludes that such differences are *not* the explanation: firms that ought to benefit substantially from more debt by all measurable criteria, if the net tax advantage of debt is truly valuable, voluntarily do not use it.[22]

Nor does the research support the view that firms are constantly trying to adjust their capital structures to optimal levels. Additional research on the pecking order hypothesis demonstrates that firms do not tend towards a target capital structure, or at least do not do so with any regularity, and that past studies that seemed to show the contrary actually lacked the power to distinguish whether the hypothesis was true or not.[23] In the words of

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[20] *Ibid.*, p. 29.

[21] For example, Kester, *op. cit.* and Wald, *op. cit.*

[22] While not contradicting Graham's finding that differences in firm characteristics do not explain capital structure differences, Nengjiu Ju, Robert Parrino, Allen M. Poteshman, and Michael S. Weisbach, "Horses and Rabbits? Trade-Off Theory and Optimal Capital Structure," *Journal of Financial and Quantitative Analysis*, June 2005, pp. 1-24, looks at the issue in a different manner. Their paper uses a dynamic rather than static model to analyze the tradeoff between the tax benefits of debt and the risk of financial distress. It finds that bankruptcy costs by themselves are enough to explain observed capital structures, once dynamic effects are considered. This means debt is not as valuable as suggested by the traditional static analysis (of the sort used by Graham).

[23] Lakshmi Shyam-Sunder and Stewart C. Myers (1999), "Testing static tradeoff against pecking order models of capital structure," *Journal of Financial Economics* 51:219-244.

the Shyam-Sunder - Myers paper p. 242, "If our sample companies did have well-defined optimal debt ratios, it seems that their managers were not much interested in getting there."

II. EXPANDED EXAMPLE

Q13. What topics do you cover in this section?

A13. The discussion in my testimony did not detail the impact of different starting points for the level of debt nor did it address income earned on the investment, interest expense, or taxes. This section covers these topics. First, it discusses how the level of debt affects the cost of equity. Second, it addresses the influence of income and interest on the investment. Third, it explains the impact of taxes on capital structure decisions. The final topic covered in this section is the combined consequence of tax and non-tax effects of debt.

A. DETAILS OF DIFFERENT LEVELS OF DEBT

Q14. Why does more debt mean more risk for equity holders?

A14. Debt magnifies the variability of the equity return. As a simple example, think of an investor who takes money out of her savings and invests $100,000 in real estate. The future value of the real estate is uncertain. If the real estate market booms, she wins. If the real estate market goes down, she loses. Figure E-1 below illustrates this.

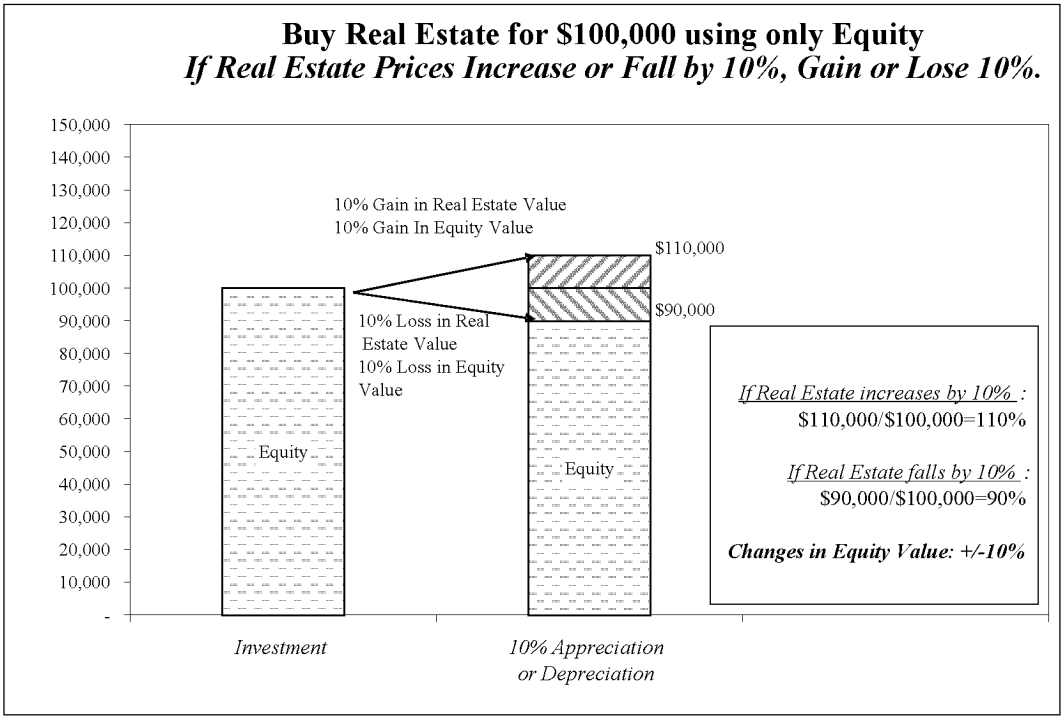

Figure E-1

In the scenario above, the investor financed her real estate purchase through 100 percent equity. Suppose instead that the investor had financed 50 percent of her real estate investment with a mortgage of $50,000. The mortgage lender does not expect to share in any benefits from increases in real estate values. Neither does the mortgage lender expect to share in any losses from falling real estate values, i.e., the investor carries the entire risk of fluctuating real estate prices. Figure E-2 illustrates this effect.

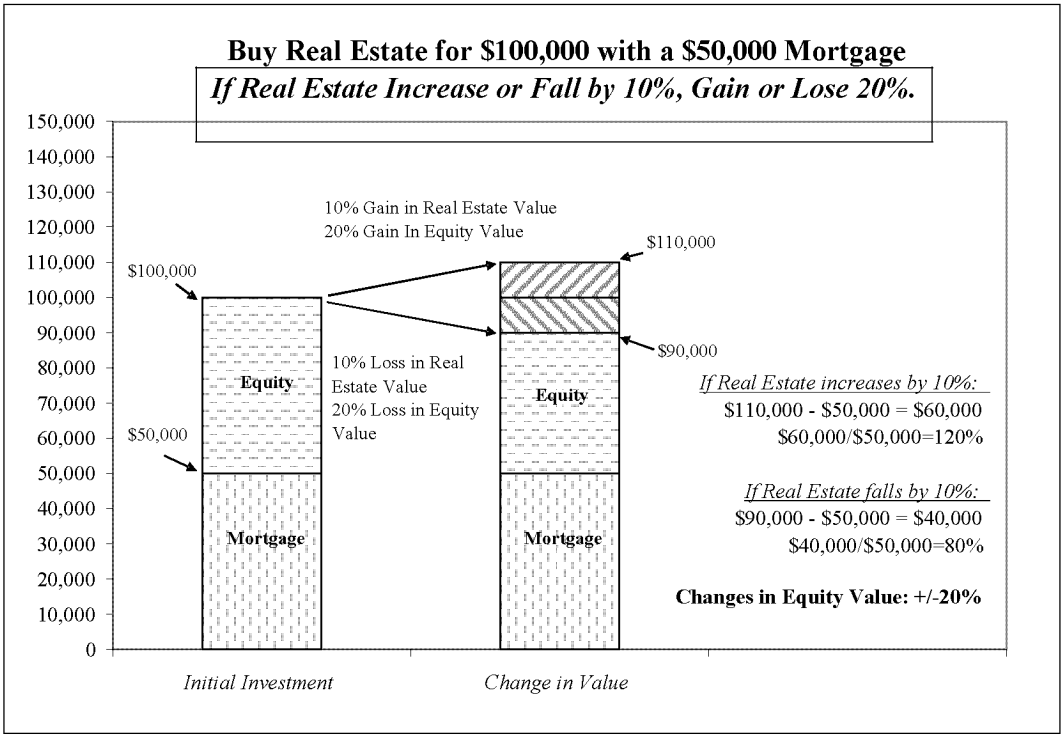

Figure E-2

In Figure E-2 where the investor financed her purchase through 50 percent equity and 50 percent debt, the variability in the investor's equity return is two times greater than that of Figure E-1. The entire fluctuation of 10 percent from rising or falling real estate prices falls on the investor's $50,000 equity investment. The lesson from the example is obvious, debt adds risk to equity.

Q15. What happens if the investor finances the real estate purchase with different proportions of debt?

A15. The equity return becomes more variable when the mortgage percentage is a greater proportion of the initial price. Table E-1 below calculates the return on equity when real estate prices increase by 10 percent when mortgages are 0 percent, 30 percent, 50 percent, and 70 percent of the initial price.

Table E-1: The Impact of Leverage on the Return on Equity

	100% Equity	70% Equity	50% Equity	30% Equity
Debt	$0	$30,000	$50,000	$70,000
Original Equity Investment	$100,000	$70,000	$50,000	$30,000
Increase in Market Value of Equity	$10,000	$10,000	$10,000	$10,000
Return on Equity Investment	10%	14.3%	20%	33.3%

Note that going from 70 percent equity down to 50 percent equity increases the return on the equity investment by 5.7 percent while going from 50 percent equity to 30 percent equity increases the return on equity by 13.3 percent. This illustrates a general point; the rate of return on equity increases more quickly at higher levels of debt than at lower levels. Investors demand a higher equity rate of return to bear more risk and debt magnifies equity's risk at an ever increasing rate. Therefore, the required equity rate of return goes up at an ever increasing rate as debt is added. This is not only basic finance theory, it is the everyday experience of anyone who buys a home. The bigger the mortgage, the more percentage risk the equity faces from changes in housing prices.

Q16. Please provide an example that illustrates why market values are relevant.

A16. Suppose in the above example that the investor has invested in real estate 10 years ago. Further assume that depreciation has reduced the book value of the real estate from $100,000 to $75,000 and assume the investor has paid off 40 percent of his $50,000 mortgage. Thus, the investor has a remaining mortgage of $30,000 (= 60% × $50,000). The book value of the investor's equity investment is therefore $45,000 (= $75,000 - $30,000).

What happens now if real estate prices rise or fall 20 percent? To answer that question, we need to know how real estate prices have developed over the past 10 years. If the market value of the real estate now is $200,000 then a 20 percent decrease in the price of real estate ($40,000) is almost equal to the investor's book value equity. However, his

market value equity (or net worth) is equal to the value of the real estate minus what he owes on the mortgage. If we assume that the market value of the mortgage equals the unpaid balance ($30,000), then the investor's net worth is calculated as follows:

Net Worth	=	Market Value of Real Estate	-	Remaining Mortgage
	=	$200,000	-	$30,000
	=	$170,000		

Therefore, the rate of return on equity due to a 20 percent decline in real estate prices is calculated in Table E-2.

Table E-2: Calculating the Rate of Return on Equity

Decline in Real Estate Value	$40,000
Market-Value Equity	$170,000
Rate of Return on Equity	- $40,000/$170,000 = -23.5%

B. THE IMPACT OF INCOME AND INTEREST

Q17. How does earning income from the investment and paying interest on debt affect the results?

A17. In the following explanation, I ignore income taxes which I deal with in Section C below. Assume the investor is receiving income, e.g., rent, from the real estate. Specifically, assume the investor receives $500 per month in income after all non-interest expenses ($6,000 per year). Also, assume that the expected appreciation is 5 percent per year, so the expected market value is $105,000 after one year. Then the expected rate of return from the real estate with all equity financing is:

$$\text{Expected Return on Equity @ 0\% debt} = \frac{\text{Expected Net Income + Expected Appreciation}}{\text{Initial Investment}}$$

$$= \frac{\$6{,}000 + (\$105{,}000 - \$100{,}000)}{\$100{,}000}$$

$$= 11\%$$

Now suppose that the mortgage interest rate were 5 percent. Then at a mortgage equal to 50 percent, or $50,000, interest expense would be ($50,000 x 0.05), or $2,500. The expected equity rate of return would be:

$$\text{Expected Return on Equity @ 50\% debt} = \frac{\text{Expected (Net Income + Appreciation) – Int. Expense}}{\text{Initial } \textit{Equity} \text{ Investment}}$$

$$= \frac{\$6{,}000 + \$5{,}000 - \$2{,}500}{\$50{,}000}$$

$$= 17\%$$

Notice that the expected return on equity is higher as is the risk carried by equity.

Q18. Can you provide a more general illustration?

A18. Yes. Figure E-3 uses these assumptions at different mortgage levels to plot both (i) the expected rate of return on the equity in the dwelling, and (ii) the realized rate of return on

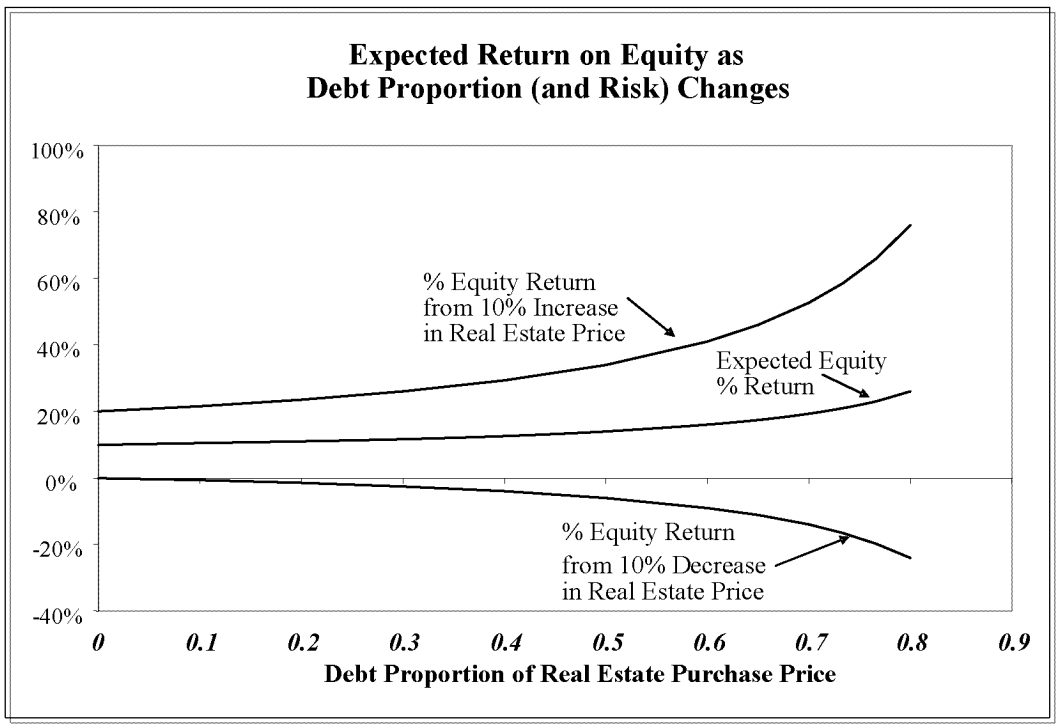

Figure E-3

that equity in a year if the dwelling value increases by 10 percent more than the expected 5 percent rate (i.e., if the value increases by 15 percent) or by 10 percent less than expected (i.e., if it decreases by 5 percent).[24]

The expected rate of return on equity increases at an increasing rate as the investor finances more and more of the real estate through loans (e.g., with a mortgage). Since equity bears all the risk of increases or decreases in real estate values (absent financial distress or bankruptcy), the amount of risk the buyer bears grows at an ever increasing rate as the mortgage percentage also increases.

Q19. What are the implications of this example?

A19. Any time an individual or a company uses debt to finance part an investment, the same risk magnifies. For example, if an investor buys stocks "on margin" -- by borrowing part of the money used to buy the stock -- the expected rate of return will be higher as will the risks the investor carries. As an everyday example, imagine investing your retirement

[24] For simplicity, the figure assumes the debt's interest rate is independent of the debt proportion. This might not always be true, and in general would not be true for a corporation that issued debt. However, the general shape of the graphs remains the same.

savings in a stock portfolio bought with as much margin as possible. If you were lucky, you could end up living very well in retirement. But you would be taking a lot of risk on the opposite outcome, since your portfolio could decline by more than 100 percent of your initial investment.

The same risk-magnifying effects happen when companies borrow to finance part of their investments.

C. THE EFFECT OF TAXES

Q20. What is the impact of taxes?

A20. Analyzing the net effect of taxes in capital structure decisions by corporations is an important part of the financial research. (Other parts of that research address such issues as the risk of financial distress or bankruptcy, and the signals corporations send investors by the choice of how to finance new investments.) The bottom line is that taxes complicate the picture without changing the basic conclusion.

Q21. Please describe the potential impact of taxes.

A21. Interest expense is tax-deductible for corporations. That increases the pool of cash the corporation gets to keep out of its operating earnings (i.e., its earnings before interest expense). With no debt, 100 percent of operating income is subject to taxes. With debt, only the equity part of the operating income is subject to taxes.

All else equal, the extra money kept from operating income increases the value of the corporation. The standard way to recognize that increase in value is to use an after-tax weighted-average cost of capital as a discount rate when valuing a company's operating cash flows.

Q22. Do personal taxes affect the value of debt, too?

A22. Yes, but in the other direction. One offset to debt's tax benefits at the corporate level is its higher tax burden at the personal level. Investors care about the money they get to keep after all taxes are paid, and while the corporation saves taxes by opting for debt over

equity, individuals pay more taxes on interest than on capital gains from equity (and for now, on dividends as well).

Q23. Are there factors other than taxes matter?

A23. Absolutely, "all else" does not remain equal as more debt is added. The more debt, the more the non-tax effects of debt offset the tax benefits. Other costs include such effects as a loss of flexibility, the possibility of sending negative signals to investors, and a host of costs and risks associated with the danger of financial distress.

Q24. Does the tradeoff between the tax and non-tax effects of debt mean that firms have well-defined, optimal capital structures?

A24. No, this sort of "tradeoff" model does not explain actual corporate behavior. A substantial body of economic research confirms that real-world corporations act as if, after a moderate amount of debt is in place, the tax benefits of debt are not worth debt's other costs. In country after country and in industry after industry, the most profitable corporations in an industry tend to use the least debt. The research on this point is quite thorough, and the finding that the most profitable companies tend to use the least debt in a given industry is robust. Yet these are the companies with the most operating income to shield from taxes, who would benefit most if interest tax shields were truly valuable net of debt's other costs. They also presumptively are the best-managed on average (else why are they the most profitable?). This means it is unrealistic to suppose that more debt is always better, or that greater tax savings due to higher interest expense always add value to the firm on balance.

Q25. If the tradeoff model doesn't explain capital structure decisions by firms, is there a model that does?

A25. No single model has (yet) emerged as 'the" explanation of capital structure. However, several alternative models attempt to model the tradeoff (e.g., the "pecking order" hypothesis and "agency cost" explanations).

Q26. What does the absence of an agreed theory of capital structure in the financial literature imply about the overall effect of debt on the value of the firm?

A26. The findings of the financial literature mean that within an industry, there is no well-defined optimal capital structure. The use of some debt does convey some value advantage in most industries, but that advantage is offset by other costs as firms add more debt.[25] The range of capital structures over which the value of the firm in any industry is maximized is wide and should be treated as flat. The location and level of that range, however, does vary from industry to industry, just as the overall cost of capital varies from industry to industry.

Figure E-4 illustrates the picture that emerges from the research. This figure shows the present value of an investment in each of four different industries. For simplicity, the investment is expected to yield $1.00 per year forever. For firms in relatively high-risk industries (Industry 1 in the graph, the lowest line), the $1.00 perpetuity is not worth much and any use of debt decreases firm value. For firms in relatively low-risk industries (Industry 4 in the graph), the perpetuity is worth more and substantial amounts of debt make sense. Industries 2 and 3 are intermediate cases.

The maximum net rate at which taxes can increase value in this figure equals 20 percent of interest expense, representing a balance between the corporate tax advantage to debt and the personal tax disadvantage. The figure plots the maximum possible impact of taxes on value as a separate line, starting at the all-equity value of the lowest-risk industry (Industry 4).

[25] Note that if debt did increase the value of the firm materially, competition would tend to take that value away, since issuing debt is an easy-to-copy competitive strategy. Prices would fall as firms copied the strategy, lowering operating earnings and passing the net tax advantages to debt through to customers (just as happens under rate regulation). Therefore, if also there were a narrow range of optimal capital structures within an industry, competition would drive all firms in the industry to capital structures within that range. This does not happen in practice, which contradicts one or both of the assumptions, i.e., (1) that debt adds material value on balance, and/or (2) that there is a narrow range of optimal capital structures.

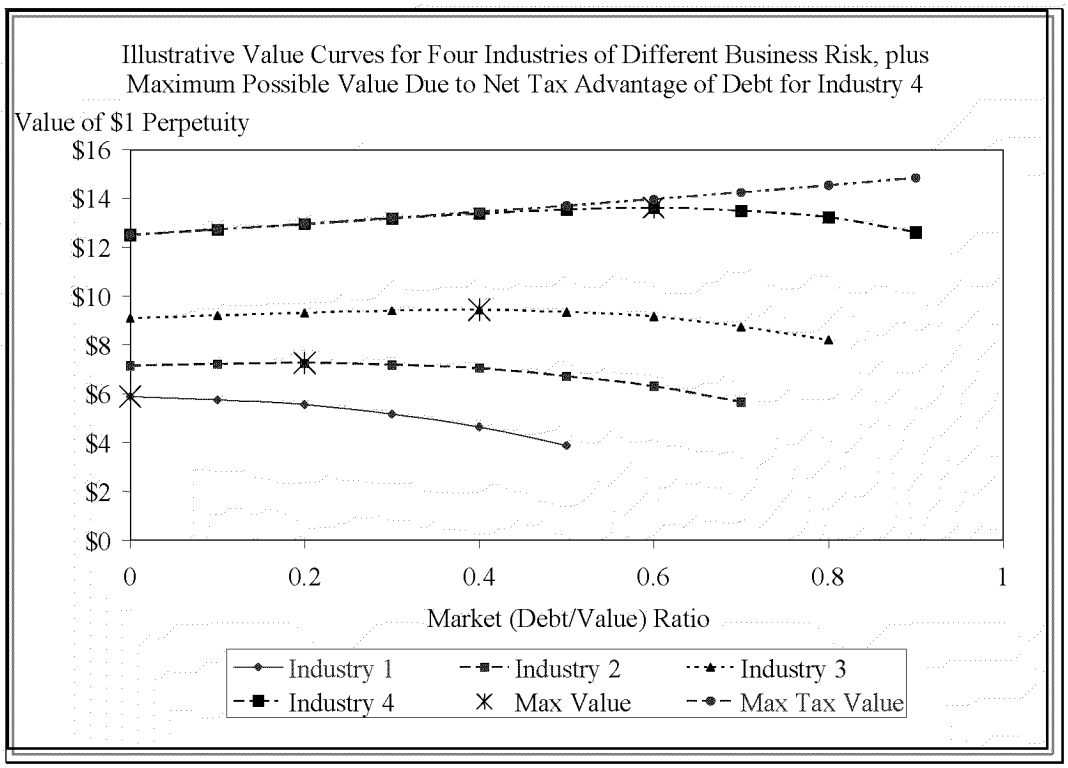

Figure E-4

Figure E-4 identifies a particular point as the maximum value on each of the four curves. However, the research shows that reliable identification of this maximum point, except in the extreme case where no debt should be used, is impossible. In accord with the research, the graph is prepared so that in none of the industries does a change in capital structure make much difference near the top of the curve. Even Industry 4, which increases in value at the maximum rate as quite a lot of debt is added, eventually must reach a broad range where changes in the debt ratio make little difference to firm value, given the research. For Industry 4, debt makes less than a 2 percent difference in the total value of the firm for debt-to-value ratios between 40 and 70 percent. (While these particular values are illustrative, numbers of this order of magnitude are the only ones consistent with the research.)

Q27. What does this imply for the overall cost of capital?

A27. Figure E-5 plots the after-tax weighted-average costs of capital ("ATWACCs") that correspond to the value curves in Figure E-4. This picture just turns Figure E-4 upside

down.[26] All the same conclusions remain, except that they are stated in terms of the overall cost of capital instead of the overall firm value. In particular, except for high-risk industries, the overall cost of capital is essentially flat across a broad middle range of capital structures for each industry, which is the only outcome consistent with the research. For Industry 4, for example, the ATWACC changes by less than 15 basis points for debt-to-value ratios between 40 and 70 percent.

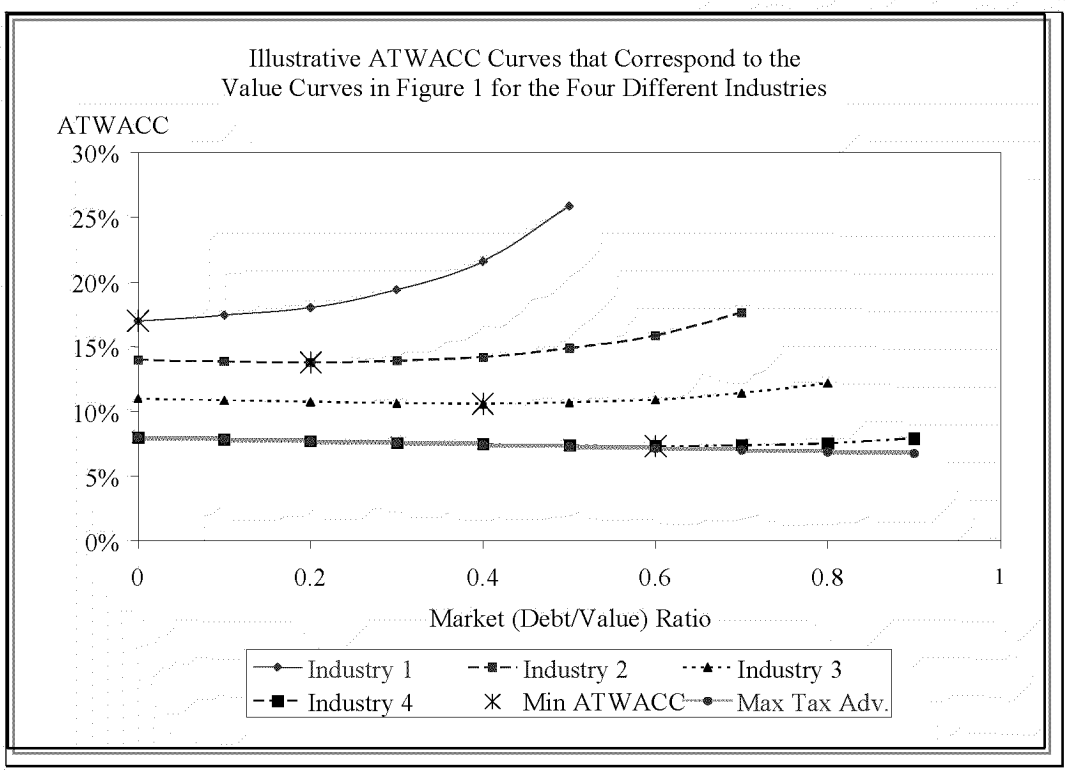

Figure E-5

Q28. How does this discussion relate to estimation of the right cost of equity for ratemaking purposes?

A28. When an analyst estimates the cost of equity for a sample of companies, s/he does so at the sample's actual market-value capital structure. That is, the sample evidence corresponds to ATWACCs that are already out somewhere in the broad middle range in

[26] Note that the actual estimated ATWACC at higher debt ratios will tend to underestimate the ATWACC that corresponds to the value curves in Figure E-4, which are depicted in Figure E-5, and so will tend to overestimate the value of debt to the firm. The reason is that some of the non-tax effects of excessive debt, such as a loss of financial flexibility, may be hard to detect and not show up in cost of capital measurement.

which changes in the debt ratio have little or no impact on the overall value of the firm or the ATWACC.

An analyst therefore should assume the ATWACCs for the sample companies are literally flat. This assumption always provides the exact tradeoff between the cost of equity and capital structure at the literal minimum of the company's ATWACC curve. The research shows that this minimum is actually a broad, flat region, as depicted above. If the company happens to be somewhat to one side or the other of the literal minimum within this region, the recommended procedure may lead to a small understatement or overstatement of the amount that the cost of equity will change as capital structure changes. The degree of this under- or overstatement, however, is very small compared to the inherent uncertainty in estimating the cost of equity in the first place. Otherwise, the financial research would have found very different results about the existence of a narrowly defined optimal capital structure.

D. COMBINED EFFECTS

Q29. Please summarize the implications for the combined impact of the tax and non-tax effects of debt.

A29. The most profitable firms do not behave as if the precise amount of debt they use makes any material difference to value, and competition does not force them into an alternative decision, as it would if debt were genuinely valuable. The explanation that fits the facts and the research is that within an industry, there is no well-defined optimal capital structure. Use of some debt does convey an advantage in most industries, but that advantage is offset by other costs as firms add more debt. The range of capital structures over which the value of the firm in any industry is maximized is wide and should be treated as flat. The location and level of that range, however, does vary from industry to industry, just as the overall cost of capital varies from industry to industry. To conclude that more debt does add more value, once the firm is somewhere in the normal range for the industry, is to conclude that corporate management in general is either blind to an easy source of value or otherwise incompetent (and that their competitors let them get away with it).

The finding that there is no narrowly defined optimal capital structure implies that analysts should estimate the ATWACCs for a sample of companies in a given industry and treat the average ATWACC value as independent of capital structure (at least within a broad middle range of capital structures). The right cost of equity for a rate-regulated company in the same industry is the number that yields the same ATWACC at the capital structure used to set the revenue requirement, since that is the cost of equity that (estimation problems aside) the sample companies would have had if their market-value capital structures had been equal to the regulatory capital structure.

Table No. MJV-1

Index to Tables for the Written Evidence of Michael J. Vilbert

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Table No. MJV-4	Capital Structure Summary of the Electric Sample
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Table No. MJV-6	DCF Cost of Equity of the Electric Sample
Table No. MJV-7	Overall After Tax DCF Cost of Equity of the Electric Sample
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Table No. MJV-2

US Electric Sample

Company Classification by EEI

Company	Company Category
Cleco Corp	R
Consolidated Edison Inc	R
Empire District Electric Co/The	R
Entergy Corp	R
MGE Energy Inc	R
NSTAR	R
Pinnacle West Capital Corp	R
PPL Corp	MR
Southern Co	R
DTE Energy Co	MR
Energy East Corp	R
Otter Tail Corp	MR
FirstEnergy Corp	MR
Puget Energy Inc	R
SCANA Corp	MR

Sources and Notes:
R = Regulated (greater than 80 percent of total assets are regulated).
MR= Mostly Regulated (50 to 80 percent of total assets are regulated).
EEI 2006 Financial Review.

Table No. MJV-3

Market Value of the Electric Sample

Panel A: Cleco Corp

($MM)

	DCF Capital Structure	1st Quarter, 2007	Year End, 2006	Year End, 2005	Year End, 2004	Year End, 2003	Year End, 2002	Notes
MARKET VALUE OF COMMON EQUITY								
Book Value, Common Shareholder's Equity	$893	$893	$876	$684	$538	$483	$562	[a]
Shares Outstanding (in millions) - Common	59	59	58	50	50	47	47	[b]
Price per Share - Common	$26.71	$26.08	$25.44	$20.75	$20.28	$18.07	$14.04	[c]
Market Value of Common Equity	$1,588	$1,551	$1,463	$1,037	$1,007	$853	$661	[d] = [b] x [c].
Market to Book Value of Common Equity	1.78	1.74	1.67	1.52	1.87	1.77	1.17	[e] = [d] / [a].
MARKET VALUE OF PREFERRED EQUITY								
Book Value of Preferred Equity	$1	$1	$20	$22	$23	$19	$18	[f]
Market Value of Preferred Equity	$1	$1	$20	$22	$23	$19	$18	[g] = [f].
MARKET VALUE OF DEBT								
Current Assets	$388	$388	$537	$434	$288	$253	$285	[h]
Current Liabilities	$323	$323	$389	$294	$338	$346	$519	[i]
Current Portion of Long-Term Debt	$40	$40	$50	$40	$160	$5	$45	[j]
Net Working Capital	$106	$106	$199	$180	$110	($87)	($188)	[k] = [h] - ([i] - [j]).
Notes Payable (Short-Term Debt)	$0	$0	$0	$0	$9	$201	$315	[l]
Adjusted Short-Term Debt	$0	$0	$0	$0	$0	$87	$188	[m] = See Sources and Notes.
Long-Term Debt	$619	$619	$619	$610	$451	$907	$869	[n]
Book Value of Long-Term Debt	$659	$659	$669	$650	$611	$999	$1,103	[o] = [n] + [j] + [m].
Adjustment to Book Value of Long-Term Debt	$11	$11	$11	$14	$34	$35	$23	[p] = See Sources and Notes.
Market Value of Long-Term Debt	$670	$670	$680	$664	$644	$1,034	$1,126	[q] = [p] + [o].
Market Value of Debt	$670	$670	$680	$664	$644	$1,034	$1,126	[r] = [q].
MARKET VALUE OF FIRM	$2,259	$2,222	$2,163	$1,723	$1,674	$1,906	$1,804	[s] = [d] + [g] + [r].
DEBT AND EQUITY TO MARKET VALUE RATIOS								
Common Equity - Market Value Ratio	70.30%	69.80%	67.64%	60.21%	60.13%	44.75%	36.62%	[t] = [d] / [s].
Preferred Equity - Market Value Ratio	0.05%	0.05%	0.93%	1.27%	1.40%	0.98%	0.97%	[u] = [g] / [s].
Debt - Market Value Ratio	29.66%	30.15%	31.43%	38.53%	38.47%	54.27%	62.41%	[v] = [r] / [s].

Sources and Notes:
Bloomberg as of June 11, 2007
Capital structure from 1st Quarter, 2007 calculated using respective balance sheet information and 5-day average prices ending at period end.
The DCF Capital structure is calculated using 1st Quarter, 2007 balance sheet information and a 15-trading day average closing price ending on 6/11/2007.
Prices are reported in Workpaper #1 to Table No. MJV-6.
[m] =
(1): 0 if [k] > 0.
(2): The absolute value of [k] if [k] < 0 and |[k]| < [l].
(3): [l] if [k] < 0 and |[k]| > [l].
[p]: Difference between fair value of Long-Term debt and carrying amount of Long-Term debt per company 10-K. Data for adjustment is from 2006 10-K. Companies do not repo
the fair value of Long-Term debt in quarterly reports, so end-of-year 2006 data is used instead.

Table No. MJV-3

Market Value of the Electric Sample

Panel B: Consolidated Edison Inc

($MM)

	DCF Capital Structure	1st Quarter, 2007	Year End, 2006	Year End, 2005	Year End, 2004	Year End, 2003	Year End, 2002	Notes
MARKET VALUE OF COMMON EQUITY								
Book Value, Common Shareholder's Equity	$8,207	$8,207	$8,004	$7,310	$7,054	$6,423	$5,921	[a]
Shares Outstanding (in millions) - Common	259	259	257	245	243	226	214	[b]
Price per Share - Common	$48.39	$51.02	$48.02	$46.73	$43.96	$43.08	$42.82	[c]
Market Value of Common Equity	$12,522	$13,204	$12,362	$11,462	$10,662	$9,729	$9,161	[d] = [b] x [c].
Market to Book Value of Common Equity	1.53	1.61	1.54	1.57	1.51	1.51	1.55	[e] = [d] / [a].
MARKET VALUE OF PREFERRED EQUITY								
Book Value of Preferred Equity	$213	$213	$213	$213	$213	$213	$213	[f]
Market Value of Preferred Equity	$213	$213	$213	$213	$213	$213	$213	[g] = [f].
MARKET VALUE OF DEBT								
Current Assets	$2,730	$2,730	$2,937	$3,072	$1,715	$1,592	$1,706	[h]
Current Liabilities	$3,131	$3,131	$2,917	$3,321	$2,224	$1,911	$2,275	[i]
Current Portion of Long-Term Debt	$859	$859	$374	$22	$469	$166	$473	[j]
Net Working Capital	$458	$458	$394	($227)	($40)	($153)	($96)	[k] = [h] - ([i] - [j]).
Notes Payable (Short-Term Debt)	$266	$266	$117	$755	$156	$159	$162	[l]
Adjusted Short-Term Debt	$0	$0	$0	$227	$40	$153	$96	[m] = See Sources and Notes.
Long-Term Debt	$7,818	$7,818	$8,324	$7,428	$6,594	$6,769	$6,204	[n]
Book Value of Long-Term Debt	$8,677	$8,677	$8,698	$7,677	$7,103	$7,088	$6,773	[o] = [n] + [j] + [m].
Adjustment to Book Value of Long-Term Debt	$0	$0	$0	$0	$0	$0	$0	[p] = See Sources and Notes.
Market Value of Long-Term Debt	$8,677	$8,677	$8,698	$7,677	$7,103	$7,088	$6,773	[q] = [p] + [o].
Market Value of Debt	$8,677	$8,677	$8,698	$7,677	$7,103	$7,088	$6,773	[r] = [q].
MARKET VALUE OF FIRM	$21,412	$22,094	$21,273	$19,352	$17,978	$17,030	$16,147	[s] = [d] + [g] + [r].
DEBT AND EQUITY TO MARKET VALUE RATIOS								
Common Equity - Market Value Ratio	58.48%	59.76%	58.11%	59.23%	59.31%	57.13%	56.73%	[t] = [d] / [s].
Preferred Equity - Market Value Ratio	0.99%	0.96%	1.00%	1.10%	1.18%	1.25%	1.32%	[u] = [g] / [s].
Debt - Market Value Ratio	40.52%	39.27%	40.89%	39.67%	39.51%	41.62%	41.95%	[v] = [r] / [s].

Sources and Notes:
Bloomberg as of June 11, 2007
Capital structure from 1st Quarter, 2007 calculated using respective balance sheet information and 5-day average prices ending at period end.
The DCF Capital structure is calculated using 1st Quarter, 2007 balance sheet information and a 15-trading day average closing price ending on 6/11/2007.
Prices are reported in Workpaper #1 to Table No. MJV-6.
[m] =
(1): 0 if [k] > 0.
(2): The absolute value of [k] if [k] < 0 and |[k]| < [l].
(3): [l] if [k] < 0 and |[k]| > [l].
[p]: Difference between fair value of Long-Term debt and carrying amount of Long-Term debt per company 10-K. Data for adjustment is from 2006 10-K. Companies do not repo
the fair value of Long-Term debt in quarterly reports, so end-of-year 2006 data is used instead.

Table No. MJV-3

Market Value of the Electric Sample

Panel C: Empire District Electric Co

($MM)

	DCF Capital Structure	1st Quarter, 2007	Year End, 2006	Year End, 2005	Year End, 2004	Year End, 2003	Year End, 2002	Notes
MARKET VALUE OF COMMON EQUITY								
Book Value, Common Shareholder's Equity	$467	$467	$469	$393	$379	$379	$329	[a]
Shares Outstanding (in millions) - Common	30	30	30	26	26	25	23	[b]
Price per Share - Common	$23.44	$24.72	$24.80	$20.46	$22.77	$21.74	$18.20	[c]
Market Value of Common Equity	$711	$750	$750	$534	$585	$543	$411	[d] = [b] x [c].
Market to Book Value of Common Equity	1.52	1.60	1.60	1.36	1.54	1.43	1.25	[e] = [d] / [a].
MARKET VALUE OF PREFERRED EQUITY								
Book Value of Preferred Equity	$0	$0	$0	$0	$0	$0	$50	[f]
Market Value of Preferred Equity	$0	$0	$0	$0	$0	$0	$50	[g] = [f].
MARKET VALUE OF DEBT								
Current Assets	$135	$135	$128	$116	$90	$94	$96	[h]
Current Liabilities	$113	$113	$146	$108	$58	$56	$88	[i]
Current Portion of Long-Term Debt	$0	$0	$0	$0	$11	$0	$0	[j]
Net Working Capital	$23	$23	($18)	$9	$42	$38	$8	[k] = [h] - ([i] - [j]).
Notes Payable (Short-Term Debt)	$40	$40	$77	$31	$0	$13	$23	[l]
Adjusted Short-Term Debt	$0	$0	$18	$0	$0	$0	$0	[m] = See Sources and Notes.
Long-Term Debt	$542	$542	$462	$408	$400	$410	$361	[n]
Book Value of Long-Term Debt	$542	$542	$480	$408	$411	$411	$361	[o] = [n] + [j] + [m].
Adjustment to Book Value of Long-Term Debt	$0	$0	$0	$0	$14	$10	$4	[p] = See Sources and Notes.
Market Value of Long-Term Debt	$542	$542	$480	$408	$425	$420	$365	[q] = [p] + [o].
Market Value of Debt	$542	$542	$480	$408	$425	$420	$365	[r] = [q].
MARKET VALUE OF FIRM								
	$1,254	$1,292	$1,231	$942	$1,010	$963	$826	[s] = [d] + [g] + [r].
DEBT AND EQUITY TO MARKET VALUE RATIOS								
Common Equity - Market Value Ratio	56.74%	58.04%	60.96%	56.67%	57.94%	56.36%	49.75%	[t] = [d] / [s].
Preferred Equity - Market Value Ratio	-	-	-	-	-	-	6.06%	[u] = [g] / [s].
Debt - Market Value Ratio	43.26%	41.96%	39.04%	43.33%	42.06%	43.64%	44.19%	[v] = [r] / [s].

Sources and Notes:
Bloomberg as of June 11, 2007
Capital structure from 1st Quarter, 2007 calculated using respective balance sheet information and 5-day average prices ending at period end.
The DCF Capital structure is calculated using 1st Quarter, 2007 balance sheet information and a 15-trading day average closing price ending on 6/11/2007.
Prices are reported in Workpaper #1 to Table No. MJV-6.
[m] =
(1): 0 if [k] > 0.
(2): The absolute value of [k] if [k] < 0 and |[k]| < [l].
(3): [l] if [k] < 0 and |[k]| > [l].
[p]: Difference between fair value of Long-Term debt and carrying amount of Long-Term debt per company 10-K. Data for adjustment is from 2006 10-K. Companies do not repo
the fair value of Long-Term debt in quarterly reports, so end-of-year 2006 data is used instead.

Table No. MJV-3

Market Value of the Electric Sample

Panel D: Entergy Corp

($MM)

	DCF Capital Structure	1st Quarter, 2007	Year End, 2006	Year End, 2005	Year End, 2004	Year End, 2003	Year End, 2002	Notes
MARKET VALUE OF COMMON EQUITY								
Book Value, Common Shareholder's Equity	$7,839	$7,839	$8,198	$7,748	$8,297	$8,704	$7,838	[a]
Shares Outstanding (in millions) - Common	197	197	203	208	217	229	222	[b]
Price per Share - Common	$111.35	$104.62	$92.69	$69.02	$67.65	$56.83	$45.81	[c]
Market Value of Common Equity	$21,965	$20,639	$18,786	$14,323	$14,669	$13,008	$10,189	[d] = [b] x [c].
Market to Book Value of Common Equity	2.80	2.63	2.29	1.85	1.77	1.49	1.30	[e] = [d] / [a].
MARKET VALUE OF PREFERRED EQUITY								
Book Value of Preferred Equity	$345	$345	$345	$446	$365	$334	$359	[f]
Market Value of Preferred Equity	$345	$345	$345	$446	$365	$334	$359	[g] = [f].
MARKET VALUE OF DEBT								
Current Assets	$3,296	$3,296	$3,325	$4,063	$3,000	$2,919	$3,206	[h]
Current Liabilities	$2,088	$2,088	$2,465	$3,112	$2,332	$2,282	$3,172	[i]
Current Portion of Long-Term Debt	$425	$425	$335	$234	$626	$684	$1,345	[j]
Net Working Capital	$1,633	$1,633	$1,195	$1,185	$1,294	$1,321	$1,379	[k] = [h] - ([i] - [j]).
Notes Payable (Short-Term Debt)	$25	$25	$25	$40	$0	$0	$0	[l]
Adjusted Short-Term Debt	$0	$0	$0	$0	$0	$0	$0	[m] = See Sources and Notes.
Long-Term Debt	$9,424	$9,424	$8,997	$9,013	$7,180	$7,498	$7,465	[n]
Book Value of Long-Term Debt	$9,849	$9,849	$9,331	$9,248	$7,807	$8,182	$8,810	[o] = [n] + [j] + [m].
Adjustment to Book Value of Long-Term Debt	($692)	($692)	($692)	($815)	($403)	($199)	$184	[p] = See Sources and Notes.
Market Value of Long-Term Debt	$9,157	$9,157	$8,640	$8,433	$7,404	$7,983	$8,993	[q] = [p] + [o].
Market Value of Debt	$9,157	$9,157	$8,640	$8,433	$7,404	$7,983	$8,993	[r] = [q].
MARKET VALUE OF FIRM	$31,468	$30,141	$27,771	$23,202	$22,439	$21,325	$19,541	[s] = [d] + [g] + [r].
DEBT AND EQUITY TO MARKET VALUE RATIOS								
Common Equity - Market Value Ratio	69.80%	68.47%	67.65%	61.73%	65.37%	61.00%	52.14%	[t] = [d] / [s].
Preferred Equity - Market Value Ratio	1.10%	1.14%	1.24%	1.92%	1.63%	1.57%	1.84%	[u] = [g] / [s].
Debt - Market Value Ratio	29.10%	30.38%	31.11%	36.35%	33.00%	37.43%	46.02%	[v] = [r] / [s].

Sources and Notes:
Bloomberg as of June 11, 2007
Capital structure from 1st Quarter, 2007 calculated using respective balance sheet information and 5-day average prices ending at period end.
The DCF Capital structure is calculated using 1st Quarter, 2007 balance sheet information and a 15-trading day average closing price ending on 6/11/2007.
Prices are reported in Workpaper #1 to Table No. MJV-6.
[m] =
(1): 0 if [k] > 0.
(2): The absolute value of [k] if [k] < 0 and |[k]| < [l].
(3): [l] if [k] < 0 and |[k]| > [l].
[p]: Difference between fair value of Long-Term debt and carrying amount of Long-Term debt per company 10-K. Data for adjustment is from 2006 10-K. Companies do not repo
the fair value of Long-Term debt in quarterly reports, so end-of-year 2006 data is used instead.

Table No. MJV-3

Market Value of the Electric Sample

Panel E: MGE Energy Inc

($MM)

	DCF Capital Structure	1st Quarter, 2007	Year End, 2006	Year End, 2005	Year End, 2004	Year End, 2003	Year End, 2002	Notes
MARKET VALUE OF COMMON EQUITY								
Book Value, Common Shareholder's Equity	$386	$386	$375	$344	$338	$263	$227	[a]
Shares Outstanding (in millions) - Common	21	21	21	20	20	18	18	[b]
Price per Share - Common	$33.91	$35.75	$36.44	$34.23	$36.07	$31.83	$27.52	[c]
Market Value of Common Equity	$719	$759	$764	$700	$735	$584	$484	[d] = [b] x [c].
Market to Book Value of Common Equity	1.86	1.97	2.04	2.04	2.17	2.22	2.13	[e] = [d] / [a].
MARKET VALUE OF PREFERRED EQUITY								
Book Value of Preferred Equity	$0	$0	$0	$0	$0	$0	$0	[f]
Market Value of Preferred Equity	$0	$0	$0	$0	$0	$0	$0	[g] = [f].
MARKET VALUE OF DEBT								
Current Assets	$129	$129	$149	$161	$144	$112	$97	[h]
Current Liabilities	$130	$130	$144	$153	$118	$106	$81	[i]
Current Portion of Long-Term Debt	$15	$15	$15	$0	$0	$20	$0	[j]
Net Working Capital	$14	$14	$21	$8	$26	$27	$16	[k] = [h] - ([i] - [j]).
Notes Payable (Short-Term Debt)	$47	$47	$57	$83	$53	$32	$34	[l]
Adjusted Short-Term Debt	$0	$0	$0	$0	$0	$0	$0	[m] = See Sources and Notes.
Long-Term Debt	$237	$237	$237	$222	$202	$202	$192	[n]
Book Value of Long-Term Debt	$252	$252	$252	$222	$202	$222	$192	[o] = [n] + [j] + [m].
Adjustment to Book Value of Long-Term Debt	$8	$8	$8	$13	$15	$13	$17	[p] = See Sources and Notes.
Market Value of Long-Term Debt	$260	$260	$260	$235	$217	$235	$209	[q] = [p] + [o].
Market Value of Debt	$260	$260	$260	$235	$217	$235	$209	[r] = [q].
MARKET VALUE OF FIRM	$980	$1,019	$1,025	$935	$952	$819	$693	[s] = [d] + [g] + [r].
DEBT AND EQUITY TO MARKET VALUE RATIOS								
Common Equity - Market Value Ratio	73.42%	74.44%	74.59%	74.86%	77.21%	71.27%	69.83%	[t] = [d] / [s].
Preferred Equity - Market Value Ratio	-	-	-	-	-	-	-	[u] = [g] / [s].
Debt - Market Value Ratio	26.58%	25.56%	25.41%	25.14%	22.79%	28.73%	30.17%	[v] = [r] / [s].

Sources and Notes:
Bloomberg as of June 11, 2007
Capital structure from 1st Quarter, 2007 calculated using respective balance sheet information and 5-day average prices ending at period end.
The DCF Capital structure is calculated using 1st Quarter, 2007 balance sheet information and a 15-trading day average closing price ending on 6/11/2007.
Prices are reported in Workpaper #1 to Table No. MJV-6.
[m] =
(1): 0 if [k] > 0.
(2): The absolute value of [k] if [k] < 0 and |[k]| < [l].
(3): [l] if [k] < 0 and |[k]| > [l].
[p]: Difference between fair value of Long-Term debt and carrying amount of Long-Term debt per company 10-K. Data for adjustment is from 2006 10-K. Companies do not repo
the fair value of Long-Term debt in quarterly reports, so end-of-year 2006 data is used instead.

Table No. MJV-3

Market Value of the Electric Sample

Panel F: NSTAR

($MM)

	DCF Capital Structure	1st Quarter, 2007	Year End, 2006	Year End, 2005	Year End, 2004	Year End, 2003	Year End, 2002	Notes
MARKET VALUE OF COMMON EQUITY								
Book Value, Common Shareholder's Equity	$1,645	$1,645	$1,583	$1,535	$1,441	$1,362	$1,299	[a]
Shares Outstanding (in millions) - Common	107	107	107	107	107	106	106	[b]
Price per Share - Common	$34.51	$35.06	$34.54	$28.61	$27.05	$24.28	$22.17	[c]
Market Value of Common Equity	$3,686	$3,745	$3,689	$3,055	$2,883	$2,576	$2,352	[d] = [b] x [c].
Market to Book Value of Common Equity	2.24	2.28	2.33	1.99	2.00	1.89	1.81	[e] = [d] / [a].
MARKET VALUE OF PREFERRED EQUITY								
Book Value of Preferred Equity	$43	$43	$0	$0	$43	$43	$43	[f]
Market Value of Preferred Equity	$43	$43	$0	$0	$43	$43	$43	[g] = [f].
MARKET VALUE OF DEBT								
Current Assets	$986	$986	$960	$1,021	$798	$643	$507	[h]
Current Liabilities	$1,303	$1,303	$1,240	$1,162	$898	$956	$886	[i]
Current Portion of Long-Term Debt	$143	$143	$176	$123	$149	$230	$213	[j]
Net Working Capital	($174)	($174)	($104)	($18)	$49	($83)	($167)	[k] = [h] - ([i] - [j]).
Notes Payable (Short-Term Debt)	$512	$512	$436	$418	$161	$239	$199	[l]
Adjusted Short-Term Debt	$174	$174	$104	$18	$0	$83	$167	[m] = See Sources and Notes.
Long-Term Debt	$2,281	$2,281	$2,404	$2,445	$2,101	$1,980	$2,091	[n]
Book Value of Long-Term Debt	$2,598	$2,598	$2,684	$2,586	$2,251	$2,293	$2,471	[o] = [n] + [j] + [m].
Adjustment to Book Value of Long-Term Debt	$86	$86	$86	$117	$233	$276	$118	[p] = See Sources and Notes.
Market Value of Long-Term Debt	$2,684	$2,684	$2,770	$2,703	$2,483	$2,568	$2,589	[q] = [p] + [o].
Market Value of Debt	$2,684	$2,684	$2,770	$2,703	$2,483	$2,568	$2,589	[r] = [q].
MARKET VALUE OF FIRM	$6,414	$6,472	$6,459	$5,758	$5,409	$5,187	$4,984	[s] = [d] + [g] + [r].
DEBT AND EQUITY TO MARKET VALUE RATIOS								
Common Equity - Market Value Ratio	57.48%	57.86%	57.11%	53.06%	53.29%	49.66%	47.19%	[t] = [d] / [s].
Preferred Equity - Market Value Ratio	0.67%	0.66%	-	-	0.80%	0.83%	0.86%	[u] = [g] / [s].
Debt - Market Value Ratio	41.85%	41.47%	42.89%	46.94%	45.91%	49.51%	51.95%	[v] = [r] / [s].

Sources and Notes:

Bloomberg as of June 11, 2007

Capital structure from 1st Quarter, 2007 calculated using respective balance sheet information and 5-day average prices ending at period end.

The DCF Capital structure is calculated using 1st Quarter, 2007 balance sheet information and a 15-trading day average closing price ending on 6/11/2007.

Prices are reported in Workpaper #1 to Table No. MJV-6.

[m] =

(1): 0 if [k] > 0.

(2): The absolute value of [k] if [k] < 0 and |[k]| < [l].

(3): [l] if [k] < 0 and |[k]| > [l].

[p]: Difference between fair value of Long-Term debt and carrying amount of Long-Term debt per company 10-K. Data for adjustment is from 2006 10-K. Companies do not repo
the fair value of Long-Term debt in quarterly reports, so end-of-year 2006 data is used instead.

Table No. MJV-3

Market Value of the Electric Sample

Panel G: Pinnacle West Capital Corp

($MM)

	DCF Capital Structure	1st Quarter, 2007	Year End, 2006	Year End, 2005	Year End, 2004	Year End, 2003	Year End, 2002	Notes
MARKET VALUE OF COMMON EQUITY								
Book Value, Common Shareholder's Equity	$3,449	$3,449	$3,446	$3,425	$2,950	$2,830	$2,686	[a]
Shares Outstanding (in millions) - Common	100	100	100	99	92	91	91	[b]
Price per Share - Common	$45.69	$48.42	$50.63	$42.00	$44.36	$39.60	$33.94	[c]
Market Value of Common Equity	$4,580	$4,853	$5,061	$4,160	$4,072	$3,615	$3,097	[d] = [b] x [c].
Market to Book Value of Common Equity	1.33	1.41	1.47	1.21	1.38	1.28	1.15	[e] = [d] / [a].
MARKET VALUE OF PREFERRED EQUITY								
Book Value of Preferred Equity	$0	$0	$0	$0	$0	$0	$0	[f]
Market Value of Preferred Equity	$0	$0	$0	$0	$0	$0	$0	[g] = [f].
MARKET VALUE OF DEBT								
Current Assets	$971	$971	$1,475	$1,891	$1,137	$984	$860	[h]
Current Liabilities	$1,091	$1,091	$1,459	$2,272	$1,626	$1,433	$1,233	[i]
Current Portion of Long-Term Debt	$61	$61	$2	$385	$617	$705	$281	[j]
Net Working Capital	($58)	($58)	$18	$4	$128	$256	($92)	[k] = [h] - ([i] - [j]).
Notes Payable (Short-Term Debt)	$71	$71	$36	$16	$71	$86	$228	[l]
Adjusted Short-Term Debt	$58	$58	$0	$0	$0	$0	$92	[m] = See Sources and Notes.
Long-Term Debt	$3,187	$3,187	$3,233	$2,608	$2,585	$2,617	$2,744	[n]
Book Value of Long-Term Debt	$3,307	$3,307	$3,234	$2,993	$3,202	$3,321	$3,116	[o] = [n] + [j] + [m].
Adjustment to Book Value of Long-Term Debt	($40)	($40)	($40)	$10	$110	$150	$100	[p] = See Sources and Notes.
Market Value of Long-Term Debt	$3,267	$3,267	$3,194	$3,003	$3,312	$3,471	$3,216	[q] = [p] + [o].
Market Value of Debt	$3,267	$3,267	$3,194	$3,003	$3,312	$3,471	$3,216	[r] = [q].
MARKET VALUE OF FIRM	$7,847	$8,120	$8,256	$7,164	$7,384	$7,086	$6,313	[s] = [d] + [g] + [r].
DEBT AND EQUITY TO MARKET VALUE RATIOS								
Common Equity - Market Value Ratio	58.37%	59.77%	61.31%	58.08%	55.14%	51.01%	49.05%	[t] = [d] / [s].
Preferred Equity - Market Value Ratio	-	-	-	-	-	-	-	[u] = [g] / [s].
Debt - Market Value Ratio	41.63%	40.23%	38.69%	41.92%	44.86%	48.99%	50.95%	[v] = [r] / [s].

Sources and Notes:
Bloomberg as of June 11, 2007
Capital structure from 1st Quarter, 2007 calculated using respective balance sheet information and 5-day average prices ending at period end.
The DCF Capital structure is calculated using 1st Quarter, 2007 balance sheet information and a 15-trading day average closing price ending on 6/11/2007.
Prices are reported in Workpaper #1 to Table No. MJV-6.
[m] =
(1): 0 if [k] > 0.
(2): The absolute value of [k] if [k] < 0 and |[k]| < [l].
(3): [l] if [k] < 0 and |[k]| > [l].
[p]: Difference between fair value of Long-Term debt and carrying amount of Long-Term debt per company 10-K. Data for adjustment is from 2006 10-K. Companies do not repo
the fair value of Long-Term debt in quarterly reports, so end-of-year 2006 data is used instead.

Table No. MJV-3

Market Value of the Electric Sample

Panel H: PPL Corp

($MM)

	DCF Capital Structure	1st Quarter, 2007	Year End, 2006	Year End, 2005	Year End, 2004	Year End, 2003	Year End, 2002	Notes
MARKET VALUE OF COMMON EQUITY								
Book Value, Common Shareholder's Equity	$5,273	$5,273	$5,122	$4,418	$4,239	$3,259	$2,224	[a]
Shares Outstanding (in millions) - Common	385	385	385	380	378	355	331	[b]
Price per Share - Common	$44.79	$40.87	$35.98	$29.70	$26.68	$21.74	$17.42	[c]
Market Value of Common Equity	$17,244	$15,736	$13,855	$11,291	$10,088	$7,711	$5,773	[d] = [b] x [c].
Market to Book Value of Common Equity	3.27	2.98	2.71	2.56	2.38	2.37	2.60	[e] = [d] / [a].
MARKET VALUE OF PREFERRED EQUITY								
Book Value of Preferred Equity	$301	$301	$301	$51	$51	$51	$82	[f]
Market Value of Preferred Equity	$301	$301	$301	$51	$51	$51	$82	[g] = [f].
MARKET VALUE OF DEBT								
Current Assets	$4,606	$4,606	$3,630	$2,906	$2,276	$2,039	$1,819	[h]
Current Liabilities	$3,258	$3,258	$3,348	$3,354	$2,295	$1,773	$2,613	[i]
Current Portion of Long-Term Debt	$1,015	$1,015	$1,107	$1,126	$866	$395	$366	[j]
Net Working Capital	$2,363	$2,363	$1,389	$678	$847	$661	($428)	[k] = [h] - ([i] - [j]).
Notes Payable (Short-Term Debt)	$71	$71	$42	$214	$42	$56	$943	[l]
Adjusted Short-Term Debt	$0	$0	$0	$0	$0	$0	$428	[m] = See Sources and Notes.
Long-Term Debt	$6,933	$6,933	$6,728	$6,044	$6,881	$8,145	$6,562	[n]
Book Value of Long-Term Debt	$7,948	$7,948	$7,835	$7,170	$7,747	$8,540	$7,356	[o] = [n] + [j] + [m].
Adjustment to Book Value of Long-Term Debt	$123	$123	$123	$504	$483	$584	$390	[p] = See Sources and Notes.
Market Value of Long-Term Debt	$8,071	$8,071	$7,958	$7,674	$8,230	$9,124	$7,746	[q] = [p] + [o].
Market Value of Debt	$8,071	$8,071	$7,958	$7,674	$8,230	$9,124	$7,746	[r] = [q].
MARKET VALUE OF FIRM	$25,616	$24,108	$22,114	$19,016	$18,369	$16,886	$13,601	[s] = [d] + [g] + [r].
DEBT AND EQUITY TO MARKET VALUE RATIOS								
Common Equity - Market Value Ratio	67.32%	65.27%	62.65%	59.38%	54.92%	45.66%	42.44%	[t] = [d] / [s].
Preferred Equity - Market Value Ratio	1.18%	1.25%	1.36%	0.27%	0.28%	0.30%	0.60%	[u] = [g] / [s].
Debt - Market Value Ratio	31.51%	33.48%	35.99%	40.36%	44.80%	54.03%	56.95%	[v] = [r] / [s].

Sources and Notes:
Bloomberg as of June 11, 2007
Capital structure from 1st Quarter, 2007 calculated using respective balance sheet information and 5-day average prices ending at period end.
The DCF Capital structure is calculated using 1st Quarter, 2007 balance sheet information and a 15-trading day average closing price ending on 6/11/2007.
Prices are reported in Workpaper #1 to Table No. MJV-6.
[m] =
(1): 0 if [k] > 0.
(2): The absolute value of [k] if [k] < 0 and |[k]| < [l].
(3): [l] if [k] < 0 and |[k]| > [l].
[p]: Difference between fair value of Long-Term debt and carrying amount of Long-Term debt per company 10-K. Data for adjustment is from 2006 10-K. Companies do not repo
the fair value of Long-Term debt in quarterly reports, so end-of-year 2006 data is used instead.

Table No. MJV-3

Market Value of the Electric Sample

Panel I: Southern Co

($MM)

	DCF Capital Structure	1st Quarter, 2007	Year End, 2006	Year End, 2005	Year End, 2004	Year End, 2003	Year End, 2002	Notes
MARKET VALUE OF COMMON EQUITY								
Book Value, Common Shareholder's Equity	$11,483	$11,483	$11,371	$10,689	$10,278	$9,648	$8,710	[a]
Shares Outstanding (in millions) - Common	752	752	746	742	742	735	717	[b]
Price per Share - Common	$35.73	$36.81	$36.99	$34.90	$33.62	$30.13	$28.63	[c]
Market Value of Common Equity	$26,864	$27,673	$27,609	$25,879	$24,939	$22,142	$20,522	[d] = [b] x [c].
Market to Book Value of Common Equity	2.34	2.41	2.43	2.42	2.43	2.30	2.36	[e] = [d] / [a].
MARKET VALUE OF PREFERRED EQUITY								
Book Value of Preferred Equity	$744	$744	$744	$596	$561	$423	$298	[f]
Market Value of Preferred Equity	$744	$744	$744	$596	$561	$423	$298	[g] = [f].
MARKET VALUE OF DEBT								
Current Assets	$4,024	$4,024	$4,019	$4,205	$3,491	$3,060	$2,929	[h]
Current Liabilities	$5,496	$5,496	$6,353	$5,240	$3,798	$3,505	$4,987	[i]
Current Portion of Long-Term Debt	$1,506	$1,506	$1,418	$901	$983	$741	$1,679	[j]
Net Working Capital	$34	$34	($916)	($134)	$676	$296	($379)	[k] = [h] - ([i] - [j]).
Notes Payable (Short-Term Debt)	$1,641	$1,641	$1,941	$1,258	$426	$568	$972	[l]
Adjusted Short-Term Debt	$0	$0	$916	$134	$0	$0	$379	[m] = See Sources and Notes.
Long-Term Debt	$13,360	$13,360	$12,503	$12,846	$12,449	$12,064	$11,094	[n]
Book Value of Long-Term Debt	$14,866	$14,866	$14,837	$13,881	$13,432	$12,805	$13,152	[o] = [n] + [j] + [m].
Adjustment to Book Value of Long-Term Debt	($122)	($122)	($122)	$10	$243	$212	$284	[p] = See Sources and Notes.
Market Value of Long-Term Debt	$14,744	$14,744	$14,715	$13,891	$13,675	$13,017	$13,436	[q] = [p] + [o].
Market Value of Debt	$14,744	$14,744	$14,715	$13,891	$13,675	$13,017	$13,436	[r] = [q].
MARKET VALUE OF FIRM	$42,352	$43,160	$43,068	$40,366	$39,175	$35,582	$34,256	[s] = [d] + [g] + [r].
DEBT AND EQUITY TO MARKET VALUE RATIOS								
Common Equity - Market Value Ratio	63.43%	64.12%	64.11%	64.11%	63.66%	62.23%	59.91%	[t] = [d] / [s].
Preferred Equity - Market Value Ratio	1.76%	1.72%	1.73%	1.48%	1.43%	1.19%	0.87%	[u] = [g] / [s].
Debt - Market Value Ratio	34.81%	34.16%	34.17%	34.41%	34.91%	36.58%	39.22%	[v] = [r] / [s].

Sources and Notes:
Bloomberg as of June 11, 2007
Capital structure from 1st Quarter, 2007 calculated using respective balance sheet information and 5-day average prices ending at period end.
The DCF Capital structure is calculated using 1st Quarter, 2007 balance sheet information and a 15-trading day average closing price ending on 6/11/2007.
Prices are reported in Workpaper #1 to Table No. MJV-6.
[m] =
(1): 0 if [k] > 0.
(2): The absolute value of [k] if [k] < 0 and |[k]| < [l].
(3): [l] if [k] < 0 and |[k]| > [l].
[p]: Difference between fair value of Long-Term debt and carrying amount of Long-Term debt per company 10-K. Data for adjustment is from 2006 10-K. Companies do not repo
the fair value of Long-Term debt in quarterly reports, so end-of-year 2006 data is used instead.

Table No. MJV-3

Market Value of the Electric Sample

Panel J: DTE Energy Co

($MM)

	DCF Capital Structure	1st Quarter, 2007	Year End, 2006	Year End, 2005	Year End, 2004	Year End, 2003	Year End, 2002	Notes
MARKET VALUE OF COMMON EQUITY								
Book Value, Common Shareholder's Equity	$5,816	$5,816	$5,849	$5,769	$5,548	$5,287	$4,565	[a]
Shares Outstanding (in millions) - Common	176	176	177	178	174	169	167	[b]
Price per Share - Common	$52.20	$48.01	$48.66	$43.47	$42.86	$39.24	$46.02	[c]
Market Value of Common Equity	$9,191	$8,454	$8,620	$7,729	$7,467	$6,617	$7,706	[d] = [b] x [c].
Market to Book Value of Common Equity	1.58	1.45	1.47	1.34	1.35	1.25	1.69	[e] = [d] / [a].
MARKET VALUE OF PREFERRED EQUITY								
Book Value of Preferred Equity	$0	$0	$0	$0	$0	$0	$0	[f]
Market Value of Preferred Equity	$0	$0	$0	$0	$0	$0	$0	[g] = [f].
MARKET VALUE OF DEBT								
Current Assets	$3,540	$3,540	$3,961	$4,682	$2,996	$2,712	$2,764	[h]
Current Liabilities	$3,987	$3,987	$4,164	$4,920	$3,009	$2,879	$3,191	[i]
Current Portion of Long-Term Debt	$372	$372	$354	$691	$514	$477	$1,018	[j]
Net Working Capital	($75)	($75)	$151	$453	$501	$310	$591	[k] = [h] - ([i] - [j]).
Notes Payable (Short-Term Debt)	$946	$946	$1,131	$943	$403	$370	$414	[l]
Adjusted Short-Term Debt	$75	$75	$0	$0	$0	$0	$0	[m] = See Sources and Notes.
Long-Term Debt	$7,378	$7,378	$7,474	$7,080	$7,606	$7,669	$7,803	[n]
Book Value of Long-Term Debt	$7,825	$7,825	$7,828	$7,771	$8,120	$8,146	$8,821	[o] = [n] + [j] + [m].
Adjustment to Book Value of Long-Term Debt	$200	$200	$200	$200	$500	$600	$700	[p] = See Sources and Notes.
Market Value of Long-Term Debt	$8,025	$8,025	$8,028	$7,971	$8,620	$8,746	$9,521	[q] = [p] + [o].
Market Value of Debt	$8,025	$8,025	$8,028	$7,971	$8,620	$8,746	$9,521	[r] = [q].
MARKET VALUE OF FIRM	$17,216	$16,479	$16,648	$15,700	$16,087	$15,363	$17,227	[s] = [d] + [g] + [r].
DEBT AND EQUITY TO MARKET VALUE RATIOS								
Common Equity - Market Value Ratio	53.39%	51.30%	51.78%	49.23%	46.42%	43.07%	44.73%	[t] = [d] / [s].
Preferred Equity - Market Value Ratio	-	-	-	-	-	-	-	[u] = [g] / [s].
Debt - Market Value Ratio	46.61%	48.70%	48.22%	50.77%	53.58%	56.93%	55.27%	[v] = [r] / [s].

Sources and Notes:

Bloomberg as of June 11, 2007

Capital structure from 1st Quarter, 2007 calculated using respective balance sheet information and 5-day average prices ending at period end.

The DCF Capital structure is calculated using 1st Quarter, 2007 balance sheet information and a 15-trading day average closing price ending on 6/11/2007.

Prices are reported in Workpaper #1 to Table No. MJV-6.

[m] =

(1): 0 if [k] > 0.

(2): The absolute value of [k] if [k] < 0 and |[k]| < [l].

(3): [l] if [k] < 0 and |[k]| > [l].

[p]: Difference between fair value of Long-Term debt and carrying amount of Long-Term debt per company 10-K. Data for adjustment is from 2006 10-K. Companies do not repo
the fair value of Long-Term debt in quarterly reports, so end-of-year 2006 data is used instead.

Table No. MJV-3

Market Value of the Electric Sample

Panel K: Energy East Corp

($MM)

	DCF Capital Structure	1st Quarter, 2007	Year End, 2006	Year End, 2005	Year End, 2004	Year End, 2003	Year End, 2002	Notes
MARKET VALUE OF COMMON EQUITY								
Book Value, Common Shareholder's Equity	$3,194	$3,194	$2,864	$2,873	$2,631	$2,570	$2,461	[a]
Shares Outstanding (in millions) - Common	158	158	148	148	147	146	145	[b]
Price per Share - Common	$23.87	$24.54	$25.05	$22.83	$26.76	$22.63	$21.90	[c]
Market Value of Common Equity	$3,773	$3,878	$3,705	$3,371	$3,937	$3,310	$3,174	[d] = [b] x [c].
Market to Book Value of Common Equity	1.18	1.21	1.29	1.17	1.50	1.29	1.29	[e] = [d] / [a].
MARKET VALUE OF PREFERRED EQUITY								
Book Value of Preferred Equity	$25	$25	$25	$25	$47	$94	$91	[f]
Market Value of Preferred Equity	$25	$25	$25	$25	$47	$94	$91	[g] = [f].
MARKET VALUE OF DEBT								
Current Assets	$1,784	$1,784	$1,627	$1,931	$1,422	$1,232	$1,283	[h]
Current Liabilities	$1,096	$1,096	$1,314	$1,393	$949	$981	$1,504	[i]
Current Portion of Long-Term Debt	$261	$261	$261	$327	$59	$32	$545	[j]
Net Working Capital	$949	$949	$574	$864	$532	$283	$324	[k] = [h] - ([i] - [j]).
Notes Payable (Short-Term Debt)	$12	$12	$109	$121	$206	$308	$322	[l]
Adjusted Short-Term Debt	$0	$0	$0	$0	$0	$0	$0	[m] = See Sources and Notes.
Long-Term Debt	$3,726	$3,726	$3,727	$3,667	$3,798	$4,018	$3,722	[n]
Book Value of Long-Term Debt	$3,987	$3,987	$3,987	$3,994	$3,857	$4,050	$4,267	[o] = [n] + [j] + [m].
Adjustment to Book Value of Long-Term Debt	$84	$84	$84	$144	$198	$227	$173	[p] = See Sources and Notes.
Market Value of Long-Term Debt	$4,071	$4,071	$4,071	$4,138	$4,055	$4,277	$4,441	[q] = [p] + [o].
Market Value of Debt	$4,071	$4,071	$4,071	$4,138	$4,055	$4,277	$4,441	[r] = [q].
MARKET VALUE OF FIRM								
	$7,868	$7,973	$7,800	$7,534	$8,039	$7,681	$7,706	[s] = [d] + [g] + [r].
DEBT AND EQUITY TO MARKET VALUE RATIOS								
Common Equity - Market Value Ratio	47.95%	48.64%	47.49%	44.75%	48.98%	43.10%	41.19%	[t] = [d] / [s].
Preferred Equity - Market Value Ratio	0.31%	0.31%	0.32%	0.33%	0.58%	1.22%	1.18%	[u] = [g] / [s].
Debt - Market Value Ratio	51.74%	51.05%	52.19%	54.92%	50.44%	55.68%	57.63%	[v] = [r] / [s].

Sources and Notes:
Bloomberg as of June 11, 2007
Capital structure from 1st Quarter, 2007 calculated using respective balance sheet information and 5-day average prices ending at period end.
The DCF Capital structure is calculated using 1st Quarter, 2007 balance sheet information and a 15-trading day average closing price ending on 6/11/2007.
Prices are reported in Workpaper #1 to Table No. MJV-6.
[m] =
(1): 0 if [k] > 0.
(2): The absolute value of [k] if [k] < 0 and |[k]| < [l].
(3): [l] if [k] < 0 and |[k]| > [l].
[p]: Difference between fair value of Long-Term debt and carrying amount of Long-Term debt per company 10-K. Data for adjustment is from 2006 10-K. Companies do not repo
the fair value of Long-Term debt in quarterly reports, so end-of-year 2006 data is used instead.

Table No. MJV-3

Market Value of the Electric Sample

Panel L: Otter Tail Corp

($MM)

	DCF Capital Structure	1st Quarter, 2007	Year End, 2006	Year End, 2005	Year End, 2004	Year End, 2003	Year End, 2002	Notes
MARKET VALUE OF COMMON EQUITY								
Book Value, Common Shareholder's Equity	$497	$497	$492	$466	$431	$334	$313	[a]
Shares Outstanding (in millions) - Common	30	30	30	29	29	26	26	[b]
Price per Share - Common	$32.34	$34.45	$31.41	$29.23	$25.32	$27.22	$27.81	[c]
Market Value of Common Equity	$959	$1,021	$927	$859	$734	$700	$712	[d] = [b] x [c].
Market to Book Value of Common Equity	1.93	2.06	1.88	1.85	1.70	2.10	2.27	[e] = [d] / [a].
MARKET VALUE OF PREFERRED EQUITY								
Book Value of Preferred Equity	$16	$16	$16	$16	$16	$16	$16	[f]
Market Value of Preferred Equity	$16	$16	$16	$16	$16	$16	$16	[g] = [f].
MARKET VALUE OF DEBT								
Current Assets	$365	$365	$335	$305	$276	$213	$164	[h]
Current Liabilities	$251	$251	$215	$187	$182	$162	$124	[i]
Current Portion of Long-Term Debt	$3	$3	$3	$3	$6	$10	$8	[j]
Net Working Capital	$117	$117	$123	$122	$100	$60	$48	[k] = [h] - ([i] - [j]).
Notes Payable (Short-Term Debt)	$74	$74	$39	$16	$40	$30	$30	[l]
Adjusted Short-Term Debt	$0	$0	$0	$0	$0	$0	$0	[m] = See Sources and Notes.
Long-Term Debt	$255	$255	$255	$258	$262	$265	$258	[n]
Book Value of Long-Term Debt	$258	$258	$259	$262	$268	$275	$266	[o] = [n] + [j] + [m].
Adjustment to Book Value of Long-Term Debt	($10)	($10)	($10)	($15)	($29)	($27)	($19)	[p] = See Sources and Notes.
Market Value of Long-Term Debt	$248	$248	$248	$246	$238	$248	$247	[q] = [p] + [o].
Market Value of Debt	$248	$248	$248	$246	$238	$248	$247	[r] = [q].
MARKET VALUE OF FIRM	$1,222	$1,285	$1,191	$1,121	$988	$963	$974	[s] = [d] + [g] + [r].
DEBT AND EQUITY TO MARKET VALUE RATIOS								
Common Equity - Market Value Ratio	78.46%	79.51%	77.84%	76.64%	74.28%	72.70%	73.06%	[t] = [d] / [s].
Preferred Equity - Market Value Ratio	1.27%	1.21%	1.30%	1.38%	1.57%	1.61%	1.59%	[u] = [g] / [s].
Debt - Market Value Ratio	20.28%	19.29%	20.86%	21.98%	24.15%	25.69%	25.34%	[v] = [r] / [s].

Sources and Notes:
Bloomberg as of June 11, 2007
Capital structure from 1st Quarter, 2007 calculated using respective balance sheet information and 5-day average prices ending at period end.
The DCF Capital structure is calculated using 1st Quarter, 2007 balance sheet information and a 15-trading day average closing price ending on 6/11/2007.
Prices are reported in Workpaper #1 to Table No. MJV-6.
[m] =
(1): 0 if [k] > 0.
(2): The absolute value of [k] if [k] < 0 and |[k]| < [l].
(3): [l] if [k] < 0 and |[k]| > [l].
[p]: Difference between fair value of Long-Term debt and carrying amount of Long-Term debt per company 10-K. Data for adjustment is from 2006 10-K. Companies do not repo
the fair value of Long-Term debt in quarterly reports, so end-of-year 2006 data is used instead.

Table No. MJV-3

Market Value of the Electric Sample

Panel M: FirstEnergy Corp

($MM)

	DCF Capital Structure	1st Quarter, 2007	Year End, 2006	Year End, 2005	Year End, 2004	Year End, 2003	Year End, 2002	Notes
MARKET VALUE OF COMMON EQUITY								
Book Value, Common Shareholder's Equity	$8,299	$8,299	$9,035	$9,188	$8,590	$8,289	$7,051	[a]
Shares Outstanding (in millions) - Common	305	305	319	330	330	330	298	[b]
Price per Share - Common	$68.64	$66.49	$60.70	$49.40	$39.63	$35.22	$33.03	[c]
Market Value of Common Equity	$20,925	$20,270	$19,375	$16,294	$13,072	$11,618	$9,831	[d] = [b] x [c].
Market to Book Value of Common Equity	2.52	2.44	2.14	1.77	1.52	1.40	1.39	[e] = [d] / [a].
MARKET VALUE OF PREFERRED EQUITY								
Book Value of Preferred Equity	$0	$0	$0	$184	$335	$335	$335	[f]
Market Value of Preferred Equity	$0	$0	$0	$184	$335	$335	$335	[g] = [f].
MARKET VALUE OF DEBT								
Current Assets	$2,347	$2,347	$2,083	$2,317	$2,012	$2,243	$2,450	[h]
Current Liabilities	$6,398	$6,398	$5,255	$5,453	$3,308	$4,472	$5,251	[i]
Current Portion of Long-Term Debt	$2,093	$2,093	$1,867	$2,043	$941	$1,754	$1,703	[j]
Net Working Capital	($1,958)	($1,958)	($1,305)	($1,093)	($355)	($475)	($1,098)	[k] = [h] - ([i] - [j]).
Notes Payable (Short-Term Debt)	$2,247	$2,247	$1,108	$731	$170	$522	$1,093	[l]
Adjusted Short-Term Debt	$1,958	$1,958	$1,108	$731	$170	$475	$1,093	[m] = See Sources and Notes.
Long-Term Debt	$8,546	$8,546	$8,535	$8,155	$10,013	$9,789	$11,301	[n]
Book Value of Long-Term Debt	$12,597	$12,597	$11,510	$10,929	$11,124	$12,018	$14,096	[o] = [n] + [j] + [m].
Unadjusted Market Value of Long Term Debt	$10,725	$10,725	$10,725	$10,576	$11,341	$11,648	$12,761	
Carrying Amount	$10,321	$10,321	$10,321	$10,097	$10,787	$11,177	$12,465	
Adjustment to Book Value of Long-Term Debt	$404	$404	$404	$479	$554	$471	$296	[p] = See Sources and Notes.
Market Value of Long-Term Debt	$13,001	$13,001	$11,914	$11,408	$11,678	$12,489	$14,392	[q] = [p] + [o].
Market Value of Debt	$13,001	$13,001	$11,914	$11,408	$11,678	$12,489	$14,392	[r] = [q].
MARKET VALUE OF FIRM	$33,926	$33,271	$31,289	$27,886	$25,085	$24,442	$24,558	[s] = [d] + [g] + [r].
DEBT AND EQUITY TO MARKET VALUE RATIOS								
Common Equity - Market Value Ratio	61.68%	60.92%	61.92%	58.43%	52.11%	47.53%	40.03%	[t] = [d] / [s].
Preferred Equity - Market Value Ratio	-	-	-	0.66%	1.34%	1.37%	1.36%	[u] = [g] / [s].
Debt - Market Value Ratio	38.32%	39.08%	38.08%	40.91%	46.55%	51.10%	58.60%	[v] = [r] / [s].

Sources and Notes:
Bloomberg as of June 11, 2007
Capital structure from 1st Quarter, 2007 calculated using respective balance sheet information and 5-day average prices ending at period end.
The DCF Capital structure is calculated using 1st Quarter, 2007 balance sheet information and a 15-trading day average closing price ending on 6/11/2007.
Prices are reported in Workpaper #1 to Table No. MJV-6.
[m] =
(1): 0 if [k] > 0.
(2): The absolute value of [k] if [k] < 0 and |[k]| < [l].
(3): [l] if [k] < 0 and |[k]| > [l].
[p]: Difference between fair value of Long-Term debt and carrying amount of Long-Term debt per company 10-K. Data for adjustment is from 2006 10-K. Companies do not report the fair value of Long-Term debt in quarterly reports, so end-of-year 2006 data is used instead.

Table No. MJV-3

Market Value of the Electric Sample

Panel N: Puget Energy Inc

($MM)

	DCF Capital Structure	1st Quarter, 2007	Year End, 2006	Year End, 2005	Year End, 2004	Year End, 2003	Year End, 2002	Notes
MARKET VALUE OF COMMON EQUITY								
Book Value, Common Shareholder's Equity	$2,179	$2,179	$2,116	$2,027	$1,622	$1,655	$1,524	[a]
Shares Outstanding (in millions) - Common	117	117	117	116	100	99	94	[b]
Price per Share - Common	$25.08	$25.59	$25.52	$20.45	$24.59	$23.77	$22.07	[c]
Market Value of Common Equity	$2,931	$2,991	$2,975	$2,366	$2,456	$2,355	$2,067	[d] = [b] x [c].
Market to Book Value of Common Equity	1.35	1.37	1.41	1.17	1.51	1.42	1.36	[e] = [d] / [a].
MARKET VALUE OF PREFERRED EQUITY								
Book Value of Preferred Equity	$0	$0	$0	$0	$0	$0	$60	[f]
Market Value of Preferred Equity	$0	$0	$0	$0	$0	$0	$60	[g] = [f].
MARKET VALUE OF DEBT								
Current Assets	$693	$693	$821	$898	$543	$494	$673	[h]
Current Liabilities	$1,040	$1,040	$1,071	$740	$498	$660	$572	[i]
Current Portion of Long-Term Debt	$63	$63	$125	$81	$31	$247	$73	[j]
Net Working Capital	($284)	($284)	($125)	$240	$76	$80	$174	[k] = [h] - ([i] - [j]).
Notes Payable (Short-Term Debt)	$461	$461	$328	$41	$14	$14	$47	[l]
Adjusted Short-Term Debt	$284	$284	$125	$0	$0	$0	$0	[m] = See Sources and Notes.
Long-Term Debt	$2,610	$2,610	$2,648	$2,423	$2,351	$2,252	$2,503	[n]
Book Value of Long-Term Debt	$2,957	$2,957	$2,898	$2,504	$2,382	$2,498	$2,577	[o] = [n] + [j] + [m].
Adjustment to Book Value of Long-Term Debt	$90	$90	$90	$152	$143	$192	$159	[p] = See Sources and Notes.
Market Value of Long-Term Debt	$3,046	$3,046	$2,988	$2,656	$2,526	$2,691	$2,735	[q] = [p] + [o].
Market Value of Debt	$3,046	$3,046	$2,988	$2,656	$2,526	$2,691	$2,735	[r] = [q].
MARKET VALUE OF FIRM	$5,977	$6,037	$5,962	$5,022	$4,982	$5,046	$4,862	[s] = [d] + [g] + [r].
DEBT AND EQUITY TO MARKET VALUE RATIOS								
Common Equity - Market Value Ratio	49.03%	49.54%	49.89%	47.11%	49.30%	46.67%	42.51%	[t] = [d] / [s].
Preferred Equity - Market Value Ratio	-	-	-	-	-	-	1.23%	[u] = [g] / [s].
Debt - Market Value Ratio	50.97%	50.46%	50.11%	52.89%	50.70%	53.33%	56.26%	[v] = [r] / [s].

Sources and Notes:
Bloomberg as of June 11, 2007
Capital structure from 1st Quarter, 2007 calculated using respective balance sheet information and 5-day average prices ending at period end.
The DCF Capital structure is calculated using 1st Quarter, 2007 balance sheet information and a 15-trading day average closing price ending on 6/11/2007.
Prices are reported in Workpaper #1 to Table No. MJV-6.
[m] =
(1): 0 if [k] > 0.
(2): The absolute value of [k] if [k] < 0 and |[k]| < [l].
(3): [l] if [k] < 0 and |[k]| > [l].
[p]: Difference between fair value of Long-Term debt and carrying amount of Long-Term debt per company 10-K. Data for adjustment is from 2006 10-K. Companies do not repo
the fair value of Long-Term debt in quarterly reports, so end-of-year 2006 data is used instead.

Table No. MJV-3

Market Value of the Electric Sample

Panel O: SCANA Corp

($MM)

	DCF Capital Structure	1st Quarter, 2007	Year End, 2006	Year End, 2005	Year End, 2004	Year End, 2003	Year End, 2002	Notes
MARKET VALUE OF COMMON EQUITY								
Book Value, Common Shareholder's Equity	$2,895	$2,895	$2,846	$2,677	$2,451	$2,306	$2,177	[a]
Shares Outstanding (in millions) - Common	117	117	117	115	113	111	111	[b]
Price per Share - Common	$41.81	$43.13	$40.98	$39.56	$39.42	$34.04	$30.68	[c]
Market Value of Common Equity	$4,878	$5,032	$4,781	$4,550	$4,454	$3,769	$3,400	[d] = [b] x [c].
Market to Book Value of Common Equity	1.68	1.74	1.68	1.70	1.82	1.63	1.56	[e] = [d] / [a].
MARKET VALUE OF PREFERRED EQUITY								
Book Value of Preferred Equity	$106	$106	$114	$106	$106	$115	$115	[f]
Market Value of Preferred Equity	$106	$106	$114	$106	$106	$115	$115	[g] = [f].
MARKET VALUE OF DEBT								
Current Assets	$1,131	$1,131	$1,376	$1,464	$1,182	$882	$1,140	[h]
Current Liabilities	$1,220	$1,220	$1,405	$1,500	$1,184	$995	$1,276	[i]
Current Portion of Long-Term Debt	$118	$118	$43	$188	$204	$202	$413	[j]
Net Working Capital	$29	$29	$14	$152	$202	$89	$277	[k] = [h] - ([i] - [j]).
Notes Payable (Short-Term Debt)	$431	$431	$487	$427	$211	$195	$209	[l]
Adjusted Short-Term Debt	$0	$0	$0	$0	$0	$0	$0	[m] = See Sources and Notes.
Long-Term Debt	$2,973	$2,973	$3,067	$2,956	$3,195	$3,225	$2,884	[n]
Book Value of Long-Term Debt	$3,091	$3,091	$3,110	$3,144	$3,399	$3,427	$3,297	[o] = [n] + [j] + [m].
Adjustment to Book Value of Long-Term Debt	$98	$98	$98	$173	$310	$227	$269	[p] = See Sources and Notes.
Market Value of Long-Term Debt	$3,189	$3,189	$3,208	$3,317	$3,709	$3,654	$3,566	[q] = [p] + [o].
Market Value of Debt	$3,189	$3,189	$3,208	$3,317	$3,709	$3,654	$3,566	[r] = [q].
MARKET VALUE OF FIRM								
	$8,173	$8,326	$8,103	$7,973	$8,269	$7,539	$7,081	[s] = [d] + [g] + [r].
DEBT AND EQUITY TO MARKET VALUE RATIOS								
Common Equity - Market Value Ratio	59.68%	60.43%	59.01%	57.07%	53.86%	50.00%	48.02%	[t] = [d] / [s].
Preferred Equity - Market Value Ratio	1.30%	1.27%	1.41%	1.33%	1.28%	1.53%	1.62%	[u] = [g] / [s].
Debt - Market Value Ratio	39.02%	38.30%	39.59%	41.60%	44.86%	48.47%	50.36%	[v] = [r] / [s].

Sources and Notes:
Bloomberg as of June 11, 2007
Capital structure from 1st Quarter, 2007 calculated using respective balance sheet information and 5-day average prices ending at period end.
The DCF Capital structure is calculated using 1st Quarter, 2007 balance sheet information and a 15-trading day average closing price ending on 6/11/2007.
Prices are reported in Workpaper #1 to Table No. MJV-6.
[m] =
(1): 0 if [k] > 0.
(2): The absolute value of [k] if [k] < 0 and |[k]| < [l].
(3): [l] if [k] < 0 and |[k]| > [l].
[p]: Difference between fair value of Long-Term debt and carrying amount of Long-Term debt per company 10-K. Data for adjustment is from 2006 10-K. Companies do not repo
the fair value of Long-Term debt in quarterly reports, so end-of-year 2006 data is used instead.

Table No. MJV-4

Electric Sample

Capital Structure Summary

Company	DCF Capital Structure			5-Year Average Capital Structure		
	Common Equity - Value Ratio [1]	Preferred Equity - Value Ratio [2]	Debt - Value Ratio [3]	Common Equity - Value Ratio [4]	Preferred Equity - Value Ratio [5]	Debt - Value Ratio [6]
Cleco Corp	0.70	0.00	0.30	0.56	0.01	0.43
Consolidated Edison Inc	0.58	0.01	0.41	0.58	0.01	0.41
Empire District Electric Co/The	0.57	-	0.43	0.57	0.01	0.42
Entergy Corp	0.70	0.01	0.29	0.62	0.02	0.36
MGE Energy Inc	0.73	-	0.27	0.74	-	0.26
NSTAR	0.57	0.01	0.42	0.53	0.00	0.47
Pinnacle West Capital Corp	0.58	-	0.42	0.55	-	0.45
PPL Corp	0.67	0.01	0.32	0.54	0.01	0.45
Southern Co	0.63	0.02	0.35	0.63	0.01	0.36
DTE Energy Co	0.53	-	0.47	0.47	-	0.53
Energy East Corp	0.48	0.00	0.52	0.45	0.01	0.54
Otter Tail Corp	0.78	0.01	0.20	0.75	0.01	0.23
FirstEnergy Corp	0.62	-	0.38	0.53	0.01	0.46
Puget Energy Inc	0.49	-	0.51	0.47	0.00	0.52
SCANA Corp	0.60	0.01	0.39	0.54	0.01	0.44
Average	0.62	0.01	0.38	0.57	0.01	0.42

Sources and Notes:
[1], [4]:Workpaper #1 to Table No. MJV-4.
[2], [5]:Workpaper #2 to Table No. MJV-4.
[3], [6]:Workpaper #3 to Table No. MJV-4.
Values in this table may not add up exactly to 1.0 because of rounding.

Workpaper #1 to Table No. MJV-4

Electric Sample

Calculation of the Average Common Equity - Market Value Ratio

Company	DCF Capital Structure [1]	1st Quarter, 2007 [2]	2006 [3]	2005 [4]	2004 [5]	2003 [6]	2002 [7]	5-Year Average [8]
Cleco Corp	0.70	0.70	0.68	0.60	0.60	0.45	0.37	0.56
Consolidated Edison Inc	0.58	0.60	0.58	0.59	0.59	0.57	0.57	0.58
Empire District Electric Co/The	0.57	0.58	0.61	0.57	0.58	0.56	0.50	0.57
Entergy Corp	0.70	0.68	0.68	0.62	0.65	0.61	0.52	0.62
MGE Energy Inc	0.73	0.74	0.75	0.75	0.77	0.71	0.70	0.74
NSTAR	0.57	0.58	0.57	0.53	0.53	0.50	0.47	0.53
Pinnacle West Capital Corp	0.58	0.60	0.61	0.58	0.55	0.51	0.49	0.55
PPL Corp	0.67	0.65	0.63	0.59	0.55	0.46	0.42	0.54
Southern Co	0.63	0.64	0.64	0.64	0.64	0.62	0.60	0.63
DTE Energy Co	0.53	0.51	0.52	0.49	0.46	0.43	0.45	0.47
Energy East Corp	0.48	0.49	0.47	0.45	0.49	0.43	0.41	0.45
Otter Tail Corp	0.78	0.80	0.78	0.77	0.74	0.73	0.73	0.75
FirstEnergy Corp	0.62	0.61	0.62	0.58	0.52	0.48	0.40	0.53
Puget Energy Inc	0.49	0.50	0.50	0.47	0.49	0.47	0.43	0.47
SCANA Corp	0.60	0.60	0.59	0.57	0.54	0.50	0.48	0.54

Sources and Notes:
[1] - [7]: Table No. MJV-3; Panels A - O, [t].
[8]: {([2] x 0.25) + [3] + [4] + [5] + [6] + ([7] x 0.75)} / 5.

Workpaper #2 to Table No. MJV-4

Electric Sample

Calculation of the Average Preferred Equity - Market Value Ratio

Company	DCF Capital Structure [1]	1st Quarter, 2007 [2]	2006 [3]	2005 [4]	2004 [5]	2003 [6]	2002 [7]	5-Year Average [8]
Cleco Corp	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.01
Consolidated Edison Inc	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Empire District Electric Co/The	-	-	-	-	-	-	0.06	0.01
Entergy Corp	0.01	0.01	0.01	0.02	0.02	0.02	0.02	0.02
MGE Energy Inc	-	-	-	-	-	-	-	-
NSTAR	0.01	0.01	-	-	0.01	0.01	0.01	0.00
Pinnacle West Capital Corp	-	-	-	-	-	-	-	-
PPL Corp	0.01	0.01	0.01	0.00	0.00	0.00	0.01	0.01
Southern Co	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.01
DTE Energy Co	-	-	-	-	-	-	-	-
Energy East Corp	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01
Otter Tail Corp	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.01
FirstEnergy Corp	-	-	-	0.01	0.01	0.01	0.01	0.01
Puget Energy Inc	-	-	-	-	-	-	0.01	0.00
SCANA Corp	0.01	0.01	0.01	0.01	0.01	0.02	0.02	0.01

Sources and Notes:
[1] - [7]: Table No. MJV-3; Panels A - O, [u].
[8]: {([2] x 0.25) + [3] + [4] + [5] + [6] + ([7] x 0.75)} / 5.

Workpaper #3 to Table No. MJV-4

Electric Sample

Calculation of the Average Debt - Market Value Ratio

Company	DCF Capital Structure [1]	1st Quarter, 2007 [2]	2006 [3]	2005 [4]	2004 [5]	2003 [6]	2002 [7]	5-Year Average [8]
Cleco Corp	0.30	0.30	0.31	0.39	0.38	0.54	0.62	0.43
Consolidated Edison Inc	0.41	0.39	0.41	0.40	0.40	0.42	0.42	0.41
Empire District Electric Co/The	0.43	0.42	0.39	0.43	0.42	0.44	0.44	0.42
Entergy Corp	0.29	0.30	0.31	0.36	0.33	0.37	0.46	0.36
MGE Energy Inc	0.27	0.26	0.25	0.25	0.23	0.29	0.30	0.26
NSTAR	0.42	0.41	0.43	0.47	0.46	0.50	0.52	0.47
Pinnacle West Capital Corp	0.42	0.40	0.39	0.42	0.45	0.49	0.51	0.45
PPL Corp	0.32	0.33	0.36	0.40	0.45	0.54	0.57	0.45
Southern Co	0.35	0.34	0.34	0.34	0.35	0.37	0.39	0.36
DTE Energy Co	0.47	0.49	0.48	0.51	0.54	0.57	0.55	0.53
Energy East Corp	0.52	0.51	0.52	0.55	0.50	0.56	0.58	0.54
Otter Tail Corp	0.20	0.19	0.21	0.22	0.24	0.26	0.25	0.23
FirstEnergy Corp	0.38	0.39	0.38	0.41	0.47	0.51	0.59	0.46
Puget Energy Inc	0.51	0.50	0.50	0.53	0.51	0.53	0.56	0.52
SCANA Corp	0.39	0.38	0.40	0.42	0.45	0.48	0.50	0.44

Sources and Notes:
[1] - [7]: Table No. MJV-3; Panels A - O, [v].
[8]: {([2] x 0.25) + [3] + [4] + [5] + [6] + ([7] x 0.75)} / 5.

Table No. MJV-5

Electric Sample

Combined Bloomberg Estimated and Value Line Estimated Growth Rates

Company	Bloomberg Estimate		Value Line			Combined BEst and Value Line Growth Rate
	BEst Long-Term Growth Rate	Number of Estimates	EPS Year 2008 Estimate	EPS Year 2010 - 2012 Estimate	Annualized Growth Rate	
	[1]	[2]	[3]	[4]	[5]	[6]
Cleco Corp	4.0%	1	$1.30	$1.75	10.4%	7.2%
Consolidated Edison Inc	3.7%	7	$3.30	$3.40	1.0%	3.4%
Empire District Electric Co/The	3.0%	1	$1.65	$2.00	6.6%	4.8%
Entergy Corp	11.6%	7	$5.95	$6.85	4.8%	10.7%
MGE Energy Inc	n/a	n/a	$2.20	$2.55	5.0%	5.0%
NSTAR	5.0%	4	$2.25	$3.00	10.1%	6.0%
Pinnacle West Capital Corp	4.0%	2	$3.10	$3.30	2.1%	3.4%
PPL Corp	9.8%	5	$2.35	$3.75	16.9%	11.0%
Southern Co	5.6%	7	$2.30	$2.50	2.8%	5.3%
DTE Energy Co	6.6%	5	$3.10	$3.50	4.1%	6.2%
Energy East Corp	4.5%	2	$1.65	$2.00	6.6%	5.2%
Otter Tail Corp	4.8%	4	$1.80	$2.00	3.6%	4.5%
FirstEnergy Corp	8.3%	4	$4.20	$5.25	7.7%	8.1%
Puget Energy Inc	5.2%	5	$1.65	$2.00	6.6%	5.4%
SCANA Corp	4.3%	4	$2.90	$3.25	3.9%	4.2%

Sources and Notes:
[1] - [2]: Bloomberg as of June 11, 2007.
[3] - [4]: Most recent Value Line Standard Edition dated as of March 30, 2007, May 11, 2007 and June 1, 2007.
[5]: ([4] / [3]) ^ (1/3) - 1.
[6]: ([1] x [2] + [5]) / ([2] + 1).

Table No. MJV-6

DCF Cost of Equity of the Electric Sample

Panel A: Simple DCF Method (Quarterly)

Company	Stock Price [1]	Quarterly Dividend Q1, 2007 [2]	Combined BEst and Value Line Long-Term Growth Rate [3]	Quarterly Growth Rate [4]	DCF Cost of Equity [5]
Cleco Corp	$26.71	$0.23	7.2%	1.8%	10.9%
Consolidated Edison Inc	$48.39	$0.58	3.4%	0.8%	8.4%
Empire District Electric Co/The	$23.44	$0.32	4.8%	1.2%	10.7%
Entergy Corp	$111.35	$0.54	10.7%	2.6%	12.9%
MGE Energy Inc	$33.91	$0.35	5.0%	1.2%	9.4%
NSTAR	$34.51	$0.33	6.0%	1.5%	10.1%
Pinnacle West Capital Corp	$45.69	$0.53	3.4%	0.8%	8.2%
PPL Corp	$44.79	$0.31	11.0%	2.6%	14.0%
Southern Co	$35.73	$0.39	5.3%	1.3%	9.9%
DTE Energy Co	$52.20	$0.53	6.2%	1.5%	10.6%
Energy East Corp	$23.87	$0.30	5.2%	1.3%	10.6%
Otter Tail Corp	$32.34	$0.29	4.5%	1.1%	8.3%
FirstEnergy Corp	$68.64	$0.50	8.1%	2.0%	11.3%
Puget Energy Inc	$25.08	$0.25	5.4%	1.3%	9.7%
SCANA Corp	$41.81	$0.44	4.2%	1.0%	8.7%

Sources and Notes:
[1]: Workpaper #1 to Table No. MJV-6.
[2]: Workpaper #2 to Table No. MJV-6.
[3]: Table No. MJV-5, [6].
[4]: {(1 + [3]) ^ (1/4)} - 1.
[5]: {(([2] / [1]) x (1 + [4]) + [4] + 1) ^ 4} - 1.

Table No. MJV-6

DCF Cost of Equity of the Electric Sample

Panel B: Multi-Stage DCF (Using Blue Chip Long-Term GDP Growth Forecast as the Perpetual Rate)

Company	Stock Price [1]	Quarterly Dividend Q1, 2007 [2]	Combined BEst and *Value Line* Long-Term Growth Rate [3]	Growth Rate: FY 2013 [4]	Growth Rate: FY 2014 [5]	Growth Rate: FY 2015 [6]	Growth Rate: FY 2016 [7]	Growth Rate: FY 2017 [8]	GDP Long-Term Growth Rate [9]	DCF Cost of Equity [10]
Cleco Corp	$26.71	$0.23	7.2%	6.9%	6.5%	6.2%	5.8%	5.5%	5.1%	9.2%
Consolidated Edison Inc	$48.39	$0.58	3.4%	3.7%	4.0%	4.2%	4.5%	4.8%	5.1%	9.6%
Empire District Electric Co/The	$23.44	$0.32	4.8%	4.9%	4.9%	5.0%	5.0%	5.1%	5.1%	10.8%
Entergy Corp	$111.35	$0.54	10.7%	9.8%	8.9%	7.9%	7.0%	6.0%	5.1%	8.1%
MGE Energy Inc	$33.91	$0.35	5.0%	5.1%	5.1%	5.1%	5.1%	5.1%	5.1%	9.4%
NSTAR	$34.51	$0.33	6.0%	5.9%	5.7%	5.6%	5.4%	5.3%	5.1%	9.3%
Pinnacle West Capital Corp	$45.69	$0.53	3.4%	3.7%	3.9%	4.2%	4.5%	4.8%	5.1%	9.4%
PPL Corp	$44.79	$0.31	11.0%	10.0%	9.0%	8.0%	7.1%	6.1%	5.1%	9.3%
Southern Co	$35.73	$0.39	5.3%	5.2%	5.2%	5.2%	5.2%	5.1%	5.1%	9.8%
DTE Energy Co	$52.20	$0.53	6.2%	6.0%	5.8%	5.6%	5.5%	5.3%	5.1%	9.7%
Energy East Corp	$23.87	$0.30	5.2%	5.2%	5.2%	5.2%	5.1%	5.1%	5.1%	10.5%
Otter Tail Corp	$32.34	$0.29	4.5%	4.6%	4.7%	4.8%	4.9%	5.0%	5.1%	8.8%
FirstEnergy Corp	$68.64	$0.50	8.1%	7.6%	7.1%	6.6%	6.1%	5.6%	5.1%	8.9%
Puget Energy Inc	$25.08	$0.25	5.4%	5.4%	5.3%	5.3%	5.2%	5.2%	5.1%	9.4%
SCANA Corp	$41.81	$0.44	4.2%	4.4%	4.5%	4.7%	4.8%	5.0%	5.1%	9.3%

Sources and Notes:
[1]: Workpaper #1 to Table No. MJV-6.
[2]: Workpaper #2 to Table No. MJV-6.
[3]: Table No. MJV-5, [6].
[4]: [3] - {([3] - [9])/ 6}.
[5]: [4] - {([3] - [9])/ 6}.
[6]: [5] - {([3] - [9])/ 6}.
[7]: [6] - {([3] - [9])/ 6}.
[8]: [7] - {([3] - [9])/ 6}.
[9]: Blue Chip Economic Indicators published March 10, 2007 This number is assumed to be the perpetual growth rate. (See Appendix D).
[10]: Workpaper #3 to Table No. MJV-6.

Workpaper #1 to Table No. MJV-6

Electric Sample

Common Stock Prices from April 19, 2007 to May 9, 2007

Company	5/9/2007	5/8/2007	5/7/2007	5/4/2007	5/3/2007	5/2/2007	5/1/2007	4/30/2007	4/27/2007	4/26/2007	4/25/2007	4/24/2007	4/23/2007	4/20/2007	4/19/2007	Average
Cleco Corp	$25.25	$25.46	$25.40	$26.17	$26.19	$26.82	$26.87	$26.98	$27.02	$26.97	$26.73	$26.72	$27.36	$28.24	$28.44	$26.71
Consolidated Edison Inc	$46.52	$46.59	$46.39	$47.65	$47.73	$48.63	$48.48	$48.82	$48.72	$48.38	$48.12	$48.36	$49.73	$50.70	$51.00	$48.39
Empire District Electric Co/The	$22.52	$22.28	$22.29	$22.80	$23.14	$23.51	$23.59	$23.59	$23.65	$23.79	$23.53	$23.42	$23.99	$24.66	$24.81	$23.44
Entergy Corp	$109.00	$106.80	$104.31	$108.78	$110.00	$111.72	$112.27	$112.90	$112.70	$111.88	$110.91	$110.94	$114.41	$116.01	$117.62	$111.35
MGE Energy Inc	$32.40	$32.59	$32.64	$33.67	$34.16	$34.42	$34.23	$33.92	$33.62	$33.79	$33.77	$33.90	$34.98	$35.24	$35.30	$33.91
NSTAR	$33.10	$32.71	$32.39	$33.62	$34.19	$34.92	$34.65	$34.83	$34.83	$34.54	$34.39	$34.89	$35.78	$36.33	$36.53	$34.51
Pinnacle West Capital Corp	$43.62	$43.17	$43.13	$44.92	$45.40	$45.82	$46.30	$46.43	$46.04	$45.69	$45.44	$45.60	$46.58	$48.55	$48.68	$45.69
PPL Corp	$44.31	$43.78	$42.97	$44.22	$45.12	$45.82	$46.06	$45.96	$45.64	$45.07	$44.48	$43.33	$44.31	$45.00	$45.78	$44.79
Southern Co	$34.70	$34.60	$34.31	$35.29	$35.30	$35.77	$35.87	$36.01	$35.97	$35.70	$35.47	$35.88	$36.63	$37.16	$37.33	$35.73
DTE Energy Co	$50.76	$50.06	$49.33	$51.40	$52.40	$52.45	$52.71	$52.88	$52.78	$52.28	$52.21	$52.33	$53.52	$54.20	$53.73	$52.20
Energy East Corp	$23.12	$22.97	$22.86	$23.62	$23.94	$24.14	$24.19	$24.17	$24.24	$24.01	$23.77	$23.51	$24.24	$24.62	$24.68	$23.87
Otter Tail Corp	$31.71	$31.86	$31.61	$32.44	$32.73	$32.86	$32.82	$32.70	$32.30	$32.10	$31.66	$31.76	$32.74	$32.88	$32.93	$32.34
FirstEnergy Corp	$65.17	$65.53	$64.73	$67.35	$67.72	$69.32	$69.34	$69.23	$69.66	$69.10	$68.54	$68.47	$71.12	$72.14	$72.23	$68.64
Puget Energy Inc	$24.33	$24.18	$24.05	$24.76	$24.92	$25.20	$25.34	$25.21	$25.35	$25.20	$24.98	$25.08	$25.62	$25.93	$26.08	$25.08
SCANA Corp	$39.70	$39.60	$39.20	$41.13	$41.66	$42.31	$42.30	$42.39	$41.93	$41.94	$41.60	$41.72	$43.22	$44.14	$44.31	$41.81

Sources and Notes:
Bloomberg as of June 11, 2007.
The prices chosen are the daily closing prices from Bloomberg starting from the most recent prices available in Bloomberg as of June 11, 2007 and ending fifteen trading days before.

Workpaper #2 to Table No. MJV-6

Electric Sample

1st Quarter, 2007 Dividend Payments

Company	Q1, 2007
Cleco Corp	$0.23
Consolidated Edison Inc	$0.58
Empire District Electric Co/The	$0.32
Entergy Corp	$0.54
MGE Energy Inc	$0.35
NSTAR	$0.33
Pinnacle West Capital Corp	$0.53
PPL Corp	$0.31
Southern Co	$0.39
DTE Energy Co	$0.53
Energy East Corp	$0.30
Otter Tail Corp	$0.29
FirstEnergy Corp	$0.50
Puget Energy Inc	$0.25
SCANA Corp	$0.44

Sources and Notes:
Bloomberg as of June 11, 2007.

Workpaper #3 to Table No. MJV-6

DCF Cost of Equity of the Electric Sample

Multi - Stage DCF (using Blue Chip Economic Indicator Long-Term GDP as the Perpetual Growth Rate)

Year	Company	Cleco Corp	Consolidated Edison Inc	Empire District Electric Co	Entergy Corp	MGE Energy Inc	NSTAR	Pinnacle West Capital Corp	PPL Corp	Southern Co	DTE Energy Co	Energy East Corp	Otter Tail Corp	FirstEnergy Corp	Puget Energy Inc	SCANA Corp
	Current Stock Price	($26.71)	($48.39)	($23.44)	($111.35)	($33.91)	($34.51)	($45.69)	($44.79)	($35.73)	($52.20)	($23.87)	($32.34)	($68.64)	($25.08)	($41.81)
YEAR 2007	Dividend Q2 Estimate	$0.23	$0.58	$0.32	$0.55	$0.35	$0.33	$0.53	$0.31	$0.39	$0.54	$0.30	$0.30	$0.51	$0.25	$0.44
YEAR 2007	Dividend Q3 Estimate	$0.23	$0.59	$0.33	$0.57	$0.36	$0.33	$0.53	$0.32	$0.40	$0.55	$0.31	$0.30	$0.52	$0.26	$0.45
YEAR 2007	Dividend Q4 Estimate	$0.24	$0.59	$0.33	$0.58	$0.36	$0.34	$0.54	$0.33	$0.40	$0.55	$0.31	$0.30	$0.53	$0.26	$0.45
YEAR 2008	Dividend Q1 Estimate	$0.24	$0.60	$0.34	$0.60	$0.37	$0.34	$0.54	$0.34	$0.41	$0.56	$0.32	$0.31	$0.54	$0.26	$0.46
YEAR 2008	Dividend Q2 Estimate	$0.25	$0.60	$0.34	$0.61	$0.37	$0.35	$0.55	$0.35	$0.41	$0.57	$0.32	$0.31	$0.55	$0.27	$0.46
YEAR 2008	Dividend Q3 Estimate	$0.25	$0.61	$0.34	$0.63	$0.37	$0.35	$0.55	$0.36	$0.42	$0.58	$0.32	$0.31	$0.56	$0.27	$0.47
YEAR 2008	Dividend Q4 Estimate	$0.25	$0.61	$0.35	$0.65	$0.38	$0.36	$0.56	$0.37	$0.42	$0.59	$0.33	$0.32	$0.57	$0.27	$0.47
YEAR 2009	Dividend Q1 Estimate	$0.26	$0.62	$0.35	$0.66	$0.38	$0.37	$0.56	$0.38	$0.43	$0.60	$0.33	$0.32	$0.58	$0.28	$0.48
YEAR 2009	Dividend Q2 Estimate	$0.26	$0.63	$0.36	$0.68	$0.39	$0.37	$0.57	$0.39	$0.43	$0.61	$0.34	$0.32	$0.60	$0.28	$0.48
YEAR 2009	Dividend Q3 Estimate	$0.27	$0.63	$0.36	$0.70	$0.39	$0.38	$0.57	$0.40	$0.44	$0.62	$0.34	$0.33	$0.61	$0.29	$0.49
YEAR 2009	Dividend Q4 Estimate	$0.27	$0.64	$0.36	$0.71	$0.40	$0.38	$0.58	$0.41	$0.45	$0.63	$0.34	$0.33	$0.62	$0.29	$0.49
YEAR 2010	Dividend Q1 Estimate	$0.28	$0.64	$0.37	$0.73	$0.40	$0.39	$0.58	$0.42	$0.45	$0.63	$0.35	$0.33	$0.63	$0.29	$0.50
YEAR 2010	Dividend Q2 Estimate	$0.28	$0.65	$0.37	$0.75	$0.41	$0.39	$0.58	$0.43	$0.46	$0.64	$0.35	$0.34	$0.64	$0.30	$0.50
YEAR 2010	Dividend Q3 Estimate	$0.29	$0.65	$0.38	$0.77	$0.41	$0.40	$0.59	$0.44	$0.46	$0.65	$0.36	$0.34	$0.66	$0.30	$0.51
YEAR 2010	Dividend Q4 Estimate	$0.29	$0.66	$0.38	$0.79	$0.42	$0.40	$0.59	$0.45	$0.47	$0.66	$0.36	$0.35	$0.67	$0.30	$0.51
YEAR 2011	Dividend Q1 Estimate	$0.30	$0.66	$0.39	$0.81	$0.42	$0.41	$0.60	$0.46	$0.48	$0.67	$0.37	$0.35	$0.68	$0.31	$0.52
YEAR 2011	Dividend Q2 Estimate	$0.30	$0.67	$0.39	$0.83	$0.43	$0.42	$0.60	$0.47	$0.48	$0.68	$0.37	$0.35	$0.70	$0.31	$0.52
YEAR 2011	Dividend Q3 Estimate	$0.31	$0.67	$0.40	$0.85	$0.43	$0.42	$0.61	$0.49	$0.49	$0.69	$0.38	$0.36	$0.71	$0.32	$0.53
YEAR 2011	Dividend Q4 Estimate	$0.31	$0.68	$0.40	$0.88	$0.44	$0.43	$0.61	$0.50	$0.49	$0.70	$0.38	$0.36	$0.73	$0.32	$0.54
YEAR 2012	Dividend Q1 Estimate	$0.32	$0.68	$0.40	$0.90	$0.45	$0.44	$0.62	$0.51	$0.50	$0.72	$0.39	$0.36	$0.74	$0.33	$0.54
YEAR 2012	Dividend Q2 Estimate	$0.32	$0.69	$0.41	$0.92	$0.45	$0.44	$0.62	$0.53	$0.51	$0.73	$0.39	$0.37	$0.75	$0.33	$0.55
YEAR 2012	Dividend Q3 Estimate	$0.33	$0.70	$0.41	$0.95	$0.46	$0.45	$0.63	$0.54	$0.51	$0.74	$0.40	$0.37	$0.77	$0.33	$0.55
YEAR 2012	Dividend Q4 Estimate	$0.34	$0.70	$0.42	$0.97	$0.46	$0.45	$0.64	$0.56	$0.52	$0.75	$0.40	$0.38	$0.78	$0.34	$0.56
YEAR 2013	Dividend Q1 Estimate	$0.34	$0.71	$0.42	$0.99	$0.47	$0.46	$0.64	$0.57	$0.53	$0.76	$0.41	$0.38	$0.80	$0.34	$0.56
YEAR 2013	Dividend Q2 Estimate	$0.35	$0.71	$0.43	$1.02	$0.47	$0.47	$0.65	$0.58	$0.53	$0.77	$0.41	$0.39	$0.81	$0.35	$0.57
YEAR 2013	Dividend Q3 Estimate	$0.35	$0.72	$0.43	$1.04	$0.48	$0.47	$0.65	$0.60	$0.54	$0.78	$0.42	$0.39	$0.83	$0.35	$0.58
YEAR 2013	Dividend Q4 Estimate	$0.36	$0.73	$0.44	$1.07	$0.49	$0.48	$0.66	$0.61	$0.55	$0.79	$0.42	$0.39	$0.84	$0.36	$0.58
YEAR 2014	Dividend Q1 Estimate	$0.36	$0.73	$0.44	$1.09	$0.49	$0.49	$0.66	$0.62	$0.55	$0.80	$0.43	$0.40	$0.86	$0.36	$0.59
YEAR 2014	Dividend Q2 Estimate	$0.37	$0.74	$0.45	$1.11	$0.50	$0.49	$0.67	$0.64	$0.56	$0.82	$0.43	$0.40	$0.87	$0.37	$0.60
YEAR 2014	Dividend Q3 Estimate	$0.38	$0.75	$0.46	$1.13	$0.50	$0.50	$0.68	$0.65	$0.57	$0.83	$0.44	$0.41	$0.89	$0.37	$0.60
YEAR 2014	Dividend Q4 Estimate	$0.38	$0.76	$0.46	$1.16	$0.51	$0.51	$0.68	$0.67	$0.58	$0.84	$0.44	$0.41	$0.90	$0.38	$0.61
YEAR 2015	Dividend Q1 Estimate	$0.39	$0.76	$0.47	$1.18	$0.52	$0.52	$0.69	$0.68	$0.58	$0.85	$0.45	$0.42	$0.92	$0.38	$0.62
YEAR 2015	Dividend Q2 Estimate	$0.39	$0.77	$0.47	$1.20	$0.52	$0.52	$0.70	$0.69	$0.59	$0.86	$0.46	$0.42	$0.93	$0.39	$0.62
YEAR 2015	Dividend Q3 Estimate	$0.40	$0.78	$0.48	$1.23	$0.53	$0.53	$0.71	$0.71	$0.60	$0.88	$0.46	$0.43	$0.95	$0.39	$0.63
YEAR 2015	Dividend Q4 Estimate	$0.41	$0.79	$0.48	$1.25	$0.54	$0.54	$0.71	$0.72	$0.61	$0.89	$0.47	$0.43	$0.96	$0.40	$0.64
YEAR 2016	Dividend Q1 Estimate	$0.41	$0.80	$0.49	$1.27	$0.54	$0.54	$0.72	$0.73	$0.61	$0.90	$0.47	$0.44	$0.98	$0.40	$0.64
YEAR 2016	Dividend Q2 Estimate	$0.42	$0.81	$0.50	$1.29	$0.55	$0.55	$0.73	$0.74	$0.62	$0.91	$0.48	$0.44	$0.99	$0.41	$0.65
YEAR 2016	Dividend Q3 Estimate	$0.42	$0.82	$0.50	$1.32	$0.56	$0.56	$0.74	$0.76	$0.63	$0.92	$0.49	$0.45	$1.01	$0.41	$0.66
YEAR 2016	Dividend Q4 Estimate	$0.43	$0.82	$0.51	$1.34	$0.56	$0.57	$0.75	$0.77	$0.64	$0.94	$0.49	$0.45	$1.02	$0.42	$0.67
YEAR 2017	Dividend Q1 Estimate	$0.43	$0.83	$0.51	$1.36	$0.57	$0.57	$0.75	$0.78	$0.65	$0.95	$0.50	$0.46	$1.04	$0.42	$0.68
YEAR 2017 Q2	Year 10 Stock Price	$45.75	$79.41	$39.16	$194.15	$56.81	$58.43	$75.02	$79.56	$60.03	$88.67	$40.11	$53.86	$118.37	$42.21	$69.38
	Trial COE: Quarterly Rate	2.2%	2.3%	2.6%	2.0%	2.3%	2.3%	2.3%	2.3%	2.4%	2.3%	2.5%	2.1%	2.1%	2.3%	2.3%
	Trial COE: Annual Rate	9.2%	9.6%	10.8%	8.1%	9.4%	9.3%	9.4%	9.3%	9.8%	9.7%	10.5%	8.8%	8.9%	9.4%	9.3%
	Cost of Equity	9.2%	9.6%	10.8%	8.1%	9.4%	9.3%	9.4%	9.3%	9.8%	9.7%	10.5%	8.8%	8.9%	9.4%	9.3%
	(Trial COE - COE) x 100	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Sources and Notes:

All Growth Rate Estimates: Table No. MJV-6; Panel B.

Stock Prices and Dividends are from Bloomberg as of June 11, 2007.

1. See Workpaper #1 to Table No. MJV-6 for the average closing stock price obtained from Bloomberg.
2. See Workpaper #2 to Table No. MJV-6 for the for the quarterly dividend obtained from Bloomberg.
3. The Blue Chip Economic Indicator Long-Term GDP Growth Rate is used to calculate the Year 10 Stock Price.
   {(the Dividend Year 2016 Q4 Estimate) x ((1 + the Perpetual Growth Rate) ^ (1/2))} /
   {(Trial COE - Quarterly Rate) - ((1 + the Perpetual Growth Rate) ^ (1/4) -1)}.

Table No. MJV-7

Overall Cost of Capital of the Electric Sample

Panel A: Simple DCF Method (Quarterly)

Company	1st Quarter, 2007 Bond Rating [1]	1st Quarter, 2007 Preferred Equity Rating [2]	DCF Cost of Equity [3]	DCF Common Equity to Market Value Ratio [4]	Cost of Preferred Equity [5]	DCF Preferred Equity to Market Value Ratio [6]	DCF Cost of Debt [7]	DCF Debt to Market Value Ratio [8]	Dominion Virginia Power's Income Tax Rate [9]	Overall After- Tax Cost of Capital [10]
Cleco Corp	BBB	BBB	10.9%	0.70	6.1%	0.00	6.4%	0.30	38.8%	8.8%
Consolidated Edison Inc	A	A	8.4%	0.58	5.8%	0.01	6.2%	0.41	38.8%	6.5%
Empire District Electric Co/The	BBB	-	10.7%	0.57	-	-	6.4%	0.43	38.8%	7.7%
Entergy Corp	BBB	BBB	12.9%	0.70	6.1%	0.01	6.4%	0.29	38.8%	10.2%
MGE Energy Inc	AA	-	9.4%	0.73	-	-	6.1%	0.27	38.8%	7.9%
NSTAR	A	A	10.1%	0.57	5.8%	0.01	6.2%	0.42	38.8%	7.4%
Pinnacle West Capital Corp	BBB	-	8.2%	0.58	-	-	6.4%	0.42	38.8%	6.4%
PPL Corp	BBB	BBB	14.0%	0.67	6.1%	0.01	6.4%	0.32	38.8%	10.8%
Southern Co	A	A	9.9%	0.63	5.8%	0.02	6.2%	0.35	38.8%	7.7%
DTE Energy Co	BBB	-	10.6%	0.53	-	-	6.4%	0.47	38.8%	7.5%
Energy East Corp	BBB	BBB	10.6%	0.48	6.1%	0.00	6.4%	0.52	38.8%	7.1%
Otter Tail Corp	BBB	BBB	8.3%	0.78	6.1%	0.01	6.4%	0.20	38.8%	7.4%
FirstEnergy Corp	BBB	-	11.3%	0.62	-	-	6.4%	0.38	38.8%	8.5%
Puget Energy Inc	BBB	-	9.7%	0.49	-	-	6.4%	0.51	38.8%	6.8%
SCANA Corp	A	A	8.7%	0.60	5.8%	0.01	6.2%	0.39	38.8%	6.7%
Average			10.2%	0.62	6.0%	0.01	6.3%	0.38	38.8%	7.8%

Sources and Notes:

[1]: Bloomberg as of June 11, 2007.

[2]: Preferred ratings were assumed equal to debt ratings.

[3]: Table No. MJV-6; Panel A, [5].

[4]: Table No. MJV-4, [1].

[5]: Workpaper #2 to Table No. MJV-11, Panel B, [6].

[6]: Table No. MJV-4, [2].

[7]: Workpaper #2 toTable No. MJV-11, Panel A, [6].

[8]: Table No. MJV-4, [3].

[9]: Provided by Dominion Virginia Power.

[10]: ([3] x [4]) + ([5] x [6]) + {[7] x [8] x (1 - [9])}.

Table No. MJV-7

Overall Cost of Capital of the Electric Sample

Panel B: Multi-Stage DCF (Using Blue Chip Long-Term GDP Growth Forecast as the Perpetual Rate)

Company	1st Quarter, 2007 Bond Rating [1]	1st Quarter, 2007 Preferred Equity Rating [2]	DCF Cost of Equity [3]	DCF Common Equity to Market Value Ratio [4]	Cost of Preferred Equity [5]	DCF Preferred Equity to Market Value Ratio [6]	DCF Cost of Debt [7]	DCF Debt to Market Value Ratio [8]	Dominion Virginia Power's Income Tax Rate [9]	Overall After- Tax Cost of Capital [10]
Cleco Corp	BBB	BBB	9.2%	0.70	6.1%	0.00	6.4%	0.30	38.8%	7.6%
Consolidated Edison Inc	A	A	9.6%	0.58	5.8%	0.01	6.2%	0.41	38.8%	7.2%
Empire District Electric Co/The	BBB	-	10.8%	0.57	-	-	6.4%	0.43	38.8%	7.8%
Entergy Corp	BBB	BBB	8.1%	0.70	6.1%	0.01	6.4%	0.29	38.8%	6.9%
MGE Energy Inc	AA	-	9.4%	0.73	-	-	6.1%	0.27	38.8%	7.9%
NSTAR	A	A	9.3%	0.57	5.8%	0.01	6.2%	0.42	38.8%	7.0%
Pinnacle West Capital Corp	BBB	-	9.4%	0.58	-	-	6.4%	0.42	38.8%	7.1%
PPL Corp	BBB	BBB	9.3%	0.67	6.1%	0.01	6.4%	0.32	38.8%	7.6%
Southern Co	A	A	9.8%	0.63	5.8%	0.02	6.2%	0.35	38.8%	7.6%
DTE Energy Co	BBB	-	9.7%	0.53	-	-	6.4%	0.47	38.8%	7.0%
Energy East Corp	BBB	BBB	10.5%	0.48	6.1%	0.00	6.4%	0.52	38.8%	7.1%
Otter Tail Corp	BBB	BBB	8.8%	0.78	6.1%	0.01	6.4%	0.20	38.8%	7.8%
FirstEnergy Corp	BBB	-	8.9%	0.62	-	-	6.4%	0.38	38.8%	7.0%
Puget Energy Inc	BBB	-	9.4%	0.49	-	-	6.4%	0.51	38.8%	6.6%
SCANA Corp	A	A	9.3%	0.60	5.8%	0.01	6.2%	0.39	38.8%	7.1%
Average			9.4%	0.62	6.0%	0.01	6.3%	0.38	38.8%	7.3%

Sources and Notes:

[1]: Bloomberg as of June 11, 2007.
[2]: Preferred ratings were assumed equal to debt ratings.
[3]: Table No. MJV-6; Panel B, [10].
[4]: Table No. MJV-4, [1].
[5]: Workpaper #2 to Table No. MJV-11, Panel B, [6].
[6]: Table No. MJV-4, [2].
[7]: Workpaper #2 toTable No. MJV-11, Panel A, [6].
[8]: Table No. MJV-4, [3].
[9]: Provided by Dominion Virginia Power.
[10]: ([3] x [4]) + ([5] x [6]) + {[7] x [8] x (1 - [9])}.

Table No. MJV-8

DCF Cost of Equity at Dominion Virginia Power Capital Structure

Electric Sample

	Overall Cost of Capital [1]	Dominion Virginia Power's Regulatory % Debt [2]	Dominion Virginia Power's Cost of Debt [3]	Dominion Virginia Power's Income Tax Rate [4]	Dominion Virginia Power's Regulatory % Preferred Equity [5]	Dominion Virginia Power's Cost of Preferred Equity [6]	Dominion Virginia Power's Regulatory % Equity [7]	Estimated Return on Equity [8]
Using All Companies with Bloomberg Forecast								
Simple DCF Quarterly	7.8%	0.43	6.4%	38.8%	6.1%	6.1%	0.51	11.4%
Multi-Stage DCF - Using the Blue Chip Economic Indicator Long-Term GDP as the Perpetual Rate	7.3%	0.43	6.4%	38.8%	6.1%	6.1%	0.51	10.3%

Sources and Notes:
[1]: Table No. MJV-7; Panels A-B, [10].
[2]: Provided by Dominion Virginia Power.
[3]: Based on an BBB rating, as provided by Dominion Virginia Power. Yield from Bloomberg as of June 11, 2007.
[4]: Provided by Dominion Virginia Power.
[5]: Provided by Dominion Virginia Power.
[6]: From Mergent Bond Record, as of May 2007
[7]: Provided by Dominion Virginia Power.
[8]: {[1] - ([2] x [3] x (1 - [4])+ [5] x [6])} / [7].

Table No. MJV-9 - Interest Rate Forecasts

Electric Sample

Panel A: US Interest Rate Series (All Constant Maturity Series)

	Trading Date	30 Day	90 Day	180 Day	1 Year	2 Year	3 Year	5 Year	7 Year	10 Year	Long Term
	5/21/2007	4.85%	4.88%	5.01%	4.95%	4.81%	4.74%	4.71%	4.73%	4.79%	5.02%
	5/22/2007	5.01%	4.93%	5.02%	4.96%	4.83%	4.77%	4.76%	4.78%	4.83%	5.06%
	5/23/2007	5.00%	4.91%	5.01%	4.96%	4.85%	4.79%	4.79%	4.80%	4.86%	5.09%
	5/24/2007	4.99%	4.91%	4.99%	4.94%	4.85%	4.80%	4.79%	4.80%	4.86%	5.09%
	5/25/2007	4.97%	4.88%	4.97%	4.93%	4.85%	4.81%	4.80%	4.82%	4.86%	5.09%
	5/29/2007	4.95%	4.90%	5.00%	4.96%	4.88%	4.83%	4.82%	4.83%	4.88%	5.09%
	5/30/2007	4.94%	4.85%	4.99%	4.96%	4.89%	4.85%	4.83%	4.84%	4.88%	5.09%
	5/31/2007	4.78%	4.73%	4.96%	4.95%	4.92%	4.88%	4.86%	4.87%	4.90%	5.10%
	6/1/2007	4.80%	4.79%	4.98%	4.98%	4.97%	4.94%	4.92%	4.92%	4.95%	5.15%
	6/4/2007	4.78%	4.81%	4.99%	4.99%	4.97%	4.92%	4.91%	4.91%	4.93%	5.11%
	6/5/2007	4.75%	4.83%	4.99%	4.99%	4.99%	4.97%	4.96%	4.96%	4.98%	5.16%
	6/6/2007	4.78%	4.80%	4.95%	4.96%	4.97%	4.94%	4.94%	4.94%	4.97%	5.17%
	6/7/2007	4.80%	4.80%	4.97%	4.99%	5.03%	5.03%	5.05%	5.07%	5.11%	5.29%
	6/8/2007	4.76%	4.77%	4.93%	4.96%	5.01%	5.03%	5.06%	5.08%	5.12%	5.30%
	6/11/2007	4.70%	4.73%	4.96%	4.98%	5.01%	5.03%	5.07%	5.10%	5.14%	5.32%
[A]	Average:	4.86%	4.83%	4.98%	4.96%	4.92%	4.89%	4.88%	4.90%	4.94%	5.14%
[B]	Maturity Premium:	0.00%	0.10%	0.20%	0.33%	0.59%	0.75%	1.00%	1.15%	1.27%	1.50%
[C]	Implied Short-Term Yield:	4.86%	4.73%	4.78%	4.63%	4.33%	4.14%	3.88%	3.75%	3.67%	3.64%

Sources and Notes:

[A]: Average over the last 15 trading days.

[B]: Workpaper #1 to Table No. MJV-9, Panel C, [2].

[C]: [A] - [B].

Bloomberg as of June 11, 2007. The most recent 15 trading days are used.

Table No. MJV-9 - Interest Rate Forecasts

Electric Sample

Panel B: Forecasted Short-Term Interest Rates

	30 Day [1]	90 Day [2]	180 Day [3]	1 Year [4]	2 Year [5]	3 Year [6]	5 Year [7]	7 Year [8]	10 Year [9]	Total Days [10]	Implicit Short-Term Rate [11]
[A] Implied Short-Term Yield:	4.86%	4.73%	4.78%	4.63%	4.33%	4.14%	3.88%	3.75%	3.67%		
[B] Days Remaining in 2007	30	60	90	23						203	4.76%
[C] Days Remaining in 2008				162	203					365	4.47%
[D] Days Remaining in 2009					162	203				365	4.22%
[E] Days Remaining in 2010						162	203			365	4.00%
[F] Days Remaining in 2011							162	203		365	3.81%
[G] Days Remaining in 2012								162	203	365	3.70%
[H] Total Days	30	60	90	185	365	365	730	730	1095		
[I] Implicit Short-Term Rate for 2008-2011										1460	4.12%
[J] Implicit Short-Term Rate for 2008-2012										1825	4.04%

Sources and Notes:

[A]: Table No. MJV-9 - Interest Rate Forecasts Panel A, [C].

[B] - [G]: Total number of days remaining for each period, beginning with May 9, 2007.

[H]: Sum of [B] through [G] for the respective period.

[11]: [(1+ Implied Short-Term $Yield_1$)^(days remaining in $period_1$)x…x(1+Implied Short-Term $Yield_n$)^(days remaining in $period_n$)]^(1/[9])-1.

This formula is applied to all periods from 1 to n in each year.

[I]: ((1+[10][C])^[9][C]x…x(1+10[F])^[9][F]))^(1/[9][I])-1.

[J]: ((1+[10][C])^[9][C]x…x(1+10[G])^[9][G]))^(1/[9][J])-1.

Workpaper #1 to Table No. MJV-9 - Risk Premium Forecast

Electric Sample

Panel A: Historical Bond Yield Averages

	Treasury Bill Yield [1]	Intermediate-Term Government Bond Yield [2]	Long-Term Government Bond Yield [3]	Long-Term Corporate Bonds (Total Return) [4]
1926	3.27%	3.61%	3.54%	7.37%
1927	3.12%	3.40%	3.17%	7.44%
1928	3.56%	4.01%	3.40%	2.84%
1929	4.75%	3.62%	3.40%	3.27%
1930	2.41%	2.91%	3.30%	7.98%
1931	1.07%	4.12%	4.07%	-1.85%
1932	0.96%	3.04%	3.15%	10.82%
1933	0.30%	3.25%	3.36%	10.38%
1934	0.16%	2.49%	2.93%	13.84%
1935	0.17%	1.63%	2.76%	9.61%
1936	0.18%	1.29%	2.55%	6.74%
1937	0.31%	1.14%	2.73%	2.75%
1938	-0.02%	1.52%	2.52%	6.13%
1939	0.02%	0.98%	2.26%	3.97%
1940	0.00%	0.57%	1.94%	3.39%
1941	0.06%	0.82%	2.04%	2.73%
1942	0.27%	0.72%	2.46%	2.60%
1943	0.35%	1.45%	2.48%	2.83%
1944	0.33%	1.40%	2.46%	4.73%
1945	0.33%	1.03%	1.99%	4.08%
1946	0.35%	1.12%	2.12%	1.72%
1947	0.50%	1.34%	2.43%	-2.34%
1948	0.81%	1.51%	2.37%	4.14%
1949	1.10%	1.23%	2.09%	3.31%
1950	1.20%	1.62%	2.24%	2.12%
1951	1.49%	2.17%	2.69%	-2.69%
1952	1.66%	2.35%	2.79%	3.52%
1953	1.82%	2.18%	2.74%	3.41%
1954	0.86%	1.72%	2.72%	5.39%
1955	1.57%	2.80%	2.95%	0.48%
1956	2.46%	3.63%	3.45%	-6.81%
1957	3.14%	2.84%	3.23%	8.71%
1958	1.54%	3.81%	3.82%	-2.22%
1959	2.95%	4.98%	4.47%	-0.97%
1960	2.66%	3.31%	3.80%	9.07%
1961	2.13%	3.84%	4.15%	4.82%
1962	2.73%	3.50%	3.95%	7.95%
1963	3.12%	4.04%	4.17%	2.19%
1964	3.54%	4.03%	4.23%	4.77%
1965	3.93%	4.90%	4.50%	-0.46%
1966	4.76%	4.79%	4.55%	0.20%
1967	4.21%	5.77%	5.56%	-4.95%
1968	5.21%	5.96%	5.98%	2.57%
1969	6.58%	8.29%	6.87%	-8.09%
1970	6.52%	5.90%	6.48%	18.37%
1971	4.39%	5.25%	5.97%	11.01%
1972	3.84%	5.85%	5.99%	7.26%
1973	6.93%	6.75%	7.26%	1.14%
1974	8.00%	7.12%	7.60%	-3.06%
1975	5.80%	7.19%	8.05%	14.64%
1976	5.08%	6.00%	7.21%	18.65%
1977	5.12%	7.51%	8.03%	1.71%
1978	7.18%	8.83%	8.98%	-0.07%
1979	10.38%	10.33%	10.12%	-4.18%
1980	11.24%	12.45%	11.99%	-2.62%
1981	14.71%	13.96%	13.34%	-0.96%
1982	10.54%	9.90%	10.95%	43.79%
1983	8.80%	11.41%	11.97%	4.70%
1984	9.85%	11.04%	11.70%	16.39%
1985	7.72%	8.55%	9.56%	30.90%
1986	6.16%	6.85%	7.89%	19.85%
1987	5.47%	8.32%	9.20%	-0.27%
1988	6.35%	9.17%	9.19%	10.70%
1989	8.37%	7.94%	8.16%	16.23%
1990	7.81%	7.70%	8.44%	6.78%
1991	5.60%	5.97%	7.30%	19.89%
1992	3.51%	6.11%	7.26%	9.39%
1993	2.90%	5.22%	6.54%	13.19%
1994	3.90%	7.80%	7.99%	-5.76%
1995	5.60%	5.38%	6.03%	27.20%
1996	5.21%	6.16%	6.73%	1.40%
1997	5.26%	5.73%	6.02%	12.95%
1998	4.86%	4.68%	5.42%	10.76%
1999	4.68%	6.45%	6.82%	-7.45%
2000	5.89%	5.07%	5.58%	12.87%
2001	3.83%	4.42%	5.75%	10.65%
2002	1.65%	2.61%	4.84%	16.33%
2003	1.02%	2.97%	5.11%	5.27%
2004	1.20%	3.47%	4.84%	8.72%
2005	2.98%	4.34%	4.61%	5.87%
2006	4.80%	4.65%	4.91%	3.24%

[1] - [4]. Ibbotson Associates Stocks Bonds Bills (SBBI) and Inflation monthly paper reports.

Workpaper #1 to Table No. MJV-9

Electric Sample

Panel B: Calculation of Maturity Premia for Different Bond Series

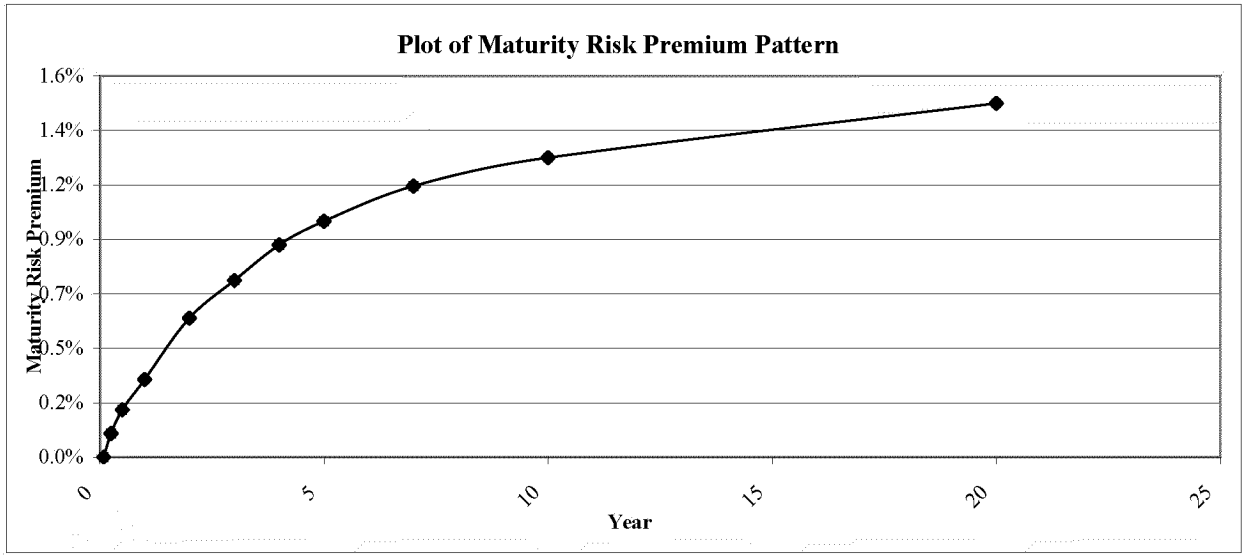
	Annual Historical Average			Maturity Premium Calculation		
	T-Bill Total Return [1]	Intermediate Term Bond Yields [2]	Long-Term Government Bond Yield [3]	T-Bill Total Return [4]	Intermediate Term Bond Yields [5]	Long-Term Government Bond Yield [6]
1926 - 2006	3.77%	4.74%	5.29%	0.00%	0.97%	1.52%
1947 - 2006	4.72%	5.66%	6.16%	0.00%	0.94%	1.44%
1947 - 1966	2.20%	3.03%	3.37%	0.00%	0.83%	1.17%
1967 - 1986	7.41%	8.25%	8.57%	0.00%	0.83%	1.16%
1987 - 2006	4.54%	5.71%	6.54%	0.00%	1.16%	1.99%
Current	4.86%	4.88%	5.14%	0.00%	0.03%	0.28%

Sources and Notes:
[1] - [3] : Workpaper #1 to Table No. MJV-9, Panel A.
Maturity Premium is defined as the Average Bond Yield (for each series) less Risk Free Total Return.
[4]: [1] - [1].
[5]: [2] - [1].
[6]: [3] - [1].
Current data from Table No. MJV-9, Panel A.

Workpaper #1 to Table No. MJV-9

Electric Sample

Panel C: Maturity Premium Graph and Calculations (Using Annual Series Data)



Maturity of Bond (Years) [1]	Maturity Risk Premium [2]	Annualized Difference [3]
0.083	0.00%	
0.25	0.10%	0.60%
0.5	0.20%	0.40%
1	0.33%	0.26%
2	0.59%	0.26%
3	0.75%	0.16%
4	0.90%	0.15%
5	1.00%	0.10%
7	1.15%	0.08%
10	1.27%	0.04%
20	1.50%	0.02%

Sources and Notes:

[1]: The maturity of a bond in years.

[2]: Workpaper #1 to Table No. MJV-9, Panel B; [4] - [6] and MJV Testimony.

[3]: MJV Testimony.

Table No. MJV-10

Risk Positioning Cost of Equity of the Electric Sample

Panel A: Using the Long-Term Risk-Free Rate

Company	US Long-Term Risk-Free Rate [1]	Value Line Betas [2]	Long-Term Market Risk Premium [3]	CAPM Cost of Equity [4]	ECAPM (0.5%) Cost of Equity [5]	ECAPM (1.5%) Cost of Equity [6]
Cleco Corp	5.1%	1.30	6.50%	13.6%	13.4%	13.1%
Consolidated Edison Inc	5.1%	0.75	6.50%	10.0%	10.1%	10.4%
Empire District Electric Co/The	5.1%	0.85	6.50%	10.6%	10.7%	10.9%
Entergy Corp	5.1%	0.85	6.50%	10.6%	10.7%	10.9%
MGE Energy Inc	5.1%	0.80	6.50%	10.3%	10.4%	10.6%
NSTAR	5.1%	0.80	6.50%	10.3%	10.4%	10.6%
Pinnacle West Capital Corp	5.1%	1.00	6.50%	11.6%	11.6%	11.6%
PPL Corp	5.1%	0.95	6.50%	11.3%	11.3%	11.4%
Southern Co	5.1%	0.70	6.50%	9.7%	9.8%	10.1%
DTE Energy Co	5.1%	0.75	6.50%	10.0%	10.1%	10.4%
Energy East Corp	5.1%	0.95	6.50%	11.3%	11.3%	11.4%
Otter Tail Corp	5.1%	0.65	6.50%	9.3%	9.5%	9.9%
FirstEnergy Corp	5.1%	0.85	6.50%	10.6%	10.7%	10.9%
Puget Energy Inc	5.1%	0.85	6.50%	10.6%	10.7%	10.9%
SCANA Corp	5.1%	0.85	6.50%	10.6%	10.7%	10.9%

Sources and Notes:
[1]: Table No. MJV-9 - Interest Rate Forecasts, Panel A, Row [A].
[2]: Workpaper # 1 to Table No. MJV-10, column [1].
[3]: Vilbert Written Evidence, Appendix B.
[4]: [1] + ([2] x [3]).
[5]: ([1] + 0.5%) + [2] x ([3] - 0.5%).
[6]: ([1] + 1.5%) + [2] x ([3] - 1.5%).

Table No. MJV-10

Risk Positioning Cost of Equity of the Electric Sample

Panel B: Using the Short-Term Risk-Free Rate.

Company	US Short-Term Risk-Free Rate [1]	Value Line Betas [2]	Short-Term Market Risk Premium [3]	CAPM Cost of Equity [4]	ECAPM (1%) Cost of Equity [5]	ECAPM (2%) Cost of Equity [6]	ECAPM (3%) Cost of Equity [7]
Cleco Corp	4.1%	1.30	8.0%	14.5%	14.2%	13.9%	13.6%
Consolidated Edison Inc	4.1%	0.75	8.0%	10.1%	10.4%	10.6%	10.9%
Empire District Electric Co/The	4.1%	0.85	8.0%	10.9%	11.1%	11.2%	11.4%
Entergy Corp	4.1%	0.85	8.0%	10.9%	11.1%	11.2%	11.4%
MGE Energy Inc	4.1%	0.80	8.0%	10.5%	10.7%	10.9%	11.1%
NSTAR	4.1%	0.80	8.0%	10.5%	10.7%	10.9%	11.1%
Pinnacle West Capital Corp	4.1%	1.00	8.0%	12.1%	12.1%	12.1%	12.1%
PPL Corp	4.1%	0.95	8.0%	11.7%	11.8%	11.8%	11.9%
Southern Co	4.1%	0.70	8.0%	9.7%	10.0%	10.3%	10.6%
DTE Energy Co	4.1%	0.75	8.0%	10.1%	10.4%	10.6%	10.9%
Energy East Corp	4.1%	0.95	8.0%	11.7%	11.8%	11.8%	11.9%
Otter Tail Corp	4.1%	0.65	8.0%	9.3%	9.7%	10.0%	10.4%
FirstEnergy Corp	4.1%	0.85	8.0%	10.9%	11.1%	11.2%	11.4%
Puget Energy Inc	4.1%	0.85	8.0%	10.9%	11.1%	11.2%	11.4%
SCANA Corp	4.1%	0.85	8.0%	10.9%	11.1%	11.2%	11.4%

Sources and Notes:
[1]: Table No. MJV-9 - Interest Rate Forecasts, Panel B, Row [I].
[2]: Workpaper # 1 to Table No. MJV-10, column [1].
[3]: Vilbert Written Evidence, Appendix B.
[4]: [1] + ([2] x [3]).
[5]: ([1] + 1%) + [2] x ([3] - 1%).
[6]: ([1] + 2%) + [2] x ([3] - 2%).
[7]: ([1] + 3%) + [2] x ([3] - 3%).

Workpaper # 1 to Table No. MJV-10

Electric Sample

Value Line Betas

Company	Value Line Betas [1]
Cleco Corp	1.30
Consolidated Edison Inc	0.75
Empire District Electric Co/The	0.85
Entergy Corp	0.85
MGE Energy Inc	0.80
NSTAR	0.80
Pinnacle West Capital Corp	1.00
PPL Corp	0.95
Southern Co	0.70
DTE Energy Co	0.75
Energy East Corp	0.95
Otter Tail Corp	0.65
FirstEnergy Corp	0.85
Puget Energy Inc	0.85
SCANA Corp	0.85
Average:	0.86

Sources and Notes:
[1]: Most recent Value Line Standard Edition dated as of March 30, 2007, May 11, 2007 and June 1, 2007..

Table No. MJV-11

Overall Cost of Capital of the Electric Sample

Panel A: CAPM Cost of Equity Based on the Long-Term Risk-Free Rate

Company	CAPM Cost of Equity [1]	5-Year Average Common Equity to Market Value Ratio [2]	Weighted - Average Cost of Preferred Equity [3]	5-Year Average Preferred Equity to Market Value Ratio [4]	Weighted-Average Cost of Debt [5]	5-Year Average Debt to Market Value Ratio [6]	Dominion Virginia Power's Income Tax Rate [7]	Overall After-Tax Cost of Capital [8]
Cleco Corp	13.6%	0.56	6.1%	0.01	6.4%	0.43	38.8%	9.3%
Consolidated Edison Inc	10.0%	0.58	5.8%	0.01	6.2%	0.41	38.8%	7.4%
Empire District Electric Co/The	10.6%	0.57	6.1%	0.01	6.4%	0.42	38.8%	7.7%
Entergy Corp	10.6%	0.62	6.1%	0.02	6.4%	0.36	38.8%	8.1%
MGE Energy Inc	10.3%	0.74	-	-	6.1%	0.26	38.8%	8.6%
NSTAR	10.3%	0.53	5.8%	0.00	6.2%	0.47	38.8%	7.2%
Pinnacle West Capital Corp	11.6%	0.55	-	-	6.4%	0.45	38.8%	8.2%
PPL Corp	11.3%	0.54	6.1%	0.01	6.4%	0.45	38.8%	7.9%
Southern Co	9.7%	0.63	5.8%	0.01	6.2%	0.36	38.8%	7.5%
DTE Energy Co	10.0%	0.47	-	-	6.4%	0.53	38.8%	6.8%
Energy East Corp	11.3%	0.45	6.1%	0.01	6.4%	0.54	38.8%	7.3%
Otter Tail Corp	9.3%	0.75	6.1%	0.01	6.4%	0.23	38.8%	8.0%
FirstEnergy Corp	10.6%	0.53	6.1%	0.01	6.4%	0.46	38.8%	7.5%
Puget Energy Inc	10.6%	0.47	6.1%	0.00	6.4%	0.52	38.8%	7.1%
SCANA Corp	10.6%	0.54	5.8%	0.01	6.2%	0.44	38.8%	7.5%
Average	10.7%	0.57	6.0%	0.01	6.3%	0.42	38.8%	7.7%

Sources and Notes:
[1]: Table No. MJV-10; Panel A, [4].
[2]: Table No. MJV-4, [4].
[3]: Workpaper #2 to Table No. MJV-11 ; Panel B, [1].
[4]: Table No. MJV-4, [5].
[5]: Workpaper #2 to Table No. MJV-11 ; Panel A, [1].
[6]: Table No. MJV-4, [6].
[7]: Provided by Dominion Virginia Power.
[8]: ([1] x [2]) + ([3] x [4]) + {[5] x [6] x (1 - [7])}.

Table No. MJV-11

Overall Cost of Capital of the Electric Sample

Panel B: ECAPM (0.5%) Cost of Equity Based on the Long-Term Risk-Free Rate

Company	ECAPM (0.5%) Cost of Equity [1]	5-Year Average Common Equity to Market Value Ratio [2]	Weighted - Average Cost of Preferred Equity [3]	5-Year Average Preferred Equity to Market Value Ratio [4]	Weighted-Average Cost of Debt [5]	5-Year Average Debt to Market Value Ratio [6]	Dominion Virginia Power's Income Tax Rate [7]	Overall After-Tax Cost of Capital [8]
Cleco Corp	13.4%	0.56	6.1%	0.01	6.4%	0.43	38.8%	9.2%
Consolidated Edison Inc	10.1%	0.58	5.8%	0.01	6.2%	0.41	38.8%	7.5%
Empire District Electric Co/The	10.7%	0.57	6.1%	0.01	6.4%	0.42	38.8%	7.8%
Entergy Corp	10.7%	0.62	6.1%	0.02	6.4%	0.36	38.8%	8.2%
MGE Energy Inc	10.4%	0.74	-	-	6.1%	0.26	38.8%	8.7%
NSTAR	10.4%	0.53	5.8%	0.00	6.2%	0.47	38.8%	7.3%
Pinnacle West Capital Corp	11.6%	0.55	-	-	6.4%	0.45	38.8%	8.2%
PPL Corp	11.3%	0.54	6.1%	0.01	6.4%	0.45	38.8%	7.9%
Southern Co	9.8%	0.63	5.8%	0.01	6.2%	0.36	38.8%	7.6%
DTE Energy Co	10.1%	0.47	-	-	6.4%	0.53	38.8%	6.9%
Energy East Corp	11.3%	0.45	6.1%	0.01	6.4%	0.54	38.8%	7.3%
Otter Tail Corp	9.5%	0.75	6.1%	0.01	6.4%	0.23	38.8%	8.1%
FirstEnergy Corp	10.7%	0.53	6.1%	0.01	6.4%	0.46	38.8%	7.5%
Puget Energy Inc	10.7%	0.47	6.1%	0.00	6.4%	0.52	38.8%	7.1%
SCANA Corp	10.7%	0.54	5.8%	0.01	6.2%	0.44	38.8%	7.6%
Average	10.8%	0.57	6.0%	0.01	6.3%	0.42	38.8%	7.8%

Sources and Notes:
[1]: Table No. MJV-10; Panel A, [5].
[2]: Table No. MJV-4, [4].
[3]: Workpaper #2 to Table No. MJV-11 ; Panel B, [1].
[4]: Table No. MJV-4, [5].
[5]: Workpaper #2 to Table No. MJV-11 ; Panel A, [1].
[6]: Table No. MJV-4, [6].
[7]: Provided by Dominion Virginia Power.
[8]: ([1] x [2]) + ([3] x [4]) + {[5] x [6] x (1 - [7])}.

Table No. MJV-11

Overall Cost of Capital of the Electric Sample

Panel C: ECAPM (1.5%) Cost of Equity Based on the Long-Term Risk-Free Rate

Company	ECAPM (1.5%) Cost of Equity [1]	5-Year Average Common Equity to Market Value Ratio [2]	Weighted - Average Cost of Preferred Equity [3]	5-Year Average Preferred Equity to Market Value Ratio [4]	Weighted-Average Cost of Debt [5]	5-Year Average Debt to Market Value Ratio [6]	Dominion Virginia Power's Income Tax Rate [7]	Overall After-Tax Cost of Capital [8]
Cleco Corp	13.1%	0.56	6.1%	0.01	6.4%	0.43	38.8%	9.0%
Consolidated Edison Inc	10.4%	0.58	5.8%	0.01	6.2%	0.41	38.8%	7.6%
Empire District Electric Co/The	10.9%	0.57	6.1%	0.01	6.4%	0.42	38.8%	7.9%
Entergy Corp	10.9%	0.62	6.1%	0.02	6.4%	0.36	38.8%	8.3%
MGE Energy Inc	10.6%	0.74	-	-	6.1%	0.26	38.8%	8.8%
NSTAR	10.6%	0.53	5.8%	0.00	6.2%	0.47	38.8%	7.4%
Pinnacle West Capital Corp	11.6%	0.55	-	-	6.4%	0.45	38.8%	8.2%
PPL Corp	11.4%	0.54	6.1%	0.01	6.4%	0.45	38.8%	8.0%
Southern Co	10.1%	0.63	5.8%	0.01	6.2%	0.36	38.8%	7.8%
DTE Energy Co	10.4%	0.47	-	-	6.4%	0.53	38.8%	7.0%
Energy East Corp	11.4%	0.45	6.1%	0.01	6.4%	0.54	38.8%	7.3%
Otter Tail Corp	9.9%	0.75	6.1%	0.01	6.4%	0.23	38.8%	8.4%
FirstEnergy Corp	10.9%	0.53	6.1%	0.01	6.4%	0.46	38.8%	7.6%
Puget Energy Inc	10.9%	0.47	6.1%	0.00	6.4%	0.52	38.8%	7.2%
SCANA Corp	10.9%	0.54	5.8%	0.01	6.2%	0.44	38.8%	7.7%
Average	10.9%	0.57	6.0%	0.01	6.3%	0.42	38.8%	7.9%

Sources and Notes:
[1]: Table No. MJV-10; Panel A, [6].
[2]: Table No. MJV-4, [4].
[3]: Workpaper #2 to Table No. MJV-11 ; Panel B, [1].
[4]: Table No. MJV-4, [5].
[5]: Workpaper #2 to Table No. MJV-11 ; Panel A, [1].
[6]: Table No. MJV-4, [6].
[7]: Provided by Dominion Virginia Power.
[8]: ([1] x [2]) + ([3] x [4]) + {[5] x [6] x (1 - [7])}.

Table No. MJV-11

Overall Cost of Capital of the Electric Sample

Panel D: CAPM Cost of Equity Based on the Short-Term Risk-Free Rate

Company	CAPM Cost of Equity [1]	5-Year Average Common Equity to Market Value Ratio [2]	Weighted - Average Cost of Preferred Equity [3]	5-Year Average Preferred Equity to Market Value Ratio [4]	Weighted-Average Cost of Debt [5]	5-Year Average Debt to Market Value Ratio [6]	Dominion Virginia Power's Income Tax Rate [7]	Overall After-Tax Cost of Capital [8]
Cleco Corp	14.5%	0.56	6.1%	0.01	6.4%	0.43	38.8%	9.8%
Consolidated Edison Inc	10.1%	0.58	5.8%	0.01	6.2%	0.41	38.8%	7.5%
Empire District Electric Co/The	10.9%	0.57	6.1%	0.01	6.4%	0.42	38.8%	7.9%
Entergy Corp	10.9%	0.62	6.1%	0.02	6.4%	0.36	38.8%	8.3%
MGE Energy Inc	10.5%	0.74	-	-	6.1%	0.26	38.8%	8.7%
NSTAR	10.5%	0.53	5.8%	0.00	6.2%	0.47	38.8%	7.3%
Pinnacle West Capital Corp	12.1%	0.55	-	-	6.4%	0.45	38.8%	8.5%
PPL Corp	11.7%	0.54	6.1%	0.01	6.4%	0.45	38.8%	8.1%
Southern Co	9.7%	0.63	5.8%	0.01	6.2%	0.36	38.8%	7.5%
DTE Energy Co	10.1%	0.47	-	-	6.4%	0.53	38.8%	6.9%
Energy East Corp	11.7%	0.45	6.1%	0.01	6.4%	0.54	38.8%	7.5%
Otter Tail Corp	9.3%	0.75	6.1%	0.01	6.4%	0.23	38.8%	8.0%
FirstEnergy Corp	10.9%	0.53	6.1%	0.01	6.4%	0.46	38.8%	7.6%
Puget Energy Inc	10.9%	0.47	6.1%	0.00	6.4%	0.52	38.8%	7.2%
SCANA Corp	10.9%	0.54	5.8%	0.01	6.2%	0.44	38.8%	7.7%
Average	11.0%	0.57	6.0%	0.01	6.3%	0.42	38.8%	7.9%

Sources and Notes:
[1]: Table No. MJV-10; Panel B, [4].
[2]: Table No. MJV-4, [4].
[3]: Workpaper #2 to Table No. MJV-11 ; Panel B, [1].
[4]: Table No. MJV-4, [5].
[5]: Workpaper #2 to Table No. MJV-11 ; Panel A, [1].
[6]: Table No. MJV-4, [6].
[7]: Provided by Dominion Virginia Power.
[8]: ([1] x [2]) + ([3] x [4]) + {[5] x [6] x (1 - [7])}.

Table No. MJV-11

Overall Cost of Capital of the Electric Sample

Panel E: ECAPM (1%) Cost of Equity Based on the Short-Term Risk-Free Rate

Company	ECAPM (1%) Cost of Equity [1]	5-Year Average Common Equity to Market Value Ratio [2]	Weighted - Average Cost of Preferred Equity [3]	5-Year Average Preferred Equity to Market Value Ratio [4]	Weighted-Average Cost of Debt [5]	5-Year Average Debt to Market Value Ratio [6]	Dominion Virginia Power's Income Tax Rate [7]	Overall After-Tax Cost of Capital [8]
Cleco Corp	14.2%	0.56	6.1%	0.01	6.4%	0.43	38.8%	9.7%
Consolidated Edison Inc	10.4%	0.58	5.8%	0.01	6.2%	0.41	38.8%	7.6%
Empire District Electric Co/The	11.1%	0.57	6.1%	0.01	6.4%	0.42	38.8%	8.0%
Entergy Corp	11.1%	0.62	6.1%	0.02	6.4%	0.36	38.8%	8.4%
MGE Energy Inc	10.7%	0.74	-	-	6.1%	0.26	38.8%	8.9%
NSTAR	10.7%	0.53	5.8%	0.00	6.2%	0.47	38.8%	7.4%
Pinnacle West Capital Corp	12.1%	0.55	-	-	6.4%	0.45	38.8%	8.5%
PPL Corp	11.8%	0.54	6.1%	0.01	6.4%	0.45	38.8%	8.2%
Southern Co	10.0%	0.63	5.8%	0.01	6.2%	0.36	38.8%	7.7%
DTE Energy Co	10.4%	0.47	-	-	6.4%	0.53	38.8%	7.0%
Energy East Corp	11.8%	0.45	6.1%	0.01	6.4%	0.54	38.8%	7.5%
Otter Tail Corp	9.7%	0.75	6.1%	0.01	6.4%	0.23	38.8%	8.3%
FirstEnergy Corp	11.1%	0.53	6.1%	0.01	6.4%	0.46	38.8%	7.7%
Puget Energy Inc	11.1%	0.47	6.1%	0.00	6.4%	0.52	38.8%	7.3%
SCANA Corp	11.1%	0.54	5.8%	0.01	6.2%	0.44	38.8%	7.8%
Average	11.1%	0.57	6.0%	0.01	6.3%	0.42	38.8%	8.0%

Sources and Notes:
[1]: Table No. MJV-10; Panel B, [5].
[2]: Table No. MJV-4, [4].
[3]: Workpaper #2 to Table No. MJV-11 ; Panel B, [1].
[4]: Table No. MJV-4, [5].
[5]: Workpaper #2 to Table No. MJV-11 ; Panel A, [1].
[6]: Table No. MJV-4, [6].
[7]: Provided by Dominion Virginia Power.
[8]: ([1] x [2]) + ([3] x [4]) + {[5] x [6] x (1 - [7])}.

Table No. MJV-11

Overall Cost of Capital of the Electric Sample

Panel F: ECAPM (2%) Cost of Equity Based on the Short-Term Risk-Free Rate

Company	ECAPM (2%) Cost of Equity [1]	5-Year Average Common Equity to Market Value Ratio [2]	Weighted - Average Cost of Preferred Equity [3]	5-Year Average Preferred Equity to Market Value Ratio [4]	Weighted-Average Cost of Debt [5]	5-Year Average Debt to Market Value Ratio [6]	Dominion Virginia Power's Income Tax Rate [7]	Overall After-Tax Cost of Capital [8]
Cleco Corp	13.9%	0.56	6.1%	0.01	6.4%	0.43	38.8%	9.5%
Consolidated Edison Inc	10.6%	0.58	5.8%	0.01	6.2%	0.41	38.8%	7.8%
Empire District Electric Co/The	11.2%	0.57	6.1%	0.01	6.4%	0.42	38.8%	8.1%
Entergy Corp	11.2%	0.62	6.1%	0.02	6.4%	0.36	38.8%	8.5%
MGE Energy Inc	10.9%	0.74	-	-	6.1%	0.26	38.8%	9.0%
NSTAR	10.9%	0.53	5.8%	0.00	6.2%	0.47	38.8%	7.5%
Pinnacle West Capital Corp	12.1%	0.55	-	-	6.4%	0.45	38.8%	8.5%
PPL Corp	11.8%	0.54	6.1%	0.01	6.4%	0.45	38.8%	8.2%
Southern Co	10.3%	0.63	5.8%	0.01	6.2%	0.36	38.8%	7.9%
DTE Energy Co	10.6%	0.47	-	-	6.4%	0.53	38.8%	7.1%
Energy East Corp	11.8%	0.45	6.1%	0.01	6.4%	0.54	38.8%	7.5%
Otter Tail Corp	10.0%	0.75	6.1%	0.01	6.4%	0.23	38.8%	8.5%
FirstEnergy Corp	11.2%	0.53	6.1%	0.01	6.4%	0.46	38.8%	7.8%
Puget Energy Inc	11.2%	0.47	6.1%	0.00	6.4%	0.52	38.8%	7.4%
SCANA Corp	11.2%	0.54	5.8%	0.01	6.2%	0.44	38.8%	7.8%
Average	11.3%	0.57	6.0%	0.01	6.3%	0.42	38.8%	8.1%

Sources and Notes:
[1]: Table No. MJV-10; Panel B, [6].
[2]: Table No. MJV-4, [4].
[3]: Workpaper #2 to Table No. MJV-11 ; Panel B, [1].
[4]: Table No. MJV-4, [5].
[5]: Workpaper #2 to Table No. MJV-11 ; Panel A, [1].
[6]: Table No. MJV-4, [6].
[7]: Provided by Dominion Virginia Power.
[8]: ([1] x [2]) + ([3] x [4]) + {[5] x [6] x (1 - [7])}.

Table No. MJV-11

Overall Cost of Capital of the Electric Sample

Panel G: ECAPM (3%) Cost of Equity Based on the Short-Term Risk-Free Rate

Company	ECAPM (3%) Cost of Equity [1]	5-Year Average Common Equity to Market Value Ratio [2]	Weighted - Average Cost of Preferred Equity [3]	5-Year Average Preferred Equity to Market Value Ratio [4]	Weighted-Average Cost of Debt [5]	5-Year Average Debt to Market Value Ratio [6]	Dominion Virginia Power's Income Tax Rate [7]	Overall After-Tax Cost of Capital [8]
Cleco Corp	13.6%	0.56	6.1%	0.01	6.4%	0.43	38.8%	9.3%
Consolidated Edison Inc	10.9%	0.58	5.8%	0.01	6.2%	0.41	38.8%	7.9%
Empire District Electric Co/The	11.4%	0.57	6.1%	0.01	6.4%	0.42	38.8%	8.2%
Entergy Corp	11.4%	0.62	6.1%	0.02	6.4%	0.36	38.8%	8.6%
MGE Energy Inc	11.1%	0.74	-	-	6.1%	0.26	38.8%	9.2%
NSTAR	11.1%	0.53	5.8%	0.00	6.2%	0.47	38.8%	7.7%
Pinnacle West Capital Corp	12.1%	0.55	-	-	6.4%	0.45	38.8%	8.5%
PPL Corp	11.9%	0.54	6.1%	0.01	6.4%	0.45	38.8%	8.2%
Southern Co	10.6%	0.63	5.8%	0.01	6.2%	0.36	38.8%	8.1%
DTE Energy Co	10.9%	0.47	-	-	6.4%	0.53	38.8%	7.2%
Energy East Corp	11.9%	0.45	6.1%	0.01	6.4%	0.54	38.8%	7.5%
Otter Tail Corp	10.4%	0.75	6.1%	0.01	6.4%	0.23	38.8%	8.8%
FirstEnergy Corp	11.4%	0.53	6.1%	0.01	6.4%	0.46	38.8%	7.9%
Puget Energy Inc	11.4%	0.47	6.1%	0.00	6.4%	0.52	38.8%	7.5%
SCANA Corp	11.4%	0.54	5.8%	0.01	6.2%	0.44	38.8%	7.9%
Average	11.4%	0.57	6.0%	0.01	6.3%	0.42	38.8%	8.2%

Sources and Notes:
[1]: Table No. MJV-10; Panel B, [7].
[2]: Table No. MJV-4, [4].
[3]: Workpaper #2 to Table No. MJV-11 ; Panel B, [1].
[4]: Table No. MJV-4, [5].
[5]: Workpaper #2 to Table No. MJV-11 ; Panel A, [1].
[6]: Table No. MJV-4, [6].
[7]: Provided by Dominion Virginia Power.
[8]: ([1] x [2]) + ([3] x [4]) + {[5] x [6] x (1 - [7])}.

Workpaper #1 to Table No. MJV-11

Electric Sample

Panel A: Rating to Yield Conversion

Rating	Bond Yield	Preferred Yield
AA	6.13%	5.66%
A	6.23%	5.81%
BBB	6.42%	6.12%

Sources and Notes:
Bond Yields from Bloomberg as of June 11, 2007.
Preferred Yields from Mergent Bond Record, as of May 2007.
AA estimated as A - 0.5 * (BBB - A).

Workpaper #1 to Table No. MJV-11

Electric Sample

Panel B: Bond Rating Summary

Company	1st Quarter, 2007 [1]	2006 [2]	2005 [3]	2004 [4]	2003 [5]	2002 [6]
Cleco Corp	BBB	BBB	BBB	BBB	BBB	BBB
Consolidated Edison Inc	A	A	A	A	A	A
Empire District Electric Co/The	BBB	BBB	BBB	BBB	BBB	BBB
Entergy Corp	BBB	BBB	BBB	BBB	BBB	BBB
MGE Energy Inc	AA	AA	AA	AA	AA	AA
NSTAR	A	A	A	A	A	A
Pinnacle West Capital Corp	BBB	BBB	BBB	BBB	BBB	BBB
PPL Corp	BBB	BBB	BBB	BBB	BBB	BBB
Southern Co	A	A	A	A	A	A
DTE Energy Co	BBB	BBB	BBB	BBB	BBB	BBB
Energy East Corp	BBB	BBB	BBB	BBB	BBB	BBB
Otter Tail Corp	BBB	BBB	BBB	BBB	A	A
FirstEnergy Corp	BBB	BBB	BBB	BBB	BBB	BBB
Puget Energy Inc	BBB	BBB	BBB	BBB	BBB	BBB
SCANA Corp	A	A	A	A	A	A

Sources and Notes:
[1] - [6]: Bloomberg as of June 11, 2007.

Workpaper #1 to Table No. MJV-11

Electric Sample

Panel C: Preferred Equity Rating Summary

Company	1st Quarter, 2007 [1]	2006 [2]	2005 [3]	2004 [4]	2003 [5]	2002 [6]
Cleco Corp	BBB	BBB	BBB	BBB	BBB	BBB
Consolidated Edison Inc	A	A	A	A	A	A
Empire District Electric Co/The	-	-	-	-	-	BBB
Entergy Corp	BBB	BBB	BBB	BBB	BBB	BBB
MGE Energy Inc	-	-	-	-	-	-
NSTAR	A	-	-	A	A	A
Pinnacle West Capital Corp	-	-	-	-	-	-
PPL Corp	BBB	BBB	BBB	BBB	BBB	BBB
Southern Co	A	A	A	A	A	A
DTE Energy Co	-	-	-	-	-	-
Energy East Corp	BBB	BBB	BBB	BBB	BBB	BBB
Otter Tail Corp	BBB	BBB	BBB	BBB	BBB	BBB
FirstEnergy Corp	-	-	BBB	BBB	BBB	BBB
Puget Energy Inc	-	-	-	-	-	BBB
SCANA Corp	A	A	A	A	A	A

Sources and Notes:

[1] - [6]: Preferred equity ratings are assumed equal to the company's bond ratings reported in Workpaper #1 to Table No. MJV-11, Panels A and B.

Workpaper #2 to Table No. MJV-11

US Gas LDC Sample

Panel A: 15 Day Average Utility Yields and Mergent Preferred Yields

Date	A Rated Utility [1]	BBB Rated Utility [2]	A Preferred [3]	BBB Preferred [4]
5/21/2007	6.11	6.31	-	-
5/22/2007	6.16	6.36	-	-
5/23/2007	6.17	6.37	-	-
5/24/2007	6.17	6.37	-	-
5/25/2007	6.19	6.38	-	-
5/28/2007	6.19	6.38	-	-
5/29/2007	6.19	6.39	-	-
5/30/2007	6.18	6.35	-	-
5/31/2007	6.19	6.37	-	-
6/1/2007	6.23	6.41	-	-
6/4/2007	6.19	6.41	-	-
6/5/2007	6.26	6.45	-	-
6/6/2007	6.24	6.43	-	-
6/7/2007	6.40	6.59	-	-
6/8/2007	6.36	6.54	-	-
6/11/2007	6.41	6.63	-	-
Average	6.23	6.42	5.81	6.12

Sources and Notes:

[1] - [2]: Bloomberg as of June 11, 2007.

[3] - [4]: Mergent Bond Record, as of May 2007.

Workpaper #2 to Table No. MJV-11

Electric Sample

Panel B: Bond Yield Summary

Company	1st Quarter, 2007 [1]	2006 [2]	2005 [3]	2004 [4]	2003 [5]	2002 [6]	5-Year Weighted Average [7]
Cleco Corp	6.42%	6.42%	6.42%	6.42%	6.42%	6.42%	6.42%
Consolidated Edison Inc	6.23%	6.23%	6.23%	6.23%	6.23%	6.23%	6.23%
Empire District Electric Co/The	6.42%	6.42%	6.42%	6.42%	6.42%	6.42%	6.42%
Entergy Corp	6.42%	6.42%	6.42%	6.42%	6.42%	6.42%	6.42%
MGE Energy Inc	6.13%	6.13%	6.13%	6.13%	6.13%	6.13%	6.13%
NSTAR	6.23%	6.23%	6.23%	6.23%	6.23%	6.23%	6.23%
Pinnacle West Capital Corp	6.42%	6.42%	6.42%	6.42%	6.42%	6.42%	6.42%
PPL Corp	6.42%	6.42%	6.42%	6.42%	6.42%	6.42%	6.42%
Southern Co	6.23%	6.23%	6.23%	6.23%	6.23%	6.23%	6.23%
DTE Energy Co	6.42%	6.42%	6.42%	6.42%	6.42%	6.42%	6.42%
Energy East Corp	6.42%	6.42%	6.42%	6.42%	6.42%	6.42%	6.42%
Otter Tail Corp	6.42%	6.42%	6.42%	6.42%	6.23%	6.23%	6.35%
FirstEnergy Corp	6.42%	6.42%	6.42%	6.42%	6.42%	6.42%	6.42%
Puget Energy Inc	6.42%	6.42%	6.42%	6.42%	6.42%	6.42%	6.42%
SCANA Corp	6.23%	6.23%	6.23%	6.23%	6.23%	6.23%	6.23%

Sources and Notes:

[1] - [6]: Ratings based on Workpaper #1 to Table No. MJV-11, Panel A. Bond yields from Bloomberg as of June 11, 2007.

[7]: {([1] x 0.25) + [2] + [3] + [4] + [5] + ([6] x 0.75)} / 5.

Workpaper #2 to Table No. MJV-11

Electric Sample

Panel C: Preferred Equity Yield Summary

Company	1st Quarter, 2007 [1]	2006 [2]	2005 [3]	2004 [4]	2003 [5]	2002 [6]	5-Year Weighted Average [7]
Cleco Corp	6.12%	6.12%	6.12%	6.12%	6.12%	6.12%	6.12%
Consolidated Edison Inc	5.81%	5.81%	5.81%	5.81%	5.81%	5.81%	5.81%
Empire District Electric Co/The	-	-	-	-	-	6.12%	6.12%
Entergy Corp	6.12%	6.12%	6.12%	6.12%	6.12%	6.12%	6.12%
MGE Energy Inc	-	-	-	-	-	-	-
NSTAR	5.81%	-	-	5.81%	5.81%	5.81%	5.81%
Pinnacle West Capital Corp	-	-	-	-	-	-	-
PPL Corp	6.12%	6.12%	6.12%	6.12%	6.12%	6.12%	6.12%
Southern Co	5.81%	5.81%	5.81%	5.81%	5.81%	5.81%	5.81%
DTE Energy Co	-	-	-	-	-	-	-
Energy East Corp	6.12%	6.12%	6.12%	6.12%	6.12%	6.12%	6.12%
Otter Tail Corp	6.12%	6.12%	6.12%	6.12%	6.12%	6.12%	6.12%
FirstEnergy Corp	-	-	6.12%	6.12%	6.12%	6.12%	6.12%
Puget Energy Inc	-	-	-	-	-	6.12%	6.12%
SCANA Corp	5.81%	5.81%	5.81%	5.81%	5.81%	5.81%	5.81%

Sources and Notes:

[1] - [6]: Ratings based on Workpaper #1 to Table No. MJV-11, Panel A are assumed to equal preferred ratings. Preferred equity yields are from Mergent Bond Record, as of May 2007.

[7]: {([1] x 0.25) + [2] + [3] + [4] + [5] + ([6] x 0.75)} / 5.

The report does not publish yield data for AA-rated preferred equity. Therefore, when there is a AA we assumed:

Yield on AA-rated preferred equity = Yield on A-rated bond - {(1/2) x (Yield on BBB-rated bond - Yield on A-rated bond)}.

Table No. MJV-12

Risk Positioning Cost of Equity at Dominion Virginia Power's Capital Structure

Electric Sample

Full Sample

	Overall Cost of Capital [1]	Dominion Virginia Power's Regulatory % Debt [2]	Dominion Virginia Power's Cost of Debt [3]	Dominion Virginia Power's Income Tax Rate [4]	Dominion Virginia Power's Regulatory % Preferred Equity [5]	Dominion Virginia Power's Cost of Preferred Equity [6]	Dominion Virginia Power's Regulatory % Equity [7]	Estimated Return on Equity [8]
Using Long-Term Risk-Free Rates:								
CAPM using Value Line Betas	7.7%	0.43	6.4%	38.8%	0.06	6.1%	0.51	11.2%
ECAPM (0.50%) using Value Line Betas	7.8%	0.43	6.4%	38.8%	0.06	6.1%	0.51	11.3%
ECAPM (1.50) using Value Line Betas	7.9%	0.43	6.4%	38.8%	0.06	6.1%	0.51	11.5%
Using Short-Term Risk-Free Rates:								
CAPM using Value Line Betas	7.9%	0.43	6.4%	38.8%	0.06	6.1%	0.51	11.5%
ECAPM (1%) using Value Line Betas	8.0%	0.43	6.4%	38.8%	0.06	6.1%	0.51	11.7%
ECAPM (2%) using Value Line Betas	8.1%	0.43	6.4%	38.8%	0.06	6.1%	0.51	11.8%
ECAPM (3%) using Value Line Betas	8.2%	0.43	6.4%	38.8%	0.06	6.1%	0.51	12.0%

Sources and Notes:

[1]: Table No. MJV-11; Panels A - G, [8].

[2]: Provided by Dominion Virginia Power.

[3]: Based on an BBB rating, as provided by Dominion Virginia Power. Yield from Bloomberg as of June 11, 2007.

[4]: Provided by Dominion Virginia Power.

[5]: Provided by Dominion Virginia Power.

[6]: From Mergent Bond Record, as of May 2007

[7]: Provided by Dominion Virginia Power.

[8]: {[1] - ([2] x [3] x (1 - [4])+ [5] x [6])} / [7].

REBUTTAL TESTIMONY
OF
MICHAEL J. VILBERT
ON BEHALF OF
VIRGINIA ELECTRIC AND POWER COMPANY
BEFORE THE
STATE CORPORATION COMMISSION OF VIRGINIA
CASE NO. PUE-2007-00066

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I. INTRODUCTION AND SUMMARY

Q1. Please state your name and address for the record.

A1. My name is Michael J. Vilbert. My business address is The Brattle Group, 44 Brattle Street, Cambridge, MA 02138.

Q2. Please describe your job and your educational experience.

A2. I am a Principal of The Brattle Group, ("Brattle"), an economic, environmental and management consulting firm with offices in Cambridge, Washington, London, San Francisco and Brussels. My work concentrates on financial and regulatory economics. I hold a B.S. from the U.S. Air Force Academy and a Ph.D. in finance from the Wharton School of Business at the University of Pennsylvania. Appendix A of my direct testimony contains additional information on my professional qualifications.

Q3. Did you previously file testimony in this proceeding?

A3. Yes, I filed direct testimony ("Vilbert Direct") on behalf of Virginia Electric and Power Company ("Dominion Virginia Power" or the "Company") in July 2007 regarding the return on equity that Dominion Virginia Power should be allowed an opportunity to earn on the equity financed portion of its assets.

Q4. What is the purpose of your rebuttal testimony?

A4. I have been asked by Dominion Virginia Power to respond to Mr. Michael Gorman, who filed testimony ("Gorman Testimony") on behalf of Virginia Committee for Fair Utility Rates ("VCFUR"), and to Mr. Lawrence T. Oliver, who filed testimony ("Oliver Testimony") on behalf of the Staff of the State Corporation Commission ("Commission Staff" or "Staff"). Specifically, I will be responding to their recommendations for the allowed return on equity for Dominion Virginia Power and Mr. Gorman's recommended

reduction in the equity percentage of Dominion Virginia Power's regulatory capital structure.

Q5. What rate of return on equity does VCFUR witness Gorman recommend?

A5. Mr. Gorman recommends placing the rate of return at what he deems to be a "floor" return on equity of 10.2%, as prescribed by his unique interpretation of the methodologies set forth in Va. Code § 56-585.1.A.2. At the same time, he also recommends that Dominion Virginia Power's debt ratio be increased by 7.25 percentage points to 52% total debt including short-term debt and off-balance sheet liabilities. On a regulatory capital structure basis, the increase in total debt is to 50.4%. Assuming this entire increase comes from a reduction in common equity (instead of preferred), he is recommending an equity return of 10.2% on a capital structure with approximately 43.6% equity, if short-term debt were considered. The recommended reduction in both equity return and equity thickness represents a substantial increase in financial risk for the Company, as well as a large decrease in earnings.

Q6. What allowed return on equity does Staff witness Oliver recommend?

A6. Mr. Oliver considers the overall cost of capital resulting from equity returns of 10, 11, 12 and 13%, but he recommends a 10% return on equity based upon a range of 9.5 to 10.5% derived from the cost of equity estimation models. Unlike VCFUR witness Gorman, Mr. Oliver endorses the Company's filed capital structure and does not recommend any change.

Q7. How is the rest of your rebuttal organized?

A7. In *Section II,* I address the issue of capital structure and financial risk. In particular, I discuss Mr. Gorman's mistreatment of the concept of financial risk. For example,

financial risk is a function of the market value, not book value, capital structure. I also discuss Mr. Gorman's and Mr. Oliver's misunderstanding of the after-tax weighted-average cost of capital ("ATWACC") approach used in my direct testimony to adjust for differences in financial risk. Failure to recognize differences in financial risk represents a material error in both Mr. Gorman's and Mr. Oliver's approaches. In *Section III,* I review Mr. Gorman's cost of equity estimates and note several errors and questionable assumptions, all of which have the effect of reducing the allowed return on equity for Dominion Virginia Power. I also note several problems with Mr. Oliver's implementation of the models. In *Section IV,* I explain why applying the Empirical Capital Asset Pricing Model ("ECAPM") is appropriate even when using adjusted betas from *Value Line. Section V* contains my conclusions.

II. FINANCIAL RISK AND CAPITAL STRUCTURE

Q8. What does this section of your rebuttal address?

A8. First, I will discuss financial risk and how it is properly measured by reference to a company's market value capital structure as opposed to its book value capital structure. Then, I will explain how the ATWACC approach addresses the issue of differences in financial risk among the sample companies and why the ATWACC approach is not a market-to-book value adjustment. Finally, I will demonstrate that credit risk is not a measure of equity risk as asserted by the VCFUR witness Gorman.

A. Financial Risk is Based on Market Value not Book Value Capital Structures

Q9. Before you begin a discussion of financial risk, please clarify some terminology. Mr. Gorman defines business risks as non-systematic risks?[1] Is this definition standard in finance?

A9. No. Normally business risk is defined as the market risk of the assets of a company that uses no debt in its capital structure. In other words, it is the systematic risk of the assets. Diversifiable risk is sometimes referred to as company unique risk or non-systematic risk. In the following, I use the standard definition of business risk, as opposed to the one used by Mr. Gorman.

Q10. Does Mr. Gorman recognize financial risk?

A10. Yes. He claims to recognize the importance of financial risk,[2] but appears to misunderstand the concept.

Q11. What is financial risk?

A11. Financial risk is the additional risk shifted to equity holders from the use of debt in a company's capital structure. Changing a company's capital structure by replacing equity with debt increases the risk that remaining equity holders bear. This is because debt holders are paid a fixed payment stream first before any payments are available to equity holders, but the total risk of the assets is unchanged. As the percentage of equity in the capital structure shrinks, more of the residual risk is left to be shouldered by a smaller equity base.

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[1] The Pre-filed Testimony and Exhibits of Michael Gorman, on behalf of Virginia Committee for Fair Utility Rates, filed on November 2, 2007 ("Gorman Testimony"), p. 30.

[2] See, *e.g.*, Gorman Testimony, p. 11.

Q12. Why do you say that Mr. Gorman appears to misunderstand the concept of financial risk?

A12. Mr. Gorman's characterization of financial risk is flawed in a fundamental sense.[3] He evaluates the financial risk of his sample based on *book-value* capital structures. This is a mistake. There is no debate in financial theory that financial risk is defined in terms of market value capital structures. It is not defined in terms of book value capital structures. Mr. Gorman has certainly provided no academic reference suggesting that financial risk is measured by book value capital structures.

Q13. What is the evidence that VCFUR witness Gorman relies on book value capital structures to evaluate financial risk?

A13. Mr. Gorman considers the percentage of equity in the book-value capital structures of the companies in his sample and determines that it is on average somewhat lower than that of Dominion Virginia Power's regulatory capital structure. He then incorrectly asserts that financial risk is actually higher for the sample companies than for Dominion Virginia Power.[4] This turns the concept of financial risk on its head. The financial risk (and the cost of capital) for the sample companies is determined in the market place using market values and not by the companies accounting books.

Q14. How does Staff witness Oliver measure financial risk?

A14. Mr. Oliver agrees with Mr. Gorman's assessment of the relative financial risk of the Company to the sample, although he is not specific as to the basis for that assessment.[5]

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[3] Gorman Testimony, pp. 16-18.

[4] Gorman Testimony, p. 17.

[5] The Pre-Filed Testimony of Lawrence T. Oliver, Division of Economics & Finance, on behalf of the Virginia State Corporation Commission, filed on November 28, 2007, ("Oliver Testimony"), p. 29.

Mr. Oliver references Va. Code § 56-585.1.A.2, but that section discusses setting the "floor" return on equity and does not appear to address the issue of financial risk of the Company. In the following, I assume that Mr. Oliver's assessment is based upon the same or similar considerations as Mr. Gorman.

Q15. Can you provide textbook references indicating that market value capital structures are the correct measure of financial risk?

A15. Yes. This is a well-accepted concept in financial theory. See, for example, Richard A. Brealey, Stewart C. Myers, and Franklin Allen, *Principles of Corporate Finance*, New York: McGraw-Hill/Irwin 8th edition (2006). In discussing financial risk on pages 503-506, the authors say "Why did we show the book value balance sheet? Only so you draw a big X through it. Do so now."[6] As another example, see "The Effect of the Firm's Capital Structure on the Systematic Risk of Common Stock," by Robert S. Hamada in *The Journal of Finance*, 1972, which relies on market value capital structures to adjust for differences in financial leverage.

B. THE ATWACC APPROACH IS NOT A MARKET-TO-BOOK VALUE ADJUSTMENT

Q16. What does this section of your rebuttal address?

A16. I will discuss how the ATWACC approach implemented in my direct testimony addresses differences in financial risk. I will then attempt to clear up the confusion resulting from Mr. Gorman's and Mr. Oliver's misunderstanding of the ATWACC approach. Both testimonies reject any recognition of the differences in financial risk

[6] Brealey, Myers and Allen, *op cit.*, p. 504.

between the sample companies and the Company at its regulated capital structure, and both incorrectly characterize the ATWACC approach as a market-to-book adjustment.

Q17. Is the ATWACC approach a market-to-book adjustment in disguise?

A17. No. The ATWACC approach is *not* a market-to-book adjustment. It is critical to understand this point. If the ATWACC approach is to be accepted or rejected by the Commission, it should be because of what the approach actually recommends and not because it has been incorrectly characterized as a market-to-book adjustment. The following explains the distinction.

Q.18 Mr. Oliver's objection to the ATWACC approach is direct. He simply notes that "investors are well aware of the prevalent and long-standing regulatory practice of applying market based cost of equity estimates to book value equity."[7] How do you respond?

A18. In the U.S., Mr. Oliver's observation is certainly true, although not universally so. For example, the Surface Transportation Board relies upon market value capital structures to estimate the "revenue adequacy" of the railroads it regulates.[8] However, Mr. Oliver does not address the correctness of the fundamental financial theory underlying the ATWACC method. If the theory underlying the ATWACC is recognized as being correct, as I believe that it certainly should be, then rejecting the approach should require more analysis than in essence, "it is different from the way it has always been done." In his objection to the ATWACC approach, Staff witness Oliver also points to market-to-book ratios greater than 1.0 for the companies in the sample as evidence that the allowed

[7] Oliver Testimony, p. 26.

[8] Surface Transportation Board Decision, STB Ex Parte No. 558 (Sub-No. 9), decided on December 19, 2005.

returns on equity must be adequate.[9] However, I do not believe that the current market-to-book ratios are evidence one way or the other of the adequacy of the allowed rate of return on equity for the sample companies. I address this point in more detail below.

Q19. Please review the ATWACC approach and the specific errors made by Mr. Gorman in his critique of the methodology.

A19. The fundamental premise of the ATWACC approach is that the risk of the assets of a company is divided between the debt holders and equity holders, i.e., the company's investors.[10] Mr. Gorman seems to agree with this point.[11] When estimating the cost of equity using the standard models, the estimated cost of equity reflects both the business risk and the financial risk of the sample company, based upon the sample company's *market value* capital structure. There is no academic debate on this point. In particular, note that if the market value capital structure were different, the estimated cost of equity would be different as well because of the difference in financial risk.

However, the sample companies may have capital structures that are quite different both among themselves and compared to Dominion Virginia Power. Simply averaging the estimated costs of equity from the sample companies and recommending that average as the allowed return on equity for the Company does not consider any differences in financial risk. If these differences are not considered, the result could be a material error in the estimated cost of equity for Dominion Virginia Power.

[9] Oliver Testimony, p. 26.
[10] Preferred equity is ignored for simplicity, but the principles do not change with the addition of preferred stock to the capital structure.
[11] Gorman Testimony, p. 27.

Q.20 Is it appropriate to estimate the cost of equity for the sample companies using market data?

A20. Yes. Mr. Gorman, Mr. Oliver and I all estimate the cost of equity for the sample companies using market information. The alternative is to rely on accounting information on the return on equity realized on book value assets, as is done in the comparable earnings approach. The Discounted Cash Flow ("DCF") model and the risk positioning models (CAPM, ECAPM and risk premium method) rely upon market information, and the cost of equity estimates derived from those models reflect the business risk and financial risk of the sample companies at their *market value* capital structures. The returns on equity recommended by Mr. Gorman and Mr. Oliver are derived from these market based models, but then both treat these returns as if they were returns on book value equity.

Q21. How does the ATWACC approach address differences in financial risk?

A21. Most analysts choose sample companies that are expected to be of comparable business risk, but the sample companies may have capital structures that are quite different from each other as well as from the regulated company. As I discussed above, two otherwise identical companies with different (market value) capital structures would have different costs of equity (estimation errors aside) because of differences in financial risk. However their overall cost of capital, i.e., their ATWACCs, would be the same.

The ATWACC approach estimates the overall weighted-average cost of capital of the sample companies. The overall cost of capital estimate captures both the business risk and the financial risk of the company in a single number, i.e., the combined risk of the debt and the equity used to finance the assets. This, in turn, enables an "apples to apples"

comparison among the sample companies. This is why the ATWACC approach is the best way of approaching the cost of equity estimation problem – it is the only cost common to all companies of similar business risk and can therefore provide the only reliable anchor point.

Q.22 Mr. Gorman suggests that the ATWACC approach is "actually a market-to-book ratio adjustment in disguise" and that you were "attempting to repackage this and rename it 'risk positioning'" in your direct testimony.[12] Is this an accurate representation of the ATWACC approach?

A22. No. First, the risk positioning models (the CAPM, ECAPM and risk premium method) are cost of equity estimation models used by Mr. Gorman and Mr. Oliver, as well as in my direct testimony. In my direct testimony, I used the ATWACC method with the DCF model as well, so clearly it is not a "repackaged risk positioning model." Second, this statement reflects confusion regarding the ATWACC approach and represents a misunderstanding of basic financial principles.

Q23. Does the ATWACC methodology depend upon a market-to-book ratio in any way?

A23. No. The market-to-book ratio has no bearing whatsoever on this approach. The book value capital structure of the sample companies does not enter into the ATWACC calculations in any way, so it is impossible for the book value capital structure to have any impact on the ATWACC. Moreover, if the regulatory capital structure differs from the market value capital structure, an adjustment is still warranted even if the market-to-

[12] Gorman Testimony, p. 48.

book ratio were equal to 1.0, yet one could hardly claim that a market-to-book value "inflation" was being made in that scenario.[13]

Q24. Why should market values, as opposed to book values, be used when estimating the capital structure for use in financial risk adjustment?

A24. Market values reflect the actual risks that investors are facing. Consider an investor who purchases a share of stock for $20 in a company with a market-to-book value ratio of 2.0, which means that the book value of the purchased share is actually $10. Suppose also that the expected dividends on the share total $2 for the coming year. Does this mean that the investor is expecting a return of 20% (= $2/$10) that year? Clearly not. The investor put $20 into this investment and is receiving $2 this year – a rate of return of 10%. That is what would be reflected in the DCF and risk positioning estimates – dividend and price data. To match these costs of equity estimates to each company's book value capital structure misrepresents the true risk-return tradeoffs. The money at risk is not the book value of $10, but the market value of $20 dollars. As a simple example of this idea, consider a house purchased 10 years ago for $100,000. If the market value of the house declines from $400,000 to $300,000, you have suffered a loss of $100,000 even though the book value is still $100,000.

In fact, most investors don't even know the book value of the stocks they buy. They focus on the market value. All rates of return demanded by investors are based on market values, not book values. This is why determining the overall cost of capital must necessarily rely on market value capital structures – one of the most basic results from modern finance theory. The cost of equity estimated by both the DCF model and the risk

[13] *Id.*

positioning model reflects each sample company's level of business risk and its level of financial risk in terms of market values.

Q25. Please explain the apparent source of the misunderstanding of the ATWACC approach.

A25. The source of the confusion appears to be a misunderstanding that the ATWACC is a *rate of return*, not a dollar amount of return. The flaw in reasoning can be illustrated in the following simplified example. Suppose that the cost of equity estimated using the DCF or the risk positioning method is 10% for a regulated company with a market value capital structure with 66.6% equity and 33.3% debt. (See Step 1 in Figure 1 below.) Suppose that the book value capital structure of the regulated company is 50% equity and 50% debt and that the ATWACC adjusted return on equity is 12.1% for the regulatory capital structure. (See Step 2 in Figure 1 below.) Does this mean that if the Commission allows a 12.1% return on equity that the return on the market value of equity will be 12.1%? The answer, of course, is no. The reason is that the estimated return on equity is applied to the *book value* of equity in the rate base not the market value of equity. In this example, the market-to-book ratio is 2.0, the market return on equity would be about 6%, half of the allowed return on the equity financed portion of the rate base, which would likely be less than the company's current market cost of debt. (See Step 3 in Figure 1 below.)

Figure 1: Example of ATWACC approach, and the resulting return on the market value of equity.

Step 1: Compute ATWACC using market values

	Market Values		Return	Tax Rate	Wt. Average
Equity	1000	67%	10.0%		0.067
Debt	500	33%	6.0%	40%	0.012
	1500	100%		ATWACC	**0.079**

Step 2: Using book value capital structure, compute allowed return on equity that yields the ATWACC determined in Step 1

	Book Values		Return	Tax Rate	Wt. Average
Equity	500	50%	12.1%		0.061
Debt	500	50%	6.0%	40%	0.018
	1000	100%		ATWACC	**0.079**

Step 3: Implied allowed equity return on market value of equity

	Dollar amount	Rate of Return
Equity Return	60.7	**6.07%**

In the example, note that the overall after-tax cost of capital is constant at 7.9%, but the return on equity must be changed in order for the overall cost of capital to remain constant as the capital structure changes. In other words, the ATWACC approach is recommending a constant overall *rate of return* on assets regardless of the capital structure.

Q26. Please summarize the ATWACC approach you are recommending.

A26. I am recommending that the Commission recognize that financial risk is important and that it affects the cost of equity estimates from the models. The ATWACC approach captures both business risk and financial risk in one estimate of the market required rate of return for the sample companies. Applying that rate of return to the rate base gives a return consistent with the market determined cost of capital and the regulatory capital structure of the Company. If the regulatory capital structure has more debt as recommended by Mr. Gorman, then the return on equity must be higher in order to

maintain a constant ATWACC. If the regulatory capital structure has less debt, then the return on equity should be reduced. Note that if adopted, the ATWACC approach makes the debate about the appropriate capital structure much less contentious.

Q27. If the allowed return on equity is 12% instead of 10%, are you saying that this will or will not maintain the current market-to-book ratio?

A27. The ATWACC approach does not say anything about this. Instead, the ATWACC approach simply says that the estimated return on investments of comparable business risk to the regulated company is equal to the ATWACC. Therefore the regulated assets should be allowed a *rate of return* equal to the ATWACC on the *book value* rate base. Moreover, the dollar amount of equity return is unlikely to justify the market-to-book ratio of 2.0 in the above example. Because, as noted above, the market return on equity is about 6% which may well be less than the company's cost of debt.

Q28. But isn't a market-to-book ratio of 2.0 prima facie evidence that the allowed return on equity has been too high?

A28. No, but it does say that we don't have a complete theory of the determination of security prices. Professor Andrei Shleifer summarizes this point in his book, *Inefficient Markets An Introduction to Behavioral Finance*:

> Despite considerable progress, our knowledge of determination of security prices remains limited. Although we may reject the null hypothesis of market efficiency with more confidence than before, we still know relatively little about such key determinants of prices as expectations about fundamentals, discount rates, and simple movements of demand. Behavioral finance and the finance of the determination of valuations more generally, has many years to grow.

We simply don't have complete explanations of the level of stock prices in the market.

Q29. Is the ATWACC method compatible with the use of a book value rate base?

A29. Yes. The use of book value rate base is perfectly consistent with the use of a rate of return calculated from market data using the ATWACC method. The book value rate base is merely a historical record of the amount of assets purchased by investors to provide service to customers. All rate-of-return analysts estimate a market cost of capital to apply to that investment, as everyone in this proceeding did. The only difference is that I calculated the overall market rate of return on assets in my direct testimony and applied that overall rate of return to the rate base. Because the regulated capital structure differs from the market value capital structures of the sample companies, the allowed return on equity must be adjusted so that the weighted-average cost of capital used to set rates is equal to the market-determined overall cost of capital from the sample of companies with comparable business risk.

Q30. Are there other statements made by VCFUR witness Gorman that confuse the concept of financial risk, the ATWACC approach or your testimony on these matters?

A30. Yes. Mr. Gorman made the following statements, each of which is incorrect.[14]

> ...the underlying assumption of the adjustment is that there is more financial risk in book value capital structures than there is in a market value capital structure... [and similarly] ... there are not two financial risks faced by investors, one based on book value and a second based on market value.
>
> ...his [Dr. Vilbert's] adjustment does not consider the total investment risk of the enterprise but rather is focused only on the amount of financial risk differential between book and market values.

I will address each of these statements below.

[14] Gorman Testimony, pp. 47-48.

Q31. Please address Mr. Gorman's first statement that "the underlying assumption of the [ATWACC] adjustment is that there is more financial risk in book value capital structures than there is in a market value capital structure." Is there a difference in financial risk for a company based upon its market value and book value capital structures?

A31. No. I do not claim that there is more financial risk in the book value capital structure than in the market value capital. There is only one measure of a company's financial risk, and it is based upon the market value capital structure. Nothing in my direct testimony states or intends to state that there are two measures of financial risk. As noted, the ATWACC book values do not appear in the ATWACC calculation, so the basis of these statements is not apparent.

Q32. The Company is regulated on the basis of its book value rate base. How does the difference between the market value capital structures of the sample companies and the book value capital structure of the Company affect the recommended return on equity?

A32. This is the essence of the ATWACC approach, as discussed above. The issue addressed by the ATWACC approach is rate of return that should be allowed on the Company's rate base. The return on equity measured by the standard models is a function of business and financial risk. To apply the "rate of return" estimated in the market to the book value rate base for the regulated company requires that the rate of return be properly estimated. Applying the sample estimated cost of equity to the book value of equity does not consider the financial risk of the sample companies. The ATWACC approach combines the risk of the debt and equity used to finance the regulated assets and applies this overall

market-determined rate of return to the rate base. Capital structure affects the required return on equity, but not the ATWACC.

Q33. Please address the second statement that you did not consider "the total investment risk of the enterprise but rather that you focused only on the amount of financial risk differential between book and market values?"[15]

A33. The meaning of this statement is not clear. Mr. Gorman, Mr. Oliver and I were all attempting to estimate the cost of equity for the Company that, by definition, is not the total investment risk of the enterprise. On the other hand, I am the only one who actually measured the total investment risk of the enterprise by consideration of the overall cost of capital for the sample companies. This is precisely the difference between the approach in my direct testimony and the approach used by both Mr. Gorman and Mr. Oliver.

Q34. Do you have examples of Mr. Gorman's misapplication of the concept of financial risk?

A34. Yes, there are several. First, Mr. Gorman does not take the differences in financial risk between the sample companies and the regulatory capital structure for the Company into account. Second, Mr. Gorman recommends substituting a very large percentage of debt for equity in the Company's regulatory capital structure with no consideration of the corresponding increase in financial risk resulting from the recommendation. As a result, Mr. Gorman's recommendation of 10.2% is inconsistent with the sample evidence and the financial risk of Dominion Virginia Power.

[15] Gorman Testimony, p. 48.

Q35. Mr. Gorman claims that a 10.2% cost of equity is, in fact, consistent with the financial risk of Dominion Virginia Power. How do you respond?

A35. As noted above, Mr. Gorman makes this claim based upon the book value capital structures of the sample companies, but financial risk is a function of the market value capital structures of the sample companies. To argue, as Mr. Gorman does, that financial risk is measured by book value capital structures is incorrect, and it is inconsistent with financial theory and real world economics.

Q36. How do the market value capital structures of the sample companies compare to Dominion Virginia Power's regulatory capital structure?

A36. The average market-value equity ratios in the sample from my direct testimony are 62% for the DCF models, and 57% for the risk positioning models. As such, the sample companies are significantly less leveraged (i.e., have less financial risk) than the Company would be at the approximately 44% equity ratio proposed by Mr. Gorman. This additional financial risk demands additional return in the market.

Q37. If the Commission were to accept Mr. Gorman's recommendation to increase the percentage of debt in the regulatory capital structure, what would be the effect on the required return on equity?

A37. If the Commission were to determine that replacing equity with debt in the regulatory capital structure was warranted for Dominion Virginia Power, the cost of equity would have to be increased to recognize the additional financial risk this would impose on Dominion Virginia Power's remaining equity. Based on my estimates of the overall cost of capital for the sample, shifting 6.8 percentage points from equity to debt in the capital structure would result in a point estimate of the cost of equity above 12%. Table 1 below

displays the effect of the change in capital structure on the cost of equity estimates compared to Table 3 in my direct testimony. Note that only the regulatory capital structure is different. The sample's estimated ATWACC for each estimation method is the same as reported in Table 3 of my direct testimony. Comparison of the two tables shows that reducing the equity percentage in the capital structure increases the cost of equity by more than 1 percentage point because of the increased financial risk inherent in a more leveraged capital structure.

Table 1

Regulatory Capital Structure: 43.9% Equity / 6.1% Preferred / 50.0% Debt — *2008 Tax Rate: 38.8%*

		METHODS								
		RISK POSITIONING (using Long-Term Risk-Free Rate)			RISK POSITIONING (using Short-Term Risk-Free Rate)				DCF	
[1]	**Electric Sample***	CAPM	α = 0.5%	α = 1.5%	CAPM	α = 1%	α = 2%	α = 3%	Simple	Multi
	Cost of Equity	12.3%	12.4%	12.6%	12.7%	12.9%	13.1%	13.3%	12.5%	11.3%
	Average ATWACC	7.7%	7.8%	7.9%	7.9%	8.0%	8.1%	8.2%	7.8%	7.3%

[2] Risk Positioning Security Market Line Parameters:

Long-Term
Risk Free Rate Estimate: 5.1%
Estimated MRP: 6.5%

Short-Term
Risk Free Rate Estimate: 4.1%
Estimated MRP: 8.0%

Multi-Stage DCF Parameter:
GDP Growth Estimate: 5.1%

Sources and Notes:

* For the Electric Sample , Risk Positioning data from Table No. MJV-12 and DCF data from Table No. MJV-8.

[1] Electric sample consists of Cleco Corp, Consolidated Edison, Empire District Electric, Entergy Corp, MGE Energy, NSTAR, Pinnacle West Capital Corp, PPL Corp, Southern Co, DTE Energy, Otter Tail Corp, Energy East Corp, FirstEnergy Corp, Puget Energy, and SCANA Corp.

[2] See Appendix C and D for details on Risk Positioning and DCF parameters used in estimates.

C. Credit Ratings are not a Measure of Equity Risk

Q38. VCFUR witness Gorman also claims that a company's credit rating is a measure of the required return on the company's equity.[16] Is that correct?

A38. No. As Mr. Gorman acknowledges,[17] the cost of equity is a function of the company's systematic risk (i.e., its non-diversifiable risk), not total risk as measured by a company's

[16] Gorman Testimony, p. 17.

[17] Gorman Testimony, p. 42.

credit rating. Systematic risk, also called market risk, is the risk that investors cannot diversify away by holding a portfolio of investments. It is also the risk that affects a company's required return on equity and is measured by a company's beta not its credit rating. Bond holders care about total risk because they cannot diversify their risk exposure the same way equity holders can because bond holders have no upside. Bond investors usually get the promised payments of interest and principal, but they will not get more and may get less. In contrast, equity returns are sometimes greater or lower than expected.

Q39. Can you demonstrate that equity risk is different from credit risk?

A39. Yes, consider Table 2 below, which displays the credit ratings and estimated betas for a number of well-known companies. As can easily be seen, there is no direct relationship between a company's credit rating and its beta estimate. Companies with a high or low credit rating can have a high or a low beta; one is not a predictor or indicator of the other.

Table 2

Comparison of Credit Ratings and Equity Betas

S&P Ranking / Beta	AA	A	BBB	BB
1.50	Goldman Sachs Group (1.51)	Merrill Lynch & Co (1.49)	Raymond James Financial (1.50)	Rock-Tenn Co (1.50)
1.25	Citigroup, Inc. (1.25)	Carnival Corp (1.25)	National Oilwell Varco, Inc. (1.25)	Central Vermont Public Service Corp (1.26)
1.00	Northwest Natural Gas Co (1.02)	Bristol-Myers Squibb Co (1.00)	Goodrich Corp (1.00)	Avista Corp (0.99)
0.75	Merck & Co, Inc. (0.79)	Consolidated Edison, Inc. (0.75)	Energy East Corp (0.75)	TNS, Inc. (0.75)
0.50	Procter & Gamble Co (0.57)	PepsiCo, Inc. (0.57)	Coventry Health Care, Inc. (0.56)	Harrah's Entertainment, Inc. (0.56)

Sources and Notes:
Data were retrieved from Bloomberg as of November 30, 2007.
The companies in this table are actively traded on New York Stock Exchange.
Credit Ranking is based on S&P Long-Term Local Currency Issuer Credit Rating.
Betas are adjusted and derived from the past two years of weekly return data.

Q40. What about companies in the same industry with different credit ratings? Would you agree then that a higher credit rating reflects lower equity risk?

A40. No. In general, the reverse is likely to be true.

Q41. Please explain how it could be that a higher (less risky) credit rating would indicate greater risk for the company's equity.

A41. Consider two otherwise identical companies, both of which have an investment grade credit rating, so neither is in financial distress. All else being equal, a higher credit rating for one is likely to be due to the use of less debt in the company's capital structure. Because the risk of the underlying assets is unchanged by the choice of financing, the higher credit rating leads to a lower cost of debt that, in turn, means that the company's equity must be riskier. This can be illustrated by reference to equation **(1)** from my direct testimony, which calculates the ATWACC:[18]

$$ATWACC = r_D \times (1 - T_C) \times D + r_E \times E \qquad (1)$$

where r_D = market cost of debt,
r_E = market cost of equity,
T_C = corporate marginal income tax rate,
D = percentage of debt in the capital structure, and
E = percentage of equity in capital structure.

The constant risk of the assets means that the ATWACC is constant as the capital structure changes. The higher market cost of debt resulting from a lower credit rating means that the cost of equity consistent with overall cost of capital estimate (i.e., the ATWACC) must be lower than for the identical company with a higher credit rating (i.e., one with a lower cost of debt).

[18] Note that this equation assumes that only debt and equity are in the capital structure, but one can add preferred equity to the equation if appropriate.

Q42. What is the implication of this section?

A42. Credit risk and equity risk are simply not the same, and it is a mistake to treat them as if they were as Mr. Gorman has done. Observing that the average credit ratings for companies in the electric utility industry have improved recently provides no evidence that the risk of the equity of the companies in the industry has been reduced. Credit ratings are derived from the total risk of the enterprise, whereas market risk (i.e., systematic risk) is based upon the relationship between the company's return on equity and return on the market. Risks that can be diversified away reduce credit risk but have no effect on the required return on equity. Recall that beta is a measure of systematic risk, the risk that matters for the cost of capital. The conclusion is that the risk of equity of companies with a low credit rating is not necessarily more risky than that of a company with a higher credit rating.

III. MR. GORMAN MISINTERPRETS HIS OWN RESULTS

Q43. Do you believe that Mr. Gorman's methodology to estimate the sample companies' costs of equity is materially flawed?

A43. No, but Mr. Gorman's interpretation of his results is materially flawed. Although I applied a somewhat different sample selection procedure in my direct testimony to ensure reliable estimates, Mr. Gorman's implementation of the DCF and risk positioning models for the individual sample companies is generally similar to that in my direct testimony with one major exception. My primary concern, however, is how Mr. Gorman's results are interpreted, both in terms of adjusting for differences in financial risk and in terms of the weight that Mr. Gorman appears to place on his multi-stage DCF results.

Q44. What is the major exception you mentioned?

A44. Mr. Gorman's Schedule 12 displays the average beta estimates for the sample companies over the last five years as reported by *Value Line*. Recall that beta is a measure of the company's market risk (i.e., its systematic risk), the risk that affects a company's cost of equity. *Value Line* estimates beta based upon 260 weeks (5 years) of historical return data, and the betas estimated by *Value Line* have been steadily increasing over the period 2003 to 2006, as displayed in Schedule 12. The current average beta for Mr. Gorman's sample is 1.07, but Mr. Gorman uses a beta of 0.82 in his risk positioning (CAPM) estimates. Had Mr. Gorman used the most recent average beta estimate in the model, the cost of equity estimate for the sample would have been about 160 basis points higher (i.e., (1.07 – 0.82) * 6.5%) = 12.1%). It would have been about 50 basis points higher if the current median estimate of 0.90 had been used (i.e., (0.90 – 0.82) * 6.5%) = 11.0%). In other words, Mr. Gorman's CAPM return estimate for the sample would be 12.1% (or 11.0% using the median beta estimate) instead of his reported estimate of 10.5%.[19]

Q45. Why is it incorrect to average the betas over the last five years?

A45. There are a number of reasons, but primarily it is because the *Value Line* beta estimates are already based on 5 years of data. Using betas estimated in 2003 results in the use of data from as long ago as 1998. Much has changed in the electric industry since 1998.

Q46. Mr. Gorman claims that the higher betas do not reflect the risk of the companies going forward.[20] How do you respond?

[19] Gorman Testimony, Schedule 14.

[20] Gorman Testimony, p. 34.

A46. Many of the things that Mr. Gorman references as reducing risk are likely to be diversifiable risks, which are risks that affect total risk but not systematic risk, the risk that affects the cost of equity. This observation is confirmed by the fact that the average credit rating of companies in the electric utility industry is improving. In addition, much of the improvement in average credit ratings comes from a return to investment grade of companies that lost their investment grade in 2002-2003, whereas only a few companies have been moved from, for example, a BBB-rating to an A-rating. On the other hand, changes in the industry referenced in my direct testimony[21] are likely to have increased the risk of the sample companies compared to a few years ago, which is also confirmed by the increase in the average betas of the sample companies. It is highly likely that betas measured over the last 5 years fully capture any changes in risk either an increase or a decrease, so that using data from as long ago as 1998 is unnecessary and likely to bias the results.

Q47. You have already described your concerns with the financial risk adjustment process. Please explain your concerns with the emphasis Mr. Gorman placed on his DCF estimates.

A47. Mr. Gorman's results are summarized in Table 1 of his filed testimony and are reproduced below in Table 3.[22] The left hand side of Table 3 illustrates Mr. Gorman's results as reported, and the right hand side illustrates the correct values from Mr. Gorman's schedules. Only the CAPM estimates reflect a change in assumption. The other changes are simply corrections to the results reported in the schedules. Note that of

[21] Testimony of Michael J. Vilbert, on behalf of Virginia Electric and Power Company, filed on July 13, 2007, ("Vilbert Direct"), p. 27.

[22] Gorman Testimony, p. 36.

the four methods reported, only the two-stage DCF estimates are less than 10.2%, yet Mr. Gorman recommends a rate of return on equity of 10%.

Q48. How did Mr. Gorman arrive at his cost of equity recommendation?

A48. According to the Gorman Testimony, Mr. Gorman takes "the midpoint of my [his] estimated return on equity range for VEPCo of 9.4% to 10.6%".[23] Ignoring the fact that the range is misstated and should be 9.5% to 10.7% based upon the corrected results from Mr. Gorman's Table 1, taking the midpoint effectively gives the low outlier range of 9.4%-9.6% (corrected it should be 9.5% to 9.6%) for the two-stage DCF model greater weight than any of its peers. For example, an average estimate of the four methods would be about 10.3%, and the median would be 10.4%. Mr. Gorman must have greater confidence in the two-stage DCF methodology than any other method he employs to arrive at the recommendation in this way.

Table 3

Gorman Testimony - TABLE 1 Return on Common Equity Summary	
Description	**Results**
Constant Growth DCF	**10.4% - 10.7%**
Two-Stage DCF	**9.4% - 9.6%**
Risk Premium	10.2% - 10.4%Rs
CAPM (using median of 5-yr. average betas)	**10.5%**

Gorman Testimony -TABLE 1 CORRECTED Return on Common Equity Summary	
Description	**Results**
Constant Growth DCF	**10.5% - 10.7%**
Two-Stage DCF	**9.5% - 9.6%**
k Premium	10.2% - 10.4%
CAPM (using average of current betas)	**12.1%**
CAPM (using median of current betas)	**11.0%**

Sources and Notes:
Gorman Testimony, p. 36.
Exhibit MPG-1, Schedule 4.
Exhibit MPG-1, Schedule 6.
Exhibit MPG-1, Schedule 12.
Exhibit MPG-1, Schedule 14.

[23] Gorman Testimony, p. 36.

Q49. Why is the heavy reliance on the multi-stage DCF model a concern?

A49. As noted in my direct testimony,[24] there are a number of issues that make the reliability of DCF model questionable at this time for the electric utility industry. Mr. Gorman echoes some of these concerns on pages 23-25 of his testimony. Moreover, Mr. Gorman correctly recognizes that abnormal growth rates can greatly reduce the reliability of the constant growth DCF methodology.[25] However, my concern arises from Mr. Gorman's failure to recognize that this problem with growth rates also raises concern over the reliability of his two-stage DCF model as well. The results of the DCF model depend critically on the forecasts of dividend growth rates, but cost of capital analysts generally have no information on forecast growth rates of earnings or dividends for periods longer than five years. All analysts are forced to assume a pattern of dividend growth for years six through infinity for the model, but those assumptions determine the results. Since investor expectations drive current prices used in the DCF formula, errors forecasting growth rates at this horizon will typically translate into material errors estimating the cost of equity. Investor expectations for growth beyond year five are likely to be very diverse when there are abnormal growth rate forecasts in the short run, as well as when there is great uncertainty as to the long-term path of the industry as there is today.

As a consequence, the DCF model is unreliable unless it is being applied to an industry that is in a stable growth path for the foreseeable future. Mr. Gorman applies an estimate of the growth in domestic product ("GDP") in year six to infinity for each of his sample companies. Unless investors believe that the industry's uncertainty and growth will

[24] Vilbert Direct, p. 3.

[25] Gorman Testimony, pp. 21-22.

dissipate by that time, DCF estimates will be biased. There is enough evidence to doubt, however, that the regulated electric utility industry can be currently characterized as stable – and similar doubts apply to its future outlook as well. As a result, the DCF methodology is not reliable at this time in any form for the electric utility industry.

Q50. Why do you believe that the industry is not likely to be stable six years from now?

A50. There are several reasons why uncertainty about the industry's future is not likely to have decreased as Mr. Gorman implicitly assumes. First, echoing Mr. Gorman's statements, a September 28, 2007 *Value Line* report points to the need for substantial investment in generation and transmission.[26] This point is repeated in several reports commissioned by the *Edison Electric Institute.*[27,28] The Virginia Energy Plan also calls for significant expenditure on transmission and other infrastructure.[29] The prices of fossil fuels have increased dramatically over the last few years. Construction prices have also recently increased rapidly, and uncertainties exist about how the rise in prices will affect the infrastructure investment strategy:

> However, rising construction costs will put additional upward pressure on retail rates over time, and may alter the pace and composition of investments going forward. The overall impact on the industry and on customers, however, will be borne out in various ways, depending on how utilities, markets and regulators respond to these cost increases.[30]

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[26] Value Line Investment Survey, Plus Edition, September 28, 2007 Report on Electric Utility Industry.

[27] Basheda, Gregory et al., "*Why Are Electricity Prices Increasing: An Industry-Wide Perspective*", report prepared for *The Edison Foundation* (June 2006).

[28] Chupka, Mark and Gregory Basheda, *Rising Utility Construction Costs: Sources and Impacts*, report prepared for *The Edison Foundation* (September 2007).

[29] The Virginia Energy Plan, Chapter 4.

[30] *Ibid,* p. 31.

Second, public concern with environmental sustainability and the need for renewable sources of energy has led to the adoption in many states of renewable generation requirements. It seems certain that environmental concerns will increase in the future, but the impact of these concerns on renewable energy requirements and restrictions on greenhouse gases is uncertain. This uncertainty is a clear source of risk for electric utility investors. For example, at the federal level, the House passed a bill this summer proposing a 15% renewable energy requirement by 2020, while an earlier Senate bill on energy did not include a similar requirement.[31,32] Clearly, environmental issues are an important source of uncertainty about future costs and regulation, and increase the risk of regulated electric utilities. The sheer magnitude of the infrastructure need and the complexities involved make it highly doubtful that the outlook five years from now will be significantly different from what it is today.

Q51. Please summarize your conclusions regarding the stability of the electric utility industry at this time.

A51. The future structure of the electric utility industry is far from certain. The industry faces the need for substantial capital investment going forward to meet the challenges of new environmental and safety standards as well as the need for conservation. Acquiring the capital necessary for the required investments will require a supportive regulatory environment including an adequate return on equity. These challenges and the resulting uncertainty mean that the industry will not be the stable, low risk environment envisioned

[31] These pieces of legislation have been widely reported in the national press. For a specific reference, see *Edison Electric Institute* press release of August 4, 2007, available at http://www.eei.org/newsroom/press_releases/070804.htm.

[32] The Virginia Energy Plan calls for 7 percent renewable energy by 2012 and 12 percent by 2022.

by Mr. Gorman, but that stability is precisely the condition required for the reliable estimation of cost of equity using the DCF model.

Q52. Please summarize your conclusions from this section of your rebuttal.

A52. Only by relying heavily on the results of the multi-stage DCF model is Mr. Gorman able to arrive at a recommendation as low as 10% based on the results from his own models, but as noted above, the necessary conditions for the reliable implementation of the DCF model do not exist at this time. Moreover, the CAPM results are understated because Mr. Gorman arbitrarily uses a five-year average of *Value Line* estimated betas which are themselves based on five years of data. Had Mr. Gorman relied on the most recent *Value Line* betas, the mid-point of the range of estimates would have been at least 50 basis points higher, even given the unwarranted weight that Mr. Gorman gives the multi-stage DCF model.

IV. THE ECAPM APPROACH

Q53. Mr. Gorman claims that the CAPM estimates in your direct testimony are flawed. In particular he claims that using *Value Line's* adjusted betas with the ECAPM alpha adjustment "double counts the increase in the CAPM return estimate for companies with betas lower than 1."[33] Is this correct?

A53. No. Contrary to Mr. Gorman's opinion, *Value Line's* adjustment of raw betas is not "to accomplish the same thing"[34] as adjusting the security market line to conform to the evidence cited in my direct testimony. *Value Line's* adjustment is a standard industry practice meant to reflect the tendency of betas to regress toward a mean of one. In the

[33] Gorman Testimony, p. 46.

[34] *Id.*

presence of regression toward the mean, estimating beta based on past returns yields a biased estimate of the true beta. This point was first raised by Professor Marshall Blume in 1971,[35] and it has been widely acknowledged since. The important point to remember is that the *Value Line* adjustment is applied to the *estimated* beta, not the true beta. If the true company betas were known, the adjustment would not be necessary. The need to adjust beta is a different concept, however, from a having a *true* security market line that is flatter than that predicted by the CAPM. (See Figure 1 in the Vilbert Direct.)

Q54. But didn't you respond that you knew of no studies using *Value Line* beta estimates in the studies you referenced with regard to the ECAPM?

A54. Yes, I also noted that researchers typically calculate their own betas rather than rely on estimates from *Value Line;* however, the issue is not who publishes the betas but whether adjusted betas are an explanation of the higher intercept and shallower slope of the ECAPM. Mr. Gorman appears to misinterpret the cited literature. Indeed, the paper by Litzenberger, R., K. Ramaswamy, and H. Sosin (1980), cited in both my direct testimony and my data responses explicitly considers the alpha parameter using both adjusted and "individually" adjusted betas. While it is true that the academic articles did not rely upon betas published by *Value Line*, the use of adjusted betas was considered and not determined to be the explanation addressed by the ECAPM. Indeed, most of the studies documenting the under estimation of the required return from the CAPM were published after the 1971 Blume study, so if mean-reversion in the beta had been the explanation, it is likely the researchers would have reached that conclusion, but clearly they did not. Furthermore, I use values of "alpha" that are conservative relative to existing estimates. Therefore, even if the beta adjustment were to "flatten" the security market line more

[35] Blume, Marshall E. (1971), "On the Assessment of Risk," *Journal of Finance*, 26(1), pp. 785-795.

than necessary to account for the bias in the estimate (which cannot be known with certainty), it is very unlikely that the combined effect of the two adjustments would result in overestimating the Company's return on equity.

Q55. Mr. Gorman asserts that "using the Treasury bond yield as a proxy for the risk-free rate in the CAPM analysis can produce an overstated estimate of the CAPM return." Do you agree?

A55. Not if the market risk premium ("MRP") is matched with the proxy for the risk free rate. This is why I use a MRP of 6.5% (as did Mr. Gorman) when using a long-term ("LT") Treasury bond yield in the CAPM and a MRP of 8.0% when using a Treasury bill yield. The 1.5 difference in MRP is equal to the average difference in the yields on Treasury bills compared to Treasury bonds.[36] In a footnote, Mr. Oliver references Mr. Gorman's testimony on this point but seems to make no judgment on the accuracy of the statement. Finally, as shown in table MJV-C1 in Appendix C of my direct testimony, the size of the correction needed for the CAPM is greater than the 1.5% maturity premium used to adjust the MRP when using the LT Treasury bond yield.

Q56. Mr. Oliver also questions your use of the ECAPM, claiming that the ECAPM does "nothing more than inflate [Dr. Vilbert's] cost of equity estimate."[37] How do you respond?

A56. In a manner similar to the objection to my use of the ATWACC approach, Mr. Oliver does not challenge the empirical evidence underlying the use of the ECAPM. Instead, he simply charges that the ECAPM results in a higher estimated cost of equity for the

[36] See Workpaper #1, Panel B, Table No. MJV-9, in my direct testimony, for the calculation of the 1.5% maturity premium.

[37] Oliver Testimony, p. 29.

sample companies. The ECAPM provides higher estimates of the cost of equity for stocks with betas less than 1.0 and lower estimates for the cost of equity for stocks with betas greater than 1.0. But the critical point is the ECAPM is consistent with the empirical evidence from repeated tests of the CAPM over many years, as documented extensively in my direct testimony, Appendix C. I attempted to estimate the cost of equity as accurately as possible, and it is wrong to ignore evidence of a bias in the model particularly when correcting the bias is so straightforward. Moreover, as shown in Appendix C, Table No. MJV C-1, the correction applied in my direct testimony is lower than would be justified by the empirical evidence.

Q57. Mr. Oliver also criticizes your use of forecasted U.S. government interest rates in the risk positioning models, claiming that interest rates have declined since the time that your direct testimony was filed.[38] How do you respond?

A57. This seems to be a misunderstanding. In my direct testimony, I used the actual (not forecast) U.S. government bond yield curve based upon a 15-day period ending June 11, 2007, a time period corresponding to the preparation of my direct testimony. The long-term bond yields I used were the actual yields at the time. I also estimated the short-term interest rates inherent in the yield curve from the data at the time, but these are not forecast interest rates. At the time short-term interest rates were actually higher at the time than the 4.1% used in my testimony. Had actual short-term rates been used, the value would have been about 4.85%.

[38] Oliver Testimony, p. 27.

Q58. The Fed reduced interest rates again on December 11, 2007. Does this suggest that your cost of equity estimates should also be reduced?

A58. Not necessarily. It is true that interest rates have declined recently as fears of a recession resulting from the sub-prime mortgage defaults have increased, but inflation fears are also increasing with high energy costs, high budget deficits, high trade deficits and a weakened U.S. dollar. As a result, the path of interest rates going forward is uncertain because the Fed may be forced to increase interest rates to control inflation or may reduce interest further to prevent a recession.[39]

Q59. Do you have any other comments on the cost of equity estimation methods employed by Mr. Oliver?

A59. Yes. I will briefly address his DCF estimates and his risk premium approach.

Q60. What are your comments on Mr. Oliver's DCF estimates?

A60. I have already discussed my concerns with the reliability of the DCF method at this time for an industry lacking the stable conditions necessary for reliable application. I also have a concern with the growth rate estimate used in his DCF. Mr. Oliver's Schedule 9 displays the growth rate estimates he used in the model. As can be seen in the Schedule, the growth rate estimates vary widely from company to company and for the same company. Moreover, the method by which he determines the range of growth rate estimates for the model is not clear. It seems he simply selected the values to use from the range of observed estimates. All of this calls into question the reliability of the estimates.

[39] See the Economist.com, "From Santa to Scrooge," December 12, 2007.

Q61. What are your comments on Mr. Oliver's risk premium estimates?

A61. I believe that Mr. Oliver has made a fundamental error regarding the Ibbotson and Chen estimate of 9.76% displayed in his Schedule 15.

Q62. What is the fundamental error?

A62. First, the estimate of 9.76% is for the stock market as a whole, not an individual stock.[40] Second, the estimate is a geometric average return, not the arithmetic average return, which is a mistake when estimating the required return. The arithmetic average for the market is 11.18% based upon a market risk premium of 6.35%.[41]

Q63. Is it appropriate to use the geometric mean to estimate the expected return from the risk positioning model?

A63. No. While the geometric mean return is appropriate for consideration of achieved returns over a period of time, it is well established that the geometric mean is not correct for estimating the expected return, especially in a regulatory setting. This is well understood in the broader finance community. For example, Ibbotson Associates state,

> The equity risk premium data presented in this book are arithmetic average risk premia as opposed to geometric average risk premia. The arithmetic average equity risk premium can be demonstrated to be most appropriate when discounting future cash flows. For use as the expected equity risk premium in either the CAPM or the building block approach, the arithmetic mean or the simple difference of the arithmetic means of stock market returns and riskless rates is the relevant number. This is because both the CAPM and the building block approach are additive models, in which the cost of capital is the sum of its parts. The geometric average is more appropriate for the reporting past performance, since it represents the compound average return.[42]

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[40] This estimate is displayed in the *Morningstar 2007 Yearbook, Valuation Edition*, p. 96.

[41] *Morningstar, 2007 Yearbook, Valuation Edition*, p. 97.

[42] Ibbotson Associates, *Stock, Bonds, Bills and Inflation, Valuation Edition*, 2007 Yearbook, p. 77.

Similarly, the *New Regulatory Finance* text by Roger A. Morin (2006) argues,

> Only arithmetic means are correct for forecasting purposes and for estimating the cost of capital. There is no theoretical or empirical justification for the use of geometric mean rates of returns as a measure of the appropriate discount rate in computing the cost of capital or in computing present values. There is no dispute in academic circles as to whether the arithmetic or geometric average should be used for purposes of computing the cost of capital.[43]

Finally, the text by Bodie, Kane, and Marcus (2005) states,

> [I]f our focus is on future performance, then the arithmetic average is the statistic of interest because it is an unbiased estimate of the portfolio's expected return (assuming, of course, that the expected return does not change over time). In contrast, because the geometric return over a sample period is always less than the arithmetic mean, it constitutes a downward-biased estimator of the stock's expected return in any future year.[44]

Based on academic and other literature, the geometric average based MRP is not appropriate for estimating cost of capital in a regulatory setting.

Q64. Please summarize your comments on Mr. Oliver's estimation methods.

A64. In my opinion, the conditions necessary to implement the DCF model reliably are not present. Mr. Oliver's risk premium estimates appear to be geometric average returns for the market as a whole, which is inappropriate to estimate required returns for a regulated company. Moreover, it is not clear what the direct relevance of the geometric average return on the entire market may be to setting the allowed return for the Company.

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[43] Roger A. Morin (2006), *New Regulatory Finance*, Public Utilities Reports, Inc., pp. 116-117.

[44] Zvi Bodie, Alex Kane, and Alan J. Marcus (2005), *Investments*, 6th Edition, McGraw-Hill, p. 865. See also Richard A. Brealey, Stewart C. Myers, and Franklin Allen (2006), *Principles of Corporate Finance*, 8th Edition, McGraw-Hill, p. 150-151.

V. CONCLUSIONS

Q65. Please summarize your comments on Mr. Gorman's and Mr. Oliver's estimates of recommended allowed return on equity for Dominion Virginia Power.

A65. Neither testimony recognizes financial risk because both simply apply the cost of equity estimated from the models directly to the Company. To arrive at his 10% estimate, Mr. Gorman inappropriately gives a disproportionately greater weight to the two-stage DCF results than he gives his other estimates. This action is highly debatable. Moreover, some of the estimates reported in his Table 1 are incorrect, including his reliance on betas that are the average of those estimated over a nine year period instead of the most recent beta estimates. Even without considering financial risk, Mr. Gorman's estimates are more consistent with a recommendation of 10¾% than 10%.

Mr. Oliver's recommendation of 10% is similarly flawed. His implementation of the DCF model is highly subjective because of his estimation of the growth rates in the model. Moreover, the conditions for the reliable implementation of the DCF model do not exist at this time for this industry. The relevance of his risk premium estimates is also questionable in that they are geometric average estimates for the market as whole. Neither geometric average estimates nor estimates of the return on the market are directly relevant for estimating the allowed return for the Company.

Q66. Does this conclude your testimony?

A66. Yes, it does.

Company Exhibit ____

BEFORE THE

PUBLIC UTILITIES COMMISSION OF OHIO

In the Matter of the Application of	**)**	**Case No. 07-829-GA-AIR**
Dominion East Ohio for Authority to	**)**	**Case No. 07-830-GA-ALT**
Increase Rates for Distribution Service	**)**	**Case No. 07-831-GA-AAM**
And for Tariff Approvals	**)**	

DIRECT TESTIMONY OF

MICHAEL J. VILBERT

ON BEHALF OF

DOMINION EAST OHIO

__ Management policies, practice, and organization

__ Operating income

__ Rate base

__ Allocations

_X_ Rate of return

__ Rates and tariffs

__ Other – Cost of Service

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I. INTRODUCTION AND SUMMARY

Q1. Please state your name and address for the record.

A1. My name is Michael J. Vilbert. My business address is The Brattle Group, 44 Brattle Street, Cambridge, MA 02138, USA.

Q2. Please describe your job and your educational experience.

A2. I am a Principal of The Brattle Group, ("Brattle"), an economic, environmental and management consulting firm with offices in Cambridge, Washington, London, San Francisco and Brussels. My work concentrates on financial and regulatory economics. I hold a B.S. from the U.S. Air Force Academy and a Ph.D. in finance from the Wharton School of Business at the University of Pennsylvania.

Q3. What is the purpose of your testimony in this proceeding?

A3. I have been asked by Dominion East Ohio (the "Company" or "DEO") to estimate the cost of equity that the Public Utilities Commission of Ohio (the "PUCO" or the "Commission") should allow DEO an opportunity to earn on the equity financed portion of its rate base.

To accomplish this task, I estimate the overall cost of capital for a sample of regulated natural gas local distribution companies ("gas LDCs") using the discounted cash flow ("DCF") and the risk positioning models. I then evaluate the relative risk of DEO compared to the sample companies to determine the recommended cost of equity for a regulatory capital structure with 44.8 percent equity, 0.8 percent preferred, and 54.3 percent debt, which is the Company's proposed capital structure in this proceeding based on its parent company's, Dominion Resources, Incorporated's, consolidated capital structure as of March 31, 2007.

Q4. Please summarize the parts of your background and experience that are particularly relevant to your testimony on these matters.

A4. Brattle's specialties include financial economics, regulatory economics, and the gas and electric industries. I have worked in the areas of cost of capital, investment risk and

related matters for many industries, regulated and unregulated alike, in many forums. I have testified or filed cost of capital testimony before the Federal Energy Regulatory Commission, the Arizona Corporation Commission, the Pennsylvania Public Utility Commission, the Public Service Commission of West Virginia, the Tennessee Regulatory Authority, the Public Service Commission of Wisconsin, the South Dakota Utilities Board, the California Public Utilities Board, the Canadian National Energy Board, Alberta Energy and Utilities Board, the Ontario Energy Board, and the Labrador & Newfoundland Board of Commissioners of Public Utilities. I have not previously testified before this Commission, but I submitted testimony on behalf of FirstEnergy's Ohio electric distribution companies in June 2007. Appendix A contains more information on my professional qualifications.

Q5. Please summarize how you approached this task.

A5. I review the evidence from a sample of regulated gas LDC's which were selected to be of comparable business risk to the Company's gas distribution operations in Ohio. My analyses consider cost of capital evidence from the risk positioning and discounted cash flow models, but I rely primarily on the risk positioning results because I do not believe that the DCF method is completely reliable at this time.

Specifically, I estimate the cost of equity for companies in the sample group using both cost-of-equity estimation methods. For each cost-of-equity estimate, I combine the cost of equity estimate with the sample company's market costs of debt and preferred stock to calculate each firm's overall cost of capital, i.e. its after-tax weighted-average cost of capital ("ATWACC"), using each company's market value capital structure as the weights. For each method of estimating the return on equity, I report the sample average ATWACC and the estimated cost of equity for this line of business at a capital structure with 44.8 percent equity. I thus present the cost of equity that is consistent with both the sample's market information and the Company's regulatory capital structure. (By

"regulatory capital structure," I mean the capital structure that DEO utilizes in its application.[1])

The use of the overall cost of capital automatically avoids problems that can arise when an analyst focuses separately on the individual components of the overall cost of capital (i.e., the cost of equity and the appropriate capital structure). The danger with that approach is that the estimated cost of equity from the sample may correspond to a very different level of financial risk than would exist at the regulated company's capital structure. The result could be an inconsistency between the allowed return on equity and the financial risk inherent in the regulatory capital structure.

Q6. What is your conclusion on the market-determined cost of capital for DEO based upon the results from the sample of regulated companies you selected?

A6. The best point estimate of the cost of equity for DEO is 12 percent for a capital structure with 44.8 percent equity, 0.8 percent preferred, and 54.3 percent debt, but it is more correct to say that the sample results indicate a range for the cost of equity estimates from 11½ to 12½ percent. The corresponding midpoint of the range of the overall cost of capital estimates, i.e., the ATWACC, for the benchmark sample companies is 7¾ percent with a range of 7½ to 8 percent. Note, that I specify a plus or minus ½ percent range for the return on equity and specify the point estimate to the nearest ¼ percent because I do not believe that it is possible to estimate the cost of equity more precisely than that.

Q7. What are the results for the DCF model?

A7. Results from the simple DCF model and for the multistage model are set out in the accompanying tables. (See Table No. MJV-6, Panel A - simple DCF and Panel B - multistage DCF.) After properly adjusting for the financial risk in the Company's regulatory capital structure, the sample average for the simple DCF model is 10.3 percent and for the multistage DCF model is 10.7 percent (See Table No. MJV-8). The results

[1] The capital structure that I customarily use in these analyses is based upon the long-term sources of capital, i.e., long-term debt, preferred equity and common equity. I do not use short-term debt because long-term assets are not generally financed with short-term debt.

for a sub-sample of companies with fewer data issues are 9.9 percent and 10.6 percent respectively.

Q8. Why do you believe that the DCF model is less reliable for this industry at this time than the risk positioning model?

A8. Results for the DCF model depend critically on the estimate of the dividend growth rate. A one percentage point error in the estimate of the growth rate results in a greater than one percentage point error in the cost of equity estimates. Natural gas prices have increased substantially and have become much more volatile recently compared to just a few years ago, which has affected the demand for natural gas. Although all of the companies in the sample have fuel cost adjustment clauses, the increased volatility of gas prices has increased the uncertainty of the industry's earnings going forward because full cost recovery on a timely basis is not guaranteed. The electric industry is a major source of demand for natural gas and it, too, is undergoing a period of uncertainty surrounding the ultimate structure of the industry. In addition, the potential imposition of additional environmental and safety restrictions on both the natural gas industry and the electric industry increases the uncertainty about future growth in earnings. For example, implementation of distribution integrity management rules to be introduced within the next year will inevitably lead to substantial capital and O&M expenditures among gas LDCs nationwide.[2] Uncertainty regarding the timely recovery of and return on these expenditures is likely to affect analysts' earnings forecasts. There have also been a number of mergers and acquisitions in the industry which may have the effect of increasing the market prices of the companies in the industry even if they are not the immediate target of a takeover which thereby reduces the dividend yield. These facts are not a description of an industry that could be characterized as stable with earnings and

[2] See "Distribution Integrity Management Program – Rulemaking is Under Way," *American Gas*, July 2007, pp. 12-16. However, according the American Public Gas Association's website, "APGA has learned that the proposed Distribution Integrity Management Program (DIMP) rule will not be issued until sometime this Fall due to concerns about the cost-benefit analysis. This means that the final rule will likely not take effect until sometime in 2008. This provides operators with additional time to prepare for this major rulemaking. APGA, through the Security and Integrity Foundation (SIF), is developing a model DIMP plan to assist public gas systems to develop written DIMP programs. The model plan will be available when the final rule is issued sometime next year."

dividends likely to grow at a constant rate over the foreseeable future, but that is precisely the condition necessary for the reliable implementation of the DCF model.

Although the DCF model results are less reliable than those based upon the risk positioning model at this time, I provide results using the DCF method, because it is a method that has been relied upon by commissions frequently in the past. In addition, results from the DCF model serve as a check on the results from the equity risk positioning approach.

Q9. What are the results for the risk positioning model?

A9. The sample average risk positioning results, again adjusted for differences in financial risk, range from 12.7 to 13.0 percent for the full sample, when using the long-term risk-free rate, and 12.4 to 12.7 percent for the sub-sample. I also report results for the risk positioning model using the short-term risk-free rate which are about 30-70 basis points ("bps") higher than for the long-term version of the model, but I place very little weight on those estimates in this proceeding because short-term interest rates have been quite variable lately. (See Table No. MJV-12 or Table 3 on page 35 below.)

Q10. You mentioned the importance of considering financial risk when evaluating the results of the models. Please explain how you adjust for financial risk.

A10. Both the DCF and the risk positioning models rely on market data to estimate the cost of equity for the sample companies. Those cost of equity estimates capture both the business risk and the financial risk of the sample companies' stocks. Business risk is the risk that the company would have if it were financed entirely with equity. Financial risk is the additional risk carried by the equity holders when debt is used to finance some of the assets. The more debt that is used by a company, the riskier the company's equity becomes. As explained in more detail below, the procedures I use consider both the business risk and the financial risk of the sample companies in comparison to DEO in determining my recommended cost of equity.

Q11. How is your testimony organized?

A11. *Section II* formally defines the cost of capital and touches on the principles relating to the cost of capital and capital structure for a business. *Section III* presents the methods used to estimate the cost of capital for the benchmark sample and the associated numerical analyses, and explains the basis of my conclusions for the benchmark sample's returns on equity and overall costs of capital. *Section IV* presents the results of these methods applied to the benchmark sample group, and presents the costs of equity implied by the results. My conclusions on the cost of equity for the Company are presented in *Section V*. Appendix B provides additional details on the selection of the sample and the calculation of the market value capital structures of the sample companies. Appendices C and D support *Sections III and IV* with additional details on the risk positioning model and DCF approach, respectively, including the details of the numerical analyses. Appendix E discusses the effect of debt on the cost of equity in more detail.

II. COST OF CAPITAL THEORY

A. THE COST OF CAPITAL AND RISK

Q12. Please formally define the "Cost of Capital."

A12. The cost of capital can be defined as *the expected rate of return in capital markets on alternative investments of equivalent risk*. In other words, it is the rate of return investors require based on the risk-return alternatives available in competitive capital markets. The cost of capital is a type of opportunity cost: it represents the rate of return that investors could expect to earn elsewhere without bearing more risk. "Expected" is used in the statistical sense: the mean of the distribution of possible outcomes. The terms "expect" and "expected" in this testimony, as in the definition of the cost of capital itself, refer to the probability-weighted average over all possible outcomes.

The definition of the cost of capital recognizes a tradeoff between risk and return that is known as the "security market risk-return line," or "security market line" for short. This line is depicted in Figure 1. The higher the risk, the higher is the cost of capital. A version of Figure 1 applies for all investments. However, for different types of securities,

the location (i.e., the intercept and the slope) of the line may depend on corporate and personal tax rates.

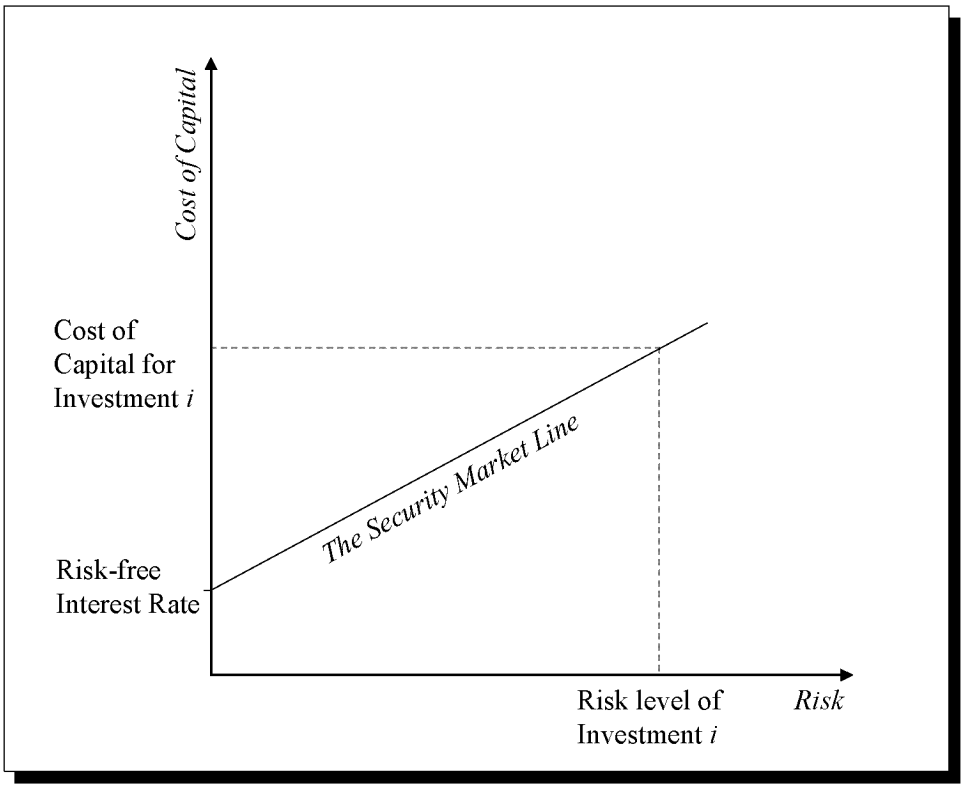

Figure 1: The Security Market Line

Q13. Why is the cost of capital relevant in rate regulation?

A13. It has become routine in U.S. rate regulation to accept the "cost of capital" as the right expected rate of return on utility investment.[3] That practice is normally viewed as consistent with the U.S. Supreme Court's opinions in *Bluefield Waterworks & Improvement Co. v. Public Service Commission*, 262 U.S. 678 (1923), and *Federal Power Commission v. Hope Natural Gas*, 320 U.S. 591 (1944).

From an economic perspective, rate levels that give investors a fair opportunity to earn the cost of capital are the lowest levels that compensate investors for the risks they bear. Over the long run, an expected return above the cost of capital makes customers overpay

[3] A formal link between the cost of capital as defined by financial economics and the right expected rate of return for utilities is established by Stewart C. Myers, "Application of Finance Theory to Public Utility Rate Cases," *The Bell Journal of Economics and Management Science*, 3:58-97 (Spring 1972).

for service. Regulatory commissions normally try to prevent such outcomes, unless there are offsetting benefits (e.g., from incentive regulation that reduces future costs). At the same time, an expected return below the cost of capital does a disservice not just to investors but, importantly, to customers as well. In the long run, such a return denies the company the ability to attract capital, to maintain its financial integrity, and to expect a return commensurate with that of other enterprises attended by corresponding risks and uncertainties.

More important for customers, however, are the economic issues an inadequate return raises for them. In the short run, deviations of the expected rate of return on the rate base from the cost of capital may seemingly create a "zero-sum game"-- investors gain if customers are overcharged, and customers gain if investors are shortchanged. But in fact in the short run, such action may adversely affect the utility's ability to provide stable and favorable rates because some potential efficiency investments may be delayed or because the company is forced to file more frequent rate cases. In the long run, inadequate returns are likely to cost customers – and society generally – far more than is gained in the short run. Inadequate returns lead to inadequate investment, whether for maintenance or for new plant and equipment. The costs of an undercapitalized industry can be far greater than the short-run gains from shortfalls in the cost of capital. Moreover, in capital-intensive industries (such as the natural gas distribution industry), systems that take a long time to decay cannot be fixed overnight. Thus, it is in the customers' interest not only to make sure the return investors expect does not exceed the cost of capital, but also to make sure that it does not fall short of the cost of capital, either.

Of course, the cost of capital cannot be estimated with perfect certainty, and other aspects of the way the revenue requirement is set may mean investors expect to earn more or less than the cost of capital even if the allowed rate of return equals the cost of capital exactly. However, a commission that sets rates so investors expect to earn the cost of capital on average treats both customers and investors fairly, and acts in the long-run interests of both groups.

B. Business Risk & Financial Risk: Capital Structure and the Cost of Equity

Q14. Please explain briefly the difference between business risk and financial risk.

A14. Business risk is the risk of a company from its line of business if it used no debt financing. When a firm uses debt to finance its assets, the business risk of the assets is shared between the debt holders and the equity holders, but the equity holders bear more of the risk because debt holders have a prior claim on the company's cash flows. Equity holders are residual claimants, which simply means that equity holders get paid last. In other words, the use of debt imposes financial risk on the equity holders. Therefore, the goal of selecting a sample is to choose companies whose business risk is judged to be comparable to that of the Company's gas distribution operations in Ohio.

Q15. Please explain why it is necessary to report the cost of equity adjusted for capital structure.

A15. Briefly, rate regulation in North America tends to focus on the components of the overall cost of capital, and in particular, on what the "right" cost of equity and capital structure should be. Frequently, there is no consideration of whether the financial risks of the sample companies differ among themselves or differ from the regulated company. The cost of equity estimated using the standard models (e.g., the DCF model or the risk positioning model) reflects both the business and financial risk of the sample companies. The cost of equity estimates for the sample companies will vary, in part, due to small differences in business risk and, in part, due to differences in financial risk. However, the overall cost of capital depends primarily on the business the firm is in, i.e., the business risk of the company's assets, while the costs of the debt and equity components depend not only on this business risk alone but also on the distribution of revenues between debt and equity, i.e. financial risk. The overall cost of capital is thus the more basic concept. The overall cost of capital is constant within a broad middle range of values of capital structures, but the distribution of the costs and risks among debt and equity is not. Appendix E sets out the principles and procedures on which I rely.

C. IMPLICATIONS FOR ANALYSIS

Q16. Please explain the implications of the relationship between capital structure and the cost of equity in your testimony.

A16. The risk equity holders bear, and therefore the cost of equity, depends on the capital structure. As leverage increases, financial risk increases, and hence the required return on equity increases. An approach that estimates the cost of equity for each of the sample firms without explicit consideration of the market value capital structure (i.e., the financial risk) underlying those costs risks material errors. The costs of equity of the sample companies at their actual market-value capital structures do not necessarily reflect the same degree of financial risk as faced by equity holders in the regulated company, and thus could lead to an unfair rate of return if the sample's cost of equity estimate were simply and mechanically applied to the regulated company's capital structure. I avoid this problem by calculating each sample company's ATWACC using its market value capital structure. Using the sample's average overall cost of capital (i.e., the average of the sample companies' ATWACCs) as an estimate of the Company's overall cost of capital, I then determine the corresponding return on equity at the Company's filed regulatory capital structure. This procedure ensures that the capital structure (i.e., financial risk) and the estimated cost of equity are consistent with the market derived sample information.

In the following analyses, I estimate the cost of equity for each of the sample firms using the DCF and risk positioning estimation methods. I use each company's estimated cost of equity along with the Company's estimated 2008 marginal income tax rate[4] and each sample company's cost of debt and market-value capital structure to estimate the company's overall cost of capital. I then calculate the sample's average overall cost of capital for each equity estimation method. Using the procedure discussed above, I then determine the cost of equity at DEO' regulated capital structure that is consistent with the sample's overall cost of capital information for each estimation method.

[4] Ohio levies no state income tax on regulated utilities so the marginal tax rate is equal to the 35 percent federal income tax rate. Instead, utilities pay a gross receipts tax.

Q17. To assess the magnitude of financial risk for a rate regulated company, should you use the market-value or the book-value capital structure?

A17. The market-value capital structure is the relevant quantity for analyzing the cost of equity evidence, which is based on market information.

Q18. Has the need to use market-value capital structures to estimate the cost of equity been widely recognized in the academic community?

A18. Yes. The need to use market-value capital structures to analyze the effect of debt on the cost of equity has been recognized in the financial literature for a long time. For example, the initial reconciliation of the Modigliani-Miller theories[5] of capital structure with the Capital Asset Pricing Model, in Robert S. Hamada, "Portfolio Analysis, Market Equilibrium and Corporate Finance," The Journal of Finance 24: 13-31 (March 1969) works with market-value capital structures. For a more recent presentation of the concept, see, for example, Richard A. Brealey, Stewart C. Myers, and Franklin Allen, *Principles of Corporate Finance*, New York: McGraw-Hill/Irwin 8th ed. (2006) pp. 503-06. Book values may be relevant for some issues, e.g., for covenants on individual bond issues, but as explained in the text, market values are the determinants of the impact of debt on the cost of equity.

Q19. Is the use of market values to calculate the impact of capital structure on the risk of equity incompatible with use of a book-value rate base for a regulated company?

A19. No. The cost of capital is the fair rate of return on regulatory investment (i.e., rate base) for both investors and customers. Most regulatory jurisdictions in North America measure the rate base using the net book value of assets, not current replacement value or historical cost trended for inflation, but the jurisdictions still apply market-derived measures of the cost of equity (such as derived from the DCF or the risk positioning models) to that net book value rate base.

[5] The basic idea of the Modigliani-Miller theories is that the required return on equity increases with the amount of debt in the capital structure, but the overall cost of capital remains constant within a broad middle range of capital structures. See Appendix E, Section I.A. for a more detailed discussion of the Modigliani-Miller theories regarding the effect of debt on a company's overall cost of capital.

The issue here is "what level of risk is reflected in that cost of equity estimate?" That equity risk level depends on the sample company's market-value capital structure, not its book-value capital structure. *That risk level would be different if the sample company's market-value capital structure exactly equaled its book-value capital structure, so the estimated cost of equity would be different, too.*

Q20. Please sum up the implications of this section.

A20. The market risk, and therefore the cost of equity, depends directly on the market-value capital structure of the company or asset in question. It therefore is impossible to compare validly the measured costs of equity of different companies without taking capital structure into account. Capital structure and the cost of equity are unbreakably linked, and any effort to treat the two as separate and distinct questions violates both everyday experience (e.g., with home mortgages as shown in the extended example in Appendix E) and basic financial principles.

Q21. How should a cost of capital analyst implement the principle that the cost of equity changes as financial risk changes?

A21. As discussed further in Appendix E, there has been a great deal of financial research on the effects of capital structure on the value of the firm. One of the key conclusions that results from the research is that no narrowly defined optimal capital structure exists within industries, although the typical range of capital structures does vary among industries.[6] Instead, there is a relatively wide range of capital structures within any industry in which fine-tuning the debt ratio makes little or no difference to the value of the firm, and hence to its overall after-tax cost of capital.

Accordingly, analysts should treat the market-value weighted average of the cost of equity and the after-tax current cost of corporate debt, or the "ATWACC" for short,[7] as

[6] An exception is that very high-risk industries should avoid debt entirely, which makes their optimal capital structure zero percent debt.

[7] This quantity typically is called the "weighted-average cost of capital" or "WACC" in finance textbooks. The textbook WACC equals the *market*-value weighted average of the cost of equity and the *after-tax*, *current* cost of debt. However, rate regulation in North America has a legacy of working with another, and very different, weighted-average cost of capital, the *book*-value weighted average of the cost of equity and

constant within a broad middle range of capital structures for the industry. Sample evidence should be analyzed to determine the sample's average ATWACC, which can be compared across different firms or industries. The economically appropriate cost of equity for a regulated firm is the quantity that, when applied to the *regulatory* capital structure, produces the same ATWACC. That value is the cost of equity that the sample would have had estimation problems aside, if the sample's market-value capital structure had been equal to the regulatory capital structure in question.

Q22. Can you provide an example of the calculation of the cost of equity consistent with the market-determined estimate of the sample's average overall cost of capital?

A22. Yes. Consider the following equation to calculate the ATWACC:[8]

$$ATWACC = r_D \times (1 - T_C) \times D + r_E \times E \qquad (1)$$

where r_D = market cost of debt,
r_E = market cost of equity,
T_C = corporate income tax rate,
D = percentage of debt in the capital structure, and
E = percentage of equity in capital structure.

The cost of equity consistent with overall cost of capital estimate (ATWACC), the market cost of debt and equity, the marginal corporate income tax rate and the amount of debt and equity in the capital structure can be determined by solving equation (1) for r_E.

D. THE COMPANY'S REGULATORY CAPITAL STRUCTURE

Q23. What is the basis of the Company's filed regulatory capital structure in this proceeding?

A23. The regulatory capital structure for the Company in this proceeding is based upon the March 31, 2007 consolidated capital structure of its parent company, Dominion

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the *before-tax*, *embedded* cost of debt. Accordingly, in regulatory settings it's useful to refer to the textbook WACC as the "ATWACC," or "after-tax weighted-average cost of capital." I follow that practice here.

[8] Note that this equation assumes that only debt and equity are in the capital structure, but preferred equity can be added to the equation if appropriate.

Resources, Inc. ("DRI").[9] The underlying information supporting the filed capital structure is included in Schedules D-1 to D-4 (revised) which are attached to this testimony as Appendix F.[10] As of March 31, 2007, DRI's consolidated capital structure was approximately 44.8 percent equity, 0.8 percent preferred equity and 54.3 percent debt as shown on Schedule D-1.[11]

Q24. What is the source of the data for the capital structure shown on Schedules D-1 to D-4?

A24. The source of the data is DRI's financial information as published in its Form 10-Q as of March 31, 2007. (See footnote 9.)

Q25. Why is it appropriate to use the Company's parent company's consolidated capital structure in this proceeding?

A25. It is appropriate to use DRI's consolidated capital structure for two reasons: 1) going forward, DRI will provide debt and equity financing for Dominion East Ohio, and 2) in the past, the Commission has favored use of the parent company's consolidate capital structure particularly when the parent is the source of financing for the operating company.

However, the use of the ATWACC approach makes the source of the regulatory capital structure less important than it would be if the return on equity were set without regard to the capital structure, because the recommended return on equity changes as the regulatory capital structure changes in order to maintain a constant ATWACC. Note in particular that using the constant ATWACC approach results in no change in the cost to ratepayers as the capital structure changes.

Q26. What information is provided in Schedules D-1 to D-4?

A26. Schedule D-1 provides the consolidated capital structure and the embedded costs of debt and preferred equity based upon the information in Schedules D-2 to D-4. Schedule D-1

[9] Financial information was obtained from DRI's (unaudited) financial statements as reported in their first quarter 2007 Form 10-Q. More detailed information was also provided directly by DRI.

[10] Schedules D-1 to D-4 attached to this testimony are the revised versions not the versions originally filed.

[11] The percentages do not add to 100 percent due to rounding.

also demonstrates the calculation of the 8.72 percent regulatory weighted-average cost of capital ("WACC") for DEO in this proceeding.[12] The regulatory WACC reflects the weighted-average of the embedded costs of long-term debt and preferred stock as well as the 12 percent return on equity that I recommend using the capital structure percentages as weights.

Q27. Please describe the information contained in Schedules D-2 through D-4.

A27. Schedule D-2 entitled "Embedded Cost of Short-Term Debt," Schedule D-3 entitled "Embedded Cost of Long-Term Debt," and Schedule D-4 entitled "Embedded Cost of Preferred Equity," provide the calculations of the embedded costs of short-term debt, long-term debt and preferred equity, respectively.

Q28. Please comment on the parent company information presented in Section D.

A28. The Standard Filing Requirements for Schedule D-3 quantify the embedded cost of long-term debt by dividing Annual Interest Cost by Carrying Value, which is calculated as:

Carrying Value equals	Face Amount Outstanding
	+ Unamortized (Discount) or Premium
	- Unamortized Debt Expense
	+ Unamortized Gain (Loss) on Reacquired Debt

On Schedule PCD-3, DEO includes additional information that it is subsequently reflected in Schedule PCD-1 to establish the overall rate of return requested by the Company. To be more specific, DEO has added a column for Other Related Unamortized Costs in Schedule PCD-3 that reduces the embedded cost of long-term debt by including the effects of pre-issuance hedge gains or losses, embedded option receipts or payments, and swap termination gains or losses.

By reducing the embedded cost of long-term debt by those effects, the Company passes the benefits of those effects on to ratepayers. However, DOE recognizes that the historical approach taken by the Commission would exclude those effects. As a result,

[12] This is the regulatory weighted-average cost of capital discussed earlier because it is the weighted-average of the *before-tax* cost of debt and the after-tax cost of equity in contrast to the ATWACC, which is based on the weighted average of the after-tax costs of debt and equity.

DEO has understated the embedded cost of long-term debt relative to the approach indicated by the Standard Filing Requirements.

Q29. Has the Commission addressed that approach in prior DEO rate cases?

A29. No. The Company did not include such adjustments in prior applications. As a result, the proposed adjustment has not been before the Commission in previous Dominion rate cases.

Q30. Do you have any other comments on Schedules PCD-3 or PCD-4?

A30. Yes. After submitting the Application, the Company noted that the Other Related Unamortized Cost adjustment for the debt issue noted on line 52 was incorrect. Appendix F to my testimony includes updated PDC Schedules with the data corrected.

In addition to the PCD-3 information, a sign error was noted on Schedule PCD-4, which nominally adjusted the embedded cost of preferred stock. However, the weighted cost for that component of capital was unaffected due to the small portion of the overall capital structure that is comprised of preferred stock. Nonetheless, the updated Schedule D-4 included in Appendix F also incorporates the correction of that error.

III. COST OF CAPITAL METHODOLOGY

Q31. How is this section of your testimony organized?

A31. As noted in Section II, I estimate the cost of capital using a sample of comparable risk companies. This section first outlines the steps involved in selecting the benchmark sample, in determining the market-value capital structures, and in estimating the sample companies' costs of debt. It then turns to the procedures for estimating the cost of equity and describes the two cost of equity estimation methodologies used in this testimony, the DCF method and the risk positioning approach. These are the foundations of my cost of capital calculations which I present in the following section and which I use to derive a recommended cost of equity for DEO at the regulatory capital structure.

A. SAMPLE SELECTION

Q32. What is the goal of the sample selection process?

A32. The goal of the sample selection process is to select companies with comparable business risk to the regulated company. The overall cost of capital for a part of a company depends on the risk of the business in which the part is engaged, not on the overall risk of the parent company on a consolidated basis. According to financial theory, the overall risk of a diversified company equals the market-value-weighted average of the risks of its components.

Estimating the cost of capital for the Company's regulated natural gas distribution assets is the subject of this proceeding. The ideal sample would be a number of publicly traded "pure play" companies that distribute natural gas and have a requirement to serve as providers of last resort (PoLR). "Pure Play" is an investment term referring to companies with operations only in one line of business. Publicly traded firms, firms whose shares are freely traded on stock exchanges, are ideal because the best way to infer the cost of capital is to examine evidence from capital markets on companies in the given line of business.

In this case, a sample of companies whose operations are concentrated solely in the regulated distribution portion of the natural gas industry would be ideal. So, I start with the universe of natural gas distribution utility companies covered by *Value Line*. This resulted in an initial group of 23 companies, to which I added Vectren Corporation because it is often viewed as a natural gas LDC. Companies were first eliminated if their operating regions were outside of the continental USA. I then applied my standard selection criteria to narrow the sample to those companies likely to have reliable cost of equity estimates. This resulted in a benchmark sample of ten companies. Financial characteristics of the sample companies are outlined in Table 1 below. Additional details on the sample selection process are discussed below and in Appendix B.

B. CAPITAL STRUCTURE & THE COST OF DEBT

1. Market-Value Capital Structure

Q33. What capital structure information do you require?

A33. For reasons discussed in Appendix E, explicit evaluation of the market-value capital structures of the sample companies is vital for a correct interpretation of the market evidence on the return on equity. This requires estimates of the market values of common equity, preferred equity and debt, and the current market costs of preferred equity and debt.

Q34. Please describe how you calculate the market values of common equity, preferred equity and debt.

A34. I estimate the capital structure for each sample company by estimating the market values of common equity, preferred equity and debt from the most recent publicly available data. The details are in Appendix B.

Briefly, the market value of common equity is the price per share times the number of shares outstanding. For the risk positioning approach, I use the last five trading days of each year to calculate the market value of equity for the year. I then calculate the average capital structure over the corresponding five-year period used to estimate the "beta" risk measures for the sample companies.[13] This procedure matches the estimated beta to the degree of financial risk present during its estimation period. In the DCF analyses, I use the average closing stock price over the 15 trading days ending on the day that the earnings growth rate forecasts are obtained from Bloomberg.[14]

The market value of debt is estimated at its book value adjusted by the difference between the "estimated fair (market) Value" and the "carrying cost" of long-term debt reported in each company's 10-K.[15] The market value of preferred stock for the samples

[13] *Value Line* uses five years of historical data to estimate its forecasted betas.

[14] Forecasts were obtained on June 11, 2007 for all companies in the sample.

[15] The book value of debt from Bloomberg includes all interest-bearing financial obligations that are not current and includes capitalized leases and mandatory redeemable preferred and trust preferred securities in

is set equal to its book value because the percent of preferred stock in the capital structures of the sample companies is relatively small compared to the debt and common equity components.

2. Market Costs of Debt and Preferred Equity

Q35. How do you estimate the current market cost of debt?

A35. The market cost of debt for each company is set equal to the yield on an index of public utility bonds that have the same credit rating, and the yield is reported by Bloomberg's for an index of public utility company bonds with the same S&P rating. The DCF analyses use the current credit rating whereas the risk positioning analyses use the current yield of a utility bond that corresponds to the five-year average debt rating of each company so as to match consistently the horizon of information used by *Value Line* to estimate company's beta.

Q36. How do you estimate the market cost of preferred equity?

A36. For each company with preferred stock, the cost of preferred equity for each company is set equal to the yield on an index of preferred stock as reported in the Mergent Bond Record[16] corresponding to the S&P rating of that company's debt.

3. Risk-Free Interest Rate Forecast

Q37. What is the risk-free rate?

A37. The risk-free rate is the interest rate that can be earned with certainty. A common measure of this rate is the yield on the government's Treasury bills and bonds. This rate is usually significantly below the rate which other borrowers pay for debt.

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accordance with FASB 150 effective June 2003. See Bloomberg definition of long-term debt for additional detail.

[16] Published monthly, *Mergent's Bond Record* offers a comprehensive review of over 68,000 bond issues including coverage of corporate, government, municipal, industrial development/environmental control revenue and international bonds, plus structured finance and equipment trust issues, medium-term notes, convertible issues, preferred stocks and commercial paper issues.

Q38. How do you obtain the forecasts of the risk-free interest rates over the period the utility rates set here are to be in effect?

A38. I obtain these forecast rates using data provided by Bloomberg. In particular, I use the reported government debt yields from the "constant maturity series". This information is displayed in Panels A and B of Table No. MJV-9.

Q39. What values do you use for the short-term and long-term risk-free interest rates?

A39. I use a value of 4.1 percent for the short-term risk-free interest rate and a value of 5.1 percent for the long-term risk-free interest rate as the benchmark risk-free interest rates in the equity risk premium analyses. The short-term interest rate forecast is constructed by using historical yield curve data to find the long-run average implied maturity term premia on government securities, and combining these with recent yield curve data. Details of their calculation can be found in the Workpapers to Table No. MJV-9.

C. COST OF EQUITY METHODS

Q40. How do you estimate the cost of equity for your sample companies?

A40. Recall the definition of the cost of capital from the outset of my testimony: the expected rate of return in capital markets on alternative investments of equivalent risk. My cost of capital estimation procedures address three key points implied by the definition:

1. Since the cost of capital is an expected rate of return, it cannot be directly observed; it must be inferred from available evidence.

2. Since the cost of capital is determined in capital markets (e.g., the New York Stock Exchange), data from capital markets provide the best evidence from which to infer it.

3. Since the cost of capital depends on the return offered by alternative investments of equivalent risk, measures of the risks that matter in capital markets are part of the evidence that needs to be examined.

Q41. How does the above definition help in cost of capital estimation?

A41. The definition of the cost of capital recognizes a tradeoff between risk and expected return, plotted above in Figure 1, the security market line. Cost of capital estimation

methods take one of two approaches: (1) they try to identify a comparable-risk sample of companies and to estimate the cost of capital directly; or (2) they establish the location of the security market line and estimate the relative risk of the security, which jointly determine the cost of capital. In terms of Figure 1, the first approach focuses directly on the vertical axis, while the second focuses both on the security's position on the horizontal axis and on the position of the security market line.

The first type of approach is more direct, but ignores the wealth of information available on securities not thought to be of precisely comparable risk. The "discounted cash flow" or "DCF" model is an example. The second type of approach, sometimes known as "equity risk premium approach," requires an extra step, but as a result can make use of information on all securities, not just a very limited subset. The Capital Asset Pricing Model ("CAPM") is an example. While both approaches can work equally well if conditions are right, one may be preferable to the other under a given set of circumstances. In particular, approaches that rely on the entire security market line (e.g., the risk positioning model) are less sensitive to deviations from the assumptions that underlie the model, all else equal. In this proceeding, I examine sample evidence from both the DCF and risk positioning models.

1. The Risk Positioning Approach

Q42. Please explain the risk positioning method.

A42. The risk positioning method estimates the cost of equity as the sum of a current interest rate and a company specific risk premium. It is therefore sometimes also known as the "risk premium" approach. This approach may sometimes be applied informally. For example, an analyst or commission may check the spread between interest rates and what is believed to be a reasonable estimate of the cost of capital at one time, and then apply that spread to changed interest rates to get a new estimate of the cost of capital at another time.

More formal applications of the risk positioning approach take full advantage of the security market line depicted in Figure 1: they use information on all securities to

identify the security market line and derive the cost of capital for the individual security based on that security's relative risk. This reliance on the entire security market line makes the method less vulnerable to the kinds of problems that arise for the DCF method, which relies on one stock at a time. The risk positioning approach is widely used and underlies most of the current research published in academic journals on the nature, determinants and magnitude of the cost of capital.

Section I of Appendix C to this testimony provides more detail on the principles that underlie the risk positioning approach. Section II of Appendix C provides the details of the risk positioning approach empirical estimates I obtain.

Q43. How are the "more formal" applications of risk positioning approach implemented?

A43. The first step is to specify the current values of the parameters that determine the security market line. The second is to determine the security's or investment's relative risk. The third is to specify exactly how the parameters combine to produce the security market line, so the company's cost of capital can be calculated based on its relative risk. All of these elements and how they relate are usefully formulated in the framework of the CAPM.

a) The Capital Asset Pricing Model

Q44. Please start with the CAPM, by describing the model.

A44. As noted above, the modern models of capital market equilibrium express the cost of equity as the sum of a risk-free rate and a market risk premium. The CAPM is the longest-standing and most widely used of these theories. The CAPM states that the cost of capital for an investment, *s*, (e.g., a particular common stock) is given by the following equation:

$$k_s = r_f + \beta_s \times MRP \qquad (2)$$

where k_s is the cost of capital for investment *s*; r_f is the risk-free rate, β_s is the beta risk measure for the investment *s*; and *MRP* is the market risk premium.

The CAPM relies on the empirical fact that investors price risky securities to offer a higher expected rate of return than safe securities do. It says that the security market line starts at the risk-free interest rate (that is the return on a zero-risk security, the y-axis intercept in Figure 1, equals the risk-free interest rate). It further says that the risk premium over the risk-free rate equals the product of beta and the risk premium on a value-weighted portfolio of all investments, which by definition has average risk.

b) The Empirical Capital Asset Pricing Model

Q45. What other equity risk premium model do you use?

A45. Empirical research has long shown that the CAPM tends to overstate the actual sensitivity of the cost of capital to beta: low-beta stocks tend to have higher risk premia than predicted by the CAPM and high-beta stocks tend to have lower risk premia than predicted. A number of variations on the original CAPM theory have been proposed to explain this finding, but this finding can also be used to estimate the cost of capital directly, using beta to measure relative risk without simultaneously relying on the CAPM.

The second model makes use of these empirical findings. It estimates the cost of capital with the equation, where α is the "alpha" adjustment of the risk-return line, a constant,

$$k_s = r_f + \alpha + \beta_s \times (MRP - \alpha) \qquad (3)$$

and the other symbols are defined as above. I label this model the Empirical Capital Asset Pricing Model, or "ECAPM." The alpha adjustment has the effect of increasing the intercept but reducing the slope of the security market line in Figure 1, which results in a security market line that more closely matches the results of empirical tests.

Q46. Why is it appropriate for you to use the empirical CAPM?

A46. Although the CAPM is still the most widely used cost of capital estimation model, it has not been completely satisfactory as an empirical model; however, its short-comings are directly addressed by the ECAPM. The ECAPM recognizes the consistent empirical observation that the CAPM underestimates (overestimates) the cost of capital for low (high) beta stocks. In other words, the ECAPM is based on the recognition that the actual

slope of the risk-return tradeoff is flatter than predicted and the intercept higher based upon repeated empirical tests of the CAPM. The alpha parameter (α) in the ECAPM adjusts for this fact. The difference between the CAPM and the type of relationship identified in the empirical studies is depicted in Figure 2.

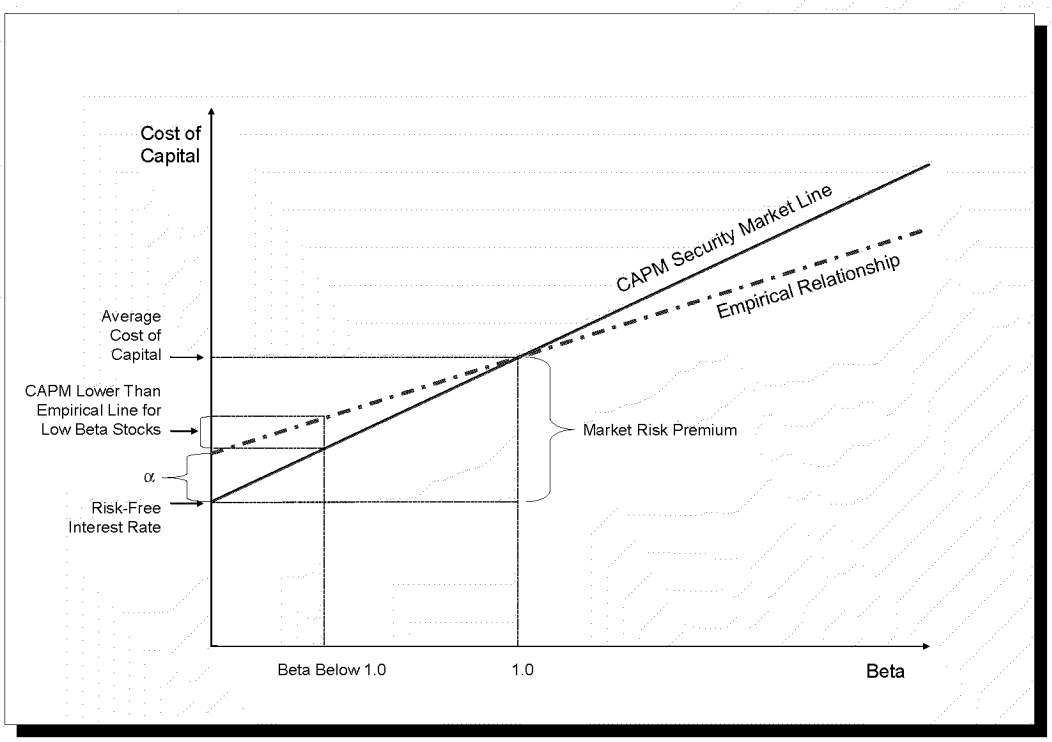

Figure 2: The Empirical Security Market Line

Research supports values for α of one to seven percent when using a short-term interest rate. I use baseline values of α of 2 percent for the short-term risk-free rate and 0.5 percent for the long-term risk-free rate. I also conduct sensitivity tests for different values of α. For the short-term risk-free rate I use values for α of 1, 2 and 3 percent. These α values are lower than would be justified by the magnitude of the correction revealed in the tests of the CAPM. For the long-term risk-free rate, the corresponding α values are 0, 0.5 and 1.5 percent. The use of a long-term risk-free rate incorporates some of the desired effect of using the ECAPM. That is, the long-term risk-free rate version of the security market line has a higher intercept and a flatter slope than the short-term risk-free version which has been extensively tested. Thus, I do not need to make the same degree of refinement when I use the long-term risk-free rate. Please see Table No. MJV-

C1 in Appendix C for a summary of the empirical evidence on the size of the required adjustment necessary to better match the results of the empirical tests.

2. Discounted Cash Flow Method

Q47. Please describe the discounted cash flow approach.

A47. The DCF model takes the first approach to cost of capital estimation, i.e., to attempt to estimate the cost of capital in one step. The method assumes that the market price of a stock is equal to the present value of the dividends that its owners expect to receive. The method also assumes that this present value can be calculated by the standard formula for the present value of a cash flow stream:

$$P = \frac{D_1}{(1+k)} + \frac{D_2}{(1+k)^2} + \frac{D_3}{(1+k)^3} + \cdots + \frac{D_T}{(1+k)^T} \quad (4)$$

where "P" is the market price of the stock; "D_t" is the dividend cash flow expected at the end of period t (i.e., subscript period 1, 2, 3 or T in the equation); "k" is the cost of capital; and "T" is the last period in which a dividend cash flow is to be received. The formula just says that the stock price is equal to the sum of the expected future dividends, each discounted for the time and risk between now and the time the dividend is expected to be received.

Very often, when the DCF is applied in regulatory proceedings, very strong (i.e., unrealistic) assumptions are used that yield a simplification of the standard formula, which then can be rearranged to estimate the cost of capital. Specifically, it is assumed that investors expect a dividend stream that will grow *forever* at a steady rate, and if so, the market price of the stock will be given by a very simple formula,

$$P = \frac{D_1}{(k-g)} \quad (5)$$

where "D_1" is the dividend expected at the end of the first period, "g" is the perpetual growth rate, and "P" and "k" are the market price and the cost of capital, as before. Equation (5) is a simplified version of equation (4) that can be solved to yield the well known "DCF formula" for the cost of capital:

$$k = \frac{D_1}{P} + g$$
$$= \frac{D_0 \times (1+g)}{P} + g \qquad (6)$$

where "D_0" is the current dividend, which investors expect to increase at rate g by the end of the next period, and the other symbols are defined as before. Equation (6) says that if equation (5) holds, the cost of capital equals the expected dividend yield plus the (perpetual) expected future (forever constant) growth rate of dividends. I refer to this as the simple DCF model. Of course, the "simple" model is simple because it relies on very strong (i.e., very unrealistic) assumptions.

Q48. Are there other versions of the DCF models besides the "simple" one?

A48. Yes. The constant growth rate DCF model requires that dividends and earnings grow at the same rate for companies that earn their cost of capital on average.[17] It is inconsistent with the theory on which the model is based to have different growth rates in earnings and dividends over the period when growth is assumed to be constant. If the growth in dividends and earnings were expected to vary over some number of years before settling down into a constant growth period, then it would be appropriate to estimate a multistage DCF model. In the multistage model, earnings and dividends can grow at different rates, but must grow at the same rate in the final, constant growth rate period. A difference between forecasted dividend and earnings rates therefore is a signal that the facts do not fit the assumptions of the simple DCF model.

So, I consider a variant of the DCF model that relies on slightly less strong assumptions in that it allows for varying dividend growth rates in the near term before assuming a perpetual growth rate beginning in year eleven. I use the forecast growth of GDP as the forecast of the long-term growth rate, i.e. year eleven on. This is a "multistage" variant

[17] Why must the two growth rates be equal in a steady-growth DCF model? Think of earnings as divided between reinvestment, which funds future growth, and dividends. If dividends grow faster than earnings, there is less investment and slower growth each year. Sooner or later dividends will equal earnings. At that point, growth is zero because nothing is being reinvested (dividends are constant). If dividends grow slower than earnings, each year a bigger fraction of earnings are reinvested. That makes for ever faster growth. Both scenarios contradict the steady-growth assumption. So if you observe a company with different

of the DCF method. The DCF models are described in detail in Section I.A of Appendix D. (Section II of Appendix D provides the details of my empirical DCF results.)

Q49. What are the merits of the DCF approach?

A49. The DCF approach is conceptually sound if its assumptions are met, but can run into difficulty in practice because those assumptions are so strong[18], and hence so unlikely to correspond to reality. Dividends, earnings and prices are unlikely to grow at a constant rate literally forever. Two conditions are also well known to be necessary for the DCF approach to yield a reliable estimate of the cost of capital: the variant of the present value formula that is used must actually match the variations in investor expectations for the growth of dividends, and the growth rate(s) used in that formula must match current investor expectations. Less frequently noted conditions may also create problems (see Appendix D for details).

Q50. Is estimating the "right" dividend growth rate the most difficult part for the implementation of the DCF approach?

A50. Yes. Finding the right growth rate(s) is the usual "hard part" of a DCF application. The original approach to estimation of *g* relied on average historical growth rates in observable variables, such as dividends or earnings, or on the "sustainable growth" approach, which estimates *g* as the average book rate of return times the fraction of earnings retained within the firm. The use of historical growth rates versus the use of analysts' estimates is frequently the source of heated debated in regulatory proceedings, but it is highly unlikely that these historical averages over periods with widely varying rates of inflation and costs of capital will equal current growth rate expectations. As discussed above, this is particularly true for the natural gas industry at present because of the changes the industry is undergoing as a result of the highly volatile price of gas, the possible imposition new environmental and safety regulations and the emphasis on conservation and demand reduction. The increase in the numbers of mergers and

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expectations for dividend and earnings growth, you know the company's stock price and its dividend growth forecast are inconsistent with the assumptions of the steady-growth DCF model.

[18] In this context "strong" means that the assumption is unlikely to match reality and that it also has a substantial impact on the model's results.

acquisition in the industry adds an additional concern for the applicability of the model to the industry at this time. In addition, the electric industry is a major source of demand for natural gas, and that industry is also undergoing a period of great uncertainty regarding the ultimate structure of the industry. Similar environmental and conservation pressures are affecting the electric industry and the resulting uncertainty of the demand for electricity will have a ripple effect on the natural gas industry. This is not a description of the stable conditions necessary for the reliable implementation of the DCF model.

IV. DEO'S COST OF CAPITAL

A. THE COMPANY'S OPERATIONS AND RISKS

Q51. Please describe the Company's operations in Ohio.

A51. As explained in the testimony of Company witness Jeffrey Murphy, DEO serves approximately 1.2 million customers in over 400 communities in northeastern, southeastern and western Ohio using its over 19,000 miles of pipelines and related distribution, transmission, storage and gathering assets.

B. SAMPLE SELECTION

Q52. How did you select your sample of natural gas LDCs?

A52. The goal was to create a sample of companies whose primary business is as a regulated natural gas LDC with business risk generally similar to that of DEO's operations in Ohio. I considered the universe of 23 companies classified by the *Value Line Investment Survey Plus* as natural gas LDCs, and added Vectren Corporation to my sample because it is often viewed as a natural gas LDC.[19] Vectren is a highly regulated company involved in both gas and electric distribution activities, but more of its regulated assets are invested in the gas distribution operations.[20] This company is also covered by *Value Line*, but is

[19] The 24 companies are from Value Line Investment Survey Plus, June 11, 2007.

[20] Vectren Utility Holdings, Inc.'s 2006 10-K reveals that about 57 percent of its assets are regulated natural gas distribution assets and 37 percent are regulated electric assets. Because it has a substantial amount of regulated electric utility operations, I exclude it from the sub-sample of companies I consider to be the most

classified as an Electric Utility due to its regulated electric operations.[21] I required that the sample companies have a high percentage of assets devoted to the regulated natural gas distribution line of business. I then eliminated companies by applying additional selection criteria designed to remove companies with unique circumstances which may bias the cost of capital estimates.

Specifically, I eliminated all companies whose S&P bond rating as reported by Bloomberg was not investment grade, i.e., less than BBB- or which were not rated. To guard against measurement bias caused by "thin trading," I also restricted the sample to companies with total operating revenues greater than $300 million in 2006 as reported by Bloomberg.[22] Companies that had a large merger during the period January 2004 to June 2007 (i.e., just over the past three years) were also generally removed from the sample, although two companies which would otherwise not survive the process were included since their primary M&A activity occurred in 2004. These two companies were Atmos Energy and AGL Resources, and they were subsequently excluded from the sub-sample of companies I believe to have the fewest data issues. The screen for M&A activity was primarily done by scanning each company's news history on Bloomberg and a search of company web pages.[23] Finally, I required that the companies have historical data available from Bloomberg for the relevant period and had no dividend cuts or restatement of financial statements in the past five years, since the latter can be signs of financial distress and could cause the earnings growth rates or beta estimates to be biased.

The final sample consists of ten gas LDCs, from which I also consider a sub-sample of five companies with the fewest data issues that may affect cost of capital estimates. Table No. MJV-2 reports the estimated share of total assets for each company devoted to

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representative of the natural gas distribution line of business and to be most free of characteristics that may bias cost of equity estimates.

[21] The 23 companies are from *Value Line Investment Survey Plus*, dated June 15, 2007. Vectren's *Value Line* report is dated June 29, 2007.

[22] Data were reviewed during the second week of June 2007.

[23] Company web pages were searched in December 2003 for M&A activities during the 2001-2003 period, in July 2006 for M&A activities during the period 2004 through July 2006, and in December 2006 for the period August through December 2006.

regulated activities in 2006. Additional details on the sample selection process can be found in Appendix B. Some of the financial characteristics of the sample companies are displayed in Table 1 below.

Table 1: Financial Characteristics of the Sample Companies

Company		S&P Business Classification	Revenue (2006) ($MM)	Regulated Utility Assets	Market Cap. (2006) ($MM)	S&P Bond Rating (2007)	Beta	Long-Term Growth Estimate
		[1]	[2]	[3]	[4]	[5]	[6]	[7]
AGL Resources Inc		IE	2,621	R	3,042	A-	0.95	4.46%
Atmos Energy Corp		TD	6,152	MR	2,622	BBB	0.80	5.55%
The Laclede Group Inc	•	TD	1,998	R	753	A	0.90	4.23%
New Jersey Resources Corp		TD*	3,300	R	1,353	A	0.80	4.34%
Northwest Natural Gas Co	•	TD	1,013	R	1,161	AA-	0.75	4.75%
Piedmont Natural Gas Co	•	TD	1,925	MR	2,022	A	0.80	5.40%
South Jersey Industries Inc		TD**	931	R	981	BBB	0.70	6.47%
Southwest Gas Corp	•	IE	2,025	R	1,613	BBB-	0.85	5.46%
Vectren Corp		DI	2,042	R	2,156	A-	0.95	3.47%
WGL Holdings Inc	•	TD	2,638	MR	1,603	AA-	0.85	2.73%
Dominion Resources, Inc.		*DI*	*16,482*	*D*	*29,260*	*BBB*	*1.05*	*6.77%*
Dominion East Ohio		*TD*	*n/a*	*R*	*n/a*	*n/a*	*n/a*	*n/a*

Sources and Notes:

• Company is included in subsample (see discussion).

* Business classification is for New Jersey Natural Gas, the operating subsidiary of New Jersey Resources. A classification for New Jersey Resources Corp. is not currently available.

** Business classification is for South Jersey Gas Co., the regulated natural gas subsidiary of South Jersey Industries Inc. A classification for South Jersey Industries Inc. is not currently available.

[1] TD- Transmission and Distribution (Electric, Gas, Water); IE- Integrated Electric, Gas, and Combination Utilities; DI: Diversified Energy and Diversified Non-Energy; O- Others (Energy Merchants/Power Developers/Trading and Marketing). Source: *U.S. Utility and Power Companies, Strongest to Weakest, June 22, 2007,* published by Standard and Poor's.

[2] Bloomberg as of June 11, 2007.

[3] See Table MJV-2.

[4] See Table MJV-3, Panel's A-J.

[5] Bloomberg as of June 11, 2007.

[6] See Workpaper #1 to Table MJV-10.

[7] See Table MJV-5, column [6].

C. Potential Data Problems with the Sample

Q53. Do you have concerns regarding the data for the gas LDC sample?

A53. Possibly. Although still investment grade, Southwest Gas is at the bottom of the scale of investment grade credit ratings and has a relatively low average equity thickness over the past five years – 41.8 percent compared to 63 percent for the remaining companies. Closer investigation shows that Southwest Gas's capital structure has been shifting rapidly towards equity over the last five years, with a level of about 50 percent over the most recent two years. The Laclede Group's market capitalization of $753 million is a bit smaller than the average of the group, but with revenues of more than $1.9 billion, it is still a large company. South Jersey Industries' revenues are less than $1 billion and smaller than its market capitalization. In 2006, Piedmont Natural Gas restated some portions of its 2003-2005 financial reports. Although this can generally lead to less reliable estimates from the equity estimation models, the restatements were not caused by fraudulent activities but were due to an accounting error in the classification of hedging amounts. This type of reclassification would not be expected to change the value of the firm and prices did not show any erratic behavior in the period surrounding the announcement of this reclassification. As noted earlier, the industry has experienced a sustained level of merger and acquisition activity over the last five years that has implication for the stability of the industry and the actual cash flows that underlie the prices paid for the stocks of these companies.

Due to the concerns with some of the companies in the sample, I also report the results for a sub-sample of the gas LDC sample that consists of companies with no material data issues. Of course, the selection of such a sub-sample does not address possible biases in DCF estimates due to expected cash flows reflected in the stock price but not in the data used to estimate DCF dividends and growth rates; to the contrary, purer play companies may be more attractive targets, which would produce and even greater downward bias in their DCF calculations.

D. Relative Risk of the Sample Compared to DEO

Q54. Could you please summarize the general characteristics of the companies in the sample and those of the Company's operations in Ohio?

A54. Yes. The sample consists of ten gas LDCs with generally similar risk characteristics to those of DEO. Table 2: Risk Characteristics of the Sample companies summarizes information related to the risks of the sample and of the Company's operations in Ohio. Like the Company's operations, they all have some form of gas-cost adjustment clause, which either removes or significantly reduces their exposure to this risk. In their 10-Ks, all sample companies report that they engage in hedging activities to further reduce the risk of large changes in the price of natural gas. Eight of the ten sample companies have weather adjustment clauses, which Dominion East Ohio does not.

I have been informed by DEO that the Company is in the process of transitioning out of the merchant function of purchasing gas for its customers. In the first phase of that process, its gas cost recovery rider is being replaced by a Standard Service Offer with supply acquired through a PUCO-approved auction. However, Dominion remains the Provider of Last Resort if a supplier defaults on its obligation to provide service. As a result, while Dominion's traditional risk of under recovery of gas commodity costs will be reduced, it still faces operational and financial risks associated with that POLR obligation. Dominion also has a bad debt tracker that reduces its exposure to the inability of its customers to pay for service.

As discussed in the direct testimony of Company witness Jeffrey Murphy, Dominion still faces significant risks associated with the overall economic climate and, in particular, the economy within its service territory. Dominion receives considerable revenue from its commercial and industrial base of customers. Much of its industrial base is centered on the steel and automotive sectors, which can readily relocate production elsewhere in North America or offshore and which can face ongoing structural problems given the age of the production facilities.

Unlike many gas LDCs, DEO operates an extensive transmission system, which was affected by the provisions of the Pipeline Safety Improvement Act of 2002 that required

transmission pipeline operators to develop extensive integrity management programs involving substantial O&M and capital expenses. Given the age of its system, DEO will also be heavily impacted by final rules that result from the notice of proposed rulemaking expected from the Department of Transportation's Pipeline and Hazardous Materials Safety Administration regarding distribution pipeline integrity management programs.

Recently enacted Ohio minimum gas service standards pose additional business risk to DEO as they entail increased service levels in a variety of areas ranging from call center response times to appointment scheduling and complaint handling. Even though the Company may not have historically experienced significant problems in providing quality natural gas service, there is uncertainty imposed by the new standards.

DEO is proposing a Sales Reconciliation Rider to address conservation-related impacts on base revenues, which will decouple gas usage from the company's ability to meet its revenue requirements. It does not, however, currently have, nor has it proposed, a weather normalization clause to eliminate the effect of variations from normal weather on its earnings. Gas LDCs throughout the country have received approval to include such clauses in their rates and charges for utility service, which serves to reduce their single largest business risk. By not having such a clause, DEO is at greater risk than many other comparable LDCs in this regard.

Although DEO has begun the process of exiting the traditional regulated merchant function, that transition is far from complete, and the Commission has retained the right to place the company back in its traditional Gas Cost Recovery role if that transition does not go as well as planned. Transitions can sometimes pose more risk than maintaining the status quo. Thus, the Company's risks, which include an ongoing responsibility to act as the provider of last resort, are still substantial and may, in fact, be greater in the short-term than comparable companies that are not undergoing such a dramatic transition. If the transition turns out as expected, DEO will be less risky than the sample on average, but if the transition turns out differently than expected, the Company's business risk may be greater than, not less than, the sample on average.

Table 2: Risk Characteristics of Sample Companies

Company [1]	Fuel Cost Adjustment [2]	Weather Normalization [3]	Fuel Cost Hedging [4]	Storage Facilities [5]	S&P Business Profile [6]
AGL Resources (GA, FL, MD, NJ, TN, VA)	Yes	Yes	D	Co & Int	4
Atmos Energy (GA, KS, KY, LA, TX, MS, TN, VA)	Yes	Yes	D	Co & Int	3
Laclede Group (MO)	Yes	No	D	Co & Int	3
New Jersey Resources (NJ, NY)	Yes	Yes	D	Co & Int	2*
Northwest Natural Gas (WA, OR)	Yes	Yes	D	Co & Int	1
Piedmont Natural Gas (SC, TN, NC)	Yes	Yes	Yes	Co & Int	2
South Jersey Industries (NJ)	Yes	Incentive Program	D	Co & Int	3**
Southwest Gas (AZ, NV, CA)	Yes	Yes	Fix & Var Price	Co	4
Vectren (IN, OH)	Yes	Yes	D	Co	4
WGL Holdings (DC, VA, MD)	Yes	Yes	D	Co & Int	3
Dominion East Ohio (PA, OH, WV)	*Yes*	*No*	*D*	*Co & Int*	*7†*

Sources:
Company 10-K's, 2006.
U.S. Utility and Power Companies, Strongest to Weakest, June 22, 2007, published by Standard and Poor's.

Notes:

† S&P Business profile associated with Dominion Resources Inc. A business profile specific to Dominion's Ohio operations is not available.

[1] States of operation as reported in company 10-K's for significant operations.

[2] Yes indicates a mechanism was reported in company 10-K's, but different mechanisms exist by company and by state. If a mechanism exists, it generally allows for recovery of most prudent costs.

[3] Yes indicates a mechanism was reported in company 10-K's, but different mechanisms exist by company and by state. South Jersey Industries reports participation in a Conservation incentive program.

[4] D - Financial Derivatives Fix & Var Price - Price formulas are used to help mitigate weather risks. As reported in company 10-K's

[5] Co - Company owned Int - Storage capacity on unaffiliated interstate pipelines. Information from company 10-K's.

[6] S&P Business Profile as published on June 22, 2007 in S&P's *U.S. Utility and Power Companies, Strongest to Weakest.* **Profile is for the subsidiary New Jersey Natural Gas.* ***Profile is for the subsidiary South Jersey Gas Co.*

E. COST OF CAPITAL ESTIMATES

Q55. Please summarize the results of the risk positioning and DCF methodologies in estimating the average cost of capital for the benchmark sample and the implications for DEO's cost of equity?

A55. Table 3 summarizes the sample average ATWACCs derived from the risk positioning and DCF models, along with the implied cost of equity for the Company at its filed regulatory capital structure with 44.8 percent equity.

Table 3: Cost of Equity Results

Regulatory Capital Structure: *44.8% Equity / 0.8% Preferred / 54.3% Debt* *2008 Tax Rate* *35.0%*

	METHODS								
	RISK POSITIONING (Long-Term Risk-Free Rate)			RISK POSITIONING (Short-Term Risk-Free Rate)				DCF	
	CAPM	α = 0.5%	α = 1.5%	CAPM	α = 1%	α = 2%	α = 3%	Simple	Multi
[1] **Gas LDC Sample**									
Cost of Equity	12.7%	12.8%	13.0%	13.0%	13.3%	13.5%	13.7%	10.3%	10.7%
Average ATWACC	8.0%	8.1%	8.2%	8.2%	8.3%	8.4%	8.5%	6.9%	7.1%
[2] **Gas LDC Sub-sample**									
Cost of Equity	12.4%	12.5%	12.7%	12.7%	12.9%	13.2%	13.4%	9.9%	10.6%
Average ATWACC	7.9%	7.9%	8.0%	8.0%	8.1%	8.2%	8.3%	6.8%	7.1%

[3] Risk Positioning Security Market Line Parameters:

Long-Term		*Short-Term*		Multi-Stage DCF Parameter:	
Risk-Free Rate Estimate:	5.1%	Risk-Free Rate Estimate:	4.1%	GDP Growth Estimate:	5.1%
Estimated MRP:	6.5%	Estimated MRP:	8.0%		

Sources and Notes:
Risk Positioning data is from Table No. MJV-12 and DCF data is from Table No. MJV-6.
[1],[2] See Tables 1 and 2 above for a summary of the sample and its characteristics.
[3] See Appendix C for details on the Risk Positioning parameters used in the estimates, and Appendix D for the DCF parameters and additional implementation details.

Q56. How did you determine a representative tax rate to use in your cost of capital estimation?

A56. DEO's estimated marginal income tax rate for 2008 was set the Federal corporate tax rate. Ohio does not levy a corporate income tax on regulated utilities.

Q57. How are the cost of equity estimates derived from the risk positioning approach for the benchmark sample?

A57. I derive two sets of risk-positioning estimates, one using long-term forecasts of the risk-free rate and market risk premium, and one using short-term forecasts. My long-term

interest rate forecast is 5.1 percent and the corresponding estimated market risk premium is 6.5 percent. When using the short-term risk-free rate of 4.1 percent, the estimated MRP is 8.0 percent. Details on the derivation of these forecasts can be found in Appendix C.

For each estimated risk-free rate, the two risk positioning models (CAPM and ECAPM) are estimated utilizing the different values of the ECAPM parameter (0.5% and 1.5% for the long-term model and 1%, 2%, and 3% for the short-term model). I therefore obtain three long-term and four short-term estimates of each sample company's cost of equity. The results using the long-term risk-free rate are displayed in Table MJV-10, Panel A, and the results using the short-term risk-free rate are displayed in Table MJV-10, Panel B. Next, the cost of equity estimates are combined with each company's estimated cost of debt and preferred equity to calculate the company's ATWACC using each company's market value capital structure. These calculations and the resulting sample average ATWACCs are presented in Table No. MJV-11. Panels A-C rely on the cost of equity estimates from the long-term version of the model, while Panels D-G utilize the estimates from the short-term version of the model. The sample average ATWACCs and costs of equity at the Company's 44.8 percent equity capital structure for each risk positioning cost of equity estimate are displayed in Table No. MJV-12. These results are summarized in Table 3 above.

Q58. What are the DCF estimates for the benchmark sample?

A58. For each sample company, cost-of-equity estimates are calculated for the two versions of the DCF method, the simple DCF model and multistage DCF model. The DCF estimates for each company are displayed in Table No. MJV-6, Panel A (simple DCF) and Panel B (multistage DCF). The sample and sub-sample average ATWACC for each method is calculated in Table No. MJV-7, and these are used in Table No. MJV-8 to derive the return on equity at the Company's 44.8 percent equity capital structure for each estimation method (see also Table 3 above). Table 3 shows the estimated cost of equity to be 10.3 percent (simple DCF model) and 10.7 percent (multistage DCF model) for the full sample, and 9.9 percent (simple DCF) and 10.6 percent (multistage DCF) for the sub-sample. The estimates from the simple and multistage DCF models are about 2.5 to 3.0

percent lower than the estimates from risk-positioning models, for both the long-term term and short-term versions of the risk positioning model. (See Table 3: Cost of Equity Results above).

V. CONCLUSIONS

Q59. What are your conclusions from the DCF model regarding the cost of equity at the Company's 44.8 percent equity ratio?

A59. The estimated costs of equity from the simple DCF model are somewhat lower than the estimates from the multistage model, and significantly lower than any of the risk positioning model estimates. The simple DCF model relies on company-specific growth rate forecasts, but those forecasts are likely to be downward biased due to concerns about volatile natural gas prices, the series of mergers and acquisitions and potential changes in the industry. The high level of recent mergers and acquisitions is likely to have increased the market prices of the sample companies if investors anticipate potential interest in additional acquisitions in the industry, and earnings growth rates are likely to be affected following a merger as the new company consolidates its operations. Together these factors will tend to reduce the DCF estimates. In addition, the simple DCF results are unreliable because the long-run growth rate forecast drives the results, and there are no objective data on the long-run growth rate investors truly expect, or on when the industry is expected to settle down into some sort of stable-growth equilibrium. The somewhat more reliable multistage DCF estimate, after adjustment for financial risk, is about 10.7 percent which is about 40 to 80 basis points higher than the simple DCF estimates from the full sample and sub-sample, but about 200 to 230 basis points lower than the long-term risk positioning estimates. The multistage model is also affected by the same uncertainties about the industry that make the simple DCF model unreliable at this time. Although I do not put much weight upon the DCF model results in my recommended cost of equity for DEO, I believe that DCF cost capital estimates provide a useful check on the risk positioning results.

Q60. Do you have any comments regarding the results of the risk positioning models?

A60. As noted earlier, the risk positioning results are also summarized in Table 3 above. At this time, the estimated costs of equity for the long-term version of the model are lower than for the short-term version of the model. Of those results, the CAPM values deserve the least weight, because this method does not adjust for the empirical finding that the cost of capital is less sensitive to beta than predicted by the CAPM (which my testimony considers by using the ECAPM). Conversely, the ECAPM numbers deserve the most weight, because this method adjusts for the empirical findings. The cost of equity estimates using the long-term risk free rate and adjusted for a capital structure with a 44.8 percent equity ratio range from 12.7 to 13.0 percent for the full sample, and from 12.4 to 12.7 percent for the sub-sample. For the estimates based upon the short-term risk-free rate, the estimates range from 13.0 to 13.7 percent and from 12.7 to 13.4 percent for the full sample and sub-sample respectively.

The estimates based upon the short-term risk-free rate are about 30 to 70 basis points higher on average than the estimates using the long-term risk-free rate. This is partially due to the fact that the yield curve is currently less steep than it has been historically, i.e., the yield on long-term Treasury bonds only marginally exceeds the yield on short-term Treasury bills. Panel A of Table No. MJV-9 shows that 30-day Treasury bills are currently yielding an average of 4.86 percent compared to only 5.14 percent for long-term Treasury bonds. This 28 basis point difference between the yield on short-term and long-term Treasury securities is unusual. Yields on long-term Treasury bonds have averaged about 150 basis points more than the yields on 30-day Treasury bills over the last 80 years (see Workpaper #1, Panel B to Table No. MJV-9). It should be noted that although the current difference is relatively small by historical standards, it represents a movement towards normalcy from the flat and even "inverted" yield curves observed last year and early this year.

Treasury yields have exhibited a number of unusual behaviors over the past few years in response to a multitude of factors, from the uncertainty after 9/11 and a ballooning U.S. debt and trade deficit (which among other things led to the reintroduction of 30 year Treasury bonds), to a remarkable resiliency of the U.S. economy that continues to

outperform expectations. The yield on short-term Treasury bills reflects the efforts by the Federal Reserve ("Fed") to prevent the rate of inflation from increasing any further, while at the same time providing enough liquidity for economic growth. If the Fed believes that inflation is not yet contained, short-term rates are likely to increase further. On the other hand, if inflation is judged to be under control, short-term rates may decline as fears of recession replace those of inflation. At this time, a great deal of additional uncertainty surrounds the policy that will be followed by the Fed in the near term as a result of a potential deterioration in credit markets and wavering confidence in future economic performance. This fear – triggered by widespread defaults in the U.S. subprime mortgage market and fueled further by negative job growth statistics– may require the Fed to maintain or even lower rates in order to avoid a large order macroeconomic downturn. On the other hand, the Fed does not want to give the appearance that it is bailing out investors who simply realized bad bets in the sub-prime market. As such, it is currently walking a fine line that could tip in either direction as events unfold. Because of this near term uncertainty, I believe that the estimates using the long-term risk-free rate are more reliable at this time.

Q61. Given the results of the two models, what is your conclusion regarding the cost of equity for DEO?

A61. The results for the somewhat more reliable multistage version of the DCF model are an average ATWACC of about 7.1 percent for both the full- and sub-sample, with a corresponding cost of equity of between 10.6 and 10.7 percent, but as noted above, I do not believe that the DCF results are reliable at this time, so I rely primarily on the results from the risk positioning model. At best, the DCF estimates serve as a floor for the estimates of the cost of equity for the Company.

I noted above, I believe that the long-term version of the risk positioning model in more reliable at this time. Focusing on the middle values in Table 3 for the results from the long-term risk positioning model (ECAPM with $\alpha = 0.5$), the average ATWACC is 8.1 percent for the full sample and 7.9 percent for the sub-sample, with corresponding costs of equity estimates of 12.8 percent and 12.5 percent respectively, but I believe that if the ongoing changes in the Company's gas supply acquisition process, the potential exit from

the merchant function and the Sales Reconciliation Rider are fully implemented, the Company will be somewhat less risky than the sample on average.

Considering all of the evidence from both models, the best point estimate for the cost of equity for DEO is 12 percent. This result is about ½ percent lower than the average risk positioning results from the long-term model estimates for the sub-sample, but about 1⅓ percent higher than the multistage DCF estimates. Although I believe the DCF results to be less reliable at this time, I give some weight to the estimates in evaluating the results of the risk positioning. However, it is more correct to say that the estimates from the sample provide a range of values from a low of 11½ percent to a high of 12½ percent. As previously noted, in estimating the cost of equity I round to the nearest ¼ percent (25 basis points) because I do not believe that cost of capital estimates can be made more precisely than that.

Q62. Does this conclude your testimony?

A62. Yes

APPENDIX A

RESUMÉ

MICHAEL J. VILBERT **PRINCIPAL**

Michael Vilbert is an expert in cost of capital, financial planning and valuation who has advised clients on these matters in the context of a wide variety of investment and regulatory decisions. He received his Ph.D. in Financial Economics from the Wharton School of the University of Pennsylvania, an MBA from the University of Utah, an M.S. from the Fletcher School of Law and Diplomacy, Tufts University, and a B.S. degree from the United States Air Force Academy. He joined The Brattle Group in 1994 after a career as an Air Force officer, where he served as a fighter pilot, intelligence officer, and professor of finance at the Air Force Academy.

REPRESENTATIVE CONSULTING EXPERIENCE

- In a securities fraud case, Dr. Vilbert designed and created a model to value the private placement stock of a drug store chain as if there had been full disclosure of the actual financial condition of the firm. He analyzed key financial data and security analyst's reports regarding the future of the industry in order to recreate pro forma balance sheet and income statements under a variety of scenarios designed to establish the value of the firm.

- For pharmaceutical companies rebutting price-fixing claims in antitrust litigation, Dr. Vilbert was a member of a team which prepared a comprehensive analysis of industry profitability. The analysis replicated, tested and critiqued the major recent analyses of drug costs, risks and returns. The analyses helped develop expert witness testimony to rebut allegations of excess profits.

- For an independent electric power producer, Dr. Vilbert created a model that analyzed the reasonableness of rates and costs filed by a natural gas pipeline. The model not only duplicated the pipeline's rates, but it also allowed simulation of a variety of "what if" scenarios associated with cost recovery under alternative time patterns and joint cost allocations. Results of the analysis were adopted by the intervenor group for negotiation with the pipeline.

- For the CFO of an electric utility, Dr. Vilbert developed the valuation model used to support a stranded cost estimation filing. The case involved a conflict between two utilities over the responsibility for out-of-market costs associated with a power purchase contract between them. In addition, he advised and analyzed cost recovery mechanisms

that would allow full recovery of the stranded costs while providing a rate reduction for the company's rate payers.

- Dr. Vilbert has testified as well as assisted in the preparation of testimony and the development of estimation models in numerous cost of capital cases for natural gas pipeline, water utility and electric utility clients before the Federal Energy Regulatory Commission ("FERC") and state regulatory commissions. These have spanned standard estimation techniques (e.g., Discounted Cash Flow and Risk Positioning models). He has also developed and applied more advanced models specific to the industries or lines of business in question, e.g., based on the structure and risk characteristics of cash flows, or based on multi-factor models that better characterize regulated industries.

- Dr. Vilbert has valued several large, residual oil-fired generating stations to evaluate the possible conversion to natural gas or other fuels. In these analyses, the expected pre- and post-conversion station values were computed using a range of market electricity and fuel cost conditions.

- For a major western electric utility, Dr. Vilbert helped prepare testimony that analyzed the prudence of QF contract enforcement. The testimony demonstrated that the utility had not been compensated in its allowed cost of capital for major disallowances stemming from QF contract management.

- Dr. Vilbert analyzed the economic need for a major natural gas pipeline expansion to the Midwest. This involved evaluating forecasts of natural gas use in various regions of the United States and the effect of additional supplies on the pattern of natural gas pipeline use. The analysis was used to justify the expansion before the FERC and the National Energy Board of Canada.

- For a Public Utility Commission in the Northeast, Dr. Vilbert analyzed the auction of an electric utilities purchase power agreements to determine whether the outcome of the auction was in the ratepayers' interest. The work involved the analysis of the auction procedures as well as the benefits to ratepayers of transferring risk of the PPA payments to the buyer.

- Dr. Vilbert led a team tasked to determine whether bridge tolls were "just and reasonable" for a non-profit port authority. Determination of the cost of service for the authority required estimation of the value of the authority's assets using the trended original cost methodology as well as evaluation of the operations and maintenance budgets. Investment costs, bridge traffic information and inflation indices covering a 75 year period were utilized to estimate the value of four bridges and a passenger transit line valued in excess of $1 billion.

- Dr. Vilbert helped a recently privatized railroad in Brazil develop an estimate of its revenue requirements, including a determination of the railroad's cost of capital. He also helped evaluate alternative rate structures designed to provide economic incentives to shippers as well as to the railroad for improved service. This involved the explanation

and analysis of the contribution margin of numerous shipper products, improved cost analysis and evaluation of bottlenecks in the system.

- For a utility in the Southeast, Dr. Vilbert quantified the company's stranded costs under several legislative electric restructuring scenarios. This involved the evaluation of all of the company's fossil and nuclear generating units, its contracts with Qualifying Facilities and the prudence of those QF contracts. He provided analysis concerning the impact of securitizing the company's stranded costs as a means of reducing the cost to the rate payers and several alternative designs for recovering stranded costs.

- For a recently privatized electric utility in Australia, Dr. Vilbert evaluated the proposed regulatory scheme of the Australian Competition and Consumer Commission for the company's electric transmission system. The evaluation highlighted the elements of the proposed regulation which would impose uncompensated asymmetric risks on the company and the need to either eliminate the asymmetry in risk or provide additional compensation so that the company could expect to earn its cost of capital.

- For an electric utility in the Southwest, Dr. Vilbert helped design and create a model to estimate the stranded costs of the company's portfolio of Qualifying Facilities and Power Purchase contracts. This exercise was complicated by the many variations in the provisions of the contracts that required modeling in order to capture the effect of changes in either the performance of the plants or in the estimated market price of electricity.

- Dr. Vilbert helped prepare the testimony responding to a FERC request for further comments on the appropriate return on equity for electric transmission facilities. In addition, Dr. Vilbert was a member of the team that made a presentation to the FERC staff on the expected risks of the unbundled electric transmission line of business.

- Dr. Vilbert and Mr. Frank C. Graves, also of The Brattle Group, prepared testimony evaluating an innovative Canadian stranded cost recovery procedure involving the auctioning of the output of the province's electric generation plants instead of the plants themselves. The evaluation required the analysis of the terms and conditions of the long-term contracts specifying the revenue requirements of the plants for their entire forecasted remaining economic life and required an estimate of the cost of capital for the plant owners under this new stranded cost recovery concept.

- Dr. Vilbert served as the neutral arbitrator for the valuation of a petroleum products tanker. The valuation required analysis of the Jones Act tanker market and the supply and demand balance of the available U.S. constructed tanker fleet.

PRESENTATIONS

"Utility Distribution Cost of Capital," *EEI Electric Rates Advanced Course*, Bloomington, IN, 2002, 2003.

"Issues for Cost of Capital Estimation," with Bente Villadsen, *Edison Electric Institute Cost of Capital Conference*, Chicago, IL, February 2004.

"Not Your Father's Rate of Return Methodology," *Utility Commissioners/Wall Street Dialogue*, NY, May 2004.

"Current Issues in Cost of Capital," *EEI Electric Rates Advanced Course*, Madison, WI, July 2004.

"Cost of Capital Estimation: Issues and Answers," *MidAmerican Regulatory Finance Conference*, Des Moines, IA, April 7, 2005.

"Cost of Capital - Explaining to the Commission - Different ROEs for Different Parts of the Business," *EEI Economic Regulation & Competition Analysts Meeting*, May 2, 2005.

"Current Issues in Cost of Capital," with Bente Villadsen, *EEI Electric Rates Advanced Course*, Madison, WI, 2005.

"Current Issues in Estimating the Cost of Capital," *EEI Electric Rates Advanced Course*, Madison, WI, 2006.

"Revisiting the Development of Proxy Groups and Relative Risk Analysis," Society of Utility and Regulatory Financial Analysts: 39th Financial Forum, April 2007.

ARTICLES

"Flaws in the Proposed IRS Rule to Reinstate Amortization of Deferred Tax Balances Associated with Generation Assets Reorganized in Industry Restructuring," by Frank C. Graves and Michael J. Vilbert, white paper for *Edison Electric Institute* (EEI) to the IRS, July 25, 2003.

"The Effect of Debt on the Cost of Equity in a Regulatory Setting," by A. Lawrence Kolbe, Michael J. Vilbert, Bente Villadsen and The Brattle Group, *Edison Electric Institute*, April 2005.

"Measuring Return on Equity Correctly: Why current estimation models set allowed ROE too low," by A. Lawrence Kolbe, Michael J. Vilbert and Bente Villadsen, *Public Utilities Fortnightly*, August 2005.

"Understanding Debt Imputation Issues," by Michael J. Vilbert, Bente Villadsen and Joseph B. Wharton, *Edison Electric Institute*, forthcoming August 2007.

TESTIMONY

Direct and rebuttal testimony before the Alberta Energy and Utilities Board on behalf of TransAlta Utilities Corporation in the matter of an application for approval of its 1999 and 2000 generation tariff, transmission tariff, and distribution revenue requirement, October 1998.

Direct testimony before the Federal Energy Regulatory Commission on behalf of Central Maine Power in Docket No. ER00-982-000, December 1999.

Direct testimony before the Alberta Energy and Utilities Board on behalf of TransAlta Utilities Corporation for approval of its 2001 transmission tariff, May 2000.

Direct testimony before the Federal Energy Regulatory Commission on behalf of Mississippi River Transmission Corporation in Docket No. RP01-292-000, March 2001.

Written evidence, rebuttal, reply and further reply before the National Energy Board in the matter of an application by TransCanada PipeLines Limited for orders pursuant to Part I and Part IV of the *National Energy Board Act*, Order AO-1-RH-4-2001, May 2001, Nov. 2001, Feb. 2002.

Written evidence before the Public Utility Board on behalf of Newfoundland & Labrador Hydro - Rate Hearings, October 2001.

Direct testimony (with Bill Lindsay) before the Federal Energy Regulatory Commission on behalf of DTE East China, LLC in Docket No. ER02-1599-000, April 2002.

Direct and rebuttal reports before the Arbitration Panel in the arbitration of stranded costs for the City of Casselberry, FL, Case No. 00-CA-1107-16-L, July 2002.

Direct reports before the Arbitration Board for Petroleum products trade in the Arbitration of the Military Sealift Command vs. Household Commercial Financial Services, fair value of sale of the Darnell, October 2002.

Direct testimony and hearing before the Arbitration Panel in the arbitration of stranded costs for the City of Winter Park, FL, In the Circuit Court of the Ninth Judicial Circuit in and for Orange County, FL, Case No. C1-01-4558-39, December 2002.

Direct testimony before the Federal Energy Regulatory Commission on behalf of Florida Power Corporation, dba Progress Energy Florida, Inc. in Docket No. SC03-___-000, March 2003.

Direct report before the Arbitration Panel in the arbitration of stranded costs for the Town of Belleair, FL, Case No. 000-6487-C1-007, April 2003.

Direct and rebuttal reports before the Alberta Energy and Utilities Board in the matter of the Alberta Energy and Utilities Board Act, R.S.A. 2000, c. A-17, and the Regulations under it; in the matter of the Gas Utilities Act, R.S.A. 2000, c. G-5, and the Regulations under it; in the matter of the Public utilities Board Act, R.S.A. 2000, c. P-45, as amended, and the Regulations

under it; and in the matter of Alberta Energy and Utilities Generic Cost of Capital Hearing, Proceeding No. 1271597, July 2003, November 2003.

Written evidence before the National Energy Board in the matter of the National Energy Board Act, R.S.C. 1985, c. N–7, as amended, (Act) and the Regulations made under it; and in the matter of an application by TransCanada PipeLines Limited for orders pursuant to Part IV of the *National Energy Board Act*, for approval of Mainline Tolls for 2004, RH-2-2004, January 2004.

Direct and rebuttal testimony before the Public Service Commission of West Virginia, on Cost of Capital for West Virginia-American Water Company, Case No 04-0373-W-42T, May 2004.

Direct and rebuttal testimony before the Federal Energy Regulatory Commission, on Energy Allocation of Debt Cost for Incremental Shipping Rates for Edison Mission Energy, Docket No. RP04-274-000, December 2004 and March 2005.

Direct testimony before the Arizona Corporation Commission, Cost of Capital for Paradise Valley Water Company, a subsidiary of Arizona-American Water Company, Docket No. WS-01303A-05, May 2005.

Written evidence before the Ontario Energy Board, Cost of Capital for Union Gas Limited, Inc., Docket No. EB-2005-0520, January 2006.

Direct and rebuttal testimony before the Pennsylvania Public Utility Commission, Return on Equity for Metropolitan Edison Company, Docket No. R-00061366 and Pennsylvania Electric Company, Docket No. R-00061367, April 2006 and August 2006.

Expert report in the United States Tax Court, Docket No. 21309-05, 34th Street Partners, DH Petersburg Investment, LLC and Mid-Atlantic Finance, Partners Other than the Tax Matters Partner, Petitioner, v. Commissioner of Internal Revenue, Respondent, July 28, 2006.

Direct and supplemental testimony before the Federal Energy Regulatory Commission, Docket No. ER06-427-003, on behalf of Mystic Development, LLC on the Cost of Capital for Mystic 8 and 9 Generating Plants Operating Under an Reliability Must Run Contract, August 2006 and September 2006.

Direct testimony before the Federal Energy Regulatory Commission, Docket No. ER07-46-000, on behalf of Northwestern Corporation on the Cost of Capital for Transmission Assets, October 2006.

Direct and rebuttal testimony before the Tennessee Regulatory Authority, Case No. 06-00290, on behalf of Tennessee American Water Company, on the Cost of Capital, November, 2006 and April 2007.

Direct testimony before the Public Service Commission of Wisconsin, Docket No. _____, on behalf of Wisconsin Energy Corporation, on the Cost of Capital for Wisconsin Electric Power Company and Wisconsin Gas LLC, May 2007.

Rebuttal testimony before the California Public Utilities Commission, Docket No. A. 07-01-036-39, on behalf of California-American Water Company, on the Cost of Capital, May 2007.

Direct testimony before the Public Utilities Commission of the State of South Dakota, Docket No. NG-07-013, on behalf of NorthWestern Corporation, on the Cost of Capital for NorthWestern Energy Company's natural gas operations in South Dakota, June 2007.

Direct testimony before the Public Utilities Commission of Ohio, Case No. 07-551-EL-AIR, Case No. 07-552-EL-ATA, Case No. 07-553-EL-AAM, and Case No. 07-554-EL-UNC, on behalf of Ohio Edison Company, The Toledo Edison Company, and The Cleveland Electric Illuminating Company, on the cost of capital for the FirstEnergy Company's Ohio electric distribution utilities, June 2007.

Direct testimony before the State Corporation Commission of Virginia on behalf of Virginia Electric and Power Company, on the cost of capital for its southwest coal plant, July 2007.

APPENDIX B

SELECTING THE BENCHMARK SAMPLE AND USE OF MARKET VALUES

I. SAMPLE SELECTION AND THE SAMPLE'S CHARACTERISTICS B-1

II. MARKET VALUE CAPITAL STRUCTURE, COSTS OF DEBT & COSTS OF PREFERRED EQUITY B-4

I. SAMPLE SELECTION AND THE SAMPLE'S CHARACTERISTICS

Q1. How do you select your gas LDC benchmark sample?

A1. To select this sample, I started with the universe of publicly traded natural gas distribution utilities covered by *Value Line Investment Survey Plus*. This resulted in an initial group of 23 companies, to which I added Vectren Corporation because it is often viewed as a natural gas LDC (by Bloomberg, for example). Vectren is involved in both gas and electric distribution activities, but more of its regulated assets are invested in the gas distribution operations.[1] This company is also covered by *Value Line*, but is classified as an Electric Utility due to its regulated electric operations.[2] I then eliminated companies by applying additional selection criteria designed to remove companies with unique circumstances which may bias the cost of capital estimates. The final sample consists of ten gas LDCs, from which I also consider a sub-sample of four companies with the fewest reliability concerns. Table No. MJV-2 reports the estimated range for share of total assets for each company devoted to regulated activities in 2006.

Q2. What are the other selection criteria you applied?

A2. Companies were first eliminated if their operating regions were outside of the continental USA. I then applied my standard selection criteria to narrow the sample to those companies likely to have reliable cost of equity estimates. Specifically, I eliminated all companies whose S&P bond rating as reported by Bloomberg was not investment grade, i.e., less than BBB-, or which were not rated. To guard against measurement bias caused by "thin trading," I also restricted the sample to companies with total operating revenues greater than $300 million (USD) in 2006 as reported by Bloomberg.[3] Companies that

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[1] The 24 companies are from *Value Line Investment Survey Plus*, reviewed June 11, 2007.

[2] Vectren Utility Holdings, Inc.'s 2006 10-K reveals that about 57 percent of its assets are regulated natural gas distribution assets and 37 percent are regulated electric assets. Because it has a substantial amount of regulated electric activity, I exclude it from the sub-sample of companies I consider to be the most representative of the natural gas distribution line of business and to be most free of characteristics that may bias cost of equity estimates.

[3] Data were reviewed during the second week of June 2007.

had a large merger during the period January 2004 to June 2007 (i.e., just over the past three years) were also generally removed from the sample, although two companies which would otherwise not survive the process were included since their primary M&A activity occurred in 2004. These two companies were Atmos Energy and AGL Resources, and they were subsequently excluded from a sub-sample of cleanest companies I also considered as part of my analysis. The screen for M&A activity was primarily done by scanning each company's news history on Bloomberg and a search of company web pages.[4]

Finally, I required that the companies have historical data available from Bloomberg for the relevant period and had no dividend cuts or restatement of financial statements in the past five years, since the latter can be signs of financial distress.

Q3. Please elaborate on how companies were eliminated from your sample.

A3. Five companies were eliminated immediately because they had a less than investment grade bond rating or no bond rating whatsoever. Three more companies -- Cascade Natural Gas Corp, Keyspan Corp, and Southern Union Co – were eliminated for excessive M&A over the past three years.[5] Nicor Inc. was eliminated because it restated earnings for 1999-2001 and because it settled regulatory compliance issues with the Federal Energy Regulatory Commission ("FERC") in 2003.[6] At the time of the restatement, Nicor's price dropped about 50 percent and issues related to the restatement remained unresolved until recently. UGI Corp. was removed because it primarily sells propane, which is not regulated, and four final companies – Chesapeake Utilities Corp, Energy West Inc, EnergySouth Inc, and RGC Resources Inc – were eliminated for low revenues.

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[4] Company web pages were searched in December 2003 for M&A activities during the 2001-2003 period, in July 2006 for M&A activities during the period 2004 through July 2006, and in December 2006 for the period August through December 2006.

[5] Keyspan additionally had recent dividend cuts.

[6] Nicor announced on October 29, 2002 that its earnings for 1999-2001 would be revised downwards by $15-35 million. March 4, 2003, Nicor released its restated earnings for 1999-2001 along with 2002 earnings.

Q4. Are there any issues with the remaining companies in your sample?

A4. Perhaps. Several companies in the sample engage in natural gas marketing activities. Given the turmoil of the energy trading markets, the companies' cost of capital estimates may be more volatile than those of more stable companies. Also, although it is characterized as investment grade, Southwest Gas is at the bottom of the scale of investment grade credit ratings and has a relatively low average equity thickness over the past five years – 42 percent compared to over sixty percent for the remaining companies. Closer investigation shows that Southwest Gas's capital structure has been shifting rapidly towards equity over the last five years, with a level of about 50 percent over the most recent two years. These factors suggest a potential reliability problem for estimates of this company's cost of capital at this time. The Laclede Group and South Jersey Industries Inc have lower than average market caps (within the full sample), but with revenues of more than $1.9 billion and $900 million, respectively, they are still large companies. In 2006, Piedmont Natural Gas restated some portions of its 2003-2005 financial reports. Although this can generally lead to less reliable estimates from the equity estimation models, the restatements were not caused by fraudulent activities but were due to an accounting error in the classification of hedging amounts. This type of reclassification would not be expected to change the value of the firm and prices did not show any erratic behavior in the period surrounding the announcement of this reclassification. A potential concern for the DCF estimates is that the industry has experienced a sustained level of M&A activity over the last five years, which has implications discussed in the body of my testimony and in Appendix D for the reliable application of the DCF model. Due to the concerns with the sample, I also report the results for a sub-sample of the gas LDC sample that consists of companies with no material data issues.

Q5. What companies are in the subsample?

A5. The subsample consists of Laclede Group, Northwest Natural Gas, Piedmont Natural Gas, Southwest Gas, and WGL Holdings. Vectren was eliminated because of its mix of both regulated natural gas and regulated electric operations. Atmos Energy and AGL

Resources were eliminated because of concerns about M&A activities in 2004, and South Jersey Industries was eliminated from the sub-sample because of the accounting restatements. All remaining companies fall into the "Regulated" category and as a group have an average S&P business profile lower (i.e., less risky) than Dominion's overall profile.

II. MARKET VALUE CAPITAL STRUCTURE, COSTS OF DEBT & COSTS OF PREFERRED EQUITY

Q6. What capital structure information do you require?

A6. For reasons discussed in my direct testimony and explained in detail in Appendix E, explicit evaluation of the market-value capital structures of the sample companies versus the capital structure used for rate making is vital for a correct interpretation of the market evidence. This requires estimates of the market values of common and preferred equity and debt, and the current market costs of preferred equity and debt.

Q7. How do you calculate the market-value capital structures of the sample companies?

A7. I estimate the capital structure for each company by estimating the market values of common equity, preferred equity and debt from publicly available data. The calculations are in Panels A to J of Table No. MJV-3.

The market value of equity is straightforward: the price per share times the number of shares outstanding. The market value of preferred is set equal to its book value because the portion of the capital structure financed with preferred equity is generally small. The market value of debt is estimated at the book value of debt reported by Bloomberg plus or minus the difference in the estimated fair (market) value and book value of long-term debt as reported in the companies' 10-Ks or annual reports.[7]

[7] See Panels A through J in Table No. MJV-3 for details. The adjustment relies on the difference between the companies' self-reported fair value of long-term debt and the carrying value of the same line items. This information was obtained from the sample companies' annual reports.

For purposes of assessing financial risk to common shareholders, I add an adjustment for short-term debt to the debt portion of the capital structure. This adjustment is used only for those companies whose short-term (current) liabilities exceed their short-term (current) assets. I add an amount equal to the minimum of the difference between short-term liabilities and short-term assets or the amount of short-term debt. The reason for this adjustment is to recognize that when current liabilities exceed current assets, a portion of the companies long-term assets are being financed, in effect, by short-term debt.

The market value capital structure is calculated to be consistent with the time period over which the cost of capital is estimated for the sample. The capital structure is determined over the historical period over which the relevant risk positioning parameters were determined and as of the date analysts provide forward looking growth forecasts. Therefore, Table No. MJV-3 reports the market value capital structure at year end for the years ending 2002 – 2006, and as of the first quarter in 2007. The output of these tables is the market equity-to-value, debt-to-value, and preferred equity-to-value ratios. The overall cost of capital calculation for the risk positioning estimates samples rely on the average of the market value capital structure computed for the years 2002 through 2006 as shown in Table No. MJV-4. The results in columns [1]-[3] are used in the DCF model calculations, while columns [4]-[6] are for the risk positioning models.

Q8. How do you estimate the current market cost of preferred equity?

A8. For companies with preferred equity, the cost of preferred equity for each company was set equal to the yield on an index of preferred stock as reported in the Mergent Bond Record corresponding to the S&P rating of that company's debt. The yields from Mergent were as of May 2007. In general, the average amount of preferred equity in the sample companies' capital structures is very small and frequently zero. No company has more than two percent preferred on average.[8]

[8] Dominion Resources, Inc. holds 0.8 percent preferred equity in its capital structure.

Q9. How do you estimate the current market cost of debt?

A9. The market cost of debt for each company in the DCF analysis is the current yield reported by Bloomberg for a public utility company bond corresponding to the sample company's current debt rating as classified by S&P. The risk positioning analysis, on the other hand, uses the current yield of a utility bond that corresponds to the five-year average debt rating of each company so as to match consistently the horizon of information used by *Value Line* to estimate company betas. The current S&P debt ratings were obtained from Bloomberg.

Bloomberg reports that as of June 11, 2007, the average yield on A-rated Public Utility bonds was 6.23 percent, and 6.43 percent on average for BBB-rated Public Utility bonds.[9] (See Panel C of Workpaper #1 to Table No. MJV-11 for the yields on utility bonds and preferred stock by credit rating.) As discussed in the main body of the Testimony, calculation of the after-tax cost of debt uses the projected marginal tax rate of 35 percent.

[9] All companies in the sample are either BBB, AA, or A. The yield on AA-rated utility bonds is calculated as the yield on A-rated utility bonds minus ½ times the spread between the yield on BBB and A rated utility bonds.

APPENDIX C

RISK POSITIONING METHODOLOGY AND EMPIRICAL RESULTS

I. EQUITY RISK PREMIUM METHODOLOGY 1

A. THE BASIC EQUITY RISK PREMIUM MODEL 1

B. MARKET RISK PREMIUM 3

C. RELATIVE RISK 9

D. INTEREST RATE FORECAST 13

E. COST OF CAPITAL MODELS 13

II. EMPIRICAL EQUITY RISK PREMIUM RESULTS 15

A. RISK-FREE INTEREST RATE FORECAST 16

B. BETAS AND THE MARKET RISK PREMIUM 16

1. Beta Estimation Procedures 16

2. Market Risk Premium Estimation 16

C. COST OF CAPITAL ESTIMATES 17

Q1. What is the purpose of this appendix?

A1. This appendix reviews the principles behind the risk positioning methodologies, describes the estimation of the parameters used in the models, and details the cost of capital estimates obtained from these methodologies. This appendix intentionally repeats portions of my direct testimony, because I want the reader to be able to have a full discussion of the issues addressed here, rather than having to continually turn back to the corresponding section of the testimony.

I. EQUITY RISK PREMIUM METHODOLOGY

Q2. How is this section of the appendix organized?

A2. It first reviews the basic nature of the equity risk premium approach. It then discusses the individual components of the model: the benchmark risk premium, the relative risk of the company or line of business in question, the appropriate interest rate, and the combination of these elements in a particular equity risk premium model.

A. THE BASIC EQUITY RISK PREMIUM MODEL

Q3. How does the equity risk premium model work?

A3. The equity risk premium approach estimates the cost of equity as the sum of a current interest rate and a risk premium. (It therefore is sometimes also known as the "risk premium" or the "risk positioning" approach.)

This approach may sometimes be applied informally. For example, an analyst or a commission may check the spread between interest rates and what is believed to be a reasonable estimate of the cost of capital at one time, and then apply that spread to changed interest rates to get a new estimate of the cost of capital at another time.

More formal applications of equity risk premium method implement the second approach to cost of capital estimation. They use information on all securities to identify the security market line (Figure 1 in the body of the testimony) and derive the cost of capital

for the individual security based on that security's relative risk. This equity risk premium approach is widely used and underlies most of the current scholarly research on the nature, determinants and magnitude of the cost of capital.

Q4. How are "more formal applications" put into practice?

A4. The essential benchmarks that determine the security market line are the risk-free interest rate and the premium that a security of average risk commands over the risk-free rate. This premium is commonly referred to as the "market risk premium" ("MRP"), i.e., the excess of the expected return on the average common stock over the risk-free interest rate. In the equity risk premium approach the risk-free interest rate and MRP are common to all securities. A security-specific measure of relative risk (beta) is estimated separately and combined with the MRP to obtain the company-specific risk premium.

In principle, there may be more than one factor affecting the expected stock return, each with its own security-specific measure of relative risk and its own benchmark risk premium. For example, the "arbitrage pricing theory" and other "multi-factor" models have been proposed in the academic literature. These models estimate the cost of capital as the sum of a risk-free rate and several security-specific risk premia. However, none of these alternative models has emerged in practice as "the" improvement to use instead of the original, single-factor model. I use the traditional single-factor model in this testimony.

Accordingly, the required elements in my formal equity risk premium approach are the market risk premium, an objective measure of relative risk, the risk-free rate that corresponds to the measure of the market risk premium, and a specific method to combine these elements into an estimate of the cost of capital.

B. MARKET RISK PREMIUM

Q5. Why is a risk premium necessary?

A5. Experience (e.g., the U.S. market's October Crash of 1987) demonstrates that shareholders, even well diversified shareholders, are exposed to enormous risks. By investing in stocks instead of risk-free Government bills, investors subject themselves not only to the risk of earning a return well below those they expected in any year but also to the risk that they might lose much of their initial capital. This is why investors demand a risk premium.

I estimate two versions of the Capital Asset Pricing Model ("CAPM"). The first version measures the market risk premium as the risk premium of average risk common stocks over the long-term risk-free rate. The second version measures the risk premium relative to a short-term risk-free rate, which is the usual measure of the "market risk premium" used in capital market theories.

Q6. Please discuss some of the issues involved in selecting the appropriate MRP?

A6. To determine the cost of capital in a regulatory proceeding, the MRP should be used with a forecast of the same interest rate used to calculate the MRP (i.e., the short-term Treasury bill rate or the long-term Government rate). For example, it would be inconsistent to utilize a short-term risk-free with an estimate of the MRP derived from comparisons to long-term interest rates. In addition, the appropriate measure of the MRP should be based upon the arithmetic mean not the geometric mean return.[1] The arithmetic mean is the simple average while the geometric mean is the compound rate of return between two periods.

Q7. How do you estimate the MRP?

A7. There is presently little consensus on "best practice" for estimating the MRP, which does not mean that each approach is equally valid. For example, the latest edition of the

[1] See, for example, Morningstar, Stocks, Bonds, Bills, and Inflation: Valuation Edition 2007 Yearbook, pp. 75-77.

leading graduate textbook in corporate finance, after recommending use of the arithmetic average realized excess return on the market for many years (which for a while was noticeably over 9 percent), now reviews the current state of the research and expresses the view that the a range between 5 to 8 percent is reasonable for the U.S.[2,3]

My written testimony considers both the historical evidence and the results of scholarly studies of the factors that affect the risk premium for average-risk stocks in order to estimate the benchmark risk premium investors currently expect. I consider the historical difference in returns between the Standard and Poor's 500 Index ("S&P 500") and the risk-free rate, recent academic literature on the MRP and the results of recent surveys to estimate the market risk premium.

Q8. Please summarize the recent literature on the MRP and the conclusions you draw from it?

A8. Some recent research based upon U.S. data challenges the conventional wisdom of using the arithmetic average historical excess returns to estimate the MRP. However, after reviewing the issues in the debate, I remain skeptical for several reasons that the market risk premium has declined in the U.S. as much as is claimed in some of the literature.

First, despite eye-catching claims like "equity risk premium as low as three percent,"[4] and "the death of the risk premium,"[5] not all recent research arrives at the same conclusion. In his presidential address to the American Finance Association in 2001, Professor Constantinides seeks to estimate the unconditional equity premium based on

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[2] Richard A. Brealey, Stewart C. Myers, and Franklin Allen, *Principles of Corporate Finance*, McGraw-Hill, 8th edition, 2006, pp. 151-154.

[3] In past editions, the authors expressed the view that they are "most comfortable" with values toward the upper end of that range, but this language does not appear in the 8th edition. Although Professor Myers still holds this view, this language and other sections were dropped to accommodate a request to reduce the length of the text.

[4] Claus, J. and J. Thomas, (2001), "Equity Risk Premium as Low as Three Percent: Evidence from Analysts' Earnings Forecasts for Domestic and International Stocks," *Journal of Finance* 56:1629-1666.

[5] Arnott, R. and R. Ryan, (2001), "The Death of the Risk Premium," *Journal of Portfolio Management* 27(3):61-84.

average historical stock returns.[6] (Note that this address was based upon evidence just before the major fall in market value.) He adjusts the average returns downward by the change in price-earnings ratio because he assumes no change in valuations in an unconditional state. His estimates for 1926 to 2000 and 1951 to 2000 are 8.0 percent and 6.0 percent, respectively, over the 3-month T-bill rate. In another published study in 2001, Professors Harris and Marston use the DCF method to estimate the market risk premium for the U.S. stocks.[7] Using analysts' forecasts to proxy for investors' expectation, they conclude that over the period 1982-1998 the MRP over the *long-term* risk-free rate is 7.14 percent. As yet another example, the paper by Drs. Ibbotson and Chen (2003) adopts a supply side approach to estimate the forward looking long-term sustainable equity returns and equity risk premium based upon economic fundamentals. Their equity risk premium over the *long-term* risk-free rate is estimated to be 3.97 percent in geometric terms and 5.90 percent on an arithmetic basis. They conclude their paper by stating that their estimate of the equity risk premium is "far closer to the historical premium than being zero or negative."[8]

Second, Professor Ivo Welch surveyed a large group of financial economists in 1998 and 1999. The average of the estimated MRP was 7.1 percent in Prof. Welch's first survey and 6.7 percent in his second survey which was based on a smaller number of individuals. However, a more recent survey[9] by Prof. Welch reported only a 5.5 percent MRP.[10] In characterizing these results Prof. Welch notes that "[T]he equity premium consensus

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[6] Constantinides, G.M. (2002), "Rational Asset Prices," *Journal of Finance* 57:1567-1591.

[7] Robert S. Harris and Felicia C. Marston, "The Market Risk Premium: Expectational Estimates Using Analysts' Forecasts," *Journal of Applied Finance* 11 (1) 6-16, 2001.

[8] Ibbotson, R. and P. Chen (2003), "Stock Market Returns in the Long Run: Participating in the Real Economy," *Financial Analyst Journal*, 59(1):88-98. Cited figures are on p. 97.

[9] Ivo Welch (2000), "Views of Financial Economists on the Equity Premium and on Professional Controversies," *Journal of Business*, 73(4):501-537. The cited figures are in Table 2, p. 514.

[10] Ivo Welch (2001), "The Equity Premium Consensus Forecast Revisited," School of Management at Yale University working paper. The cited figure is in Table 2.

forecast of finance and economics professors seems to have dropped during the last 2 to 3 years, a period with low realized equity premia."[11]

The above quotation from Prof. Welch emphasizes the caution that must attend survey data even from knowledgeable survey participants: the outcome is likely to change quickly with changing market circumstances. Regulatory commissions should not, in my opinion, attempt to keep pace with such rapidly changing opinions.

Third, some of the evidence for negative or close to zero market risk premium simply does not make sense. Despite the relatively high valuation levels, stock returns remain much more volatile than Treasury bond returns. I am not aware of any empirical or theoretical evidence showing that investors would rationally hold equities and not expect to earn a positive risk premium for bearing their higher risk.

Fourth, I am unaware of a convincing theory for why the future MRP should have substantially declined. At the height of the stock market bubble in the U.S., many claimed that the only way to justify the high stock prices would be if the MRP had declined dramatically,[12] but this argument was heard less frequently after the market declined substantially from its tech bubble high. All else equal, a high valuation ratio such as price-earnings ratio implies a low required rate of return, hence a low MRP. However, there is considerable debate about whether the high level of stock prices (despite the burst of the internet bubble from its high in the summer of 2000) represents the transition to a new economy or is simply an "irrational exuberance," which cannot be sustained for the long term. If the former case is true, then the MRP may have decreased permanently. Conversely, the long-run MRP may remain the same even if expected market returns in the short-term are smaller.

[11] *Ibid*, p. 8.

[12] See Robert D. Arnott and Peter L. Bernstein, "What Risk Premium is 'Normal'?," *Financial Analysts Journal* 58:64-85, for an example.

Another common argument for a lower expected MRP is that the U.S. experienced very remarkable growth in the 20th century that was not anticipated at the start of the century. As a result, the average realized excess return is overestimated meaning the standard method of estimating the MRP would be biased upward. However, one recent study by Profs. Jorion and Goetzmann finds, under some simplifying assumptions, that the so-called "survivorship bias" is only 29 basis points.[13] Furthermore, "[I]f investors have overestimated the equity premium over the second half of the last century, Constantinides (2002) argues that 'we now have a bigger puzzle on our hands' Why have investors systematically biased their estimates over such a long horizon?"[14]

To sum up the above, I cite two passages from Profs. Mehra and Prescott's review of the theoretical literature on equity premium puzzle:[15]

> Even if the conditional equity premium given current market conditions is small, and there appears to be general consensus that it is, this in itself does not imply that it was obvious either that the historical premium was too high or that the equity premium has diminished.
>
> In the absence of this [knowledge of the future], and based on what we currently know, we can make the following claim: over the long horizon the equity premium is likely to be similar to what it has been in the past and the returns to investment in equity will continue to substantially dominate that in T-bills for investors with a long planning horizon.

Q9. Is there other scholarly support for the conclusion?

A9. Yes. Another line of research was pursued by Steven N. Kaplan and Richard S. Ruback. They estimate the market risk premium in their article, "The Valuation of Cash Flow

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[13] Jorion, P., and W. Goetzmann (1999), "Global Stock Markets in the Twentieth Century," *Journal of Finance* 54:953-980. Dimson, Marsh, and Staunton (2003) make a similar point when they comment on the equity risk premia for 16 countries based on returns between 1900 and 2001: "While the United States and the United Kingdom have indeed performed well, compared to other markets there is no indication that they are hugely out of line." p.4.

[14] Mehra, R., and E.C. Prescott (2003), "The Equity Premium in Retrospect," in *Handbook of the Economics of Finance*, Edited by G.M. Constantinides, M. Harris and R. Stulz, Elsevier B.V, p. 926

[15] *Ibid*, p. 926.

Forecasts: An Empirical Analysis."[16] Professors Kaplan and Ruback compare published cash flow forecasts for management buyouts and leveraged recapitalization over the 1983 to 1989 period against the actual market values that resulted from these transactions. One of their results is an estimate of the market risk premium over the long-term Treasury bond yield that is based on careful analysis of actual major investment decisions, not realized market returns. Their median estimate is 7.78 percent and their mean estimate is 7.97 percent.[17] This is considerably higher than my estimate of 6.5 percent. Even if the maturity premium of Treasury bonds over Treasury bills were only 1 percent, well below the best estimate of 1.5 percent the resulting estimate of the market risk premium over Treasury bills is higher than my estimate of 8.0 percent.

Q10. In addition to the scholarly articles and survey evidence you discussed in Section I of your Direct Testimony, what other evidence do you consider to estimate the MRP?

A10. I also consider the long-run realized equity premia reported in Morningstar *SBBI Valuation Edition 2007 Yearbook*. The data provided cover the period 1926 through 2006. The results are discussed below.

Q11. What is the "long-run realized risk premium" in the U.S.?

A11. From 1926 to 2006, the full period reported, Morningstar's data show that the average premium of stocks over Treasury bills is 8.6 percent. I also examine the "post-War" period. The risk premium for 1947-2006 is 8.4 percent.[18] (I exclude 1946 because its economic statistics are heavily influenced by the War years; e.g., the end of price controls yielded an inflation rate of 18 percent. It is not really a "post-War" year, from an economic viewpoint.) These averages often change slightly when another year of data is added to the Ibbotson series. The average premium of stocks over the income returns on

[16] *Journal of Finance*, 50, September 1995, pp. 1059-1093.

[17] *Ibid*, p. 1082.

[18] Morningstar, SBBI Valuation Edition 2007 Yearbook, Appendix A.

long-term Government bonds is 7.1 percent for the 1926 to 2006 period and 7.1 for the 1947 to 2006 period.

Recently there has been a great deal of academic research on the MRP. This research has put practitioners in a dilemma: there is nothing close to a consensus about how the MRP should be estimated, but a general agreement in the academic community seems to be emerging that the old approach of using the average realized return over long periods gives too high an answer.

Q12. What is your conclusion regarding the MRP?

A12. Estimation of the MRP remains controversial. There is no consensus on its value or even how to estimate it. Given a careful review of all of the information, I estimate the risk premium for average risk stocks to be 8.0 percent over Treasury bills and 6.5 percent over long-term Government bonds.

C. RELATIVE RISK

Q13. How do you measure relative risk?

A13. The risk measure I examine is the "beta" of the stocks in question. Beta is a measure of the "systematic" risk of a stock — the extent to which a stock's value fluctuates more or less than average when the market fluctuates. It is the most commonly used measure of risk in capital market theories.

Q14. Please explain beta in more detail.

A14. The basic idea behind beta is that risks that cannot be diversified away in large portfolios matter more than those that can be eliminated by diversification. Beta is a measure of the risks that *cannot* be eliminated by diversification.

Diversification is a vital concept in the study of risk and return. (Harry Markowitz won a Nobel Prize for work showing just how important it was.) Over the long run, the rate of return on the stock market has a very high standard deviation, on the order of 15 - 20 percent per year. But many individual stocks have much higher standard deviations than

this. The stock market's standard deviation is "only" about 15 - 20 percent because when stocks are combined into portfolios, some of the risk of individual stocks is eliminated by diversification. Some stocks go up when others go down, and the average portfolio return — positive or negative — is usually less extreme than that of individual stocks within it.

In the limiting case, if the returns on individual stocks were completely uncorrelated with one another, the formation of a large portfolio of such stocks would eliminate risk entirely. That is, the market's long-run standard deviation would be not 15-20 percent per year, but virtually zero.

The fact that the market's actual annual standard deviation is so large means that, in practice, the returns on stocks are correlated with one another, and to a material degree. The reason is that many factors that make a particular stock go up or down also affect other stocks. Examples include the state of the economy, the balance of trade, and inflation. Thus some risk is "non-diversifiable". Single-factor equity risk premium models derive conditions in which all of these factors can be considered simultaneously, through their impact on the market portfolio. Other models derive somewhat less restrictive conditions under which several of them might be individually relevant.

Again, the basic idea behind all of these models is that risks that cannot be diversified away in large portfolios matter more than those that can be eliminated by diversification, because there are a large number of large portfolios whose managers actively seek the best risk-reward tradeoffs available. Of course, undiversified investors would like to get a premium for bearing diversifiable risk, but they cannot.

Q15. Why not?

A15. Well-diversified investors compete away any premium rates of return for diversifiable risk. Suppose a stock were priced especially low because it had especially high diversifiable risk. Then it would seem to be a bargain to well diversified investors. For example, suppose an industry is subject to active competition, so there is a large risk of

loss of market share. Investors who held a portfolio of all companies in the industry would be immune to this risk, because the loss on one company's stock would be offset by a gain on another's stock. (Of course, the competition might make the whole industry more vulnerable to the business cycle, but the issue here is the diversifiable risk of shifts in market share among firms.)

If the shares were priced especially low because of the risk of a shift in market shares, investors who could hold shares of the whole industry would snap them up. Their buying would drive up the stocks' prices until the premium rates of return for diversifiable risk were eliminated. Since all investors pay the same price, even those who are not diversified can expect no premium for bearing diversifiable risk.

Of course, substantial non–diversifiable risk remains, as the October Crash of 1987 demonstrates. Even an investor who held a portfolio of all traded stocks could not diversify against that type of risk. Sensitivity to such market–wide movements is what beta measures. That type of sensitivity, whether considered in a single- or multi-factor model, determines the risk premium in the cost of equity.

Q16. What does a particular value of beta signify?

A16. By definition, a stock with a beta equal to 1.0 has average non-diversifiable risk: it goes up or down by 10 percent on average when the market goes up or down by 10 percent. Stocks with betas above 1.0 exaggerate the swings in the market: stocks with betas of 2.0 tend to fall 20 percent when the market falls 10 percent, for example. Stocks with betas below 1.0 are less volatile than the market. A stock with a beta of 0.5 will tend to rise 5 percent when the market rises 10 percent.

Q17. How is beta measured?

A17. The usual approach to calculating beta is a statistical comparison of the sensitivity of a stock's (or a portfolio's) return to the market's return. Many investment services report betas, including Merrill Lynch's quarterly Security Risk Evaluation, Bloomberg and the *Value Line Investment Survey*. Betas are not always calculated the same way, and

therefore must be used with a degree of caution, but the basic point that a high beta indicates a risky stock has long been widely accepted by both financial theorists and investment professionals.

Q18. Are there circumstances when the "usual approach to calculating beta" should not be used?

A18. There are at least two cases where the standard estimate of beta should be viewed skeptically.

First, companies in serious financial distress seem to "decouple" from their normal sensitivity to the stock market. The stock prices of financially distressed companies tend to change based more on individual news about their particular circumstances than upon overall market movements. Thus, a risky stock could have a low estimated beta if the company was in financial distress. Other circumstances that may cause a company's stock to decouple include an industry restructuring or major changes in a company's supply or output markets.

Second, similar circumstances seem to arise for companies "in play" during a merger or acquisition. Once again, the individual information about the progress of the proposed takeover is so much more important for that stock than day-to-day market fluctuations that, in practice, beta estimates for such companies seem to be too low.

Q19. How reliable is beta as a risk measure?

A19. Scholarly studies have long confirmed the importance of beta for a stock's required rate of return. It is widely regarded as the best single risk measure available. The merits of beta seemed to have been challenged by widely publicized work by Professors Eugene F. Fama and Kenneth R. French.[19] However, despite the early press reports of their work as signifying that "beta is dead," it turns out that beta is still a potentially important

[19] See for example, "The Capital Asset Pricing Model: Theory and Evidence", Eugene F. Fama and Kenneth R. French, *Journal of Economic Perspectives*, Volume 18, Summer 2004, pp. 25-46.

explanatory factor (albeit one of several) in their work. Thus, beta remains alive and well as the best single measure of relative risk.

D. INTEREST RATE FORECAST

Q20. What interest rates do your procedures require?

A20. Modern capital market theories of risk and return use the short-term risk-free rate of return as the starting benchmark. My measures of the MRP incorporate this approach, since they represent the excess of the expected return on the market over the 30-day U.S. Treasury bill rate and over the long-term U.S. Government bond rate. Accordingly, implementation of my procedures requires use of a forecast of the 30-day Treasury bill rate and the long-term Government bond rate.

E. COST OF CAPITAL MODELS

Q21. How do you combine the above components into an estimate of the cost of capital?

A21. By far the most widely used approach to estimation of the cost of capital is the "Capital Asset Pricing Model," and I do calculate CAPM estimates. However, the CAPM is only one equity risk premium approach technique, and I also use another.

Q22. Please start with the CAPM, by describing the model.

A22. As noted above, the modern models of capital market equilibrium express the cost of equity as the sum of a risk-free rate and a risk premium. The CAPM is the longest-standing and most widely used of these theories. The CAPM states that the cost of capital for investment *s* (e.g., a particular common stock) is given by the following equation:

$$k_s = r_f + \beta_s \times MRP \qquad \textbf{(C-1)}$$

where k_s is the cost of capital for investment *s*; r_f is the risk-free rate, β_s is the beta risk measure for the investment *s*; and *MRP* is the market risk premium.

The CAPM relies on the empirical fact that investors price risky securities to offer a higher expected rate of return than safe securities do. It says that the security market line starts at the risk-free interest rate (that is, that the return on a zero-risk security, the y-axis intercept in Figure 1 in the body of my testimony, equals the risk-free interest rate). Further, it says that the risk premium over the risk-free rate equals the product of beta and the risk premium on a value-weighted portfolio of all investments, which by definition has average risk.

Q23. What other equity risk premium approach model do you use?

A23. Empirical research has long shown that the CAPM tends to overstate the actual sensitivity of the cost of capital to beta: low-beta stocks tend to have higher risk premia than predicted by the CAPM and high-beta stocks tend to have lower risk premia than predicted. A number of variations on the original CAPM theory have been proposed to explain this finding. The difference between the CAPM and the type of relationship identified in the empirical studies is depicted in Figure MJV-C1.

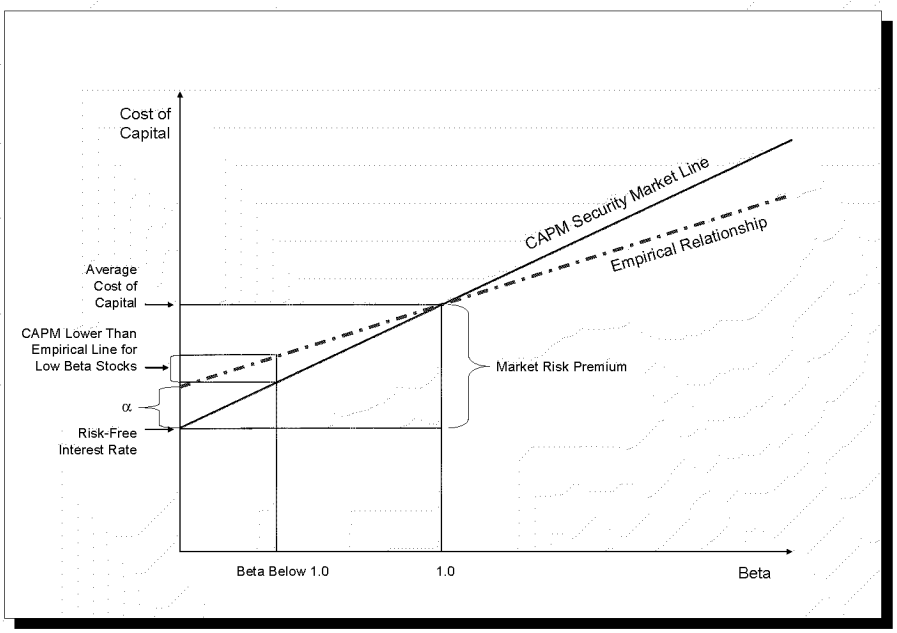

Figure MJV-C1: The Empirical Security Market Line

The second model makes use of these empirical findings. It estimates the cost of capital with the equation,

$$k_s = r_f + \alpha + \beta_s \times (MRP - \alpha) \quad \textbf{(C-2)}$$

where α is the "alpha" of the risk-return line, a constant, and the other symbols are defined as above. I label this model the Empirical Capital Asset Pricing Model, or "ECAPM." For the short-term risk-free rate models, I set alpha equal to 1, 2, and 3 percent which are values somewhat lower than that estimated empirically. For low-beta stocks such as regulated utilities, the use of a lower value for alpha leads to a lower estimate of the cost of capital. For the long-term risk-free rate models, I set alpha equal to both 0.5 percent and 1.5 percent, but I rely more heavily on the 0.5 percent results. The use of a long-term risk-free rate incorporates some of the desired effect of using the ECAPM. That is, the long-term risk-free rate version of the Security Market Line has a higher intercept and a flatter slope than the short-term risk-free version which has been tested. Thus, it is likely that I do not need to make the same degree adjustment when I use the long-term risk-free rate. A summary of the empirical evidence on the magnitude of alpha is provided in Table No. MJV-C1 below.

II. EMPIRICAL EQUITY RISK PREMIUM RESULTS

Q24. How is this part of the appendix organized?

A24. This section presents the full details of my equity risk premium approach analyses, which are summarized in the body of my testimony. Details behind the forecasts of the short-term and the long-term risk-free interest rates are discussed. Next, the beta estimates, and the estimates of the MRP I use in the models are addressed. Finally, this section reports the CAPM and ECAPM results for the sample's costs of equity, and then describes the results of adjusting for differences between the benchmark sample and Dominion's regulated capital structure.

A. RISK-FREE INTEREST RATE FORECAST

Q25. How do you obtain the forecasts of the risk-free interest rates over the period the utility rates set here are to be in effect?

A25. I obtain these forecast rates using data provided by Bloomberg. In particular, I use their reported government debt yields from the "constant maturity series". This information is displayed in Panels A and B of Table No. MJV-9.

Q26. What values do you use for the short-term and long-term risk-free interest rates?

A26. I use a value of 4.1 percent for the short-term risk-free interest rate and a value of 5.1 percent for the long-term risk-free interest rate as the benchmark interest rates in the equity risk premium analyses. These forecasts are constructed by using historical yield curve data to find the long-run average implied term premia on government securities, and combining these with recent yield curve data. Details of their calculation can be found in the Workpapers to Table No. MJV-9.

B. BETAS AND THE MARKET RISK PREMIUM

1. Beta Estimation Procedures

Q27. How do you estimate beta?

A27. I use the beta estimates reported in the *Value Line* for the sample companies. The current *Value Line* beta estimates range from 0.70 to 0.95 for the benchmark sample (See Workpaper #1 to Table No. MJV-10).

2. Market Risk Premium Estimation

Q28. Given all of the evidence, what MRP do you use in your analysis?

A28. It is clear that market return information is volatile and difficult to interpret, but based on the collective evidence, the MRP I use for the short-term risk-free rate is 8 percent and for the long-term risk-free rate is 6.5 percent.

C. Cost Of Capital Estimates

Q29. Based on these data, what are the values you calculate for the overall cost of capital and the corresponding cost of equity for the sample?

A29. Panels A and B of Table No. MJV-10 present the cost of equity results using the equity risk positioning methods. Panel A uses the long-term risk-free rate forecast while Panel B uses the short-term risk-free rate forecast. These returns on equity are replicated and the overall cost of capital for the various equity risk positioning methods are reported in Table No. MJV-11, Panels A to G. Panels A through C utilize the long-term risk-free rate while Panels D through G use the short-term risk free rate. Panel A reports the cost of capital estimates using the CAPM results for the long-term risk-free rate, while Panels B and C report these estimates for the ECAPM cost of equity results using ECAPM parameters of 0.5 and 1.5 percent, respectively. Panel D reports the CAPM estimates using the short-term risk free rate, while Panels E, F and G report ECAPM results using ECAPM parameters of 1, 2 and 3 respectively. In each panel, column [8] reports the overall cost of capital for each company. The last row of each panel reports the sample average.

Q30. What does the sample market data imply about the sample's cost of equity at Dominion's proposed 44.8 percent equity ratio?

A30. The sample average ATWACC from each panel of Table No. MJV-11 is reproduced in column [1] of Table No. MJV-12, which then reports the cost of equity for each of the risk positioning methods that is consistent with the sample information and Dominion's proposed capital structure. The sample average ATWACCs and corresponding costs of equity at a 44.8 percent equity ratio are also displayed in Table 3 of my testimony.

I discuss the implications of the equity risk positioning results for the sample in the main body of my testimony.

Table MJV-C1

EMPIRICAL EVIDENCE ON THE ALPHA FACTOR IN ECAPM*

AUTHOR	RANGE OF ALPHA	PERIOD RELIED UPON
Black (1993)[1]	1% for betas 0 to 0.80	1931-1991
Black, Jensen and Scholes (1972)[2]	4.31%	1931-1965
Fama and McBeth (1972)	5.76%	1935-1968
Fama and French (1992)[3]	7.32%	1941-1990
Litzenberger and Ramaswamy (1979)[4]	5.32%	1936-1977
Litzenberger, Ramaswamy and Sosin (1980)	1.63% to 3.91%	1926-1978
Pettengill, Sundaram and Mathur (1995)[5]	4.6%	1936-1990

*The figures reported in this table are for the longest estimation period available and, when applicable, use the authors' recommended estimation technique. Many of the articles cited also estimate alpha for sub-periods and those alphas may vary.

[1]Black estimates alpha in a one step procedure rather than in an un-biased two-step procedure.

[2]Estimate a negative alpha for the subperiod 1931-39 which contain the depression years 1931-33 and 1937-39.

[3]Calculated using Ibbotson's data for the 30-day treasury yield.

[4]Relies on Lizenberger and Ramaswamy's before-tax estimation results. Comparable after-tax alpha estimate is 4.4%.

[5]Pettengill, Sundaram and Mathur rely on total returns for the period 1936 through 1990 and use 90-day treasuries. The 4.6% figure is calculated using auction averages 90-day treasuries back to 1941 as no other series were found this far back.

Sources:

Black, Fischer. 1993. Beta and Return. *The Journal of Portfolio Management* 20 (Fall): 8-18.

Black, F., Michael C. Jensen, and Myron Scholes. 1972. The Capital Asset Pricing Model: Some Empirical Tests, from Studies in the theory of Capital Markets. In *Studies in the Theory of Capital Markets*, edited by Michael C. Jensen, 79-121. New York: Praeger.

Fama, Eugene F. and James D. MacBeth. 1972. Risk, Returns and Equilibrium: Empirical Tests. *Journal of Political Economy* 81 (3): 607-636.

Fama, Eugene F. and Kenneth R. French. 1992. The Cross-Section of Expected Stock Returns. *Journal of Finance* 47 (June): 427-465.

Litzenberger, Robert H. and Krishna Ramaswamy. 1979. The Effect of Personal Taxes and Dividends on Capital Asset Prices, Theory and Empirical Evidence. *Journal of Financial Economics* XX (June): 163-195.

Litzenberger, Robert H. and Krishna Ramaswamy and Howard Sosin. 1980. On the CAPM Approach to Estimation of a Public Utility's Cost of Equity Capital. *The Journal of Finance* 35 (2): 369-387.

Pettengill, Glenn N., Sridhar Sundaram and Ike Mathur. 1995. The Conditional Relation between Beta and Returns. *Journal of Financial and Quantitative Analysis* 30 (1): 101-116.

APPENDIX D

DISCOUNTED CASH FLOW METHODOLOGY:

DETAILED PRINCIPLES AND RESULTS

I. DISCOUNTED CASH FLOW METHODOLOGY PRINCIPLES 1

A. SIMPLE AND MULTI-STAGE DISCOUNTED CASH FLOW MODELS 1

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C. DIVIDEND AND PRICE INPUTS 12

D. COMPANY-SPECIFIC DCF COST OF CAPITAL ESTIMATES 12

Q1. What is the purpose of this appendix?

A1. This appendix reviews the principles behind the discounted cash flow or "DCF" methodology and the details of the cost of capital estimates obtained from this methodology.

I. DISCOUNTED CASH FLOW METHODOLOGY PRINCIPLES

Q2. How is this section of the appendix organized?

A2. The first part discusses the general principles that underlie the DCF approach. The second portion describes the strengths and weaknesses of the DCF model and why it is generally less reliable for estimating the cost of capital for the sample companies at the present time than the risk positioning method discussed in Appendix C.

A. SIMPLE AND MULTI-STAGE DISCOUNTED CASH FLOW MODELS

Q3. Please summarize the DCF model.

A3. The DCF model takes the first approach to cost of capital estimation discussed with Figure 1 in Section II-A of my direct testimony. That is, it attempts to measure the cost of equity in one step. The method assumes that the market price of a stock is equal to the present value of the dividends that its owners expect to receive. The method also assumes that this present value can be calculated by the standard formula for the present value of a cash flow stream:

$$P = \frac{D_1}{(1+k)} + \frac{D_2}{(1+k)^2} + \frac{D_3}{(1+k)^3} + \cdots + \frac{D_T}{(1+k)^T} \qquad \textbf{(D-1)}$$

where "P" is the market price of the stock; "D_i" is the dividend cash flow expected at the end of period i; "k" is the cost of capital; and "T" is the last period in which a dividend cash flow is to be received. The formula just says that the stock price is equal to the sum of the expected future dividends, each discounted for the time and risk between now and the time the dividend is expected to be received.

Most DCF applications go even further, and make very strong (*i.e.*, unrealistic) assumptions that yield a simplification of the standard formula, which then can be rearranged to estimate the cost of capital. Specifically, if investors expect a dividend stream that will grow forever at a steady rate, the market price of the stock will be given by a very simple formula,

$$P = \frac{D_1}{(k-g)} \qquad \textbf{(D-2)}$$

where "D_1" is the dividend expected at the end of the first period, "g" is the perpetual growth rate, and "P" and "k" are the market price and the cost of capital, as before. Equation D-2 is a simplified version of Equation D-1 that can be solved to yield the well known "DCF formula" for the cost of capital:

$$\begin{aligned} k &= \frac{D_1}{P} + g \\ &= \frac{D_0 \times (1+g)}{P} + g \end{aligned} \qquad \textbf{(D-3)}$$

where "D_0" is the current dividend, which investors expect to increase at rate g by the end of the next period, and the other symbols are defined as before. Equation D-3 says that if Equation D-2 holds, the cost of capital equals the expected dividend yield plus the (perpetual) expected future growth rate of dividends. I refer to this as the simple DCF model. Of course, the "simple" model is simple because it relies on very strong (*i.e.*, very unrealistic) assumptions.

Q4. Are there other versions of the DCF models besides the "simple" one?

A4. Yes. If Equation D-2 and its underlying assumptions do not hold, sometimes other variations of the general present value formula, Equation D-1, can be used to solve for k in ways that differ from Equation D-3. For example, if there is reason to believe that investors do *not* expect a steady growth rate forever, but rather have different growth rate forecasts in the near term (e.g., over the next five or ten years as compared with subsequent periods), these forecasts can be used to specify the early dividends in

Equation D-1. Once the near-term dividends are specified, Equation D-2 can be used to specify the share price value at the end of the near-term (e.g., at the end of five or ten years), and the resulting cash flow stream can be solved for the cost of capital using Equation D-1.

More formally, the "multi-stage" DCF approach solves the following equation for k:

$$P = \frac{D_1}{(1+k)} + \frac{D_2}{(1+k)^2} + \frac{D_3}{(1+k)^3} + \cdots + \frac{D_T + P_{TERM}}{(1+k)^T} \quad \textbf{(D-4)}$$

The terminal price, P_{TERM} is estimated as

$$P_{TERM} = \frac{D_{T+1}}{(k - g_{LR})} \quad \textbf{(D-5)}$$

where T is the last of the periods in which a near term dividend forecast is made and g_{LR} is the long-run growth rate. Thus, Equation D-4 defers adoption of the very strong perpetual growth assumptions that underlie Equation D-2 — and hence the simple DCF formula, Equation D-3 — for as long as possible, and instead relies on near term knowledge to improve the estimate of k. I examine both simple and multi-stage DCF results below.

Q5. What are the merits of the DCF model?

A5. The DCF approach is conceptually sound only if its assumptions are met. In actual practice one can run into difficulty because those assumptions are so strong, and hence so unlikely to correspond to reality. Two conditions are well-known to be necessary for the DCF approach to yield a reliable estimate of the cost of capital: the variant of the present value formula, Equation D-1, that is used must actually match the variations in investor expectations for the dividend growth path; and the growth rate(s) used in that formula must match current investor expectations. Less frequently noted conditions may also create problems.

The DCF model assumes that investors expect the cost of capital to be the same in all future years. Investors may not expect the cost of capital to be the same, which can bias the DCF estimate of the cost of capital in either direction.

The DCF model only works for companies for which the standard present value formula works. The standard formula does *not* work for companies that operate in industries or markets options (*e.g.*, puts and calls on common stocks), and so it will not work for companies whose stocks behave as options do. Option-pricing effects will be important for companies in financial distress, for example, which implies the DCF model will *understate* their cost of capital, all else equal.

In recent years even the most basic DCF assumption, that the market price of a stock in the absence of growth options is given by the standard present value formula (*i.e.*, by Equation D-1 above), has been called into question by a literature on market volatility.[1] In any case, it is still too early to throw out the standard formula, if for no other reasons than that the evidence is still controversial and no one has offered a good replacement. But the evidence suggests that it must be viewed with more caution than financial analysts have traditionally applied. Simple models of stock prices may not be consistent with the available evidence on stock market volatility.

Q6. Normally DCF debates center on the right growth rate. What principles underlie that choice?

A6. Finding the right growth rate(s) is indeed the usual "hard part" of a DCF application. The original approach to estimation of g relied on average historical growth rates in

[1] See for example, Robert J. Shiller (1981), "Do Stock Prices Move Too Much to be Justified by Subsequent Changes in Dividends?," *The American Economic Review*, Vol. 71, No. 3, pp. 421-436. John Y. Campbell and Robert J. Shiller (1988), "The Dividend-Price Ratio and Expectations of Future Dividends and Discount Factors," *The Review of Financial Studies*, Vol. 1, No. 3, pp. 195-228. Lucy F. Ackert and Brian F. Smith (1993), "Stock Price Volatility, Ordinary Dividends, and Other Cash Flows to Shareholders," *Journal of Finance*, Vol. 48, No. 1, pp. 1147-1160. Eugene F. Fama and Kenneth R. French (2001), "Disappearing Dividends: Changing Firm Characteristics or Lower Propensity to Pay?," *Journal of Financial Economics*, Vol. 60, pp. 3-43. Borja Larrain and Motohiro Yogo (2005), "Does Firm Value Move Too Much to be Justified by Subsequent Changes in Cash Flow?," Federal Reserve Bank of Boston, *Working Paper*, No. 05-18.

observable variables, such as dividends or earnings, or on the "sustainable growth" approach, which estimates *g* as the average book rate of return times the fraction of earnings retained within the firm. But it is highly unlikely that historical averages over periods with widely varying rates of inflation, interest rates and costs of capital, such as in the relatively recent past, will equal current growth rate expectations. A better approach is to use the growth rates currently expected by investment analysts, if an adequate sample of such rates is available. If this approach is feasible and if the person estimating the cost of capital is able to select the appropriate version of the DCF formula, the DCF method should yield a reasonable estimate of the cost of capital for companies not in financial distress and without material option-pricing effects (always subject to recent concerns about the applicability of the basic present value formula to stock prices as well as issues of optimism bias). However, for the DCF approach to work, the basic stable-growth assumption must become reasonable and the underlying stable-growth rate must become determinable *within the period for which forecasts are available*.

Most cost of capital experts rely on earnings growth rate forecasts, not dividend growth rates, for several reasons. First, although the model is derived from dividend growth rates, the more fundamental parameter is earnings growth because dividends are paid from earnings. Second, analyst forecasts of dividend growth rates are generally not available, but earnings growth forecasts are. Third, a better approach than relying on historical information is to use the growth rates currently expected by investment analysts, if an adequate sample of such rates is available. Analysts' forecasts are superior to time series forecasts based upon single variable historical data as has been documented and confirmed extensively in academic research.[1] If this approach is feasible and if the person

[1]Lawrence D. Brown and Michael S. Rozeff (1978), "The Superiority of Analysts Forecasts as Measures of Expectations: Evidence from Earnings," *Journal of Finance*, Vol. XXXIII, No. 1, pp. 1-16. J. Cragg and B.G. Malkiel (1982), *Expectations and the Structure of Share Prices*, National Bureau of Economic Research, University of Chicago Press. R.S. Harris (1986), "Using Analysts' Growth Forecasts to Estimate Shareholder Required Rates of Return," *Financial Management*, Spring Issue, pp. 58-67. J. H. Vander Weide and W. T. Carleton (1988), "Investor Growth Expectations: Analysts vs. History," *Journal of Portfolio Management*, Spring, pp. 78-82. T. Lys and S. Sohn (1990), "The Association Between Revisions of Financial Analysts Earnings Forecasts and Security Price Changes," *Journal of Accounting and Economics*, vol 13, pp. 341-363.

estimating the cost of capital is able to select the appropriate version of the DCF formula, the DCF method should yield a reasonable estimate of the cost of capital for companies not in financial distress and without material option-pricing effects. However, for the DCF approach to work, the basic stable-growth assumption must become reasonable and the underlying stable-growth rate must become determinable *within the period for which forecasts are available*.

Q7. What is the so called "optimism bias" in the earnings growth rate forecasts of security analysts and what is its effect on the DCF analysis?

A7. Optimism bias is related to the observed tendency for analysts to forecast earnings growth rates that are higher than are actually achieved. This tendency to over estimate growth rates is perhaps related to incentives faced by analysts that provide rewards not strictly based upon the accuracy of the forecasts. To the extent optimism bias is present in the analysts' earnings forecasts; the cost of capital estimates from the DCF model would be too high.

Q8. Does optimism bias mean that the DCF estimates are completely unreliable?

A8. No. The effect of optimism bias is least likely to affect DCF estimates for large, rate regulated companies in relatively stable segments of an industry. Furthermore, the magnitude of the optimism bias (if any) for regulated companies is not clear. This issue is addressed in a paper by Chan, Karceski, and Lakonishok (2003)[2] who sort companies on the basis of the size of the I/B/E/S forecasts to test the level of optimism bias. Utilities constitute 25 percent of the companies in lowest quintile, and by one measure the level of optimism bias is 4 percent. However, the 4 percent figure does not represent the complete characterization of the results in the paper. Table IX of the paper shows that the median I/B/E/S forecast for the first (lowest) quintile averages 6.0 percent. The realized "Income before Extraordinary Items" is 2.0 percent (implying a four percent

[2] L. K.C. Chan, J. Karceski, and J. Lakonishok, 2003, "The Level and Persistence of Growth Rates," *Journal of Finance* 58(2):643-684.

upward bias in I/B/E/S forecasts), but the "Portfolio Income before Extraordinary Items" is 8.0 percent (implying a two percent downward bias in I/B/E/S forecasts).

The difference between the "Income before Extraordinary Items" and "Portfolio Income before Extraordinary Items" is whether individual firms or a portfolio are used in estimating the realized returns. The first is a simple average of all firms in the quintile while the second is a market value weighted-average. Although both measures of bias have their own drawbacks according to the authors,[3] the Portfolio Income measure gives more weight to the larger firms in the quintile such as regulated utilities. In addition, the paper demonstrates that "analysts' forecasts as well as investors' valuations reflect a wide-spread belief in the investment community that many firms can achieve streaks of high growth in earnings."[4] Therefore, it is not clear how severe the problem of optimism bias may be for regulated utilities or even whether there is a problem at all.

Finally, the two-stage DCF model also adjusts for any over optimistic (or pessimistic) growth rate forecasts by substituting the long-term GDP growth rate for the 5-year growth rate forecasts of the analysts in the years beginning in year 11. I linearly trend the 5-year forecast growth rate to the GDP forecast growth rate in years 6 to 10.

Q9. What about the reforms by the National Associate of Security Dealers (NASD) that were designed to reduce the conflicts of interest and pressures brought against security analysts? Have those reforms been generally successful?

A9. Yes. The conclusion from the Joint Report by NASD and the New York Stock Exchange ("NYSE") on the reforms states

> …the SRO Rules have been effective in helping restore integrity to research by minimizing the influences of investment banking and promoting transparency of other potential conflicts of interest. Evidence

[3] Chan, Karceski, and Lakonishok, *op. cit.*, p. 675.

[4] Chan, Karceski, and Lakonishok, *op. cit.*, p. 663.

> also suggests that investors are benefiting from more balanced and accurate research to aid their investment decisions.[5]

The report does note additional reforms are advisable, but the situation is far different today than during the height of the tech bubble when analyst objectivity was clearly suspect.

B. CONCLUSIONS ABOUT DCF

Q10. Please sum up the implications of this part of the appendix.

A10. The unavoidable questions about the DCF model's strong assumptions — whether the basic present value formula works for stocks, whether option pricing effects are important for the company, whether the right variant of the basic formula has been found, and whether the true growth rate expectations have been identified — cause me to view the DCF method as *inherently* less reliable than equity risk premium approach, the other approach I use. However, because the DCF method has been widely used in the past and in other forums when the industry's economic conditions were different from today's, I submit DCF evidence in this case. DCF estimates also serve as a check on the values provided by the risk positioning approach methods.

II. EMPIRICAL DCF RESULTS

Q11. How is this part of the appendix organized?

A11. This section presents the details of my DCF analyses for the sample, which are summarized in my written testimony. The first part describes some preliminary matters, such as the calculation of market value capital structures of the sample companies and the determination of the growth rates. It then turns to the details of the DCF estimates themselves.

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[5] Joint Report by NASD and NYSE on the Operation and Effectiveness of the Research Analyst Conflict of Interest Rules, December 2005, p. 44.

In particular, implementation of the simple DCF models described above requires an estimate of the current price, the dividend, and near-term and long-run growth rate forecasts. The simple DCF model relies only on a single growth rate forecast, while the multistage DCF model employs both near-term individual company forecasts and long-run GDP growth rate forecasts. The remaining parts of this section describe each of these inputs in turn.

A. PRELIMINARY MATTERS

Q12. In Appendix C you discuss estimating cost of capital and implied cost of equity using the risk positioning methodology. What, if anything, is different when you use the DCF method?

A12. First, the timing of the market value capital structure calculations is different in the DCF method than in the equity risk premium method. The equity risk premium method relies on the average capital structure over the five-year period *Value Line* uses to estimate beta while the DCF approach uses only current data, so the relevant market value capital structure measure is the most recent that can be calculated. This capital structure is reported in columns [1]-[3] of Table No. MJV-4.

B. GROWTH RATES

Q13. What growth rates do you use?

A13. For reasons discussed above, historical growth rates are generally unreliable as forecasts of current investor expectations. I therefore use rates forecasted by security analysts.

The ideal in a DCF application would be a detailed forecast of future dividends, year by year well into the future, based on a large sample of investment analysts' expectations. I know of no source of such data. Dividends are ultimately paid from earnings, however, and earnings forecasts are available for a few years. Investors do not expect dividends to grow in lockstep with earnings, but for companies for which the DCF approach can be used reliably (*i.e.*, for relatively stable companies whose prices do not include the option-like values described previously), they do expect dividends to track earnings over the

long-run. Thus, use of earnings growth rates as a proxy for expectations of dividend growth rates is a common practice.

Accordingly, the first step in my DCF analysis is to examine a sample of investment analysts' forecasted earnings growth rates. In particular, I utilize Bloomberg's BEst and *Value Line's* forecasted earnings growth.[6] The projected earnings growth rates for the sample companies are in Table No. MJV-5. Column [1] reports Bloomberg's BEst analysts' forecasts of the long-term earnings growth for the sample companies. Column [2] reports the number of analysts that provided a forecast. Columns [3] and [4] report *Value Line's* forecasted earnings per share ("EPS") value for each company for 2007 and 2010-2012 respectively. Column [5] provides *Value Line's* implied long-term growth rate forecast, and column [6] provides a weighted average growth rate for each company across the two sources. (I treat the *Value Line* forecasts as though they overlap exactly with the forecasts from Bloomberg.) These growth rates underlie my simple and multi-stage DCF analyses.

In particular, the five-year average annual growth rate is the perpetual growth rate I employ in the simple DCF model.[7] In the multi-stage model, I rely on the company-specific growth rate until 2012 and on the long-term GDP forecast for year 2018 onwards. During the years from 2013 to 2017, I assume the growth rate converges linearly towards the long-term GDP forecast.[8]

Q14. Do these growth rates correspond to the ideal you mentioned above?

A14. No, not completely. While forecasted growth rates are the quantity required in principle, the forecasts need to go far enough out into the future so that it is reasonable to believe that investors expect a stable growth path afterwards. As can be seen from Table No. MJV-5, the growth rate estimates do not support the view that investors are expecting

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[6] The BEst growth rates were downloaded from Bloomberg on June 11, 2007. *Value Line* numbers are their most recent available, variously dated June 15, 2007 or June 29, 2007. (See Table No. MJV-5.)

[7] This growth rate is in column [6] of Table No. MJV-5.

[8] I use the long-term U.S. GDP growth estimate from *Blue Chip Economic Indicators* (March 10, 2007).

growth rates equal to the single perpetual growth rate assumed in the simple DCF model. For example, Vectren and WGL Holdings have growth rate estimates of 3.5 percent and 2.7 percent respectively, while South Jersey Industries Inc's estimate is 6.5 percent (see column [6], Table No. MJV-5).

It should be noted that there are at least two analyst estimates for all of the sample companies, though The Laclede Group has only two. The comparison between the average growth rate forecasts and the growth in GDP forecast indicates that these growth rates may be under-stated for some gas companies.

Q15. How well are the conditions needed for DCF reliability met at present?

A15. The requisite conditions for the sample companies are not fully met at this time. Of particular concern for this proceeding is the uncertainty about what investors truly expect the long-run outlook for the sample companies to be. The longest time period available for growth rate forecasts of which I am aware is five years. The long-run growth rate (*i.e.*, the growth rate after the energy industry settles into a steady state, which is certainly *beyond* the next five years for this industry) drives the actual results one gets with the DCF model. Unfortunately, this implies that unless the company or industry in question is stable – so there is little doubt as to the growth rate investors expect – DCF results in practice can end up being driven by the subjective judgment of the analyst who performs the work.

Such circumstances imply that a regulator may often be faced with a wide range of DCF numbers, none of which can be well grounded in objective data on true long-run growth expectations, *because no such objective data now exist*. DCF for firms or industries in flux is *inherently* subjective with regard to a parameter (the long-run growth rate) that drives the answer one gets.

C. DIVIDEND AND PRICE INPUTS

Q16. What values do you use for dividends and stock prices?

A16. Dividends are the last recorded dividend payments as reported by Bloomberg, the 1st-quarter 2007 dividend. This dividend is grown at the estimated growth rate and divided by the price described below to estimate the dividend yield for the simple and multi-stage DCF models.

For the sample calculations, stock prices are the average of the closing stock prices for the 15 trading days (approximately three weeks) ending June 11, 2007 for each company, the same date growth rate estimates were pulled from Bloomberg. I do not use a longer period to measure the price, because that would be inconsistent with the principles that underlie the DCF formula. The DCF approach assumes the stock price is the present value of future expected dividends. Stock prices six months or a year ago reflect expectations at that time, which are different from those that underlie the currently available growth forecasts. At the same time, use of an average over a brief period helps guard against a company's price on a particular day price being unduly influenced by mistaken information, differences in trading frequency, and the like.

The closing stock price is used because it is at least as good as any other measure of the day's outcome, and may be better for DCF purposes. In particular, if there were any single price during the day that would affect investors' decisions to buy or sell a stock, I would suspect that it would be each day's closing price, not the high or low during the day. The daily price changes reported in the financial pages, for example, are from close to close, not from high to high or from low to low.

D. COMPANY-SPECIFIC DCF COST OF CAPITAL ESTIMATES

Q17. What DCF estimates do these data yield?

A17. The cost of equity results for the simple and multistage DCF models are shown in Table No. MJV-6. Panel A reports the results for the simple DCF method while Panel B reports

the results for the multistage DCF method using the long-term GDP growth rate as the perpetual growth rate.

Q18. What overall cost of capital estimates result from the DCF cost of equity estimates?

A18. The capital structure, DCF cost of equity, and cost of debt estimates are combined to obtain the overall after-tax weighted-average cost of capital for each sample company. These results are presented in Table No. MJV-7. Again, Panel A relies on the simple DCF cost of equity results while Panel B relies on the multistage DCF cost of equity results.

Q19. What information do you report in Table No. MJV-8?

A19. This table reports the return on equity consistent with the sample's estimated overall after-tax weighted-average cost of capital and the proposed equity thickness of 44.8 percent for Dominion. For both the simple DCF and multistage DCF methods, the sample's average ATWACC is reported in column [1]. Column [6] reports the return on equity as if the sample companies' average market value capital structure had been that currently proposed by Dominion.

Q20. What are the implications of these results?

A20. The implication of these numbers is discussed in my written testimony, along with the findings of the equity risk premium approach.

APPENDIX E

EFFECT OF DEBT ON THE COST OF EQUITY

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D. COMBINED EFFECTS E-25

Q1. What is the purpose of this Appendix?

A1. In this appendix, I provide details on the effects of debt on the cost of equity. First, I summarize a fairly large body of financial research on capital structure. Second, I provide an extended example to illustrate the effect of debt on the cost of equity.

I. AN OVERVIEW OF THE ECONOMIC LITERATURE

Q2. What is the focus of the economic literature on the effects of debt?

A2. The economic literature focuses on the effects of debt on the value of a firm. The standard way to recognize one of these effects, the impact of the fact that interest expense is tax-deductible, is to discount the all-equity after-tax operating cash flows generated by a firm or an investment project at a weighted average cost of capital, typically known in textbooks as the "WACC." The textbook WACC equals the *market*-value weighted average of the cost of equity and the *after-tax*, *current* cost of debt. However, rate regulation in North America has a legacy of working with another weighted-average cost of capital, the *book*-value weighted average of the cost of equity and the *before-tax*, *embedded* cost of debt. To distinguish the concepts, I refer to the after-tax weighted-average cost of capital as ATWACC.

Q3. How is this section of the appendix organized?

A3. It starts with the tax effects of debt. It then turns to other effects of debt.

A. TAX EFFECTS

Q4. What are the key findings in the literature regarding tax effects?

A4. Three seminal papers are vital for this literature. The first assumes no taxes and risk-free debt. The second adds corporate income taxes. The third adds personal income taxes.

1. Base Case: No Taxes, No Risk to High Debt Ratios

Q5. Please start by explaining the simplest case of the effect of debt on the value of a firm.

A5. The "base case," no taxes and no costs to excessive debt, was worked out in a classic 1958 paper by Franco Modigliani and Merton Miller, two economists who eventually won Nobel Prizes in part for their body of work on the effects of debt.[1] Their 1958 paper made what is in retrospect a very simple point: if there are no taxes and no risk to the use of excessive debt, use of debt will have no effect on a company's operating cash flows (i.e., the cash flows to investors as a group, debt plus equity combined). If the operating cash flows are the same regardless of whether the company finances mostly with debt or mostly with equity, then the value of the firm cannot be affected at all by the debt ratio. In cost of capital terms, this means the overall cost of capital is constant regardless of the debt ratio, too.

In the base case, issuing debt merely divides the cash flows into two pools, one for bondholders and one for shareholders. If the divided pools have different priorities in claims on the cash flows, the risks and costs of capital will differ for each pool. But the risk and overall cost of capital of the entire firm, the sum of the two pools, is constant regardless of the debt ratio. Thus,

$$r_1^* = r_{A1} \qquad \text{(E-1a)}$$

where r^*_1 is the overall after-tax cost of capital at any particular capital structure and r_{A1} is the all-equity cost of capital for the firm. (The "1" subscripts distinguish the case where there are no taxes from subsequent equations that consider first corporate and then both corporate and personal taxes.) With no taxes and no risk to debt, the overall cost of capital does not change with capital structure.

This implies that the relationship of the overall cost of capital to the component costs of debt and equity is

[1] Franco Modigliani and Merton H. Miller (1958), "The Cost of Capital, Corporation Finance and the Theory of Investment," *American Economic Review*, 48, pp. 261-297.

$$r_{E1} \times \left(\frac{E}{V}\right) + r_{D1} \times \left(\frac{D}{V}\right) = r_1^* \qquad \text{(E-1b)}$$

with the overall cost of capital (r^*) on the *right* side, as the *independent* variable, and the costs of equity (r_E) and debt (r_D) on the left side, as *dependent* variables determined by the overall cost of capital and by the capital structure (i.e., the shares of equity (E) and debt (D) in overall firm value (V=E+D)) that the firm happens to choose. Note that if equation (E-1a) were correct, the equation that solved it for the cost of equity would be,

$$r_{E1} = r_1^* + (r_1^* - r_D) \times \left(\frac{D}{E}\right) \qquad \text{(E-1c)}$$

Note also that (D/E) gets exponentially higher in this equation as the debt-to-value ratio increases[2] i.e., the cost of equity increases exponentially with leverage.

2. Corporate Tax Deduction for Interest Expense

Q6. What happens when you add corporate taxes to the discussion?

A6. If corporate taxes exist with risk-free debt (and if only taxes at the corporate level matter, not taxes at the level of the investor's personal tax return), the initial conclusion changes. Debt at the corporate level reduces the company's tax liability by an amount equal to the marginal tax rate times interest expense. All else equal, this will add value to the company because more of the operating cash flows will end up in the hands of investors as a group. That is, if only corporate taxes mattered, interest would add cash to the firm equal to the corporate tax rate times the interest expense. This increase in cash would increase the value of the firm, all else equal. In cost of capital terms, it would reduce the overall cost of capital.

How much the value of the firm would rise and *how far* the overall cost of capital would fall would depend in part on how often the company adjusts its capital structure, but this

[2] For example, at 20-80, 50-50, and 80-20 debt-equity ratios, (D/E) equals, respectively, (20/80) = 0.25, (50/50) = 1.0, and (80/20) = 4.0. The extra 30 percent of debt going from 20-80 to 50-50 has much less impact on (D/E) [i.e., by moving it from 0.25 to 1.0] than the extra 30 percent of debt going from 50-50 to 80-20 [i.e., by moving it from 1.0 to 4.0]. Since the cost of equity equals a constant risk premium times the debt-equity ratio, the cost of equity grows ever more rapidly as you add more and more debt.

is a second-order effect in practice. (The biggest effect would be if companies could issue riskless perpetual debt, an assumption Profs. Modigliani and Miller explored in 1963, in the second seminal paper;[3] this assumption could *not* be true for a real company.) Prof. Robert A. Taggart provides a unified treatment of the main papers in this literature and shows how various cases relate to one another.[4] Perhaps the most useful set of benchmark equations for the case where only corporate taxes matter are:

$$r_2^* = r_{A2} - r_D \times t_C \times \left(\frac{D}{V}\right) \tag{E-2a}$$

$$r_2^* = r_{E2} \times \left(\frac{E}{V}\right) + r_D \times \left(\frac{D}{V}\right) \times (1 - t_C) \tag{E-2b}$$

which imply for the cost of equity,

$$r_{E2} = r_{A2} + (r_{A2} - r_D) \times \left(\frac{D}{E}\right) \tag{E-2c}$$

where the variables have the same meaning as before but the "2" subscripts indicate the case that considers corporate but not personal taxes.

Note that Equation (E-2a) implies that when only corporate taxes matter, the overall after-tax cost of capital declines steadily as more debt is added, until it reaches a minimum at 100 percent debt (i.e., when D/V = 1.0). Note also that Equation (E-2c) still implies an exponentially increasing cost of equity as more and more debt is added. In fact, except for the subscript, Equation (E-2c) looks just like Equation (E-1c).

However, whether any value is added and whether the cost of capital changes at all also depends on the effect of taxes at the personal level.

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[3] Franco Modigliani and Merton H. Miller (1963), "Corporate Income Taxes and the Cost of Capital: A Correction," *American Economic Review*, 53, pp. 433-443.

[4] Robert A. Taggart, Jr. (1991), "Consistent Valuation and Cost of Capital Expressions with Corporate and Personal Taxes," *Financial Management* 20, pp. 8-20.

3. Personal Tax Burden on Interest Expense

Q7. How do personal taxes affect the results?

A7. Ultimately, the purpose of investment is to provide income for consumption, so personal taxes affect investment returns. For example, in the U.S., municipal bonds have lower interest rates than corporate bonds because their income is taxed less heavily at the personal level. In general, capital appreciation on common stocks is taxed less heavily than interest on corporate bonds because (1) taxes on unrealized capital gains are deferred until the gains are realized, and (2) the capital gains tax rate is lower. Dividends are taxed less heavily than interest, also, under current tax law.[5] The effects of personal taxes on the cost of common equity are hard to measure, however, because common equity is so risky.

Professor Miller, in his Presidential Address to the American Finance Association,[6] explored the issue of how personal taxes affect the overall cost of capital. The paper pointed out that personal tax effects could offset the effect of corporate taxes entirely.

Q8. Is it likely that the effect of personal taxes will completely neutralize the effect of corporate taxes?

A8. I do not believe so, although the likelihood of such a result would be increased if the current federal tax reductions on dividends and capital gains became permanent rather than expiring in 2010. However, personal taxes are important even if they do not make the corporate tax advantage on interest vanish entirely. Capital gains and dividend tax advantages definitely convey some personal tax advantage to equity, and even a partial personal advantage to equity reduces the corporate advantage to debt.

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[5] The current maximum personal tax rate on dividend income was extended to the end of 2010 by the President on May 17, 2006. It is uncertain whether the reduced rates on dividend income will be further extended.

[6] Merton H. Miller (1977), "Debt and Taxes," *The Journal of Finance*, 32: 261-276, the third of the seminal papers mentioned earlier.

The Taggart paper explores the case of a partial offset, also. With personal taxes, the risk-free rate on the security market line is the after-personal-tax rate, which must be equal for risk-free debt and risk-free equity.[7] Therefore, the pre-personal-tax risk-free rate for equity will generally not be equal to the pre-personal-tax risk-free rate for debt. In particular, $r_{fE} = r_{fD} \times [(1-t_D)/(1-t_E)]$, where r_{fE} and r_{fD} are the risk-free costs of equity and debt and t_E and t_D are the personal tax rates for equity and debt, respectively. In terms of the cost of debt, the Taggart paper's results imply that a formal statement of these effects can be written as:[8]

$$r_3^* = r_{A3} - r_D \times t_N \times \left(\frac{D}{V}\right) \quad \text{(E-3a)}$$

$$= r_{E3} \times \left(\frac{E}{V}\right) + r_D \times \left(\frac{D}{V}\right) \times (1 - t_C) \quad \text{(E-3b)}$$

which imply

$$r_{E3} = r_{A3} + \left[r_{A3} - r_D \times \left(\frac{1-t_D}{1-t_E}\right)\right] \times \left(\frac{D}{E}\right) \quad \text{(E-3c)}$$

Suppose, for example, that $t_C = 0.35$ percent, $t_E = 7.7$ percent and $t_D = 40$ percent. Then $[(1-t_D)/(1-t_E)] = 0.65 = (1-t_C)$. That condition corresponds to Miller's 1977 paper, in which the net personal tax advantage of equity fully offsets the net corporate tax advantage of debt. Note also that in that case, $t_N = 0$.[9] Therefore, if the personal tax advantage on equity fully offsets the corporate tax advantage on debt, Equation (E-3a) confirms that the overall after-tax cost of capital is a constant.

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[7] As Prof. Taggart notes (his footnote 9), it is not necessary that a specific, risk-free equity security exist as long as one can be created synthetically, through a combination of long and short sales of traded assets. Such constructs are a common analytical tool in financial economics.

[8] The net all-tax effect of debt on the overall cost of capital, t_N, equals $\{[t_C + t_E - t_D - (t_C \times t_E)] / (1 - t_E)\}$, where t_D is the personal tax rate on debt, as before. This measure of net tax effect is designed for use with the cost of debt in Equation (E-3a), which seems more useful in the present context. The Taggart paper works with a similar measure, but one which is designed for use with the cost of risk-free equity in the equivalent Taggart equation.

[9] In the above example, $t_N = \{[0.35 + 0.077 - 0.4 - (0.35 \times 0.077)] / (1.0 - 0.077)\} = 0.0/0.923 = 0$.

However, it is unlikely that the personal tax advantage of equity fully offsets the corporate tax advantage of debt. If taxes were all that mattered (i.e., if there were no other costs to debt), the overall after-corporate-tax cost of capital would still fall as debt was added, just not as fast.

Finally, note that the overall after-tax cost of capital, Equation (E-3b), still uses the corporate tax rate even when personal taxes matter. Equations (E-2b) and (E-3b) both correspond to the usual formula for the ATWACC. Personal taxes affect the way the cost of equity changes with capital structure -- Equation (E-3c) -- but not the formula for the overall after-tax cost of capital given that cost of equity.

B. NON-TAX EFFECTS

Q9. Please describe the non-tax effects of Debt.

A9. If debt is truly valuable, firms should use as much as possible, and competition should drive firms in a particular industry to the same, optimal capital structure for the industry. If debt is harmful on balance, firms should avoid it. Neither picture corresponds to what we actually see. A large economic literature has evolved to try to explain why.

Part of the answer clearly is the costs of excessive debt. Here the results cannot be reduced to equations, but they are no less real for that fact. As companies add too much debt, the costs come to outweigh the benefits. Too much debt reduces or eliminates financial flexibility, which cuts the firm's ability to take advantage of unexpected opportunities or weather unexpected difficulty. Use of debt rather than internal financing may be taken as a negative signal by the market.

Even if the company is generally healthy, more debt increases the risk that the company cannot use all of the interest tax shields in a bad year. As debt continues to grow, this problem grows and others may crop up. Management begins to worry about meeting debt payments instead of making good operating decisions. Suppliers are less willing to extend trade credit, and a liquidity shortage can translate into lower operating profits.

Ultimately, the firm might have to go through the costs of bankruptcy and reorganization. Collectively, such factors are known as the costs of "financial distress."[10]

The net tax advantage to debt, if positive, is affected by costs such as a growing risk that the firm might have to bear the costs of financial distress. First, the expected present value of these costs offsets the value added by the interest tax shield. Second, since the likelihood of financial distress is greater in bad times when other investments also do poorly, the possibility of financial distress will increase the risks investors bear. These effects increase the variability of the value of the firm. Thus, firms that use too much debt can end up with a higher overall cost of capital than those that use none.

Other parts of the answer include the signals companies send to investors by the decision to issue new securities, and by the type of securities they issue. Other threads of the literature explore cases where management acts against shareholder interests, or where management attempts to "time" the market by issuing specific securities under different conditions. For present purposes, the important point is that no theory, whether based on taxes or on some completely different issue, has emerged as "the" explanation for capital structure decisions by firms. Nonetheless, despite the lack of a single "best" theory, there is a great deal of relevant empirical research.

Q10. What does that research show?

A10. The research does not support the view that debt makes a material difference in the value of the firm, at least not once a modest amount of debt is in place. If debt were truly valuable, competitive firms should use as much debt as possible short of producing financial distress, and competitive firms that use less debt ought to be less profitable. The research shows exactly the opposite.

[10] See, for example, Section 18.3 of Brealey, Myers and Allen, 2006, *Principles of Corporate Finance*, 8th Edition, McGraw-Hill/Irwin, 2006.

For example, Kester[11] found that firms in the same industry in both the U.S. and Japan do not band around a single, "optimal" capital structure, and the most profitable firms are the ones that use the *least* debt. This finding comes despite the fact that both countries at the time (unlike the U.S. currently) had fully "classical" tax systems, in which dividends are taxed fully at both the corporate and personal level. Wald[12] confirms that high profitability implies low debt ratios in France, Germany, Japan, the U.K., and the U.S. Booth *et al.* find the same result for a sample of developing nations.[13] Fama and French[14] analyze over 2000 firms for 28 years (1965-1992, inclusive) and conclude, "Our tests thus produce no indication that debt has net tax benefits."[15] A paper by Graham[16] carefully analyzes the factors that might have led a firm not to take advantage of debt. It confirms that a large proportion of firms that ought to benefit substantially from use of additional debt, including large, profitable, liquid firms, appear not to use it "enough."

This research leaves us with only three options: either (1) apparently good, profit-generating managers are making major mistakes or deliberately acting against shareholder interests, (2) the benefits of the tax deduction on debt are less than they appear, or (3) the non-tax costs to use of debt offset the potential tax benefits. Only the first of these possibilities is consistent with the view that the tax deductibility of debt conveys a material cost advantage. Moreover, if the first explanation were interpreted to mean that otherwise good managers are acting against shareholder interests, either

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[11] Carl Kester (1986), "Capital and Ownership Structure: A Comparison of United States and Japanese Manufacturing Concerns," *Financial Management*, 15:5-16.

[12] John K. Wald (1999), "How Firm Characteristics Affect Capital Structure: An International Comparison," *Journal of Financial Research*, 22:161-167.

[13] Laurence Booth *et al.* (2001), "Capital Structures in Developing Countries," *The Journal of Finance* Vol. LVI, pp. 87-130, finds at p. 105 that "[o]verall, the strongest result is that profitable firms use less total debt. The strength of this result is striking ..."

[14] Eugene F. Fama and Kenneth R. French (1998), "Taxes, Financing Decisions and Firm Value," *The Journal of Finance*, 53:819-843.

[15] *Ibid.*, p. 841.

[16] John R. Graham (2000), "How Big Are the Tax Benefits of Debt," *The Journal of Finance*, 55:1901-1942.

deliberately or by mistake, it would require the additional assumption that their competitors (and potential acquirers) let them get away with it.

Q11. Are there any explanations in the financial literature for this puzzle other than stupid or self-serving managers at the most profitable firms?

A11. Yes. For example, Stewart C. Myers, a leading expert on capital structure, made it the topic of his Presidential Address to the American Finance Association.[17] The poor performance of tax-based explanations for capital structure led him to propose an entirely different mechanism, the "pecking order" hypothesis. This hypothesis holds that the net tax benefits of debt (i.e., corporate tax advantage over personal tax disadvantage) are at most of a second order of importance relative to other factors that drive actual debt decisions.[18] Similarly, Baker and Wurgler (2002)[19] observe a strong and persistent impact that fluctuations in market value have on capital structure. They argue that this impact is not consistent with other theories. The authors suggest a new capital structure theory based on market timing -- capital structure is the cumulative outcome of attempts to time the equity market.[20] In this theory, there is no optimal capital structure, so market timing financing decisions just accumulate over time into the capital structure outcome. (Of course, this theory only makes sense if investors do not recognize what managers are doing.)

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[17] Stewart C. Myers (1984), "The Capital Structure Puzzle," *The Journal of Finance*, 39: 575-592. See also S. C. Myers and N. S. Majluf (1984), "Corporate Financing Decisions When Firms Have Information Investors Do Not Have," *Journal of Financial Economics* 13:187-222.

[18] See also Stewart C. Myers (1989), "Still Searching for Optimal Capital Structure," *Are the Distinctions Between Debt and Equity Disappearing?,* R.W. Kopke and E. S. Rosengren, eds., Federal Reserve Bank of Boston.

[19] Malcolm Baker and Jeffrey Wurgler (2002), "Market Timing and Capital Structure," *The Journal of Finance* 57:1-32.

[20] *Ibid.*, p. 29.

Q12. Do inter-firm differences within an industry explain the wide variations in capital structure across the firms in an industry?

A12. No. This view is contradicted by the empirical research. As mentioned before, it has long been found that the most profitable firms in an industry, i.e., those in the best position to take advantage of debt, use the least.[21] Graham (2000) carefully examines differences in firm characteristics as possible explanations for why firms use "too little" debt and concludes that such differences are *not* the explanation: firms that ought to benefit substantially from more debt by all measurable criteria, if the net tax advantage of debt is truly valuable, voluntarily do not use it.[22]

Nor does the research support the view that firms are constantly trying to adjust their capital structures to optimal levels. Additional research on the pecking order hypothesis demonstrates that firms do not tend towards a target capital structure, or at least do not do so with any regularity, and that past studies that seemed to show the contrary actually lacked the power to distinguish whether the hypothesis was true or not.[23] In the words of the Shyam-Sunder - Myers paper p. 242, "If our sample companies did have well-defined optimal debt ratios, it seems that their managers were not much interested in getting there."

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[21] For example, Kester, *op. cit.* and Wald, *op. cit.*

[22] While not contradicting Graham's finding that differences in firm characteristics do not explain capital structure differences, Nengjiu Ju, Robert Parrino, Allen M. Poteshman, and Michael S. Weisbach, "Horses and Rabbits? Trade-Off Theory and Optimal Capital Structure," *Journal of Financial and Quantitative Analysis*, June 2005, pp. 1-24, looks at the issue in a different manner. Their paper uses a dynamic rather than static model to analyze the tradeoff between the tax benefits of debt and the risk of financial distress. It finds that bankruptcy costs by themselves are enough to explain observed capital structures, once dynamic effects are considered. This means debt is not as valuable as suggested by the traditional static analysis (of the sort used by Graham).

[23] Lakshmi Shyam-Sunder and Stewart C. Myers (1999), "Testing static tradeoff against pecking order models of capital structure," *Journal of Financial Economics* 51:219-244.

II. EXPANDED EXAMPLE

Q13. What topics do you cover in this section?

A13. The discussion in my testimony did not detail the impact of different starting points for the level of debt nor did it address income earned on the investment, interest expense, or taxes. This section covers these topics. First, it discusses how the level of debt affects the cost of equity. Second, it addresses the influence of income and interest on the investment. Third, it explains the impact of taxes on capital structure decisions. The final topic covered in this section is the combined consequence of tax and non-tax effects of debt.

A. DETAILS OF DIFFERENT LEVELS OF DEBT

Q14. Why does more debt mean more risk for equity holders?

A14. Debt magnifies the variability of the equity return. As a simple example, think of an investor who takes money out of her savings and invests $100,000 in real estate. The future value of the real estate is uncertain. If the real estate market booms, she wins. If the real estate market goes down, she loses. Figure E-1 below illustrates this.

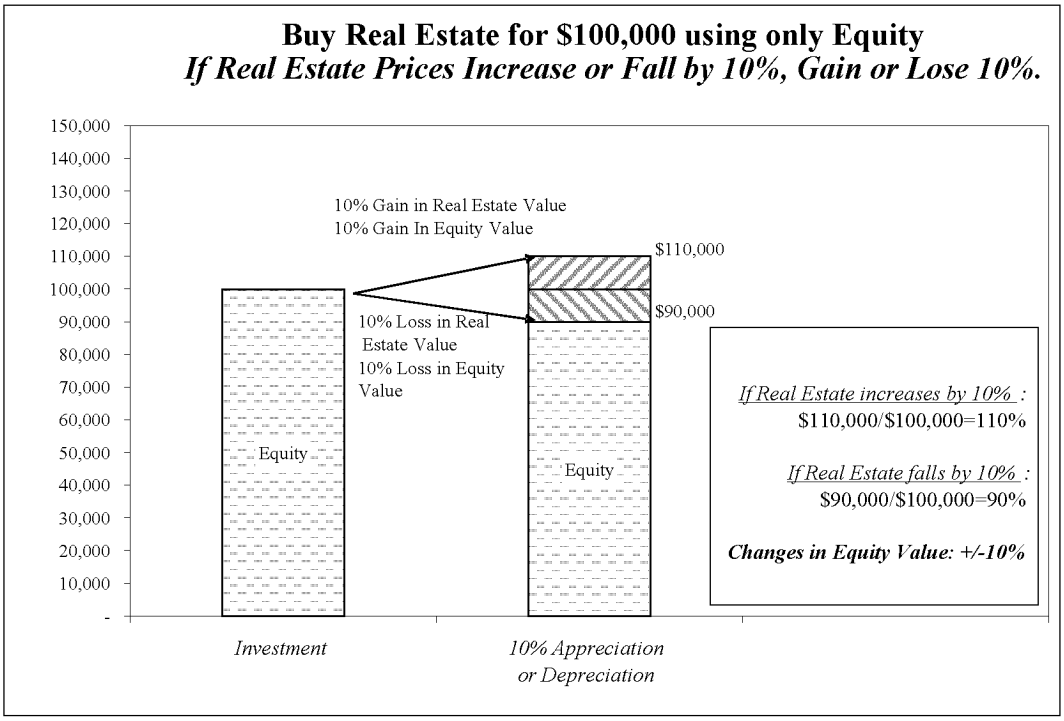

Figure E-1

In the scenario above, the investor financed her real estate purchase through 100 percent equity. Suppose instead that the investor had financed 50 percent of her real estate investment with a mortgage of $50,000. The mortgage lender does not expect to share in any benefits from increases in real estate values. Neither does the mortgage lender expect to share in any losses from falling real estate values, i.e., the investor carries the entire risk of fluctuating real estate prices. Figure E-2 illustrates this effect.

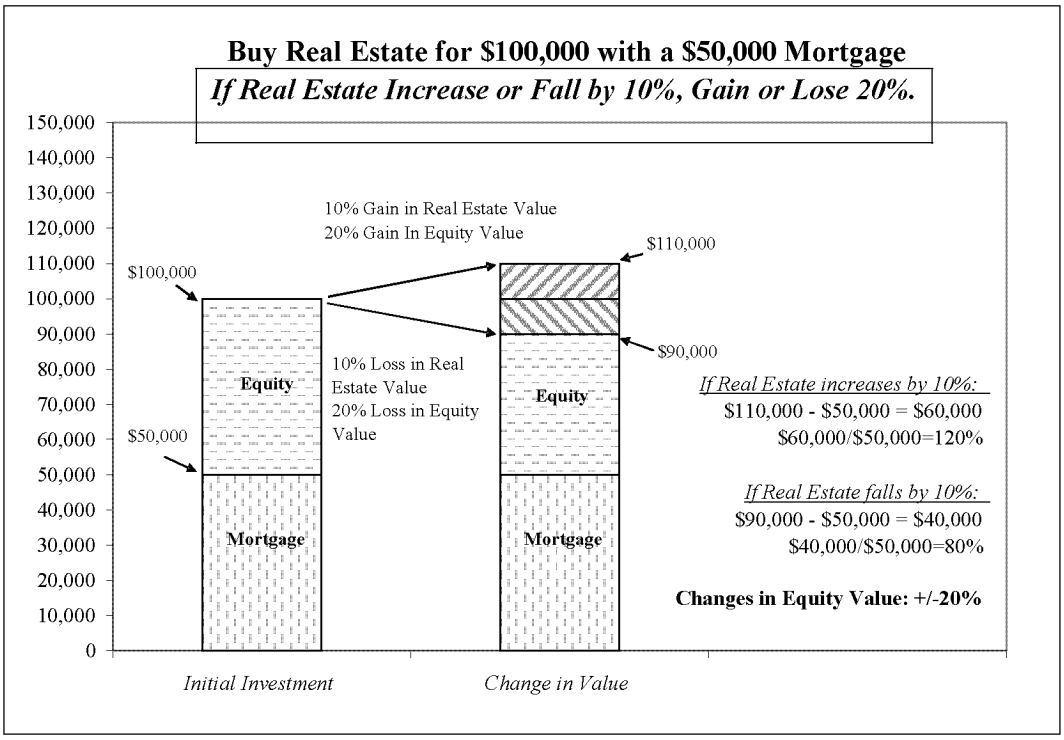

Figure E-2

In Figure E-2 where the investor financed her purchase through 50 percent equity and 50 percent debt, the variability in the investor's equity return is two times greater than that of Figure E-1. The entire fluctuation of 10 percent from rising or falling real estate prices falls on the investor's $50,000 equity investment. The lesson from the example is obvious, debt adds risk to equity.

Q15. What happens if the investor finances the real estate purchase with different proportions of debt?

A15. The equity return becomes more variable when the mortgage percentage is a greater proportion of the initial price. Table E-1 below calculates the return on equity when real estate prices increase by 10 percent when mortgages are 0 percent, 30 percent, 50 percent, and 70 percent of the initial price.

Table E-1: The Impact of Leverage on the Return on Equity

	100% Equity	70% Equity	50% Equity	30% Equity
Debt	$0	$30,000	$50,000	$70,000
Original Equity Investment	$100,000	$70,000	$50,000	$30,000
Increase in Market Value of Equity	$10,000	$10,000	$10,000	$10,000
Return on Equity Investment	10%	14.3%	20%	33.3%

Note that going from 70 percent equity down to 50 percent equity increases the return on the equity investment by 5.7 percent while going from 50 percent equity to 30 percent equity increases the return on equity by 13.3 percent. This illustrates a general point; the rate of return on equity increases more quickly at higher levels of debt than at lower levels. Investors demand a higher equity rate of return to bear more risk and debt magnifies equity's risk at an ever increasing rate. Therefore, the required equity rate of return goes up at an ever increasing rate as debt is added. This is not only basic finance theory, it is the everyday experience of anyone who buys a home. The bigger the mortgage, the more percentage risk the equity faces from changes in housing prices.

Q16. Please provide an example that illustrates why market values are relevant.

A16. Suppose in the above example that the investor has invested in real estate 10 years ago. Further assume that depreciation has reduced the book value of the real estate from $100,000 to $75,000 and assume the investor has paid off 40 percent of his $50,000 mortgage. Thus, the investor has a remaining mortgage of $30,000 (= 60% × $50,000). The book value of the investor's equity investment is therefore $45,000 (= $75,000 - $30,000).

What happens now if real estate prices rise or fall 20 percent? To answer that question, we need to know how real estate prices have developed over the past 10 years. If the

market value of the real estate now is $200,000 then a 20 percent decrease in the price of real estate ($40,000) is almost equal to the investor's book value equity. However, his market value equity (or net worth) is equal to the value of the real estate minus what he owes on the mortgage. If we assume that the market value of the mortgage equals the unpaid balance ($30,000), then the investor's net worth is calculated as follows:

Net Worth	=	Market Value of Real Estate	-	Remaining Mortgage
	=	$200,000	-	$30,000
	=	$170,000		

Therefore, the rate of return on equity due to a 20 percent decline in real estate prices is calculated in Table E-2.

Table E-2: Calculating the Rate of Return on Equity

Decline in Real Estate Value	$40,000
Market-Value Equity	$170,000
Rate of Return on Equity	- $40,000/$170,000 = -23.5%

B. THE IMPACT OF INCOME AND INTEREST

Q17. How does earning income from the investment and paying interest on debt affect the results?

A17. In the following explanation, I ignore income taxes which I deal with in Section C below. Assume the investor is receiving income, e.g., rent, from the real estate. Specifically, assume the investor receives $500 per month in income after all non-interest expenses ($6,000 per year). Also, assume that the expected appreciation is 5 percent per year, so

the expected market value is $105,000 after one year. Then the expected rate of return from the real estate with all equity financing is:

$$\text{Expected Return on Equity @ 0\% debt} = \frac{\text{Expected Net Income + Expected Appreciation}}{\text{Initial Investment}}$$

$$= \frac{\$6{,}000 + (\$105{,}000 - \$100{,}000)}{\$100{,}000}$$

$$= 11\%$$

Now suppose that the mortgage interest rate were 5 percent. Then at a mortgage equal to 50 percent, or $50,000, interest expense would be ($50,000 x 0.05), or $2,500. The expected equity rate of return would be:

$$\text{Expected Return on Equity @ 50\% debt} = \frac{\text{Expected (Net Income + Appreciation) – Int. Expense}}{\text{Initial } \textit{Equity} \text{ Investment}}$$

$$= \frac{\$6{,}000 + \$5{,}000 - \$2{,}500}{\$50{,}000}$$

$$= 17\%$$

Notice that the expected return on equity is higher as is the risk carried by equity.

Q18. Can you provide a more general illustration?

A18. Yes. Figure E-3 uses these assumptions at different mortgage levels to plot both (i) the expected rate of return on the equity in the dwelling, and (ii) the realized rate of return on

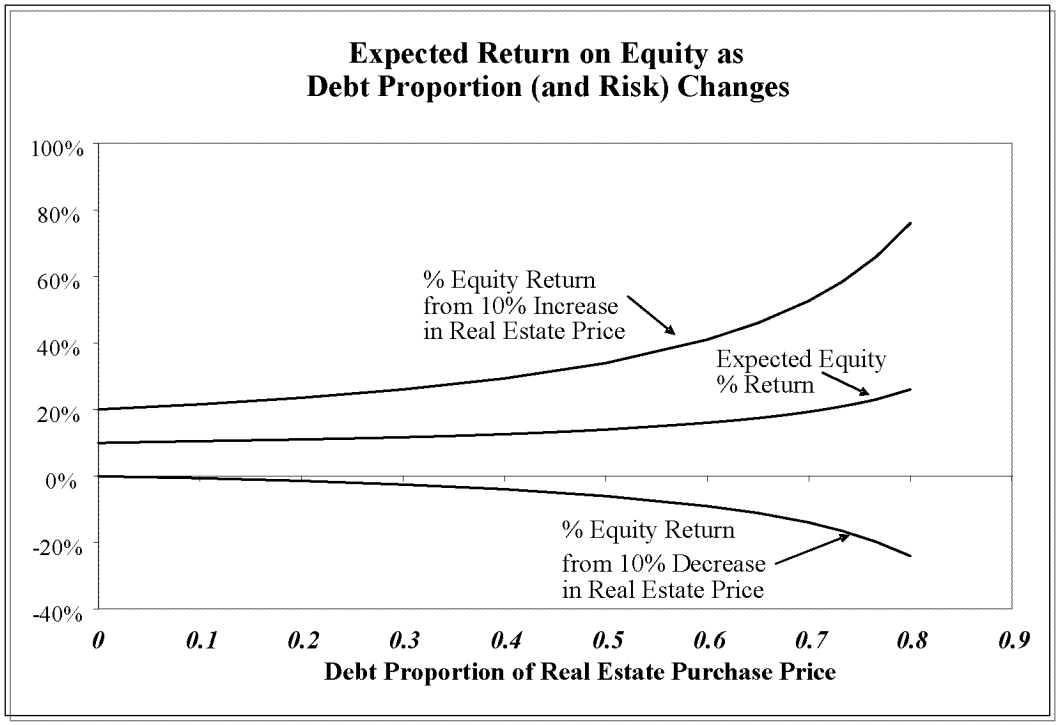

Figure E-3

that equity in a year if the dwelling value increases by 10 percent more than the expected 5 percent rate (i.e., if the value increases by 15 percent) or by 10 percent less than expected (i.e., if it decreases by 5 percent).[24]

The expected rate of return on equity increases at an increasing rate as the investor finances more and more of the real estate through loans (e.g., with a mortgage). Since equity bears all the risk of increases or decreases in real estate values (absent financial distress or bankruptcy), the amount of risk the buyer bears grows at an ever increasing rate as the mortgage percentage also increases.

Q19. What are the implications of this example?

A19. Any time an individual or a company uses debt to finance part an investment, the same risk magnifies. For example, if an investor buys stocks "on margin" -- by borrowing part

[24] For simplicity, the figure assumes the debt's interest rate is independent of the debt proportion. This might not always be true, and in general would not be true for a corporation that issued debt. However, the general shape of the graphs remains the same.

of the money used to buy the stock -- the expected rate of return will be higher as will the risks the investor carries. As an everyday example, imagine investing your retirement savings in a stock portfolio bought with as much margin as possible. If you were lucky, you could end up living very well in retirement. But you would be taking a lot of risk on the opposite outcome, since your portfolio could decline by more than 100 percent of your initial investment.

The same risk-magnifying effects happen when companies borrow to finance part of their investments.

C. THE EFFECT OF TAXES

Q20. What is the impact of taxes?

A20. Analyzing the net effect of taxes in capital structure decisions by corporations is an important part of the financial research. (Other parts of that research address such issues as the risk of financial distress or bankruptcy, and the signals corporations send investors by the choice of how to finance new investments.) The bottom line is that taxes complicate the picture without changing the basic conclusion.

Q21. Please describe the potential impact of taxes.

A21. Interest expense is tax-deductible for corporations. That increases the pool of cash the corporation gets to keep out of its operating earnings (i.e., its earnings before interest expense). With no debt, 100 percent of operating income is subject to taxes. With debt, only the equity part of the operating income is subject to taxes.

All else equal, the extra money kept from operating income increases the value of the corporation. The standard way to recognize that increase in value is to use an after-tax weighted-average cost of capital as a discount rate when valuing a company's operating cash flows.

Q22. Do personal taxes affect the value of debt, too?

A22. Yes, but in the other direction. One offset to debt's tax benefits at the corporate level is its higher tax burden at the personal level. Investors care about the money they get to keep after all taxes are paid, and while the corporation saves taxes by opting for debt over equity, individuals pay more taxes on interest than on capital gains from equity (and for now, on dividends as well).

Q23. Are there factors other than taxes matter?

A23. Absolutely, "all else" does not remain equal as more debt is added. The more debt, the more the non-tax effects of debt offset the tax benefits. Other costs include such effects as a loss of flexibility, the possibility of sending negative signals to investors, and a host of costs and risks associated with the danger of financial distress.

Q24. Does the tradeoff between the tax and non-tax effects of debt mean that firms have well-defined, optimal capital structures?

A24. No, this sort of "tradeoff" model does not explain actual corporate behavior. A substantial body of economic research confirms that real-world corporations act as if, after a moderate amount of debt is in place, the tax benefits of debt are not worth debt's other costs. In country after country and in industry after industry, the most profitable corporations in an industry tend to use the least debt. The research on this point is quite thorough, and the finding that the most profitable companies tend to use the least debt in a given industry is robust. Yet these are the companies with the most operating income to shield from taxes, who would benefit most if interest tax shields were truly valuable net of debt's other costs. They also presumptively are the best-managed on average (else why are they the most profitable?). This means it is unrealistic to suppose that more debt is always better, or that greater tax savings due to higher interest expense always add value to the firm on balance.

Q25. If the tradeoff model doesn't explain capital structure decisions by firms, is there a model that does?

A25. No single model has (yet) emerged as 'the" explanation of capital structure. However, several alternative models attempt to model the tradeoff (e.g., the "pecking order" hypothesis and "agency cost" explanations).

Q26. What does the absence of an agreed theory of capital structure in the financial literature imply about the overall effect of debt on the value of the firm?

A26. The findings of the financial literature mean that within an industry, there is no well-defined optimal capital structure. The use of some debt does convey some value advantage in most industries, but that advantage is offset by other costs as firms add more debt.[25] The range of capital structures over which the value of the firm in any industry is maximized is wide and should be treated as flat. The location and level of that range, however, does vary from industry to industry, just as the overall cost of capital varies from industry to industry.

Figure E-4 illustrates the picture that emerges from the research. This figure shows the present value of an investment in each of four different industries. For simplicity, the investment is expected to yield $1.00 per year forever. For firms in relatively high-risk industries (Industry 1 in the graph, the lowest line), the $1.00 perpetuity is not worth much and any use of debt decreases firm value. For firms in relatively low-risk industries (Industry 4 in the graph), the perpetuity is worth more and substantial amounts of debt make sense. Industries 2 and 3 are intermediate cases.

The maximum net rate at which taxes can increase value in this figure equals 20 percent of interest expense, representing a balance between the corporate tax advantage to debt

[25] Note that if debt did increase the value of the firm materially, competition would tend to take that value away, since issuing debt is an easy-to-copy competitive strategy. Prices would fall as firms copied the strategy, lowering operating earnings and passing the net tax advantages to debt through to customers (just as happens under rate regulation). Therefore, if also there were a narrow range of optimal capital structures within an industry, competition would drive all firms in the industry to capital structures within that range. This does not happen in practice, which contradicts one or both of the assumptions, i.e., (1) that debt adds material value on balance, and/or (2) that there is a narrow range of optimal capital structures.

and the personal tax disadvantage. The figure plots the maximum possible impact of taxes on value as a separate line, starting at the all-equity value of the lowest-risk industry (Industry 4).

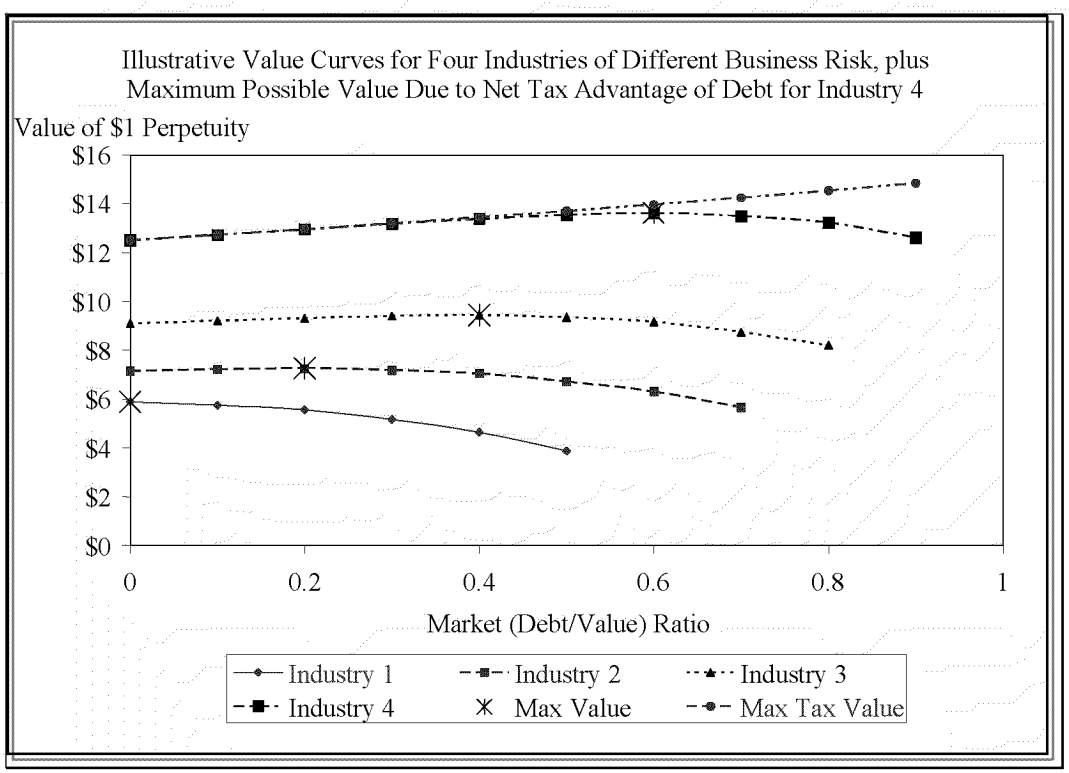

Figure E-4

Figure E-4 identifies a particular point as the maximum value on each of the four curves. However, the research shows that reliable identification of this maximum point, except in the extreme case where no debt should be used, is impossible. In accord with the research, the graph is prepared so that in none of the industries does a change in capital structure make much difference near the top of the curve. Even Industry 4, which increases in value at the maximum rate as quite a lot of debt is added, eventually must reach a broad range where changes in the debt ratio make little difference to firm value, given the research. For Industry 4, debt makes less than a 2 percent difference in the total value of the firm for debt-to-value ratios between 40 and 70 percent. (While these

particular values are illustrative, numbers of this order of magnitude are the only ones consistent with the research.)

Q27. What does this imply for the overall cost of capital?

A27. Figure E-5 plots the after-tax weighted-average costs of capital ("ATWACCs") that correspond to the value curves in Figure E-4. This picture just turns Figure E-4 upside down.[26] All the same conclusions remain, except that they are stated in terms of the overall cost of capital instead of the overall firm value. In particular, except for high-risk industries, the overall cost of capital is essentially flat across a broad middle range of capital structures for each industry, which is the only outcome consistent with the research. For Industry 4, for example, the ATWACC changes by less than 15 basis points for debt-to-value ratios between 40 and 70 percent.

[26] Note that the actual estimated ATWACC at higher debt ratios will tend to underestimate the ATWACC that corresponds to the value curves in Figure E-4, which are depicted in Figure E-5, and so will tend to overestimate the value of debt to the firm. The reason is that some of the non-tax effects of excessive debt, such as a loss of financial flexibility, may be hard to detect and not show up in cost of capital measurement.

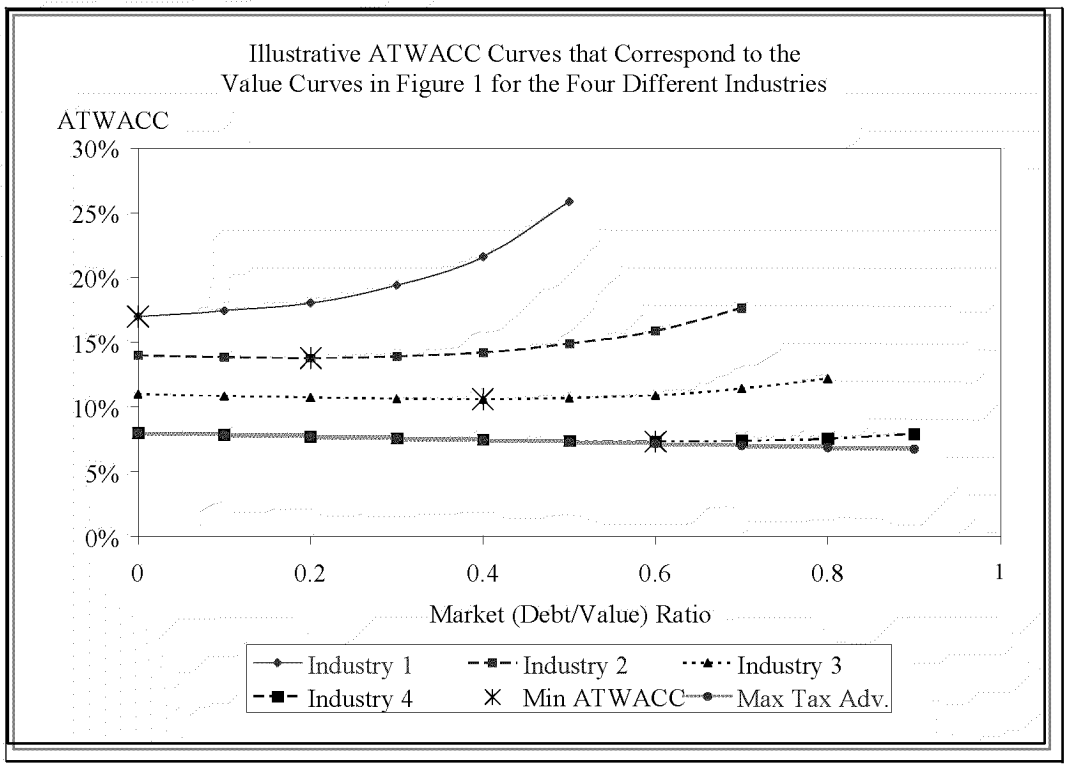

Figure E-5

Q28. How does this discussion relate to estimation of the right cost of equity for ratemaking purposes?

A28. When an analyst estimates the cost of equity for a sample of companies, s/he does so at the sample's actual market-value capital structure. That is, the sample evidence corresponds to ATWACCs that are already out somewhere in the broad middle range in which changes in the debt ratio have little or no impact on the overall value of the firm or the ATWACC.

An analyst therefore should assume the ATWACCs for the sample companies are literally flat. This assumption always provides the exact tradeoff between the cost of equity and capital structure at the literal minimum of the company's ATWACC curve. The research shows that this minimum is actually a broad, flat region, as depicted above. If the company happens to be somewhat to one side or the other of the literal minimum within this region, the recommended procedure may lead to a small understatement or overstatement of the amount that the cost of equity will change as capital structure

changes. The degree of this under- or overstatement, however, is very small compared to the inherent uncertainty in estimating the cost of equity in the first place. Otherwise, the financial research would have found very different results about the existence of a narrowly defined optimal capital structure.

D. COMBINED EFFECTS

Q29. Please summarize the implications for the combined impact of the tax and non-tax effects of debt.

A29. The most profitable firms do not behave as if the precise amount of debt they use makes any material difference to value, and competition does not force them into an alternative decision, as it would if debt were genuinely valuable. The explanation that fits the facts and the research is that within an industry, there is no well-defined optimal capital structure. Use of some debt does convey an advantage in most industries, but that advantage is offset by other costs as firms add more debt. The range of capital structures over which the value of the firm in any industry is maximized is wide and should be treated as flat. The location and level of that range, however, does vary from industry to industry, just as the overall cost of capital varies from industry to industry. To conclude that more debt does add more value, once the firm is somewhere in the normal range for the industry, is to conclude that corporate management in general is either blind to an easy source of value or otherwise incompetent (and that their competitors let them get away with it).

The finding that there is no narrowly defined optimal capital structure implies that analysts should estimate the ATWACCs for a sample of companies in a given industry and treat the average ATWACC value as independent of capital structure (at least within a broad middle range of capital structures). The right cost of equity for a rate-regulated company in the same industry is the number that yields the same ATWACC at the capital structure used to set the revenue requirement, since that is the cost of equity that

(estimation problems aside) the sample companies would have had if their market-value capital structures had been equal to the regulatory capital structure.

THE EAST OHIO GAS COMPANY d/b/a DOMINION EAST OHIO
Case No. 07-0829-GA-AIR
Rate of Return Summary

Date of Capital Structure: March 31, 2007
Type of Filing: Original
Work Paper Reference Nos.:

Schedule PCD-1
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M. Vilbert

Line No.	Class of Capital	Reference	Amount	% of Total	Cost (%)	Weighted Cost (%)
1	Long-Term Debt	D-3	$ 16,467,054,606	54.33%	6.05%	3.29%
2	Preferred Stock	D-4	251,495,616	0.83%	6.25%	0.05%
3	Common Equity		13,592,347,823	44.84%	12.00%	5.38%
4	Total Capital		$ 30,310,898,045			8.72%
5	Accumulated Deferred Investment Tax Credit		$ 32,610,491			
6	Accumulated Deferred Income Taxes (Accelerated Amortization)		$ -			
7	Accumulated Deferred Income Taxes (Other Property)		$ 5,613,175,736			

Note: Data provided is for Dominion Resources, Inc. - Consolidated Balance Sheets (unaudited)

THE EAST OHIO GAS COMPANY d/b/a DOMINION EAST OHIO
Case No. 07-0829-GA-AIR
Embedded Cost of Short-Term Debt

Date of Short-Term Debt: March 31, 2007
Type of Filing: Original
Work Paper Reference Nos.:

Schedule PCD-2
Page 1 of 1
Sponsoring Witness:
M. Vilbert

Line No.	Issue (A)	Amount Outstanding (B)	Interest Rate (C)	Interest Requirement (D)
1	Short-Term Commercial Borrowing	$ 1,813,443,390	5.189%	$ 94,090,510
2	Totals	$ 1,813,443,390		$ 94,090,510
3	Cost of Short-Term Debt (D / B)			5.19%

Note: Data provided is for Dominion Resources, Inc. - Consolidated Balance Sheets (unaudited)

THE EAST OHIO GAS COMPANY d/b/a DOMINION EAST OHIO
Case No. 07-0829-GA-AIR
Embedded Cost of Long-Term Debt

Date of Long-Term Debt: March 31, 2007
Type of Filing: Original
Work Paper Reference Nos.:

Schedule PCD-3
Page 1 of 1
Sponsoring Witness:
M. Vilbert

Line No.	Debt Issue Type, Coupon Rate	Date Issued (Mo/Day/Yr) (A)	Maturity Date (Mo/Day/Yr) (B)	Principal Amount (C)	Face Amount Outstanding (D)	Unamortized (Discount) or Premium (E)	Unamortized Debt Expense (F)	Unamortized Gain (Loss) on Reacq. Debt (G)	Carrying Value (H=D+E-F+G)	Other Related Unamortized Costs* (I)	Full Carrying Value (J=D+E-F+G+I)	Annual Interest Cost (K)	
1	Dominion Resources Inc., Consolidated												
2	7.83% JSD - Institutional	12/8/1997	12/1/2027	$ 257,732,000	$ 257,732,000	$ -	$ 14,475,162	$ -	$ 243,256,838	$ -	$ 243,256,838	$ 20,442,319	
3	8.4% JSD - Institutional	1/12/2001	1/15/2031	257,732,000	257,732,000	(2,701,497)	2,416,229	-	252,614,274	-	252,614,274	21,715,670	
4	7.8% JSD - Retail	10/23/2001	10/31/2041	206,185,575	206,185,575	-	6,483,265	-	199,702,310	-	199,702,310	16,117,265	
5	7.375% JSD - Retail	8/23/2002	7/30/2042	412,371,150	412,371,150	-	12,751,220	-	399,619,930	-	399,619,930	30,483,939	
6	Possum - Bank	8/22/2000	8/22/2007	94,537,650	146,719,418	-	556,881	-	146,162,537	-	146,162,537	10,374,430	
7	Possum - Equity	8/22/2000	8/22/2007	12,515,250	12,515,250	-	-	-	12,515,250	-	12,515,250	889,834	
8	Possum - Hatteras CP	8/22/2000	8/22/2007	262,947,100	210,765,332	-	-	-	210,765,332	-	210,765,332	13,004,221	
9	MTN F02	11/25/1998	11/25/2008	120,000,000	120,000,000	-	237,356	-	119,762,644	-	119,762,644	7,019,428	
10	92-D Mtg Bond	7/14/1992	7/1/2007	215,000,000	215,000,000	(8,850)	54,218	(584,170)	214,352,762	(23,587)	214,329,175	19,057,179	
11	LOR 89-A ($5M) Mtg Bond	3/5/1992	2/1/2019			-	-	-	-	-	-	18,422	
12	LOR 89-A ($15M) Mtg Bond	9/30/1993	2/1/2019			-	-	-	-	-	-	64,537	
13	LOR 89-A ($11M) Mtg Bond	11/3/1993	2/1/2019			-	-	-	-	-	-	47,327	
14	DallasTown Mortgage (X)	1/1/1950	12/8/2008	6,000,000	4,000,000	-	-	-	4,000,000	-	4,000,000	500,000	
15	98-A KINCAID	4/28/1998	6/15/2020	265,000,000	213,492,218	-	2,740,508	-	210,751,710	-	210,751,710	15,929,626	
16	Louisa 84	12/28/1984	12/1/2008	60,000,000	60,000,000	-	-	-	60,000,000	(32,661)	59,967,339	2,328,982	**
17	Prince William 86	10/8/1986	8/1/2016	11,200,000	11,200,000	-	-	-	11,200,000	184	11,200,184	415,500	**
18	Grant 86	11/20/1986	8/1/2016	7,400,000	7,400,000	-	-	-	7,400,000	(94,941)	7,305,059	288,412	**
19	Louisa 87	12/9/1987	12/1/2015	18,000,000	18,000,000	-	-	(229,276)	17,770,724	(47,306)	17,723,418	721,313	**
20	Halifax 92	11/24/1992	11/1/2027	56,000,000	56,000,000	-	-	-	56,000,000	(167,784)	55,832,216	2,189,951	**
21	Grant 94	3/30/1994	9/1/2024	19,500,000	19,500,000	-	-	(76,285)	19,423,715	(102,110)	19,321,605	727,843	**
22	Grant 96	2/29/1996	3/1/2026	24,500,000	24,500,000	-	-	-	24,500,000	(205,860)	24,294,140	927,182	**
23	Louisa 94	1/20/1994	1/1/2024	19,500,000	19,500,000	-	-	(249,155)	19,250,845	(333,443)	18,917,402	1,083,552	**
24	Louisa 97	4/8/1997	4/1/2022	10,000,000	10,000,000	-	-	-	10,000,000	(143,386)	9,856,614	244,559	**
25	Louisa 00	9/19/2000	9/1/2030	30,000,000	30,000,000	-	-	-	30,000,000	(60,597)	29,939,403	707,588	**
26	Louisa 01	2/28/2001	3/1/2031	50,000,000	50,000,000	-	-	-	50,000,000	(130,224)	49,869,776	2,180,445	**
27	Chesterfield 87C (post fix)	9/10/1987	12/1/2007	15,000,000	15,000,000	-	-	(14,360)	14,985,640	(6,521)	14,979,119	773,353	**
28	Chesterfield 87B (post fix)	6/4/1987	6/1/2017	35,000,000	35,000,000	-	-	-	35,000,000	(112,333)	34,887,667	2,064,333	**
29	Chesterfield 87A (post fix)	6/4/1987	6/1/2017	40,000,000	40,000,000	-	-	(823,154)	39,176,846	(128,965)	39,047,881	2,417,483	**
30	Chesterfield 85 (post fix)	11/13/1985	10/1/2009	40,000,000	40,000,000	-	-	-	40,000,000	(38,436)	39,961,564	2,214,370	**
31	York 85 (post fix)	11/21/1985	7/1/2009	70,000,000	70,000,000	-	-	-	70,000,000	(56,149)	69,943,851	3,873,489	**
32	Chesapeake 85 (post fix)	11/13/1985	2/1/2008	30,000,000	30,000,000	-	-	-	30,000,000	(10,439)	29,989,561	1,587,280	**
33	Louisa 85 (post fix)	12/18/1985	12/1/2008	62,000,000	62,000,000	-	-	-	62,000,000	(39,549)	61,960,451	3,277,751	**
34	Mecklenburg IDA Bonds	8/18/2004	10/15/2017	24,500,000	24,500,000	641,521	-	-	25,141,521	-	25,141,521	1,540,624	
35	Pittsylvania 94B	11/29/2004	1/1/2010	5,400,000	2,800,000	105,263	-	-	2,905,263	-	2,905,263	161,856	
36	Brayton 2006	2/13/2006	2/1/2036	47,000,000	47,000,000	-	1,344,172	-	45,655,828	-	45,655,828	2,370,208	
37	05-D Sr Notes	9/28/2005	9/28/2007	1,000,000,000	1,000,000,000	-	767,043	-	999,232,957	-	999,232,957	56,888,087	
38	DCI Fin46 Debt	2/17/2005	1/16/2017	385,000,000	385,000,000	-	-	-	385,000,000	-	385,000,000	21,906,500	
39	06-B Sr Notes	11/14/2006	11/14/2008	400,000,000	400,000,000	-	902,228	-	399,097,772	-	399,097,772	22,208,089	
40	00-A Sr Notes	6/26/2000	6/15/2010	700,000,000	700,000,000	(278,652)	1,960,582	-	697,760,767	1,733,877	699,494,644	57,015,424	
41	93-B Debentures (post mod)	12/16/1993	12/1/2013	150,000,000	150,000,000	(1,390,795)	326,713	-	148,282,492	(1,809,814)	146,472,678	10,664,096	
42	01-A Sr Notes	4/17/2001	4/15/2011	500,000,000	500,000,000	(328,207)	1,752,840	-	497,918,953	-	497,918,953	34,702,606	
43	01-C Sr Notes	10/25/2001	11/1/2011	450,000,000	450,000,000	(376,762)	1,723,836	-	447,899,402	-	447,899,402	28,520,890	
44	LDNG Sr Notes	11/1/2001	12/1/2007	200,000,000	200,000,000	409,227	-	-	200,409,227	-	200,409,227	11,530,724	
45	02-B Sr Notes	6/27/2002	6/30/2012	500,000,000	500,000,000	(553,079)	2,164,637	-	497,282,284	780,919	498,063,203	31,567,809	
46	02-C Sr Notes	9/16/2002	9/17/2012	520,000,000	520,000,000	(221,025)	2,112,737	(39,322,956)	478,343,282	17,848,157	496,191,439	24,979,484	
47	98-A Debentures (post swap uw)	10/23/1998	10/15/2010	200,000,000	200,000,000	(636,041)	557,679	-	198,806,280	11,638,416	210,444,696	9,445,374	
48	02-E Sr Notes	12/16/2002	12/15/2032	300,000,000	300,000,000	(689,488)	2,636,109	-	296,674,403	-	296,674,403	20,297,792	
49	02-D Sr Notes	12/16/2002	12/15/2009	300,000,000	300,000,000	(573,502)	866,329	-	298,560,169	(183,983)	298,376,186	15,942,932	
50	03-B Sr Notes	2/13/2003	2/15/2008	400,000,000	400,000,000	(92,263)	492,610	-	399,415,128	-	399,415,128	17,190,591	
51	03-A Sr Notes	2/28/2003	3/1/2013	400,000,000	400,000,000	(410,001)	1,818,650	-	397,771,349	-	397,771,349	19,325,880	
52	03-E Sr Notes	3/6/2003	3/15/2033	300,000,000	300,000,000	(82,529)	2,584,917	-	297,332,553	-	297,332,553	18,940,562	
53	03-D Sr Notes	3/6/2003	3/15/2013	300,000,000	300,000,000	(386,541)	1,340,752	-	298,272,708	-	298,272,708	15,249,255	
54	03-F Sr Notes (2015 Put)	7/24/2003	8/1/2033	510,000,000	510,000,000	(3,266,431)	2,814,565	-	503,919,005	6,388,243	510,307,247	26,393,708	
55	03-A Sr Notes	12/1/2003	3/1/2014	200,000,000	200,000,000	(937,015)	1,074,886	-	197,988,099	(132,811)	197,855,288	10,258,458	
56	03-C Sr Notes	12/9/2003	12/15/2015	200,000,000	200,000,000	(1,146,304)	1,127,951	1,152,149	198,877,894	-	198,877,894	10,602,143	
57	03-B Sr Notes	12/9/2003	12/15/2010	230,000,000	230,000,000	(820,578)	871,773	-	228,307,649	-	228,307,649	10,773,676	
58	CAPES	12/12/2003	12/15/2038	225,000,000	225,000,000	(11,572)	587,649	-	224,400,778	4,701,563	229,102,342	13,588,759	
59	04-A Sr Notes	1/15/2004	1/15/2016	200,000,000	200,000,000	(56,172)	1,223,026	-	198,720,802	-	198,720,802	10,507,005	
60	Remarketed 00-E Notes	9/15/2004	9/15/2014	250,000,000	250,000,000	-	-	-	250,000,000	2,568,818	252,568,818	17,455,396	
61	04-A Sr Notes	11/18/2004	12/1/2014	400,000,000	400,000,000	(1,015,402)	2,345,111	-	396,639,488	(967,141)	395,672,347	20,461,155	
62	04-A Sr Notes (Meck Exchange)	11/22/2004	10/15/2017	105,800,000	90,200,000	8,626,704	-	-	98,826,704	-	98,826,704	4,863,962	
63	96-A Debentures (2006 Put) (Post Amort of FV)	10/21/1996	10/15/2026	150,000,000	150,000,000	1,108,540	-	-	151,108,540	-	151,108,540	10,325,332	
64	97-A Debentures (Post Amort of FV)	12/15/1997	12/15/2027	300,000,000	300,000,000	(2,121,526)	2,486,996	-	295,391,478	(5,747,148)	289,644,330	21,122,250	
65	96-B Debentures (Post Amort of FV)	12/13/1996	12/1/2008	150,000,000	150,000,000	(39,066)	161,636	-	149,799,298	(504,389)	149,294,909	10,426,756	
66	Rosemary 8.625% Notes	2/8/2005	2/15/2016	62,336,321	48,543,664	1,374,849	-	-	49,918,513	-	49,918,513	3,954,802	
67	05-A Sr Notes	6/20/2005	12/15/2010	300,000,000	300,000,000	(229,615)	1,404,398	-	298,365,987	-	298,365,987	14,657,617	
68	05-B Sr Notes	6/20/2005	6/15/2035	300,000,000	300,000,000	-	2,762,599	-	297,237,401	-	297,237,401	17,887,580	
69	05-B Sr Notes (Reopen)	7/14/2005	6/15/2035	200,000,000	200,000,000	3,519,103	1,784,478	-	201,734,625	-	201,734,625	11,875,849	
70	05-C Sr Notes	7/14/2005	7/15/2015	500,000,000	500,000,000	(703,837)	3,014,587	-	496,281,575	(2,471,855)	493,809,720	26,516,223	
71	06-A Sr Notes	1/13/2006	1/15/2016	450,000,000	450,000,000	(1,053,938)	2,762,791	-	446,183,271	-	446,183,271	24,658,943	
72	06-B Sr Notes	1/13/2006	1/15/2036	550,000,000	550,000,000	(1,124,788)	4,902,365	-	543,972,847	-	543,972,847	33,089,417	
73	Remarketed 02-A Sr Notes	2/21/2006	5/15/2008	329,908,750	330,000,000	-	-	-	330,000,000	-	330,000,000	18,803,972	
74	06-A Sr Notes	11/14/2006	11/15/2016	250,000,000	250,000,000	(19,432)	1,631,961	-	248,348,607	(6,884,664)	241,463,943	15,106,791	
75	03-G Sr Notes (Converts)	12/11/2003	12/15/2023	220,000,000	229,000	-	-	-	229,000	-	229,000	7,269	
76	04-C Sr Notes (Converts)	12/22/2004	12/15/2023	219,258,000	219,701,000	-	-	-	219,701,000	-	219,701,000	4,703,802	
77	Fort Story	12/15/2004	1/15/2025	144,996	136,900	-	-	-	136,900	(1)	136,899	9,925	
78	Fort Eustis	12/15/2004	1/15/2025	297,215	280,619	-	-	-	280,619	(1)	280,618	20,345	
79	Fort Monroe	2/17/2005	3/17/2025	2,133,076	2,023,450	-	-	-	2,023,450	(8)	2,023,442	146,701	
80	Fort Lee	4/1/2005	4/1/2032	6,156,544	5,999,215	-	-	-	5,999,215	-	5,999,215	434,943	
81	06-A JSN	6/23/2006	6/30/2066	300,000,000	300,000,000	(1,016,138)	4,828,716	-	294,155,147	-	294,155,147	22,523,647	
82	06-B JSN	9/29/2006	9/30/2066	500,000,000	500,000,000	(837,958)	7,853,090	-	491,308,952	-	491,308,952	31,521,068	
	Totals			$ 16,901,055,627	$ 16,596,026,791	$ (7,343,798)	$ 106,705,251	$ (40,147,207)	$ 16,441,830,535	$ 25,224,071	$ 16,467,054,606	$ 996,833,860	
	Embedded Cost of Long-Term Debt (K / H)											6.06%	
	Full Embedded Cost of Long-Term Debt (K / J)											6.05%	

Note: Data provided is for Dominion Resources, Inc. - Consolidated Balance Sheets (unaudited)

* Other Related Unamortized Costs may include one or more of the following: PreIssuance Hedge Loss/Gain, Embedded Option Receipt/Payment, and/or Swap Termination Gain/Loss.
** Put Bonds are amortized to Put Date.

THE EAST OHIO GAS COMPANY d/b/a DOMINION EAST OHIO
Case No. 07-0829-GA-AIR
Embedded Cost of Preferred Stock

Date of Preferred Stock: March 31, 2007
Type of Filing: Original
Work Paper Reference Nos.:

Schedule PCD-4
Page 1 of 1
Sponsoring Witness:
M. Vilbert

Line No.	Dividend Rate, Type, Par Value	Date Issued (A)	Dollar Amounts Outstanding at Par Value ($) (B)	Premium or (Discount) (C)	Issue Expense (D)	Gain (Loss) on Reacquired Stock (E)	Net Proceeds (F=B+C-D+E)	Annual Dividends (G)
1	$5.00 Preferred Stock	5/25/1944	$ 10,667,700	$ 1,493,478	$ 301,912	$ 190,656	$ 12,049,922	$ 533,385
2	$4.04 Preferred Stock	3/14/1950	1,292,600	29,342	212,844	185,293	1,294,391	52,221
3	$4.20 Preferred Stock	3/14/1951	1,479,700	36,993	204,313	174,081	1,486,460	62,147
4	$4.12 Preferred Stock	12/14/1955	3,253,400	56,284	243,727	180,309	3,246,266	134,040
5	$4.80 Preferred Stock	8/1/1962	7,320,600	-	554,141	418,888	7,185,347	351,389
6	$7.05 Preferred Stock	7/8/1993	50,000,000	-	570,801	(1,194,065)	48,235,134	3,525,000
7	$6.98 Preferred Stock	8/18/1993	60,000,000	-	627,748	(2,590,002)	56,782,250	4,188,000
8	Flex MMP 2002 Series	12/12/2002	125,000,000	(1,909,154)	1,875,000	-	121,215,846	6,875,000
9	Issuance Cost re: Flex MMP 2002 Series		(1,916,654)					
10	Totals		$ 257,097,346	$ (293,058)	$ 4,590,486	$ (2,634,840)	$ 251,495,616	$ 15,721,182
11	Embedded Cost of Preferred Stock (G / F)							6.25%

Note: Data provided is for Dominion Resources, Inc. - Consolidated Balance Sheets (unaudited)

Table No. MJV-1

Index to Tables for the Written Evidence of Michael J. Vilbert

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Table No. MJV-12	Risk Positioning Cost of Equity at Dominion East Ohio's Capital Structure

Table No. MJV-2

US Gas LDC Sample

Classification of Companies by Assets

Company		Company Category
Atmos Energy Corp		R
Laclede Group Inc/The	*	R
Northwest Natural Gas Co	*	R
Piedmont Natural Gas Co	*	R
South Jersey Industries Inc		MR
Southwest Gas Corp	*	R
WGL Holdings Inc	*	R
AGL Resources Inc		MR
Vectren Corp		R
New Jersey Resources Corp		MR

Sources and Notes:
Workpaper #1 to Table No. MJV-2, Panels A-J.
* Represents companies included in the subsample.
R = Regulated (greater than 80 percent of total assets are regulated).
MR = Mostly Regulated (50 to 80 percent of total assets are regulated).

Workpaper #1 to Table No. MJV-2

US Gas LDC Sample: Breakdown of Assets

Panel A: Atmos Energy Corp (thousands)

		2006	% of Total Assets
Assets Attributed to Utility	[1]	5,462,301	95.5%
Total	[2]	5,719,547	

Sources and Notes:
[1]-[2]: Atmos Energy Corp's 2006 Form 10-K.

Workpaper #1 to Table No. MJV-2

US Gas LDC Sample: Breakdown of Assets

Panel B: Laclede Group Inc/The (thousands)

		2006	% of Total Assets
Assets Attributed to Utility	[1]	763,827	89.5%
Total	[2]	853,515	

Sources and Notes:
[1]-[2]: Laclede Group Inc/The's 2006 Form 10-K.

Workpaper #1 to Table No. MJV-2

US Gas LDC Sample: Breakdown of Assets

Panel C: Northwest Natural Gas Co (thousands)

		2006	% of Total Assets
Assets Attributed to Utility	[1]	see footnote	98.0%
Total	[2]	see footnote	

Sources and Notes:
[1]-[2]: Northwest Natural Gas Co's 2006 Form 10-K, pg 3 explicitly states the percentage of regulated assets.

Workpaper #1 to Table No. MJV-2

US Gas LDC Sample: Breakdown of Assets

Panel D: Piedmont Natural Gas Co (thousands)

		2006	% of Total Assets
Assets Attributed to Utility	[1]	2,600,411	97.2%
Total	[2]	2,676,288	

Sources and Notes:
[1]-[2]: Piedmont Natural Gas Co's 2006 Form 10-K.

Workpaper #1 to Table No. MJV-2

US Gas LDC Sample: Breakdown of Assets

Panel E: South Jersey Industries Inc (thousands)

		2006	% of Total Assets
Assets Attributed to Utility	[1]	1,228,076	78.1%
Total	[2]	1,573,032	

Sources and Notes:
[1]-[2]: South Jersey Industries Inc's 2006 Form 10-K.

Workpaper #1 to Table No. MJV-2

US Gas LDC Sample: Breakdown of Assets

Panel F: Southwest Gas Corp (thousands)

		2006	% of Total Assets
Assets Attributed to Utility	[1]	3,352,074	96.2%
Total	[2]	3,484,965	

Sources and Notes:
[1]-[2]: Southwest Gas Corp's 2006 Form 10-K.

Workpaper #1 to Table No. MJV-2

US Gas LDC Sample: Breakdown of Assets

Panel G: WGL Holdings Inc (thousands)

		2006	% of Total Assets
Assets Attributed to Utility	[1]	2,944,100	99.8%
Total	[2]	2,950,000	

Sources and Notes:
[1]-[2]: WGL Holdings Inc's 2006 Form 10-K.

Workpaper #1 to Table No. MJV-2

US Gas LDC Sample: Breakdown of Assets

Panel H: AGL Resources Inc (thousands)

		2006	% of Total Assets
Assets Attributed to Utility	[1]	4,565,000	74.3%
Total	[2]	6,147,000	

Sources and Notes:
[1]-[2]: AGL Resources Inc's 2006 Form 10-K.

Workpaper #1 to Table No. MJV-2

US Gas LDC Sample: Breakdown of Assets

Panel I: Vectren Corp (thousands)

		2006	% of Total Assets
Assets Attributed to Utility	[1]	3,231,200	93.9%
Total	[2]	3,440,800	

Sources and Notes:
[1]-[2]: Vectren Corp's 2006 Form 10-K.

Workpaper #1 to Table No. MJV-2

US Gas LDC Sample: Breakdown of Assets

Panel J: New Jersey Resources Corp (thousands)

		2006	% of Total Assets
Assets Attributed to Utility	[1]	1,586,934	66.2%
Total	[2]	2,398,928	

Sources and Notes:

[1]-[2]: New Jersey Resources Corp's 2006 Form 10-K.

Table No. MJV-3

Market Value of the US Gas LDC Sample

Panel A: Atmos Energy Corp

($MM)

	DCF Capital Structure	1st Quarter, 2007	Year End, 2006	Year End, 2005	Year End, 2004	Year End, 2003	Year End, 2002	Notes
MARKET VALUE OF COMMON EQUITY								
Book Value, Common Shareholder's Equity	$1,920	$1,920	$1,648	$1,602	$1,133	$858	$573	[a]
Shares Outstanding (in millions) - Common	89	89	82	81	63	51	42	[b]
Price per Share - Common	$32	$31	$32	$26	$27	$25	$23	[c]
Market Value of Common Equity	$2,835	$2,766	$2,622	$2,105	$1,714	$1,273	$974	[d] = [b] x [c].
Market to Book Value of Common Equity	1.48	1.44	1.59	1.31	1.51	1.48	1.70	[e] = [d] / [a].
MARKET VALUE OF PREFERRED EQUITY								
Book Value of Preferred Equity	$0	$0	$0	$0	$0	$0	$0	[f]
Market Value of Preferred Equity	$0	$0	$0	$0	$0	$0	$0	[g] = [f].
MARKET VALUE OF DEBT								
Current Assets	$1,576	$1,576	$1,118	$1,264	$677	$458	$331	[h]
Current Liabilities	$1,628	$1,628	$1,119	$1,113	$414	$442	$464	[i]
Current Portion of Long-Term Debt	$303	$303	$3	$3	$6	$9	$22	[j]
Net Working Capital	$251	$251	$2	$155	$269	$26	($111)	[k] = [h] - ([i] - [j]).
Notes Payable (Short-Term Debt)	$154	$154	$382	$145	$0	$119	$146	[l]
Adjusted Short-Term Debt	$0	$0	$0	$0	$0	$0	$111	[m] = See Sources and Notes.
Long-Term Debt	$1,879	$1,879	$2,180	$2,183	$861	$863	$670	[n]
Book Value of Long-Term Debt	$2,182	$2,182	$2,184	$2,186	$867	$872	$804	[o] = [n] + [j] + [m].
Adjustment to Book Value of Long-Term Debt	($126)	($126)	($126)	($105)	$75	$141	$105	[p] = See Sources and Notes.
Market Value of Long-Term Debt	$2,055	$2,055	$2,057	$2,082	$943	$1,013	$909	[q] = [p] + [o].
Market Value of Debt	$2,055	$2,055	$2,057	$2,082	$943	$1,013	$909	[r] = [q].
MARKET VALUE OF FIRM	$4,890	$4,822	$4,679	$4,186	$2,657	$2,286	$1,882	[s] = [d] + [g] + [r].
DEBT AND EQUITY TO MARKET VALUE RATIOS								
Common Equity - Market Value Ratio	57.97%	57.37%	56.04%	50.28%	64.52%	55.68%	51.73%	[t] = [d] / [s].
Preferred Equity - Market Value Ratio	-	-	-	-	-	-	-	[u] = [g] / [s].
Debt - Market Value Ratio	42.03%	42.63%	43.96%	49.72%	35.48%	44.32%	48.27%	[v] = [r] / [s].

Sources and Notes:

Bloomberg as of June 11, 2007

Capital structure from 1st Quarter, 2007 calculated using respective balance sheet information and 5-day average prices ending at period end.

The DCF Capital structure is calculated using 1st Quarter, 2007 balance sheet information and a 15-trading day average closing price ending on 6/11/2007.

Prices are reported in Workpaper #1 to Table No. MJV-6.

[m] =

(1): 0 if [k] > 0.

(2): The absolute value of [k] if [k] < 0 and |[k]| < [l].

(3): [l] if [k] < 0 and |[k]| > [l].

[p]: Difference between fair value of Long-Term debt and carrying amount of Long-Term debt per company 10-K. Data for adjustment is from 2006 10-K.

Table No. MJV-3

Market Value of the US Gas LDC Sample

Panel B: Laclede Group Inc/The

($MM)

	DCF Capital Structure	1st Quarter, 2007	Year End, 2006	Year End, 2005	Year End, 2004	Year End, 2003	Year End, 2002	Notes
MARKET VALUE OF COMMON EQUITY								
Book Value, Common Shareholder's Equity	$419	$419	$403	$367	$356	$299	$286	[a]
Shares Outstanding (in millions) - Common	22	22	21	21	21	19	19	[b]
Price per Share - Common	$31	$31	$35	$29	$31	$29	$24	[c]
Market Value of Common Equity	$674	$673	$753	$624	$654	$560	$458	[d] = [b] x [c].
Market to Book Value of Common Equity	1.61	1.61	1.87	1.70	1.84	1.87	1.60	[e] = [d] / [a].
MARKET VALUE OF PREFERRED EQUITY								
Book Value of Preferred Equity	$0	$0	$1	$1	$1	$1	$1	[f]
Market Value of Preferred Equity	$0	$0	$1	$1	$1	$1	$1	[g] = [f].
MARKET VALUE OF DEBT								
Current Assets	$574	$574	$460	$424	$338	$288	$222	[h]
Current Liabilities	$562	$562	$431	$366	$263	$366	$337	[i]
Current Portion of Long-Term Debt	$40	$40	$0	$40	$25	$0	$25	[j]
Net Working Capital	$52	$52	$29	$99	$100	($78)	($89)	[k] = [h] - ([i] - [j]).
Notes Payable (Short-Term Debt)	$257	$257	$207	$71	$71	$218	$162	[l]
Adjusted Short-Term Debt	$0	$0	$0	$0	$0	$78	$89	[m] = See Sources and Notes.
Long-Term Debt	$356	$356	$395	$340	$380	$305	$260	[n]
Book Value of Long-Term Debt	$396	$396	$396	$380	$405	$383	$374	[o] = [n] + [j] + [m].
Adjustment to Book Value of Long-Term Debt	$18	$18	$18	$31	$35	$31	$31	[p] = See Sources and Notes.
Market Value of Long-Term Debt	$415	$415	$414	$412	$440	$414	$405	[q] = [p] + [o].
Market Value of Debt	$415	$415	$414	$412	$440	$414	$405	[r] = [q].
MARKET VALUE OF FIRM	$1,089	$1,088	$1,168	$1,037	$1,096	$975	$864	[s] = [d] + [g] + [r].
DEBT AND EQUITY TO MARKET VALUE RATIOS								
Common Equity - Market Value Ratio	61.90%	61.87%	64.48%	60.21%	59.72%	57.39%	53.01%	[t] = [d] / [s].
Preferred Equity - Market Value Ratio	-	-	0.07%	0.09%	0.10%	0.13%	0.15%	[u] = [g] / [s].
Debt - Market Value Ratio	38.10%	38.13%	35.45%	39.70%	40.18%	42.48%	46.85%	[v] = [r] / [s].

Sources and Notes:

Bloomberg as of June 11, 2007

Capital structure from 1st Quarter, 2007 calculated using respective balance sheet information and 5-day average prices ending at period end.

The DCF Capital structure is calculated using 1st Quarter, 2007 balance sheet information and a 15-trading day average closing price ending on 6/11/2007.

Prices are reported in Workpaper #1 to Table No. MJV-6.

[m] =

(1): 0 if [k] > 0.

(2): The absolute value of [k] if [k] < 0 and |[k]| < [l].

(3): [l] if [k] < 0 and |[k]| > [l].

[p]: Difference between fair value of Long-Term debt and carrying amount of Long-Term debt per company 10-K. Data for adjustment is from 2006 10-K.

Table No. MJV-3

Market Value of the US Gas LDC Sample

Panel C: Northwest Natural Gas Co

($MM)

	DCF Capital Structure	1st Quarter, 2007	Year End, 2006	Year End, 2005	Year End, 2004	Year End, 2003	Year End, 2002	Notes
MARKET VALUE OF COMMON EQUITY								
Book Value, Common Shareholder's Equity	$630	$630	$600	$587	$569	$506	$482	[a]
Shares Outstanding (in millions) - Common	27	27	27	28	27	26	26	[b]
Price per Share - Common	$50	$46	$43	$35	$34	$31	$27	[c]
Market Value of Common Equity	$1,339	$1,238	$1,161	$953	$910	$806	$695	[d] = [b] x [c].
Market to Book Value of Common Equity	2.12	1.96	1.94	1.62	1.60	1.59	1.44	[e] = [d] / [a].
MARKET VALUE OF PREFERRED EQUITY								
Book Value of Preferred Equity	$0	$0	$0	$0	$0	$0	$8	[f]
Market Value of Preferred Equity	$0	$0	$0	$0	$0	$0	$8	[g] = [f].
MARKET VALUE OF DEBT								
Current Assets	$224	$224	$309	$324	$237	$200	$193	[h]
Current Liabilities	$194	$194	$339	$327	$267	$214	$205	[i]
Current Portion of Long-Term Debt	$10	$10	$30	$8	$15	$0	$20	[j]
Net Working Capital	$39	$39	($1)	$5	($15)	($15)	$8	[k] = [h] - ([i] - [j]).
Notes Payable (Short-Term Debt)	$6	$6	$100	$127	$103	$85	$70	[l]
Adjusted Short-Term Debt	$0	$0	$1	$0	$15	$15	$0	[m] = See Sources and Notes.
Long-Term Debt	$517	$517	$517	$522	$484	$500	$446	[n]
Book Value of Long-Term Debt	$527	$527	$548	$530	$514	$515	$466	[o] = [n] + [j] + [m].
Adjustment to Book Value of Long-Term Debt	$49	$49	$49	$50	$69	$62	$53	[p] = See Sources and Notes.
Market Value of Long-Term Debt	$576	$576	$597	$579	$583	$578	$518	[q] = [p] + [o].
Market Value of Debt	$576	$576	$597	$579	$583	$578	$518	[r] = [q].
MARKET VALUE OF FIRM	$1,914	$1,813	$1,757	$1,532	$1,493	$1,383	$1,222	[s] = [d] + [g] + [r].
DEBT AND EQUITY TO MARKET VALUE RATIOS								
Common Equity - Market Value Ratio	69.94%	68.26%	66.04%	62.18%	60.94%	58.25%	56.90%	[t] = [d] / [s].
Preferred Equity - Market Value Ratio	-	-	-	-	-	-	0.67%	[u] = [g] / [s].
Debt - Market Value Ratio	30.06%	31.74%	33.96%	37.82%	39.06%	41.75%	42.42%	[v] = [r] / [s].

Sources and Notes:

Bloomberg as of June 11, 2007

Capital structure from 1st Quarter, 2007 calculated using respective balance sheet information and 5-day average prices ending at period end.

The DCF Capital structure is calculated using 1st Quarter, 2007 balance sheet information and a 15-trading day average closing price ending on 6/11/2007.

Prices are reported in Workpaper #1 to Table No. MJV-6.

[m] =

(1): 0 if [k] > 0.

(2): The absolute value of [k] if [k] < 0 and |[k]| < [l].

(3): [l] if [k] < 0 and |[k]| > [l].

[p]: Difference between fair value of Long-Term debt and carrying amount of Long-Term debt per company 10-K. Data for adjustment is from 2006 10-K.

Table No. MJV-3

Market Value of the US Gas LDC Sample

Panel D: Piedmont Natural Gas Co

($MM)

	DCF Capital Structure	1st Quarter, 2007	Year End, 2006	Year End, 2005	Year End, 2004	Year End, 2003	Year End, 2002	Notes
MARKET VALUE OF COMMON EQUITY								
Book Value, Common Shareholder's Equity	$912	$912	$883	$884	$855	$630	$590	[a]
Shares Outstanding (in millions) - Common	75	75	75	77	77	67	66	[b]
Price per Share - Common	$26	$27	$27	$24	$23	$22	$18	[c]
Market Value of Common Equity	$1,966	$1,983	$2,022	$1,842	$1,784	$1,459	$1,187	[d] = [b] x [c].
Market to Book Value of Common Equity	2.16	2.17	2.29	2.08	2.09	2.31	2.01	[e] = [d] / [a].
MARKET VALUE OF PREFERRED EQUITY								
Book Value of Preferred Equity	$0	$0	$0	$0	$0	$0	$0	[f]
Market Value of Preferred Equity	$0	$0	$0	$0	$0	$0	$0	[g] = [f].
MARKET VALUE OF DEBT								
Current Assets	$616	$616	$476	$505	$391	$323	$176	[h]
Current Liabilities	$517	$517	$400	$529	$336	$740	$205	[i]
Current Portion of Long-Term Debt	$0	$0	$0	$35	$0	$2	$47	[j]
Net Working Capital	$99	$99	$76	$11	$55	($414)	$18	[k] = [h] - ([i] - [j]).
Notes Payable (Short-Term Debt)	$233	$233	$170	$159	$110	$555	$47	[l]
Adjusted Short-Term Debt	$0	$0	$0	$0	$0	$414	$0	[m] = See Sources and Notes.
Long-Term Debt	$825	$825	$825	$625	$660	$460	$462	[n]
Book Value of Long-Term Debt	$825	$825	$825	$660	$660	$876	$509	[o] = [n] + [j] + [m].
Adjustment to Book Value of Long-Term Debt	$89	$89	$89	$93	$115	$45	$81	[p] = See Sources and Notes.
Market Value of Long-Term Debt	$914	$914	$914	$753	$775	$921	$590	[q] = [p] + [o].
Market Value of Debt	$914	$914	$914	$753	$775	$921	$590	[r] = [q].
MARKET VALUE OF FIRM	$2,879	$2,897	$2,935	$2,595	$2,559	$2,380	$1,776	[s] = [d] + [g] + [r].
DEBT AND EQUITY TO MARKET VALUE RATIOS								
Common Equity - Market Value Ratio	68.27%	68.45%	68.87%	70.98%	69.71%	61.29%	66.81%	[t] = [d] / [s].
Preferred Equity - Market Value Ratio	-	-	-	-	-	-	-	[u] = [g] / [s].
Debt - Market Value Ratio	31.73%	31.55%	31.13%	29.02%	30.29%	38.71%	33.19%	[v] = [r] / [s].

Sources and Notes:

Bloomberg as of June 11, 2007

Capital structure from 1st Quarter, 2007 calculated using respective balance sheet information and 5-day average prices ending at period end.

The DCF Capital structure is calculated using 1st Quarter, 2007 balance sheet information and a 15-trading day average closing price ending on 6/11/2007.

Prices are reported in Workpaper #1 to Table No. MJV-6.

[m] =

(1): 0 if [k] > 0.

(2): The absolute value of [k] if [k] < 0 and |[k]| < [l].

(3): [l] if [k] < 0 and |[k]| > [l].

[p]: Difference between fair value of Long-Term debt and carrying amount of Long-Term debt per company 10-K. Data for adjustment is from 2006 10-K.

Table No. MJV-3

Market Value of the US Gas LDC Sample

Panel E: South Jersey Industries Inc

($MM)

	DCF Capital Structure	1st Quarter, 2007	Year End, 2006	Year End, 2005	Year End, 2004	Year End, 2003	Year End, 2002	Notes
MARKET VALUE OF COMMON EQUITY								
Book Value, Common Shareholder's Equity	$463	$463	$443	$394	$343	$298	$238	[a]
Shares Outstanding (in millions) - Common	29	29	29	29	28	26	24	[b]
Price per Share - Common	$39	$38	$33	$29	$26	$20	$17	[c]
Market Value of Common Equity	$1,133	$1,115	$981	$854	$728	$535	$404	[d] = [b] x [c].
Market to Book Value of Common Equity	2.45	2.41	2.21	2.17	2.12	1.79	1.70	[e] = [d] / [a].
MARKET VALUE OF PREFERRED EQUITY								
Book Value of Preferred Equity	$0	$0	$0	$0	$2	$2	$2	[f]
Market Value of Preferred Equity	$0	$0	$0	$0	$2	$2	$2	[g] = [f].
MARKET VALUE OF DEBT								
Current Assets	$334	$334	$372	$362	$284	$266	$212	[h]
Current Liabilities	$317	$317	$423	$406	$285	$268	$316	[i]
Current Portion of Long-Term Debt	$2	$2	$2	$2	$5	$5	$11	[j]
Net Working Capital	$19	$19	($49)	($42)	$4	$3	($93)	[k] = [h] - ([i] - [j]).
Notes Payable (Short-Term Debt)	$82	$82	$195	$147	$92	$113	$167	[l]
Adjusted Short-Term Debt	$0	$0	$49	$42	$0	$0	$93	[m] = See Sources and Notes.
Long-Term Debt	$358	$358	$358	$319	$329	$309	$274	[n]
Book Value of Long-Term Debt	$360	$360	$409	$363	$334	$314	$378	[o] = [n] + [j] + [m].
Adjustment to Book Value of Long-Term Debt	$21	$21	$21	$13	$16	$25	$43	[p] = See Sources and Notes.
Market Value of Long-Term Debt	$381	$381	$430	$376	$350	$339	$421	[q] = [p] + [o].
Market Value of Debt	$381	$381	$430	$376	$350	$339	$421	[r] = [q].
MARKET VALUE OF FIRM	$1,514	$1,496	$1,411	$1,230	$1,080	$875	$826	[s] = [d] + [g] + [r].
DEBT AND EQUITY TO MARKET VALUE RATIOS								
Common Equity - Market Value Ratio	74.83%	74.52%	69.54%	69.42%	67.42%	61.11%	48.85%	[t] = [d] / [s].
Preferred Equity - Market Value Ratio	-	-	-	-	0.16%	0.19%	0.20%	[u] = [g] / [s].
Debt - Market Value Ratio	25.17%	25.48%	30.46%	30.58%	32.42%	38.70%	50.95%	[v] = [r] / [s].

Sources and Notes:

Bloomberg as of June 11, 2007

Capital structure from 1st Quarter, 2007 calculated using respective balance sheet information and 5-day average prices ending at period end.

The DCF Capital structure is calculated using 1st Quarter, 2007 balance sheet information and a 15-trading day average closing price ending on 6/11/2007.

Prices are reported in Workpaper #1 to Table No. MJV-6.

[m] =

(1): 0 if [k] > 0.

(2): The absolute value of [k] if [k] < 0 and |[k]| < [l].

(3): [l] if [k] < 0 and |[k]| > [l].

[p]: Difference between fair value of Long-Term debt and carrying amount of Long-Term debt per company 10-K. Data for adjustment is from 2006 10-K.

Table No. MJV-3

Market Value of the US Gas LDC Sample

Panel F: Southwest Gas Corp

($MM)

	DCF Capital Structure	1st Quarter, 2007	Year End, 2006	Year End, 2005	Year End, 2004	Year End, 2003	Year End, 2002	Notes
MARKET VALUE OF COMMON EQUITY								
Book Value, Common Shareholder's Equity	$952	$952	$901	$751	$706	$630	$596	[a]
Shares Outstanding (in millions) - Common	42	42	42	39	37	34	33	[b]
Price per Share - Common	$38	$39	$39	$27	$25	$23	$23	[c]
Market Value of Common Equity	$1,589	$1,638	$1,613	$1,042	$938	$784	$770	[d] = [b] x [c].
Market to Book Value of Common Equity	1.67	1.72	1.79	1.39	1.33	1.24	1.29	[e] = [d] / [a].
MARKET VALUE OF PREFERRED EQUITY								
Book Value of Preferred Equity	$0	$0	$0	$0	$0	$0	$0	[f]
Market Value of Preferred Equity	$0	$0	$0	$0	$0	$0	$0	[g] = [f].
MARKET VALUE OF DEBT								
Current Assets	$450	$450	$502	$543	$432	$281	$262	[h]
Current Liabilities	$507	$507	$496	$621	$483	$310	$313	[i]
Current Portion of Long-Term Debt	$28	$28	$28	$83	$30	$6	$9	[j]
Net Working Capital	($29)	($29)	$33	$5	($21)	($23)	($43)	[k] = [h] - ([i] - [j]).
Notes Payable (Short-Term Debt)	$0	$0	$0	$24	$100	$52	$53	[l]
Adjusted Short-Term Debt	$0	$0	$0	$0	$21	$23	$43	[m] = See Sources and Notes.
Long-Term Debt	$1,311	$1,311	$1,386	$1,325	$1,263	$1,221	$1,152	[n]
Book Value of Long-Term Debt	$1,338	$1,338	$1,414	$1,408	$1,314	$1,250	$1,204	[o] = [n] + [j] + [m].
Adjustment to Book Value of Long-Term Debt	$80	$80	$80	$145	$154	$126	$66	[p] = See Sources and Notes.
Market Value of Long-Term Debt	$1,419	$1,419	$1,494	$1,553	$1,468	$1,377	$1,269	[q] = [p] + [o].
Market Value of Debt	$1,419	$1,419	$1,494	$1,553	$1,468	$1,377	$1,269	[r] = [q].
MARKET VALUE OF FIRM	$3,008	$3,056	$3,107	$2,596	$2,406	$2,160	$2,039	[s] = [d] + [g] + [r].
DEBT AND EQUITY TO MARKET VALUE RATIOS								
Common Equity - Market Value Ratio	52.84%	53.59%	51.91%	40.16%	38.97%	36.28%	37.77%	[t] = [d] / [s].
Preferred Equity - Market Value Ratio	-	-	-	-	-	-	-	[u] = [g] / [s].
Debt - Market Value Ratio	47.16%	46.41%	48.09%	59.84%	61.03%	63.72%	62.23%	[v] = [r] / [s].

Sources and Notes:

Bloomberg as of June 11, 2007

Capital structure from 1st Quarter, 2007 calculated using respective balance sheet information and 5-day average prices ending at period end.

The DCF Capital structure is calculated using 1st Quarter, 2007 balance sheet information and a 15-trading day average closing price ending on 6/11/2007.

Prices are reported in Workpaper #1 to Table No. MJV-6.

[m] =

(1): 0 if [k] > 0.

(2): The absolute value of [k] if [k] < 0 and |[k]| < [l].

(3): [l] if [k] < 0 and |[k]| > [l].

[p]: Difference between fair value of Long-Term debt and carrying amount of Long-Term debt per company 10-K. Data for adjustment is from 2006 10-K.

Table No. MJV-3

Market Value of the US Gas LDC Sample

Panel G: WGL Holdings Inc

($MM)

	DCF Capital Structure	1st Quarter, 2007	Year End, 2006	Year End, 2005	Year End, 2004	Year End, 2003	Year End, 2002	Notes
MARKET VALUE OF COMMON EQUITY								
Book Value, Common Shareholder's Equity	$959	$959	$922	$894	$853	$818	$766	[a]
Shares Outstanding (in millions) - Common	49	49	49	49	49	49	49	[b]
Price per Share - Common	$35	$32	$33	$30	$31	$28	$24	[c]
Market Value of Common Equity	$1,701	$1,580	$1,603	$1,470	$1,509	$1,366	$1,166	[d] = [b] x [c].
Market to Book Value of Common Equity	1.77	1.65	1.74	1.64	1.77	1.67	1.52	[e] = [d] / [a].
MARKET VALUE OF PREFERRED EQUITY								
Book Value of Preferred Equity	$28	$28	$28	$28	$28	$28	$28	[f]
Market Value of Preferred Equity	$28	$28	$28	$28	$28	$28	$28	[g] = [f].
MARKET VALUE OF DEBT								
Current Assets	$811	$811	$562	$481	$433	$409	$341	[h]
Current Liabilities	$805	$805	$561	$412	$413	$386	$338	[i]
Current Portion of Long-Term Debt	$31	$31	$61	$50	$61	$12	$42	[j]
Net Working Capital	$37	$37	$62	$120	$81	$35	$46	[k] = [h] - ([i] - [j]).
Notes Payable (Short-Term Debt)	$247	$247	$177	$41	$96	$167	$91	[l]
Adjusted Short-Term Debt	$0	$0	$0	$0	$0	$0	$0	[m] = See Sources and Notes.
Long-Term Debt	$605	$605	$576	$584	$590	$637	$668	[n]
Book Value of Long-Term Debt	$636	$636	$637	$634	$651	$649	$710	[o] = [n] + [j] + [m].
Adjustment to Book Value of Long-Term Debt	$17	$17	$17	$43	$56	$86	$58	[p] = See Sources and Notes.
Market Value of Long-Term Debt	$653	$653	$654	$677	$707	$735	$768	[q] = [p] + [o].
Market Value of Debt	$653	$653	$654	$677	$707	$735	$768	[r] = [q].
MARKET VALUE OF FIRM	$2,383	$2,262	$2,285	$2,175	$2,244	$2,128	$1,962	[s] = [d] + [g] + [r].
DEBT AND EQUITY TO MARKET VALUE RATIOS								
Common Equity - Market Value Ratio	71.40%	69.87%	70.14%	67.58%	67.23%	64.16%	59.43%	[t] = [d] / [s].
Preferred Equity - Market Value Ratio	1.18%	1.25%	1.23%	1.30%	1.26%	1.32%	1.44%	[u] = [g] / [s].
Debt - Market Value Ratio	27.42%	28.88%	28.63%	31.12%	31.52%	34.52%	39.13%	[v] = [r] / [s].

Sources and Notes:

Bloomberg as of June 11, 2007

Capital structure from 1st Quarter, 2007 calculated using respective balance sheet information and 5-day average prices ending at period end.

The DCF Capital structure is calculated using 1st Quarter, 2007 balance sheet information and a 15-trading day average closing price ending on 6/11/2007.

Prices are reported in Workpaper #1 to Table No. MJV-6.

[m] =

(1): 0 if [k] > 0.

(2): The absolute value of [k] if [k] < 0 and |[k]| < [l].

(3): [l] if [k] < 0 and |[k]| > [l].

[p]: Difference between fair value of Long-Term debt and carrying amount of Long-Term debt per company 10-K. Data for adjustment is from 2006 10-K.

Table No. MJV-3

Market Value of the US Gas LDC Sample

Panel H: AGL Resources Inc

($MM)

	DCF Capital Structure	1st Quarter, 2007	Year End, 2006	Year End, 2005	Year End, 2004	Year End, 2003	Year End, 2002	Notes
MARKET VALUE OF COMMON EQUITY								
Book Value, Common Shareholder's Equity	$1,678	$1,678	$1,609	$1,499	$1,385	$945	$710	[a]
Shares Outstanding (in millions) - Common	78	78	78	78	77	65	57	[b]
Price per Share - Common	$42	$43	$39	$35	$33	$29	$24	[c]
Market Value of Common Equity	$3,276	$3,322	$3,042	$2,708	$2,546	$1,879	$1,381	[d] = [b] x [c].
Market to Book Value of Common Equity	1.95	1.98	1.89	1.81	1.84	1.99	1.94	[e] = [d] / [a].
MARKET VALUE OF PREFERRED EQUITY								
Book Value of Preferred Equity	$0	$0	$0	$0	$0	$0	$227	[f]
Market Value of Preferred Equity	$0	$0	$0	$0	$0	$0	$227	[g] = [f].
MARKET VALUE OF DEBT								
Current Assets	$1,394	$1,394	$1,822	$2,041	$1,457	$742	$586	[h]
Current Liabilities	$1,101	$1,101	$1,627	$1,968	$1,477	$1,048	$1,016	[i]
Current Portion of Long-Term Debt	$0	$0	$0	$0	$0	$77	$30	[j]
Net Working Capital	$293	$293	$195	$73	($20)	($229)	($399)	[k] = [h] - ([i] - [j]).
Notes Payable (Short-Term Debt)	$111	$111	$539	$522	$334	$306	$389	[l]
Adjusted Short-Term Debt	$0	$0	$0	$0	$20	$229	$389	[m] = See Sources and Notes.
Long-Term Debt	$1,623	$1,623	$1,622	$1,615	$1,623	$956	$767	[n]
Book Value of Long-Term Debt	$1,623	$1,623	$1,622	$1,615	$1,643	$1,262	$1,186	[o] = [n] + [j] + [m].
Adjustment to Book Value of Long-Term Debt	$83	$83	$83	$169	$193	$133	$87	[p] = See Sources and Notes.
Market Value of Long-Term Debt	$1,706	$1,706	$1,705	$1,784	$1,836	$1,395	$1,273	[q] = [p] + [o].
Market Value of Debt	$1,706	$1,706	$1,705	$1,784	$1,836	$1,395	$1,273	[r] = [q].
MARKET VALUE OF FIRM	$4,982	$5,028	$4,747	$4,492	$4,382	$3,274	$2,881	[s] = [d] + [g] + [r].
DEBT AND EQUITY TO MARKET VALUE RATIOS								
Common Equity - Market Value Ratio	65.76%	66.07%	64.09%	60.29%	58.10%	57.39%	47.93%	[t] = [d] / [s].
Preferred Equity - Market Value Ratio	-	-	-	-	-	-	7.89%	[u] = [g] / [s].
Debt - Market Value Ratio	34.24%	33.93%	35.91%	39.71%	41.90%	42.61%	44.18%	[v] = [r] / [s].

Sources and Notes:

Bloomberg as of June 11, 2007

Capital structure from 1st Quarter, 2007 calculated using respective balance sheet information and 5-day average prices ending at period end.

The DCF Capital structure is calculated using 1st Quarter, 2007 balance sheet information and a 15-trading day average closing price ending on 6/11/2007.

Prices are reported in Workpaper #1 to Table No. MJV-6.

[m] =

(1): 0 if [k] > 0.

(2): The absolute value of [k] if [k] < 0 and |[k]| < [l].

(3): [l] if [k] < 0 and |[k]| > [l].

[p]: Difference between fair value of Long-Term debt and carrying amount of Long-Term debt per company 10-K. Data for adjustment is from 2006 10-K.

Table No. MJV-3

Market Value of the US Gas LDC Sample

Panel I: Vectren Corp

($MM)

	DCF Capital Structure	1st Quarter, 2007	Year End, 2006	Year End, 2005	Year End, 2004	Year End, 2003	Year End, 2002	Notes
MARKET VALUE OF COMMON EQUITY								
Book Value, Common Shareholder's Equity	$1,223	$1,223	$1,174	$1,143	$1,095	$1,072	$870	[a]
Shares Outstanding (in millions) - Common	77	77	76	76	76	76	68	[b]
Price per Share - Common	$29	$28	$28	$27	$27	$25	$23	[c]
Market Value of Common Equity	$2,196	$2,170	$2,156	$2,063	$2,040	$1,859	$1,548	[d] = [b] x [c].
Market to Book Value of Common Equity	1.80	1.77	1.84	1.80	1.86	1.73	1.78	[e] = [d] / [a].
MARKET VALUE OF PREFERRED EQUITY								
Book Value of Preferred Equity	$0	$0	$0	$0	$0	$0	$0	[f]
Market Value of Preferred Equity	$0	$0	$0	$0	$0	$0	$0	[g] = [f].
MARKET VALUE OF DEBT								
Current Assets	$509	$509	$716	$725	$586	$512	$465	[h]
Current Liabilities	$750	$750	$961	$840	$826	$584	$774	[i]
Current Portion of Long-Term Debt	$44	$44	$44	$54	$49	$29	$66	[j]
Net Working Capital	($197)	($197)	($201)	($60)	($191)	($44)	($242)	[k] = [h] - ([i] - [j]).
Notes Payable (Short-Term Debt)	$273	$273	$465	$300	$412	$275	$400	[l]
Adjusted Short-Term Debt	$197	$197	$201	$60	$191	$44	$242	[m] = See Sources and Notes.
Long-Term Debt	$1,208	$1,208	$1,208	$1,198	$1,017	$1,073	$954	[n]
Book Value of Long-Term Debt	$1,449	$1,449	$1,454	$1,312	$1,256	$1,145	$1,263	[o] = [n] + [j] + [m].
Adjustment to Book Value of Long-Term Debt	$20	$20	$20	$56	$76	$78	$70	[p] = See Sources and Notes.
Market Value of Long-Term Debt	$1,469	$1,469	$1,473	$1,368	$1,332	$1,223	$1,333	[q] = [p] + [o].
Market Value of Debt	$1,469	$1,469	$1,473	$1,368	$1,332	$1,223	$1,333	[r] = [q].
MARKET VALUE OF FIRM	$3,665	$3,639	$3,629	$3,431	$3,373	$3,082	$2,882	[s] = [d] + [g] + [r].
DEBT AND EQUITY TO MARKET VALUE RATIOS								
Common Equity - Market Value Ratio	59.91%	59.63%	59.40%	60.12%	60.49%	60.30%	53.73%	[t] = [d] / [s].
Preferred Equity - Market Value Ratio	-	-	-	-	0.00%	0.01%	0.01%	[u] = [g] / [s].
Debt - Market Value Ratio	40.09%	40.37%	40.60%	39.88%	39.51%	39.69%	46.26%	[v] = [r] / [s].

Sources and Notes:

Bloomberg as of June 11, 2007

Capital structure from 1st Quarter, 2007 calculated using respective balance sheet information and 5-day average prices ending at period end.

The DCF Capital structure is calculated using 1st Quarter, 2007 balance sheet information and a 15-trading day average closing price ending on 6/11/2007.

Prices are reported in Workpaper #1 to Table No. MJV-6.

[m] =

(1): 0 if [k] > 0.

(2): The absolute value of [k] if [k] < 0 and |[k]| < [l].

(3): [l] if [k] < 0 and |[k]| > [l].

[p]: Difference between fair value of Long-Term debt and carrying amount of Long-Term debt per company 10-K. Data for adjustment is from 2006 10-K.

Table No. MJV-3

Market Value of the US Gas LDC Sample

Panel J: New Jersey Resources Corp

($MM)

	DCF Capital Structure	1st Quarter, 2007	Year End, 2006	Year End, 2005	Year End, 2004	Year End, 2003	Year End, 2002	Notes
MARKET VALUE OF COMMON EQUITY								
Book Value, Common Shareholder's Equity	$645	$645	$622	$438	$468	$419	$361	[a]
Shares Outstanding (in millions) - Common	28	28	28	28	28	27	27	[b]
Price per Share - Common	$54	$50	$49	$42	$43	$39	$32	[c]
Market Value of Common Equity	$1,510	$1,393	$1,353	$1,188	$1,206	$1,059	$856	[d] = [b] x [c].
Market to Book Value of Common Equity	2.34	2.16	2.18	2.71	2.58	2.53	2.37	[e] = [d] / [a].
MARKET VALUE OF PREFERRED EQUITY								
Book Value of Preferred Equity	$0	$0	$0	$0	$0	$0	$0	[f]
Market Value of Preferred Equity	$0	$0	$0	$0	$0	$0	$0	[g] = [f].
MARKET VALUE OF DEBT								
Current Assets	$1,089	$1,089	$966	$1,073	$686	$450	$434	[h]
Current Liabilities	$1,023	$1,023	$897	$1,097	$688	$524	$436	[i]
Current Portion of Long-Term Debt	$4	$4	$4	$3	$28	$2	$27	[j]
Net Working Capital	$70	$70	$72	($20)	$26	($71)	$25	[k] = [h] - ([i] - [j]).
Notes Payable (Short-Term Debt)	$286	$286	$281	$174	$260	$186	$60	[l]
Adjusted Short-Term Debt	$0	$0	$0	$20	$0	$71	$0	[m] = See Sources and Notes.
Long-Term Debt	$337	$337	$332	$317	$316	$258	$371	[n]
Book Value of Long-Term Debt	$341	$341	$336	$341	$344	$332	$398	[o] = [n] + [j] + [m].
Adjustment to Book Value of Long-Term Debt	$2	$2	$2	$2	$6	$9	$10	[p] = See Sources and Notes.
Market Value of Long-Term Debt	$343	$343	$338	$343	$349	$341	$407	[q] = [p] + [o].
Market Value of Debt	$343	$343	$338	$343	$349	$341	$407	[r] = [q].
MARKET VALUE OF FIRM	$1,853	$1,736	$1,691	$1,530	$1,555	$1,400	$1,263	[s] = [d] + [g] + [r].
DEBT AND EQUITY TO MARKET VALUE RATIOS								
Common Equity - Market Value Ratio	81.50%	80.25%	80.01%	77.61%	77.54%	75.64%	67.73%	[t] = [d] / [s].
Preferred Equity - Market Value Ratio	-	-	-	-	-	-	0.02%	[u] = [g] / [s].
Debt - Market Value Ratio	18.50%	19.75%	19.99%	22.39%	22.46%	24.36%	32.25%	[v] = [r] / [s].

Sources and Notes:

Bloomberg as of June 11, 2007

Capital structure from 1st Quarter, 2007 calculated using respective balance sheet information and 5-day average prices ending at period end.

The DCF Capital structure is calculated using 1st Quarter, 2007 balance sheet information and a 15-trading day average closing price ending on 6/11/2007.

Prices are reported in Workpaper #1 to Table No. MJV-6.

[m] =

(1): 0 if [k] > 0.

(2): The absolute value of [k] if [k] < 0 and |[k]| < [l].

(3): [l] if [k] < 0 and |[k]| > [l].

[p]: Difference between fair value of Long-Term debt and carrying amount of Long-Term debt per company 10-K. Data for adjustment is from 2006 10-K.

Table No. MJV-4

US Gas LDC Sample

Capital Structure Summary

Company		DCF Capital Structure			5-Year Average Capital Structure		
		Common Equity - Value Ratio [1]	Preferred Equity - Value Ratio [2]	Debt - Value Ratio [3]	Common Equity - Value Ratio [4]	Preferred Equity - Value Ratio [5]	Debt - Value Ratio [6]
Atmos Energy Corp		0.58	-	0.42	0.56	-	0.44
Laclede Group Inc/The	*	0.62	-	0.38	0.59	0.00	0.40
Northwest Natural Gas Co	*	0.70	-	0.30	0.61	0.00	0.38
Piedmont Natural Gas Co	*	0.68	-	0.32	0.68	-	0.32
South Jersey Industries Inc		0.75	-	0.25	0.65	0.00	0.35
Southwest Gas Corp	*	0.53	-	0.47	0.42	-	0.58
WGL Holdings Inc	*	0.71	0.01	0.27	0.66	0.01	0.32
AGL Resources Inc		0.66	-	0.34	0.58	0.01	0.40
Vectren Corp		0.60	-	0.40	0.59	0.00	0.41
New Jersey Resources Corp		0.81	-	0.19	0.76	0.00	0.24
Average		0.66	0.00	0.33	0.61	0.00	0.39
Subsample Average		0.65	0.00	0.35	0.59	0.00	0.40

Sources and Notes:
[1], [4]:Workpaper #1 to Table No. MJV-4.
[2], [5]:Workpaper #2 to Table No. MJV-4.
[3], [6]:Workpaper #3 to Table No. MJV-4.
Values in this table may not add up exactly to 1.0 because of rounding.

Workpaper #1 to Table No. MJV-4

US Gas LDC Sample

Calculation of the Average Common Equity - Market Value Ratio

Company	DCF Capital Structure [1]	1st Quarter, 2007 [2]	2006 [3]	2005 [4]	2004 [5]	2003 [6]	2002 [7]	5-Year Average [8]
Atmos Energy Corp	0.58	0.57	0.56	0.50	0.65	0.56	0.52	0.56
Laclede Group Inc/The	0.62	0.62	0.64	0.60	0.60	0.57	0.53	0.59
Northwest Natural Gas Co	0.70	0.68	0.66	0.62	0.61	0.58	0.57	0.61
Piedmont Natural Gas Co	0.68	0.68	0.69	0.71	0.70	0.61	0.67	0.68
South Jersey Industries Inc	0.75	0.75	0.70	0.69	0.67	0.61	0.49	0.65
Southwest Gas Corp	0.53	0.54	0.52	0.40	0.39	0.36	0.38	0.42
WGL Holdings Inc	0.71	0.70	0.70	0.68	0.67	0.64	0.59	0.66
AGL Resources Inc	0.66	0.66	0.64	0.60	0.58	0.57	0.48	0.58
Vectren Corp	0.60	0.60	0.59	0.60	0.60	0.60	0.54	0.59
New Jersey Resources Corp	0.81	0.80	0.80	0.78	0.78	0.76	0.68	0.76

Sources and Notes:
[1] - [7]: Table No. MJV-3; Panels A - J, [t].
[8]: {([2] x 0.25) + [3] + [4] + [5] + [6] + ([7] x 0.75)} / 5.

Workpaper #2 to Table No. MJV-4

US Gas LDC Sample

Calculation of the Average Preferred Equity - Market Value Ratio

Company	DCF Capital Structure [1]	1st Quarter, 2007 [2]	2006 [3]	2005 [4]	2004 [5]	2003 [6]	2002 [7]	5-Year Average [8]
Atmos Energy Corp	-	-	-	-	-	-	-	-
Laclede Group Inc/The	-	-	0.00	0.00	0.00	0.00	0.00	0.00
Northwest Natural Gas Co	-	-	-	-	-	-	0.01	0.00
Piedmont Natural Gas Co	-	-	-	-	-	-	-	-
South Jersey Industries Inc	-	-	-	-	0.00	0.00	0.00	0.00
Southwest Gas Corp	-	-	-	-	-	-	-	-
WGL Holdings Inc	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
AGL Resources Inc	-	-	-	-	-	-	0.08	0.01
Vectren Corp	-	-	-	-	0.00	0.00	0.00	0.00
New Jersey Resources Corp	-	-	-	-	-	-	0.00	0.00

Sources and Notes:
[1] - [7]: Table No. MJV-3; Panels A - J, [u].
[8]: {([2] x 0.25) + [3] + [4] + [5] + [6] + ([7] x 0.75)} / 5.

Workpaper #3 to Table No. MJV-4

US Gas LDC Sample

Calculation of the Average Debt - Market Value Ratio

Company	DCF Capital Structure [1]	1st Quarter, 2007 [2]	2006 [3]	2005 [4]	2004 [5]	2003 [6]	2002 [7]	5-Year Average [8]
Atmos Energy Corp	0.42	0.43	0.44	0.50	0.35	0.44	0.48	0.44
Laclede Group Inc/The	0.38	0.38	0.35	0.40	0.40	0.42	0.47	0.40
Northwest Natural Gas Co	0.30	0.32	0.34	0.38	0.39	0.42	0.42	0.38
Piedmont Natural Gas Co	0.32	0.32	0.31	0.29	0.30	0.39	0.33	0.32
South Jersey Industries Inc	0.25	0.25	0.30	0.31	0.32	0.39	0.51	0.35
Southwest Gas Corp	0.47	0.46	0.48	0.60	0.61	0.64	0.62	0.58
WGL Holdings Inc	0.27	0.29	0.29	0.31	0.32	0.35	0.39	0.32
AGL Resources Inc	0.34	0.34	0.36	0.40	0.42	0.43	0.44	0.40
Vectren Corp	0.40	0.40	0.41	0.40	0.40	0.40	0.46	0.41
New Jersey Resources Corp	0.19	0.20	0.20	0.22	0.22	0.24	0.32	0.24

Sources and Notes:
[1] - [7]: Table No. MJV-3; Panels A - J, [v].
[8]: {([2] x 0.25) + [3] + [4] + [5] + [6] + ([7] x 0.75)} / 5.

Table No. MJV-5

US Gas LDC Sample

Combined Bloomberg Estimated and Value Line Estimated Growth Rates

Company	Bloomberg Estimate		Value Line			Combined BEst and Value Line Growth Rate
	BEst Long-Term Growth Rate	Number of Estimates	EPS Year 2007 Estimate	EPS Year 2010 - 2012 Estimate	Annualized Growth Rate	
	[1]	[2]	[3]	[4]	[5]	[6]
Atmos Energy Corp	5.5%	6	$2.00	$2.50	5.7%	5.5%
Laclede Group Inc/The	3.0%	1	$1.90	$2.35	5.5%	4.2%
Northwest Natural Gas Co	4.8%	3	$2.60	$3.10	4.5%	4.7%
Piedmont Natural Gas Co	5.8%	5	$1.40	$1.60	3.4%	5.4%
South Jersey Industries Inc	6.3%	3	$2.30	$3.00	6.9%	6.5%
Southwest Gas Corp	5.3%	3	$2.15	$2.70	5.9%	5.5%
WGL Holdings Inc	2.2%	4	$1.98	$2.40	4.9%	2.7%
AGL Resources Inc	4.8%	5	$2.80	$3.10	2.6%	4.5%
Vectren Corp	3.7%	3	$1.80	$2.00	2.7%	3.5%
New Jersey Resources Corp	5.0%	5	$3.00	$3.15	1.2%	4.3%

Sources and Notes:
[1] - [2]: Bloomberg as of June 11, 2007.
[3] - [4]: Most recent Value Line Standard Edition dated as of June 15, 2007. Vectren is dated as of June 29, 2007.
[5]: ([4] / [3]) ^ (1/4) - 1.
[6]: ([1] x [2] + [5]) / ([2] + 1).

Table No. MJV-6

DCF Cost of Equity of the US Gas LDC Sample

Panel A: Simple DCF Method (Quarterly)

Company	Stock Price [1]	Most Recent Dividend [2]	Combined BEst and Value Line Long-Term Growth Rate [3]	Quarterly Growth Rate [4]	DCF Cost of Equity [5]
Atmos Energy Corp	$32.03	$0.32	5.5%	1.4%	9.8%
Laclede Group Inc/The	$31.29	$0.37	4.2%	1.0%	9.2%
Northwest Natural Gas Co	$49.61	$0.36	4.7%	1.2%	7.8%
Piedmont Natural Gas Co	$26.35	$0.25	5.4%	1.3%	9.5%
South Jersey Industries Inc	$38.51	$0.25	6.5%	1.6%	9.2%
Southwest Gas Corp	$37.74	$0.22	5.5%	1.3%	7.9%
WGL Holdings Inc	$34.63	$0.34	2.7%	0.7%	6.9%
AGL Resources Inc	$42.11	$0.41	4.5%	1.1%	8.6%
Vectren Corp	$28.70	$0.32	3.5%	0.9%	8.1%
New Jersey Resources Corp	$54.25	$0.38	4.3%	1.1%	7.3%

Sources and Notes:
[1]: Workpaper #1 to Table No. MJV-6.
[2]: Workpaper #2 to Table No. MJV-6.
[3]: Table No. MJV-5, [6].
[4]: {(1 + [3]) ^ (1/4)} - 1.
[5]: {(([2] / [1]) x (1 + [4]) + [4] + 1) ^ 4} - 1.

Table No. MJV-6

DCF Cost of Equity of the US Gas LDC Sample

Panel B: Multi-Stage DCF (Using Blue Chip Long-Term GDP Growth Forecast as the Perpetual Rate)

Company	Stock Price [1]	Most Recent Dividend [2]	Combined BEst and *Value Line* Long-Term Growth Rate [3]	Growth Rate: FY 2013 [4]	Growth Rate: FY 2014 [5]	Growth Rate: FY 2015 [6]	Growth Rate: FY 2016 [7]	Growth Rate: FY 2017 [8]	GDP Long-Term Growth Rate [9]	DCF Cost of Equity [10]
Atmos Energy Corp	$32.03	$0.32	5.5%	5.5%	5.4%	5.3%	5.2%	5.2%	5.1%	9.5%
Laclede Group Inc/The	$31.29	$0.37	4.2%	4.4%	4.5%	4.7%	4.8%	5.0%	5.1%	9.7%
Northwest Natural Gas Co	$49.61	$0.36	4.7%	4.8%	4.9%	4.9%	5.0%	5.0%	5.1%	8.1%
Piedmont Natural Gas Co	$26.35	$0.25	5.4%	5.3%	5.3%	5.2%	5.2%	5.1%	5.1%	9.2%
South Jersey Industries Inc	$38.51	$0.25	6.5%	6.2%	6.0%	5.8%	5.6%	5.3%	5.1%	8.0%
Southwest Gas Corp	$37.74	$0.22	5.5%	5.4%	5.3%	5.3%	5.2%	5.2%	5.1%	7.6%
WGL Holdings Inc	$34.63	$0.34	2.7%	3.1%	3.5%	3.9%	4.3%	4.7%	5.1%	8.7%
AGL Resources Inc	$42.11	$0.41	4.5%	4.6%	4.7%	4.8%	4.9%	5.0%	5.1%	9.1%
Vectren Corp	$28.70	$0.32	3.5%	3.7%	4.0%	4.3%	4.6%	4.8%	5.1%	9.3%
New Jersey Resources Corp	$54.25	$0.38	4.3%	4.5%	4.6%	4.7%	4.8%	5.0%	5.1%	7.9%

Sources and Notes:

[1]: Workpaper #1 to Table No. MJV-6.

[2]: Workpaper #2 to Table No. MJV-6.

[3]: Table No. MJV-5, [6].

[4]: [3] - {([3] - [9])/ 6}.

[5]: [4] - {([3] - [9])/ 6}.

[6]: [5] - {([3] - [9])/ 6}.

[7]: [6] - {([3] - [9])/ 6}.

[8]: [7] - {([3] - [9])/ 6}.

[9]: Blue Chip Economic Indicators published March 10, 2007. This number is assumed to be the perpetual growth rate. (See Appendix D).

[10]: Workpaper #3 to Table No. MJV-6.

Workpaper #1 to Table No. MJV-6

US Gas LDC Sample

Common Stock Prices from May 21, 2007 to June 11, 2007

Company	6/11/2007	6/8/2007	6/7/2007	6/6/2007	6/5/2007	6/4/2007	6/1/2007	5/31/2007	5/30/2007	5/29/2007	5/25/2007	5/24/2007	5/23/2007	5/22/2007	5/21/2007	Average
Atmos Energy Corp	$30.72	$30.66	$30.76	$31.68	$32.12	$32.43	$32.48	$32.39	$32.44	$32.16	$31.87	$32.01	$32.51	$33.11	$33.06	$32.03
Laclede Group Inc/The	$31.70	$31.20	$31.00	$31.34	$31.27	$31.27	$31.37	$31.16	$31.15	$30.85	$30.76	$30.86	$31.59	$32.02	$31.78	$31.29
Northwest Natural Gas Co	$47.72	$47.23	$47.14	$48.74	$49.21	$49.86	$49.84	$49.83	$50.00	$50.25	$49.88	$50.24	$51.19	$51.46	$51.55	$49.61
Piedmont Natural Gas Co	$25.87	$25.91	$25.81	$26.32	$26.10	$26.61	$26.59	$26.54	$26.42	$26.38	$25.92	$26.07	$26.71	$27.04	$27.03	$26.35
South Jersey Industries Inc	$36.97	$36.55	$35.97	$37.57	$38.20	$39.21	$39.07	$38.87	$39.32	$39.09	$38.46	$38.40	$39.22	$40.43	$40.28	$38.51
Southwest Gas Corp	$35.50	$35.85	$35.52	$37.08	$37.29	$38.42	$38.08	$38.16	$38.91	$38.63	$37.67	$37.80	$38.87	$39.05	$39.24	$37.74
WGL Holdings Inc	$33.55	$33.42	$33.01	$34.25	$34.69	$35.21	$35.46	$35.27	$35.28	$34.86	$34.41	$34.21	$34.99	$35.40	$35.40	$34.63
AGL Resources Inc	$40.51	$40.53	$40.40	$41.43	$42.34	$42.73	$42.54	$42.66	$42.70	$42.19	$41.80	$41.88	$42.93	$43.44	$43.62	$42.11
Vectren Corp	$27.57	$27.38	$27.39	$28.36	$28.82	$29.15	$29.12	$28.96	$29.17	$28.89	$28.62	$28.62	$29.32	$29.60	$29.54	$28.70
New Jersey Resources Corp	$52.34	$52.48	$52.40	$53.65	$54.45	$55.17	$54.98	$54.78	$55.24	$54.72	$54.07	$54.24	$55.11	$55.16	$55.00	$54.25

Sources and Notes:

Bloomberg as of June 11, 2007.

The prices chosen are the daily closing prices from Bloomberg starting from the most recent prices available in Bloomberg as of June 11, 2007 and ending fifteen trading days before.

Workpaper #2 to Table No. MJV-6

US Gas LDC Sample

Most Recent Dividend Payments

Company	
Atmos Energy Corp	$0.32
Laclede Group Inc/The	$0.37
Northwest Natural Gas Co	$0.36
Piedmont Natural Gas Co	$0.25
South Jersey Industries Inc	$0.25
Southwest Gas Corp	$0.22
WGL Holdings Inc	$0.34
AGL Resources Inc	$0.41
Vectren Corp	$0.32
New Jersey Resources Corp	$0.38

Sources and Notes:
Bloomberg as of June 11, 2007.

Workpaper #3 to Table No. MJV-6

DCF Cost of Equity of the US Gas LDC Sample

Multi - Stage DCF (using Blue Chip Economic Indicator Long-Term GDP as the Perpetual Growth Rate)

Year	Company	Atmos Energy Corp	Laclede Group Inc/The	Northwest Natural Gas Co	Piedmont Natural Gas Co	South Jersey Industries Inc	Southwest Gas Corp	WGL Holdings Inc	AGL Resources Inc	Vectren Corp	New Jersey Resources Corp
	Current Stock Price	($32.03)	($31.29)	($49.61)	($26.35)	($38.51)	($37.74)	($34.63)	($42.11)	($28.70)	($54.25)
YEAR 2007	Dividend Q3 Estimate	$0.32	$0.37	$0.36	$0.25	$0.25	$0.22	$0.34	$0.41	$0.32	$0.38
YEAR 2007	Dividend Q4 Estimate	$0.33	$0.37	$0.36	$0.26	$0.25	$0.22	$0.35	$0.42	$0.32	$0.39
YEAR 2008	Dividend Q1 Estimate	$0.33	$0.37	$0.37	$0.26	$0.26	$0.22	$0.35	$0.42	$0.32	$0.39
YEAR 2008	Dividend Q2 Estimate	$0.34	$0.38	$0.37	$0.26	$0.26	$0.23	$0.35	$0.43	$0.33	$0.40
YEAR 2008	Dividend Q3 Estimate	$0.34	$0.38	$0.38	$0.27	$0.26	$0.23	$0.35	$0.43	$0.33	$0.40
YEAR 2008	Dividend Q4 Estimate	$0.35	$0.38	$0.38	$0.27	$0.27	$0.23	$0.36	$0.44	$0.33	$0.40
YEAR 2009	Dividend Q1 Estimate	$0.35	$0.39	$0.39	$0.27	$0.27	$0.24	$0.36	$0.44	$0.33	$0.41
YEAR 2009	Dividend Q2 Estimate	$0.36	$0.39	$0.39	$0.28	$0.28	$0.24	$0.36	$0.45	$0.34	$0.41
YEAR 2009	Dividend Q3 Estimate	$0.36	$0.40	$0.39	$0.28	$0.28	$0.24	$0.36	$0.45	$0.34	$0.42
YEAR 2009	Dividend Q4 Estimate	$0.37	$0.40	$0.40	$0.29	$0.29	$0.25	$0.37	$0.46	$0.34	$0.42
YEAR 2010	Dividend Q1 Estimate	$0.37	$0.40	$0.40	$0.29	$0.29	$0.25	$0.37	$0.46	$0.35	$0.43
YEAR 2010	Dividend Q2 Estimate	$0.38	$0.41	$0.41	$0.29	$0.30	$0.25	$0.37	$0.47	$0.35	$0.43
YEAR 2010	Dividend Q3 Estimate	$0.38	$0.41	$0.41	$0.30	$0.30	$0.26	$0.37	$0.47	$0.35	$0.44
YEAR 2010	Dividend Q4 Estimate	$0.39	$0.42	$0.42	$0.30	$0.31	$0.26	$0.38	$0.48	$0.35	$0.44
YEAR 2011	Dividend Q1 Estimate	$0.39	$0.42	$0.42	$0.30	$0.31	$0.26	$0.38	$0.48	$0.36	$0.45
YEAR 2011	Dividend Q2 Estimate	$0.40	$0.43	$0.43	$0.31	$0.31	$0.27	$0.38	$0.49	$0.36	$0.45
YEAR 2011	Dividend Q3 Estimate	$0.40	$0.43	$0.43	$0.31	$0.32	$0.27	$0.38	$0.49	$0.36	$0.46
YEAR 2011	Dividend Q4 Estimate	$0.41	$0.44	$0.44	$0.32	$0.32	$0.27	$0.39	$0.50	$0.37	$0.46
YEAR 2012	Dividend Q1 Estimate	$0.41	$0.44	$0.44	$0.32	$0.33	$0.28	$0.39	$0.50	$0.37	$0.46
YEAR 2012	Dividend Q2 Estimate	$0.42	$0.44	$0.45	$0.33	$0.34	$0.28	$0.39	$0.51	$0.37	$0.47
YEAR 2012	Dividend Q3 Estimate	$0.42	$0.45	$0.45	$0.33	$0.34	$0.28	$0.39	$0.52	$0.38	$0.47
YEAR 2012	Dividend Q4 Estimate	$0.43	$0.45	$0.46	$0.33	$0.35	$0.29	$0.40	$0.52	$0.38	$0.48
YEAR 2013	Dividend Q1 Estimate	$0.44	$0.46	$0.46	$0.34	$0.35	$0.29	$0.40	$0.53	$0.38	$0.49
YEAR 2013	Dividend Q2 Estimate	$0.44	$0.46	$0.47	$0.34	$0.36	$0.30	$0.40	$0.53	$0.39	$0.49
YEAR 2013	Dividend Q3 Estimate	$0.45	$0.47	$0.47	$0.35	$0.36	$0.30	$0.41	$0.54	$0.39	$0.50
YEAR 2013	Dividend Q4 Estimate	$0.45	$0.47	$0.48	$0.35	$0.37	$0.30	$0.41	$0.55	$0.39	$0.50
YEAR 2014	Dividend Q1 Estimate	$0.46	$0.48	$0.49	$0.36	$0.37	$0.31	$0.41	$0.55	$0.40	$0.51
YEAR 2014	Dividend Q2 Estimate	$0.47	$0.48	$0.49	$0.36	$0.38	$0.31	$0.42	$0.56	$0.40	$0.51
YEAR 2014	Dividend Q3 Estimate	$0.47	$0.49	$0.50	$0.37	$0.38	$0.32	$0.42	$0.56	$0.41	$0.52
YEAR 2014	Dividend Q4 Estimate	$0.48	$0.49	$0.50	$0.37	$0.39	$0.32	$0.42	$0.57	$0.41	$0.52
YEAR 2015	Dividend Q1 Estimate	$0.49	$0.50	$0.51	$0.38	$0.39	$0.32	$0.43	$0.58	$0.41	$0.53
YEAR 2015	Dividend Q2 Estimate	$0.49	$0.51	$0.52	$0.38	$0.40	$0.33	$0.43	$0.58	$0.42	$0.54
YEAR 2015	Dividend Q3 Estimate	$0.50	$0.51	$0.52	$0.38	$0.41	$0.33	$0.44	$0.59	$0.42	$0.54
YEAR 2015	Dividend Q4 Estimate	$0.50	$0.52	$0.53	$0.39	$0.41	$0.34	$0.44	$0.60	$0.43	$0.55
YEAR 2016	Dividend Q1 Estimate	$0.51	$0.52	$0.53	$0.39	$0.42	$0.34	$0.45	$0.61	$0.43	$0.56
YEAR 2016	Dividend Q2 Estimate	$0.52	$0.53	$0.54	$0.40	$0.42	$0.35	$0.45	$0.61	$0.44	$0.56
YEAR 2016	Dividend Q3 Estimate	$0.52	$0.54	$0.55	$0.40	$0.43	$0.35	$0.45	$0.62	$0.44	$0.57
YEAR 2016	Dividend Q4 Estimate	$0.53	$0.54	$0.55	$0.41	$0.43	$0.35	$0.46	$0.63	$0.45	$0.58
YEAR 2017	Dividend Q1 Estimate	$0.54	$0.55	$0.56	$0.42	$0.44	$0.36	$0.46	$0.63	$0.45	$0.58
YEAR 2017	Dividend Q2 Estimate	$0.54	$0.56	$0.57	$0.42	$0.45	$0.36	$0.47	$0.64	$0.46	$0.59
YEAR 2017 Q3	Year 10 Stock Price	$53.95	$51.92	$82.81	$44.31	$65.12	$63.27	$56.67	$70.11	$47.24	$90.27
	Trial COE: Quarterly Rate	2.3%	2.3%	2.0%	2.2%	2.0%	1.8%	2.1%	2.2%	2.2%	1.9%
	Trial COE: Annual Rate	9.5%	9.7%	8.1%	9.2%	8.0%	7.6%	8.7%	9.1%	9.3%	7.9%
	Cost of Equity	9.5%	9.7%	8.1%	9.2%	8.0%	7.6%	8.7%	9.1%	9.3%	7.9%
	(Trial COE - COE) x 100	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Sources and Notes:

All Growth Rate Estimates: Table No. MJV-6; Panel B.

Stock Prices and Dividends are from Bloomberg as of June 11, 2007.

1. See Workpaper #1 to Table No. MJV-6 for the average closing stock price obtained from Bloomberg.
2. See Workpaper #2 to Table No. MJV-6 for the for the quarterly dividend obtained from Bloomberg.
3. The Blue Chip Economic Indicator Long-Term GDP Growth Rate is used to calculate the Year 10 Stock Price.
   {(the Dividend Year 2016 Q4 Estimate) x ((1 + the Perpetual Growth Rate) ^ (1/2))} /
   {(Trial COE - Quarterly Rate) - ((1 + the Perpetual Growth Rate) ^ (1/4) -1)}.

Table No. MJV-7

Overall Cost of Capital of the US Gas LDC Sample

Panel A: Simple DCF Method (Quarterly)

Company		1st Quarter, 2007 Bond Rating [1]	1st Quarter, 2007 Preferred Equity Rating [2]	DCF Cost of Equity [3]	DCF Common Equity to Market Value Ratio [4]	Cost of Preferred Equity [5]	DCF Preferred Equity to Market Value Ratio [6]	DCF Cost of Debt [7]	DCF Debt to Market Value Ratio [8]	Dominion East Ohio's Income Tax Rate [9]	Overall After- Tax Cost of Capital [10]
Atmos Energy Corp		BBB	-	9.8%	0.58	-	-	6.4%	0.42	35.0%	7.5%
Laclede Group Inc/The	*	A	-	9.2%	0.62	-	-	6.2%	0.38	35.0%	7.2%
Northwest Natural Gas Co	*	AA	-	7.8%	0.70	-	-	6.1%	0.30	35.0%	6.6%
Piedmont Natural Gas Co	*	A	-	9.5%	0.68	-	-	6.2%	0.32	35.0%	7.7%
South Jersey Industries Inc		BBB	-	9.2%	0.75	-	-	6.4%	0.25	35.0%	7.9%
Southwest Gas Corp	*	BBB	-	7.9%	0.53	-	-	6.4%	0.47	35.0%	6.1%
WGL Holdings Inc	*	AA	AA	6.9%	0.71	5.7%	0.01	6.1%	0.27	35.0%	6.1%
AGL Resources Inc		A	-	8.6%	0.66	-	-	6.2%	0.34	35.0%	7.0%
Vectren Corp		A	-	8.1%	0.60	-	-	6.2%	0.40	35.0%	6.5%
New Jersey Resources Corp		A	-	7.3%	0.81	-	-	6.2%	0.19	35.0%	6.7%
Average				8.4%	0.66	5.7%	0.00	6.3%	0.33	35.0%	6.9%
Subsample Average				8.2%	0.65	5.7%	0.00	6.2%	0.35	35.0%	6.8%

Sources and Notes:

[1]: Bloomberg as of June 11, 2007.

[2]: Preferred ratings were assumed equal to debt ratings.

[3]: Table No. MJV-6; Panel A, [5].

[4]: Table No. MJV-4, [1].

[5]: Workpaper #2 to Table No. MJV-11, Panel B, [6].

[6]: Table No. MJV-4, [2].

[7]: Workpaper #2 toTable No. MJV-11, Panel A, [6].

[8]: Table No. MJV-4, [3].

[9]: Provided by Dominion East Ohio.

[10]: ([3] x [4]) + ([5] x [6]) + {[7] x [8] x (1 - [9])}.

Table No. MJV-7

Overall Cost of Capital of the US Gas LDC Sample

Panel B: Multi-Stage DCF (Using Blue Chip Long-Term GDP Growth Forecast as the Perpetual Rate)

Company		1st Quarter, 2007 Bond Rating [1]	1st Quarter, 2007 Preferred Equity Rating [2]	DCF Cost of Equity [3]	DCF Common Equity to Market Value Ratio [4]	Cost of Preferred Equity [5]	DCF Preferred Equity to Market Value Ratio [6]	DCF Cost of Debt [7]	DCF Debt to Market Value Ratio [8]	Dominion East Ohio's Income Tax Rate [9]	Overall After- Tax Cost of Capital [10]
Atmos Energy Corp		BBB	-	9.5%	0.58	-	-	6.4%	0.42	35.0%	7.2%
Laclede Group Inc/The	*	A	-	9.7%	0.62	-	-	6.2%	0.38	35.0%	7.6%
Northwest Natural Gas Co	*	AA	-	8.1%	0.70	-	-	6.1%	0.30	35.0%	6.8%
Piedmont Natural Gas Co	*	A	-	9.2%	0.68	-	-	6.2%	0.32	35.0%	7.6%
South Jersey Industries Inc		BBB	-	8.0%	0.75	-	-	6.4%	0.25	35.0%	7.1%
Southwest Gas Corp	*	BBB	-	7.6%	0.53	-	-	6.4%	0.47	35.0%	6.0%
WGL Holdings Inc	*	AA	AA	8.7%	0.71	5.7%	0.01	6.1%	0.27	35.0%	7.4%
AGL Resources Inc		A	-	9.1%	0.66	-	-	6.2%	0.34	35.0%	7.3%
Vectren Corp		A	-	9.3%	0.60	-	-	6.2%	0.40	35.0%	7.2%
New Jersey Resources Corp		A	-	7.9%	0.81	-	-	6.2%	0.19	35.0%	7.2%
Average				8.7%	0.66	5.7%	0.00	6.3%	0.33	35.0%	7.1%
Subsample Average				8.6%	0.65	5.7%	0.00	6.2%	0.35	35.0%	7.1%

Sources and Notes:

[1]: Bloomberg as of June 11, 2007.

[2]: Preferred ratings were assumed equal to debt ratings.

[3]: Table No. MJV-6; Panel B, [10].

[4]: Table No. MJV-4, [1].

[5]: Workpaper #2 to Table No. MJV-11, Panel B, [6].

[6]: Table No. MJV-4, [2].

[7]: Workpaper #2 toTable No. MJV-11, Panel A, [6].

[8]: Table No. MJV-4, [3].

[9]: Provided by Dominion East Ohio.

[10]: ([3] x [4]) + ([5] x [6]) + {[7] x [8] x (1 - [9])}.

Table No. MJV-8

DCF Cost of Equity at Dominion East Ohio Capital Structure

US Gas LDC Sample

	Overall Cost of Capital [1]	Dominion East Ohio's Regulatory % Debt [2]	Dominion East Ohio's Cost of Debt [3]	Dominion East Ohio's Income Tax Rate [4]	Dominion East Ohio's Regulatory % Preferred Equity [5]	Dominion East Ohio's Cost of Preferred Equity [6]	Dominion East Ohio's Regulatory % Equity [7]	Estimated Return on Equity [8]
Using All Companies with Bloomberg Forecast								
Simple DCF Quarterly	6.9%	0.54	6.4%	35.0%	0.01	6.1%	0.45	10.3%
Multi-Stage DCF - Using the Blue Chip Economic Indicator Long-Term GDP as the Perpetual Rate	7.1%	0.54	6.4%	35.0%	0.01	6.1%	0.45	10.7%
Using Subsample with Bloomberg Forecast								
Simple DCF Quarterly	6.8%	0.54	6.4%	35.0%	0.01	6.1%	0.45	9.9%
Multi-Stage DCF - Using the Blue Chip Economic Indicator Long-Term GDP as the Perpetual Rate	7.1%	0.54	6.4%	35.0%	0.01	6.1%	0.45	10.6%

Sources and Notes:
[1]: Table No. MJV-7; Panels A-B, [10].
[2]: Provided by Dominion East Ohio.
[3]: Based on a BBB rating, as provided by Dominion East Ohio. Yield from Bloomberg as of June 11, 2007.
[4]: Provided by Dominion East Ohio.
[5]: Provided by Dominion East Ohio.
[6]: From Mergent Bond Record, as of May 2007
[7]: Provided by Dominion East Ohio.
[8]: {[1] - ([2] x [3] x (1 - [4])+ [5] x [6])} / [7].

Table No. MJV-9 - Interest Rate Forecasts

US Gas LDC Sample

Panel A: US Interest Rate Series (All Constant Maturity Series)

	Trading Date	30 Day	90 Day	180 Day	1 Year	2 Year	3 Year	5 Year	7 Year	10 Year	Long Term
	5/21/2007	4.85%	4.88%	5.01%	4.95%	4.81%	4.74%	4.71%	4.73%	4.79%	5.02%
	5/22/2007	5.01%	4.93%	5.02%	4.96%	4.83%	4.77%	4.76%	4.78%	4.83%	5.06%
	5/23/2007	5.00%	4.91%	5.01%	4.96%	4.85%	4.79%	4.79%	4.80%	4.86%	5.09%
	5/24/2007	4.99%	4.91%	4.99%	4.94%	4.85%	4.80%	4.79%	4.80%	4.86%	5.09%
	5/25/2007	4.97%	4.88%	4.97%	4.93%	4.85%	4.81%	4.80%	4.82%	4.86%	5.09%
	5/29/2007	4.95%	4.90%	5.00%	4.96%	4.88%	4.83%	4.82%	4.83%	4.88%	5.09%
	5/30/2007	4.94%	4.85%	4.99%	4.96%	4.89%	4.85%	4.83%	4.84%	4.88%	5.09%
	5/31/2007	4.78%	4.73%	4.96%	4.95%	4.92%	4.88%	4.86%	4.87%	4.90%	5.10%
	6/1/2007	4.80%	4.79%	4.98%	4.98%	4.97%	4.94%	4.92%	4.92%	4.95%	5.15%
	6/4/2007	4.78%	4.81%	4.99%	4.99%	4.97%	4.92%	4.91%	4.91%	4.93%	5.11%
	6/5/2007	4.75%	4.83%	4.99%	4.99%	4.99%	4.97%	4.96%	4.96%	4.98%	5.16%
	6/6/2007	4.78%	4.80%	4.95%	4.96%	4.97%	4.94%	4.94%	4.94%	4.97%	5.17%
	6/7/2007	4.80%	4.80%	4.97%	4.99%	5.03%	5.03%	5.05%	5.07%	5.11%	5.29%
	6/8/2007	4.76%	4.77%	4.93%	4.96%	5.01%	5.03%	5.06%	5.08%	5.12%	5.30%
	6/11/2007	4.70%	4.73%	4.96%	4.98%	5.01%	5.03%	5.07%	5.10%	5.14%	5.32%
[A]	Average:	4.86%	4.83%	4.98%	4.96%	4.92%	4.89%	4.88%	4.90%	4.94%	5.14%
[B]	Maturity Premium:	0.00%	0.10%	0.20%	0.33%	0.59%	0.75%	1.00%	1.15%	1.27%	1.50%
[C]	Implied Short-Term Yield:	4.86%	4.73%	4.78%	4.63%	4.33%	4.14%	3.88%	3.75%	3.67%	3.64%

Sources and Notes:

[A]: Average over the last 15 trading days.

[B]: Workpaper #1 to Table No. MJV-9, Panel C, [2].

[C]: [A] - [B].

Bloomberg as of June 11, 2007. The most recent 15 trading days are used.

Table No. MJV-9 - Interest Rate Forecasts

US Gas LDC Sample

Panel B: Forecasted Short-Term Interest Rates

	30 Day [1]	90 Day [2]	180 Day [3]	1 Year [4]	2 Year [5]	3 Year [6]	5 Year [7]	7 Year [8]	10 Year [9]	Total Days [10]	Implicit Short-Term Rate [11]
[A] Implied Short-Term Yield:	4.86%	4.73%	4.78%	4.63%	4.33%	4.14%	3.88%	3.75%	3.67%		
[B] Days Remaining in 2007	30	60	90	23						203	4.76%
[C] Days Remaining in 2008				162	203					365	4.47%
[D] Days Remaining in 2009					162	203				365	4.22%
[E] Days Remaining in 2010						162	203			365	4.00%
[F] Days Remaining in 2011							162	203		365	3.81%
[G] Days Remaining in 2012								162	203	365	3.70%
[H] Total Days	30	60	90	185	365	365	730	730	1095		
[I] Implicit Short-Term Rate for 2008-2011										1460	4.12%
[J] Implicit Short-Term Rate for 2008-2012										1825	4.04%

Sources and Notes:

[A]: Table No. MJV-9 - Interest Rate Forecasts Panel A, [C].

[B] - [G]: Total number of days remaining for each period, beginning with June 11, 2007.

[H]: Sum of [B] through [G] for the respective period.

[11]: [(1+ Implied Short-Term Yield$_1$)^(days remaining in period$_1$)x…x(1+Implied Short-Term Yield$_n$)^(days remaining in period$_n$)]^(1/[9])-1.

This formula is applied to all periods from 1 to n in each year.

[I]: ((1+[10][C])^[9][C]x…x(1+10[F])^[9][F]))^(1/[9][I])-1.

[J]: ((1+[10][C])^[9][C]x…x(1+10[G])^[9][G]))^(1/[9][J])-1.

Workpaper #1 to Table No. MJV-9 - Risk Premium Forecast

US Gas LDC Sample

Panel A: Historical Bond Yield Averages

	Treasury Bill Yield [1]	Intermediate-Term Government Bond Yield [2]	Long-Term Government Bond Yield [3]	Long-Term Corporate Bonds (Total Return) [4]
1926	3.27%	3.61%	3.54%	7.37%
1927	3.12%	3.40%	3.17%	7.44%
1928	3.56%	4.01%	3.40%	2.84%
1929	4.75%	3.62%	3.40%	3.27%
1930	2.41%	2.91%	3.30%	7.98%
1931	1.07%	4.12%	4.07%	-1.85%
1932	0.96%	3.04%	3.15%	10.82%
1933	0.30%	3.25%	3.36%	10.38%
1934	0.16%	2.49%	2.93%	13.84%
1935	0.17%	1.63%	2.76%	9.61%
1936	0.18%	1.29%	2.55%	6.74%
1937	0.31%	1.14%	2.73%	2.75%
1938	-0.02%	1.52%	2.52%	6.13%
1939	0.02%	0.98%	2.26%	3.97%
1940	0.00%	0.57%	1.94%	3.39%
1941	0.06%	0.82%	2.04%	2.73%
1942	0.27%	0.72%	2.46%	2.60%
1943	0.35%	1.45%	2.48%	2.83%
1944	0.33%	1.40%	2.46%	4.73%
1945	0.33%	1.03%	1.99%	4.08%
1946	0.35%	1.12%	2.12%	1.72%
1947	0.50%	1.34%	2.43%	-2.34%
1948	0.81%	1.51%	2.37%	4.14%
1949	1.10%	1.23%	2.09%	3.31%
1950	1.20%	1.62%	2.24%	2.12%
1951	1.49%	2.17%	2.69%	-2.69%
1952	1.66%	2.35%	2.79%	3.52%
1953	1.82%	2.18%	2.74%	3.41%
1954	0.86%	1.72%	2.72%	5.39%
1955	1.57%	2.80%	2.95%	0.48%
1956	2.46%	3.63%	3.45%	-6.81%
1957	3.14%	2.84%	3.23%	8.71%
1958	1.54%	3.81%	3.82%	-2.22%
1959	2.95%	4.98%	4.47%	-0.97%
1960	2.66%	3.31%	3.80%	9.07%
1961	2.13%	3.84%	4.15%	4.82%
1962	2.73%	3.50%	3.95%	7.95%
1963	3.12%	4.04%	4.17%	2.19%
1964	3.54%	4.03%	4.23%	4.77%
1965	3.93%	4.90%	4.50%	-0.46%
1966	4.76%	4.79%	4.55%	0.20%
1967	4.21%	5.77%	5.56%	-4.95%
1968	5.21%	5.96%	5.98%	2.57%
1969	6.58%	8.29%	6.87%	-8.09%
1970	6.52%	5.90%	6.48%	18.37%
1971	4.39%	5.25%	5.97%	11.01%
1972	3.84%	5.85%	5.99%	7.26%
1973	6.93%	6.79%	7.26%	1.14%
1974	8.00%	7.12%	7.60%	-3.06%
1975	5.80%	7.19%	8.05%	14.64%
1976	5.08%	6.00%	7.21%	18.65%
1977	5.12%	7.51%	8.03%	1.71%
1978	7.18%	8.83%	8.98%	-0.07%
1979	10.38%	10.33%	10.12%	-4.18%
1980	11.24%	12.45%	11.99%	-2.62%
1981	14.71%	13.96%	13.34%	-0.96%
1982	10.54%	9.90%	10.95%	43.79%
1983	8.80%	11.41%	11.97%	4.70%
1984	9.85%	11.04%	11.70%	16.39%
1985	7.72%	8.55%	9.56%	30.90%
1986	6.16%	6.85%	7.89%	19.85%
1987	5.47%	8.32%	9.20%	-0.27%
1988	6.35%	9.17%	9.19%	10.70%
1989	8.37%	7.94%	8.16%	16.23%
1990	7.81%	7.70%	8.44%	6.78%
1991	5.60%	5.97%	7.30%	19.89%
1992	3.51%	6.11%	7.26%	9.39%
1993	2.90%	5.22%	6.54%	13.19%
1994	3.90%	7.80%	7.99%	-5.76%
1995	5.60%	5.38%	6.03%	27.20%
1996	5.21%	6.16%	6.73%	1.40%
1997	5.26%	5.73%	6.02%	12.95%
1998	4.86%	4.68%	5.42%	10.76%
1999	4.68%	6.45%	6.82%	-7.45%
2000	5.89%	5.07%	5.58%	12.87%
2001	3.83%	4.42%	5.75%	10.65%
2002	1.65%	2.61%	4.84%	16.33%
2003	1.02%	2.97%	5.11%	5.27%
2004	1.20%	3.47%	4.84%	8.72%
2005	2.98%	4.34%	4.61%	5.87%
2006	4.80%	4.65%	4.91%	3.24%

[1] - [4]: Ibbotson Associates Stocks Bonds Bills (SBBI) and Inflation monthly paper reports.

Workpaper #1 to Table No. MJV-9

US Gas LDC Sample

Panel B: Calculation of Maturity Premia for Different Bond Series

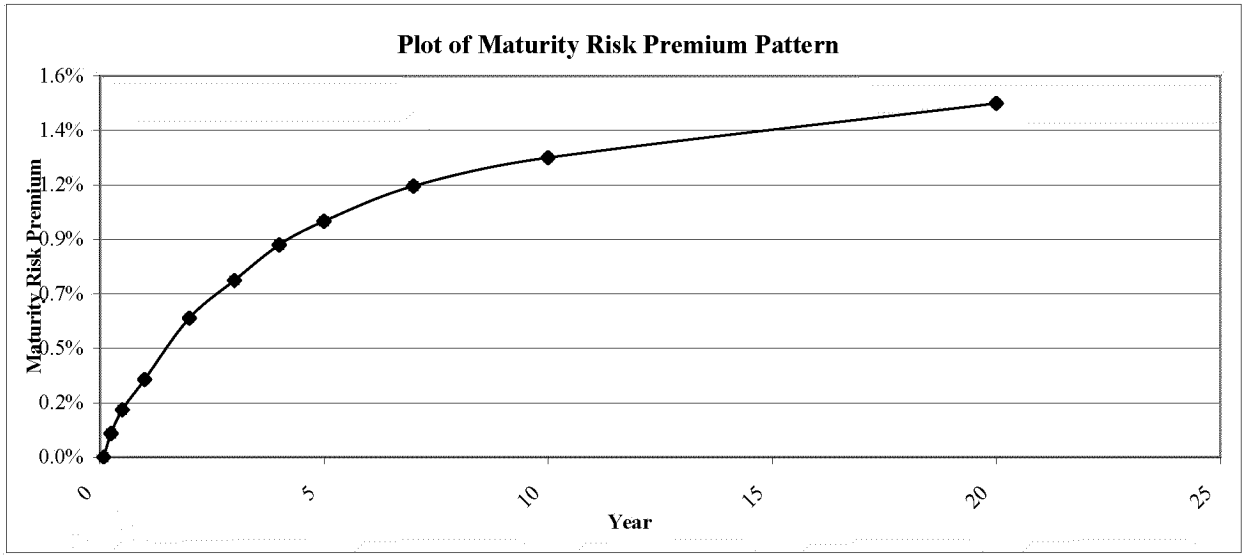
	Annual Historical Average			Maturity Premium Calculation		
	T-Bill Total Return [1]	Intermediate Term Bond Yields [2]	Long-Term Government Bond Yield [3]	T-Bill Total Return [4]	Intermediate Term Bond Yields [5]	Long-Term Government Bond Yield [6]
1926 - 2006	3.77%	4.74%	5.29%	0.00%	0.97%	1.52%
1947 - 2006	4.72%	5.66%	6.16%	0.00%	0.94%	1.44%
1947 - 1966	2.20%	3.03%	3.37%	0.00%	0.83%	1.17%
1967 - 1986	7.41%	8.25%	8.57%	0.00%	0.83%	1.16%
1987 - 2006	4.54%	5.71%	6.54%	0.00%	1.16%	1.99%
Current	4.86%	4.88%	5.14%	0.00%	0.03%	0.28%

Sources and Notes:
[1] - [3] : Workpaper #1 to Table No. MJV-9, Panel A.
Maturity Premium is defined as the Average Bond Yield (for each series) less Risk Free Total Return.
[4]: [1] - [1].
[5]: [2] - [1].
[6]: [3] - [1].
Current data from Table No. MJV-9, Panel A.

Workpaper #1 to Table No. MJV-9

US Gas LDC Sample

Panel C: Maturity Premium Graph and Calculations (Using Annual Series Data)



Maturity of Bond (Years) [1]	Maturity Risk Premium [2]	Annualized Difference [3]
0.083	0.00%	
0.25	0.10%	0.60%
0.5	0.20%	0.40%
1	0.33%	0.26%
2	0.59%	0.26%
3	0.75%	0.16%
4	0.90%	0.15%
5	1.00%	0.10%
7	1.15%	0.08%
10	1.27%	0.04%
20	1.50%	0.02%

Sources and Notes:

[1]: The maturity of a bond in years.

[2]: Workpaper #1 to Table No. MJV-9, Panel B; [4] - [6] and MJV Testimony.

[3]: MJV Testimony.

Table No. MJV-10

Risk Positioning Cost of Equity of the US Gas LDC Sample

Panel A: Using the Long-Term Risk-Free Rate

Company	US Long-Term Risk-Free Rate [1]	Value Line Betas [2]	Long-Term Market Risk Premium [3]	CAPM Cost of Equity [4]	ECAPM (0.5%) Cost of Equity [5]	ECAPM (1.5%) Cost of Equity [6]
Atmos Energy Corp	5.1%	0.80	6.50%	10.3%	10.4%	10.6%
Laclede Group Inc/The	5.1%	0.90	6.50%	11.0%	11.0%	11.1%
Northwest Natural Gas Co	5.1%	0.75	6.50%	10.0%	10.1%	10.4%
Piedmont Natural Gas Co	5.1%	0.80	6.50%	10.3%	10.4%	10.6%
South Jersey Industries Inc	5.1%	0.70	6.50%	9.7%	9.8%	10.1%
Southwest Gas Corp	5.1%	0.85	6.50%	10.6%	10.7%	10.9%
WGL Holdings Inc	5.1%	0.85	6.50%	10.6%	10.7%	10.9%
AGL Resources Inc	5.1%	0.95	6.50%	11.3%	11.3%	11.4%
Vectren Corp	5.1%	0.95	6.50%	11.3%	11.3%	11.4%
New Jersey Resources Corp	5.1%	0.80	6.50%	10.3%	10.4%	10.6%

Sources and Notes:
[1]: Table No. MJV-9 - Interest Rate Forecasts, Panel A, Row [A].
[2]: Workpaper # 1 to Table No. MJV-10, column [1].
[3]: Vilbert Written Evidence, Appendix B.
[4]: [1] + ([2] x [3]).
[5]: ([1] + 0.5%) + [2] x ([3] - 0.5%).
[6]: ([1] + 1.5%) + [2] x ([3] - 1.5%).

Table No. MJV-10

Risk Positioning Cost of Equity of the US Gas LDC Sample

Panel B: Using the Short-Term Risk-Free Rate.

Company	US Short-Term Risk-Free Rate [1]	Value Line Betas [2]	Short-Term Market Risk Premium [3]	CAPM Cost of Equity [4]	ECAPM (1%) Cost of Equity [5]	ECAPM (2%) Cost of Equity [6]	ECAPM (3%) Cost of Equity [7]
Atmos Energy Corp	4.1%	0.80	8.0%	10.5%	10.7%	10.9%	11.1%
Laclede Group Inc/The	4.1%	0.90	8.0%	11.3%	11.4%	11.5%	11.6%
Northwest Natural Gas Co	4.1%	0.75	8.0%	10.1%	10.4%	10.6%	10.9%
Piedmont Natural Gas Co	4.1%	0.80	8.0%	10.5%	10.7%	10.9%	11.1%
South Jersey Industries Inc	4.1%	0.70	8.0%	9.7%	10.0%	10.3%	10.6%
Southwest Gas Corp	4.1%	0.85	8.0%	10.9%	11.1%	11.2%	11.4%
WGL Holdings Inc	4.1%	0.85	8.0%	10.9%	11.1%	11.2%	11.4%
AGL Resources Inc	4.1%	0.95	8.0%	11.7%	11.8%	11.8%	11.9%
Vectren Corp	4.1%	0.95	8.0%	11.7%	11.8%	11.8%	11.9%
New Jersey Resources Corp	4.1%	0.80	8.0%	10.5%	10.7%	10.9%	11.1%

Sources and Notes:
[1]: Table No. MJV-9 - Interest Rate Forecasts, Panel B, Row [I].
[2]: Workpaper # 1 to Table No. MJV-10, column [1].
[3]: Vilbert Written Evidence, Appendix B.
[4]: [1] + ([2] x [3]).
[5]: ([1] + 1%) + [2] x ([3] - 1%).
[6]: ([1] + 2%) + [2] x ([3] - 2%).
[7]: ([1] + 3%) + [2] x ([3] - 3%).

Workpaper # 1 to Table No. MJV-10

US Gas LDC Sample

Value Line Betas

Company		Value Line Betas [1]
Atmos Energy Corp		0.80
Laclede Group Inc/The	*	0.90
Northwest Natural Gas Co	*	0.75
Piedmont Natural Gas Co	*	0.80
South Jersey Industries Inc		0.70
Southwest Gas Corp	*	0.85
WGL Holdings Inc	*	0.85
AGL Resources Inc		0.95
Vectren Corp		0.95
New Jersey Resources Corp		0.80
Average:		0.84
Subsample Average:		0.83

Sources and Notes:
[1]: Most recent Value Line Standard Edition dated as of June 15, 2007. Vectren is dated as of June 29, 2007.

Table No. MJV-11

Overall Cost of Capital of the US Gas LDC Sample

Panel A: CAPM Cost of Equity Based on the Long-Term Risk-Free Rate

Company		CAPM Cost of Equity [1]	5-Year Average Common Equity to Market Value Ratio [2]	Weighted - Average Cost of Preferred Equity [3]	5-Year Average Preferred Equity to Market Value Ratio [4]	Weighted-Average Cost of Debt [5]	5-Year Average Debt to Market Value Ratio [6]	Dominion East Ohio's Income Tax Rate [7]	Overall After-Tax Cost of Capital [8]
Atmos Energy Corp		10.3%	0.56	-	-	6.4%	0.44	35.0%	7.6%
Laclede Group Inc/The	*	11.0%	0.59	5.8%	0.00	6.2%	0.40	35.0%	8.2%
Northwest Natural Gas Co	*	10.0%	0.61	5.7%	0.00	6.2%	0.38	35.0%	7.7%
Piedmont Natural Gas Co	*	10.3%	0.68	-	-	6.2%	0.32	35.0%	8.3%
South Jersey Industries Inc		9.7%	0.65	6.1%	0.00	6.4%	0.35	35.0%	7.7%
Southwest Gas Corp	*	10.6%	0.42	-	-	6.4%	0.58	35.0%	6.9%
WGL Holdings Inc	*	10.6%	0.66	5.7%	0.01	6.1%	0.32	35.0%	8.4%
AGL Resources Inc		11.3%	0.58	5.8%	0.01	6.2%	0.40	35.0%	8.3%
Vectren Corp		11.3%	0.59	5.8%	0.00	6.2%	0.41	35.0%	8.3%
New Jersey Resources Corp		10.3%	0.76	5.8%	0.00	6.2%	0.24	35.0%	8.8%
Average		10.5%	0.61	5.8%	0.00	6.3%	0.39	35.0%	8.0%
Subsample Average		10.5%	0.59	5.7%	0.00	6.2%	0.40	35.0%	7.9%

Sources and Notes:
[1]: Table No. MJV-10; Panel A, [4].
[2]: Table No. MJV-4, [4].
[3]: Workpaper #2 to Table No. MJV-11 ; Panel B, [1].
[4]: Table No. MJV-4, [5].
[5]: Workpaper #2 to Table No. MJV-11 ; Panel A, [1].
[6]: Table No. MJV-4, [6].
[7]: Provided by Dominion East Ohio.
[8]: ([1] x [2]) + ([3] x [4]) + {[5] x [6] x (1 - [7])}.

Table No. MJV-11

Overall Cost of Capital of the US Gas LDC Sample

Panel B: ECAPM (0.5%) Cost of Equity Based on the Long-Term Risk-Free Rate

Company		ECAPM (0.5%) Cost of Equity [1]	5-Year Average Common Equity to Market Value Ratio [2]	Weighted - Average Cost of Preferred Equity [3]	5-Year Average Preferred Equity to Market Value Ratio [4]	Weighted-Average Cost of Debt [5]	5-Year Average Debt to Market Value Ratio [6]	Dominion East Ohio's Income Tax Rate [7]	Overall After-Tax Cost of Capital [8]
Atmos Energy Corp		10.4%	0.56	-	-	6.4%	0.44	35.0%	7.6%
Laclede Group Inc/The	*	11.0%	0.59	5.8%	0.00	6.2%	0.40	35.0%	8.2%
Northwest Natural Gas Co	*	10.1%	0.61	5.7%	0.00	6.2%	0.38	35.0%	7.8%
Piedmont Natural Gas Co	*	10.4%	0.68	-	-	6.2%	0.32	35.0%	8.3%
South Jersey Industries Inc		9.8%	0.65	6.1%	0.00	6.4%	0.35	35.0%	7.8%
Southwest Gas Corp	*	10.7%	0.42	-	-	6.4%	0.58	35.0%	6.9%
WGL Holdings Inc	*	10.7%	0.66	5.7%	0.01	6.1%	0.32	35.0%	8.5%
AGL Resources Inc		11.3%	0.58	5.8%	0.01	6.2%	0.40	35.0%	8.3%
Vectren Corp		11.3%	0.59	5.8%	0.00	6.2%	0.41	35.0%	8.3%
New Jersey Resources Corp		10.4%	0.76	5.8%	0.00	6.2%	0.24	35.0%	8.9%
Average		10.6%	0.61	5.8%	0.00	6.3%	0.39	35.0%	8.1%
Subsample Average		10.6%	0.59	5.7%	0.00	6.2%	0.40	35.0%	7.9%

Sources and Notes:
[1]: Table No. MJV-10; Panel A, [5].
[2]: Table No. MJV-4, [4].
[3]: Workpaper #2 to Table No. MJV-11 ; Panel B, [1].
[4]: Table No. MJV-4, [5].
[5]: Workpaper #2 to Table No. MJV-11 ; Panel A, [1].
[6]: Table No. MJV-4, [6].
[7]: Provided by Dominion East Ohio.
[8]: ([1] x [2]) + ([3] x [4]) + {[5] x [6] x (1 - [7])}.

Table No. MJV-11

Overall Cost of Capital of the US Gas LDC Sample

Panel C: ECAPM (1.5%) Cost of Equity Based on the Long-Term Risk-Free Rate

Company		ECAPM (1.5%) Cost of Equity [1]	5-Year Average Common Equity to Market Value Ratio [2]	Weighted - Average Cost of Preferred Equity [3]	5-Year Average Preferred Equity to Market Value Ratio [4]	Weighted-Average Cost of Debt [5]	5-Year Average Debt to Market Value Ratio [6]	Dominion East Ohio's Income Tax Rate [7]	Overall After-Tax Cost of Capital [8]
Atmos Energy Corp		10.6%	0.56	-	-	6.4%	0.44	35.0%	7.8%
Laclede Group Inc/The	*	11.1%	0.59	5.8%	0.00	6.2%	0.40	35.0%	8.2%
Northwest Natural Gas Co	*	10.4%	0.61	5.7%	0.00	6.2%	0.38	35.0%	7.9%
Piedmont Natural Gas Co	*	10.6%	0.68	-	-	6.2%	0.32	35.0%	8.5%
South Jersey Industries Inc		10.1%	0.65	6.1%	0.00	6.4%	0.35	35.0%	8.0%
Southwest Gas Corp	*	10.9%	0.42	-	-	6.4%	0.58	35.0%	7.0%
WGL Holdings Inc	*	10.9%	0.66	5.7%	0.01	6.1%	0.32	35.0%	8.6%
AGL Resources Inc		11.4%	0.58	5.8%	0.01	6.2%	0.40	35.0%	8.3%
Vectren Corp		11.4%	0.59	5.8%	0.00	6.2%	0.41	35.0%	8.4%
New Jersey Resources Corp		10.6%	0.76	5.8%	0.00	6.2%	0.24	35.0%	9.1%
Average		10.8%	0.61	5.8%	0.00	6.3%	0.39	35.0%	8.2%
Subsample Average		10.8%	0.59	5.7%	0.00	6.2%	0.40	35.0%	8.0%

Sources and Notes:
[1]: Table No. MJV-10; Panel A, [6].
[2]: Table No. MJV-4, [4].
[3]: Workpaper #2 to Table No. MJV-11 ; Panel B, [1].
[4]: Table No. MJV-4, [5].
[5]: Workpaper #2 to Table No. MJV-11 ; Panel A, [1].
[6]: Table No. MJV-4, [6].
[7]: Provided by Dominion East Ohio.
[8]: ([1] x [2]) + ([3] x [4]) + {[5] x [6] x (1 - [7])}.

Table No. MJV-11

Overall Cost of Capital of the US Gas LDC Sample

Panel D: CAPM Cost of Equity Based on the Short-Term Risk-Free Rate

Company		CAPM Cost of Equity [1]	5-Year Average Common Equity to Market Value Ratio [2]	Weighted - Average Cost of Preferred Equity [3]	5-Year Average Preferred Equity to Market Value Ratio [4]	Weighted-Average Cost of Debt [5]	5-Year Average Debt to Market Value Ratio [6]	Dominion East Ohio's Income Tax Rate [7]	Overall After-Tax Cost of Capital [8]
Atmos Energy Corp		10.5%	0.56	-	-	6.4%	0.44	35.0%	7.7%
Laclede Group Inc/The	*	11.3%	0.59	5.8%	0.00	6.2%	0.40	35.0%	8.4%
Northwest Natural Gas Co	*	10.1%	0.61	5.7%	0.00	6.2%	0.38	35.0%	7.8%
Piedmont Natural Gas Co	*	10.5%	0.68	-	-	6.2%	0.32	35.0%	8.4%
South Jersey Industries Inc		9.7%	0.65	6.1%	0.00	6.4%	0.35	35.0%	7.7%
Southwest Gas Corp	*	10.9%	0.42	-	-	6.4%	0.58	35.0%	7.0%
WGL Holdings Inc	*	10.9%	0.66	5.7%	0.01	6.1%	0.32	35.0%	8.6%
AGL Resources Inc		11.7%	0.58	5.8%	0.01	6.2%	0.40	35.0%	8.5%
Vectren Corp		11.7%	0.59	5.8%	0.00	6.2%	0.41	35.0%	8.6%
New Jersey Resources Corp		10.5%	0.76	5.8%	0.00	6.2%	0.24	35.0%	9.0%
Average		10.8%	0.61	5.8%	0.00	6.3%	0.39	35.0%	8.2%
Subsample Average		10.7%	0.59	5.7%	0.00	6.2%	0.40	35.0%	8.0%

Sources and Notes:
[1]: Table No. MJV-10; Panel B, [4].
[2]: Table No. MJV-4, [4].
[3]: Workpaper #2 to Table No. MJV-11 ; Panel B, [1].
[4]: Table No. MJV-4, [5].
[5]: Workpaper #2 to Table No. MJV-11 ; Panel A, [1].
[6]: Table No. MJV-4, [6].
[7]: Provided by Dominion East Ohio.
[8]: ([1] x [2]) + ([3] x [4]) + {[5] x [6] x (1 - [7])}.

Table No. MJV-11

Overall Cost of Capital of the US Gas LDC Sample

Panel E: ECAPM (1%) Cost of Equity Based on the Short-Term Risk-Free Rate

Company		ECAPM (1%) Cost of Equity [1]	5-Year Average Common Equity to Market Value Ratio [2]	Weighted - Average Cost of Preferred Equity [3]	5-Year Average Preferred Equity to Market Value Ratio [4]	Weighted-Average Cost of Debt [5]	5-Year Average Debt to Market Value Ratio [6]	Dominion East Ohio's Income Tax Rate [7]	Overall After-Tax Cost of Capital [8]
Atmos Energy Corp		10.7%	0.56	-	-	6.4%	0.44	35.0%	7.8%
Laclede Group Inc/The	*	11.4%	0.59	5.8%	0.00	6.2%	0.40	35.0%	8.4%
Northwest Natural Gas Co	*	10.4%	0.61	5.7%	0.00	6.2%	0.38	35.0%	7.9%
Piedmont Natural Gas Co	*	10.7%	0.68	-	-	6.2%	0.32	35.0%	8.5%
South Jersey Industries Inc		10.0%	0.65	6.1%	0.00	6.4%	0.35	35.0%	7.9%
Southwest Gas Corp	*	11.1%	0.42	-	-	6.4%	0.58	35.0%	7.1%
WGL Holdings Inc	*	11.1%	0.66	5.7%	0.01	6.1%	0.32	35.0%	8.7%
AGL Resources Inc		11.8%	0.58	5.8%	0.01	6.2%	0.40	35.0%	8.6%
Vectren Corp		11.8%	0.59	5.8%	0.00	6.2%	0.41	35.0%	8.6%
New Jersey Resources Corp		10.7%	0.76	5.8%	0.00	6.2%	0.24	35.0%	9.1%
Average		10.9%	0.61	5.8%	0.00	6.3%	0.39	35.0%	8.3%
Subsample Average		10.9%	0.59	5.7%	0.00	6.2%	0.40	35.0%	8.1%

Sources and Notes:
[1]: Table No. MJV-10; Panel B, [5].
[2]: Table No. MJV-4, [4].
[3]: Workpaper #2 to Table No. MJV-11 ; Panel B, [1].
[4]: Table No. MJV-4, [5].
[5]: Workpaper #2 to Table No. MJV-11 ; Panel A, [1].
[6]: Table No. MJV-4, [6].
[7]: Provided by Dominion East Ohio.
[8]: ([1] x [2]) + ([3] x [4]) + {[5] x [6] x (1 - [7])}.

Table No. MJV-11

Overall Cost of Capital of the US Gas LDC Sample

Panel F: ECAPM (2%) Cost of Equity Based on the Short-Term Risk-Free Rate

Company		ECAPM (2%) Cost of Equity [1]	5-Year Average Common Equity to Market Value Ratio [2]	Weighted - Average Cost of Preferred Equity [3]	5-Year Average Preferred Equity to Market Value Ratio [4]	Weighted-Average Cost of Debt [5]	5-Year Average Debt to Market Value Ratio [6]	Dominion East Ohio's Income Tax Rate [7]	Overall After-Tax Cost of Capital [8]
Atmos Energy Corp		10.9%	0.56	-	-	6.4%	0.44	35.0%	7.9%
Laclede Group Inc/The	*	11.5%	0.59	5.8%	0.00	6.2%	0.40	35.0%	8.5%
Northwest Natural Gas Co	*	10.6%	0.61	5.7%	0.00	6.2%	0.38	35.0%	8.1%
Piedmont Natural Gas Co	*	10.9%	0.68	-	-	6.2%	0.32	35.0%	8.7%
South Jersey Industries Inc		10.3%	0.65	6.1%	0.00	6.4%	0.35	35.0%	8.1%
Southwest Gas Corp	*	11.2%	0.42	-	-	6.4%	0.58	35.0%	7.1%
WGL Holdings Inc	*	11.2%	0.66	5.7%	0.01	6.1%	0.32	35.0%	8.8%
AGL Resources Inc		11.8%	0.58	5.8%	0.01	6.2%	0.40	35.0%	8.6%
Vectren Corp		11.8%	0.59	5.8%	0.00	6.2%	0.41	35.0%	8.6%
New Jersey Resources Corp		10.9%	0.76	5.8%	0.00	6.2%	0.24	35.0%	9.3%
Average		11.1%	0.61	5.8%	0.00	6.3%	0.39	35.0%	8.4%
Subsample Average		11.1%	0.59	5.7%	0.00	6.2%	0.40	35.0%	8.2%

Sources and Notes:
[1]: Table No. MJV-10; Panel B, [6].
[2]: Table No. MJV-4, [4].
[3]: Workpaper #2 to Table No. MJV-11 ; Panel B, [1].
[4]: Table No. MJV-4, [5].
[5]: Workpaper #2 to Table No. MJV-11 ; Panel A, [1].
[6]: Table No. MJV-4, [6].
[7]: Provided by Dominion East Ohio.
[8]: ([1] x [2]) + ([3] x [4]) + {[5] x [6] x (1 - [7])}.

Table No. MJV-11

Overall Cost of Capital of the US Gas LDC Sample

Panel G: ECAPM (3%) Cost of Equity Based on the Short-Term Risk-Free Rate

Company		ECAPM (3%) Cost of Equity [1]	5-Year Average Common Equity to Market Value Ratio [2]	Weighted - Average Cost of Preferred Equity [3]	5-Year Average Preferred Equity to Market Value Ratio [4]	Weighted-Average Cost of Debt [5]	5-Year Average Debt to Market Value Ratio [6]	Dominion East Ohio's Income Tax Rate [7]	Overall After-Tax Cost of Capital [8]
Atmos Energy Corp		11.1%	0.56	-	-	6.4%	0.44	35.0%	8.0%
Laclede Group Inc/The	*	11.6%	0.59	5.8%	0.00	6.2%	0.40	35.0%	8.5%
Northwest Natural Gas Co	*	10.9%	0.61	5.7%	0.00	6.2%	0.38	35.0%	8.2%
Piedmont Natural Gas Co	*	11.1%	0.68	-	-	6.2%	0.32	35.0%	8.8%
South Jersey Industries Inc		10.6%	0.65	6.1%	0.00	6.4%	0.35	35.0%	8.3%
Southwest Gas Corp	*	11.4%	0.42	-	-	6.4%	0.58	35.0%	7.2%
WGL Holdings Inc	*	11.4%	0.66	5.7%	0.01	6.1%	0.32	35.0%	8.9%
AGL Resources Inc		11.9%	0.58	5.8%	0.01	6.2%	0.40	35.0%	8.6%
Vectren Corp		11.9%	0.59	5.8%	0.00	6.2%	0.41	35.0%	8.7%
New Jersey Resources Corp		11.1%	0.76	5.8%	0.00	6.2%	0.24	35.0%	9.4%
Average		11.3%	0.61	5.8%	0.00	6.3%	0.39	35.0%	8.5%
Subsample Average		11.3%	0.59	5.7%	0.00	6.2%	0.40	35.0%	8.3%

Sources and Notes:
[1]: Table No. MJV-10; Panel B, [7].
[2]: Table No. MJV-4, [4].
[3]: Workpaper #2 to Table No. MJV-11 ; Panel B, [1].
[4]: Table No. MJV-4, [5].
[5]: Workpaper #2 to Table No. MJV-11 ; Panel A, [1].
[6]: Table No. MJV-4, [6].
[7]: Provided by Dominion East Ohio.
[8]: ([1] x [2]) + ([3] x [4]) + {[5] x [6] x (1 - [7])}.

Workpaper #1 to Table No. MJV-11

US Gas LDC Sample

Panel A: Rating to Yield Conversion

Rating	Bond Yield	Preferred Yield
AA	6.14%	5.66%
A	6.23%	5.81%
BBB	6.43%	6.12%

Sources and Notes:
Bond Yields from Bloomberg as of June 11, 2007.
Preferred Yields from Mergent Bond Record, as of
AA estimated as A - 0.5 * (BBB - A).

Workpaper #1 to Table No. MJV-11

US Gas LDC Sample

Panel B: Bond Rating Summary

Company	1st Quarter, 2007 [1]	2006 [2]	2005 [3]	2004 [4]	2003 [5]	2002 [6]
Atmos Energy Corp	BBB	BBB	BBB	BBB	A	A
Laclede Group Inc/The	A	A	A	A	A	A
Northwest Natural Gas Co	AA	AA	A	A	A	A
Piedmont Natural Gas Co	A	A	A	A	A	A
South Jersey Industries Inc	BBB	BBB	BBB	BBB	BBB	BBB
Southwest Gas Corp	BBB	BBB	BBB	BBB	BBB	BBB
WGL Holdings Inc	AA	AA	AA	AA	AA	AA
AGL Resources Inc	A	A	A	A	A	A
Vectren Corp	A	A	A	A	A	A
New Jersey Resources Corp	A	A	A	A	A	A

Sources and Notes:
[1] - [6]: Bloomberg as of June 11, 2007.

Workpaper #1 to Table No. MJV-11

US Gas LDC Sample

Panel C: Preferred Equity Rating Summary

Company	1st Quarter, 2007 [1]	2006 [2]	2005 [3]	2004 [4]	2003 [5]	2002 [6]
Atmos Energy Corp	-	-	-	-	-	-
Laclede Group Inc/The	-	A	A	A	A	A
Northwest Natural Gas Co	-	-	-	-	-	AA
Piedmont Natural Gas Co	-	-	-	-	-	-
South Jersey Industries Inc	-	-	-	BBB	BBB	BBB
Southwest Gas Corp	-	-	-	-	-	-
WGL Holdings Inc	AA	AA	AA	AA	AA	AA
AGL Resources Inc	-	-	-	-	-	A
Vectren Corp	-	-	-	A	A	A
New Jersey Resources Corp	-	-	-	-	-	A

Sources and Notes:

[1] - [6]: Preferred equity ratings are assumed equal to the company's bond ratings reported in Workpaper #1 to Table No. MJV-11, Panels A and B.

Workpaper #2 to Table No. MJV-11

US Gas LDC Sample

Panel A: 15 Day Average Utility Yields and Mergent Preferred Yields

Date	A Rated Utility [1]	BBB Rated Utility [2]	A Preferred [3]	BBB Preferred [4]
5/22/2007	6.16	6.36	-	-
5/23/2007	6.17	6.37	-	-
5/24/2007	6.17	6.37	-	-
5/25/2007	6.19	6.38	-	-
5/28/2007	6.19	6.38	-	-
5/29/2007	6.19	6.39	-	-
5/30/2007	6.18	6.35	-	-
5/31/2007	6.19	6.37	-	-
6/1/2007	6.23	6.41	-	-
6/4/2007	6.19	6.41	-	-
6/5/2007	6.26	6.45	-	-
6/6/2007	6.24	6.43	-	-
6/7/2007	6.40	6.59	-	-
6/8/2007	6.36	6.54	-	-
6/11/2007	6.41	6.63	-	-
Average	6.23%	6.43%	5.81%	6.12%

Sources and Notes:

[1] - [2]: Bloomberg as of June 11, 2007.

[3] - [4]: Mergent Bond Record, as of May 2007.

Workpaper #2 to Table No. MJV-11

US Gas LDC Sample

Panel B: Bond Yield Summary

Company	1st Quarter, 2007 [1]	2006 [2]	2005 [3]	2004 [4]	2003 [5]	2002 [6]	5-Year Weighted Average [7]
Atmos Energy Corp	6.43%	6.43%	6.43%	6.43%	6.23%	6.23%	6.36%
Laclede Group Inc/The	6.23%	6.23%	6.23%	6.23%	6.23%	6.23%	6.23%
Northwest Natural Gas Co	6.14%	6.14%	6.23%	6.23%	6.23%	6.23%	6.21%
Piedmont Natural Gas Co	6.23%	6.23%	6.23%	6.23%	6.23%	6.23%	6.23%
South Jersey Industries Inc	6.43%	6.43%	6.43%	6.43%	6.43%	6.43%	6.43%
Southwest Gas Corp	6.43%	6.43%	6.43%	6.43%	6.43%	6.43%	6.43%
WGL Holdings Inc	6.14%	6.14%	6.14%	6.14%	6.14%	6.14%	6.14%
AGL Resources Inc	6.23%	6.23%	6.23%	6.23%	6.23%	6.23%	6.23%
Vectren Corp	6.23%	6.23%	6.23%	6.23%	6.23%	6.23%	6.23%
New Jersey Resources Corp	6.23%	6.23%	6.23%	6.23%	6.23%	6.23%	6.23%

Sources and Notes:

[1] - [6]: Ratings based on Workpaper #1 to Table No. MJV-11, Panel A and bond yields from Bloomberg as of June 11, 2007.

[7]: {([1] x 0.25) + [2] + [3] + [4] + [5] + ([6] x 0.75)} / 5.

Workpaper #2 to Table No. MJV-11

US Gas LDC Sample

Panel C: Preferred Equity Yield Summary

Company	1st Quarter, 2007 [1]	2006 [2]	2005 [3]	2004 [4]	2003 [5]	2002 [6]	5-Year Weighted Average [7]
Atmos Energy Corp	-	-	-	-	-	-	-
Laclede Group Inc/The	-	5.81%	5.81%	5.81%	5.81%	5.81%	5.81%
Northwest Natural Gas Co	-	-	-	-	-	5.66%	5.66%
Piedmont Natural Gas Co	-	-	-	-	-	-	-
South Jersey Industries Inc	-	-	-	6.12%	6.12%	6.12%	6.12%
Southwest Gas Corp	-	-	-	-	-	-	-
WGL Holdings Inc	5.66%	5.66%	5.66%	5.66%	5.66%	5.66%	5.66%
AGL Resources Inc	-	-	-	-	-	5.81%	5.81%
Vectren Corp	-	-	-	5.81%	5.81%	5.81%	5.81%
New Jersey Resources Corp	-	-	-	-	-	5.81%	5.81%

Sources and Notes:

[1] - [6]: Ratings based on Workpaper #1 to Table No. MJV-11, Panel A are assumed to equal preferred ratings. Preferred equity yields are from Mergent Bond Record, as of May 2007.

[7]: {([1] x 0.25) + [2] + [3] + [4] + [5] + ([6] x 0.75)} / 5.

The report does not publish yield data for AA-rated preferred equity. Therefore, when there is a AA we assumed:

Yield on AA-rated preferred equity = Yield on A-rated bond - {(1/2) x (Yield on BBB-rated bond - Yield on A-rated bond)}.

Table No. MJV-12

Risk Positioning Cost of Equity at Dominion East Ohio's Capital Structure

US Gas LDC Sample

Panel A: Full Sample

	Overall Cost of Capital [1]	Dominion East Ohio's Regulatory % Debt [2]	Dominion East Ohio's Cost of Debt [3]	Dominion East Ohio's Income Tax Rate [4]	Dominion East Ohio's Regulatory % Preferred Equity [5]	Dominion East Ohio's Cost of Preferred Equity [6]	Dominion East Ohio's Regulatory % Equity [7]	Estimated Return on Equity [8]
Using Long-Term Risk-Free Rates:								
CAPM using Value Line Betas	8.0%	0.54	6.4%	35.0%	0.01	6.1%	0.45	12.7%
ECAPM (0.50%) using Value Line Betas	8.1%	0.54	6.4%	35.0%	0.01	6.1%	0.45	12.8%
ECAPM (1.50) using Value Line Betas	8.2%	0.54	6.4%	35.0%	0.01	6.1%	0.45	13.0%
Using Short-Term Risk-Free Rates:								
CAPM using Value Line Betas	8.2%	0.54	6.4%	35.0%	0.01	6.1%	0.45	13.0%
ECAPM (1%) using Value Line Betas	8.3%	0.54	6.4%	35.0%	0.01	6.1%	0.45	13.3%
ECAPM (2%) using Value Line Betas	8.4%	0.54	6.4%	35.0%	0.01	6.1%	0.45	13.5%
ECAPM (3%) using Value Line Betas	8.5%	0.54	6.4%	35.0%	0.01	6.1%	0.45	13.7%

Sources and Notes:
[1]: Table No. MJV-7; Panels A-B, [10].
[2]: Provided by Dominion East Ohio.
[3]: Based on a BBB rating, as provided by Dominion East Ohio. Yield from Bloomberg as of June 11, 2007.
[4]: Provided by Dominion East Ohio.
[5]: Provided by Dominion East Ohio.
[6]: From Mergent Bond Record, as of May 2007
[7]: Provided by Dominion East Ohio.
[8]: {[1] - ([2] x [3] x (1 - [4])+ [5] x [6])} / [7].

Table No. MJV-12

Risk Positioning Cost of Equity at Dominion East Ohio's Capital Structure

US Gas LDC Sample

Panel B: Subsample

	Overall Cost of Capital [1]	Dominion East Ohio's Regulatory % Debt [2]	Dominion East Ohio's Cost of Debt [3]	Dominion East Ohio's Income Tax Rate [4]	Dominion East Ohio's Regulatory % Preferred Equity [5]	Dominion East Ohio's Cost of Preferred Equity [6]	Dominion East Ohio's Regulatory % Equity [7]	Estimated Return on Equity [8]
Using Long-Term Risk-Free Rates:								
CAPM using Value Line Betas	7.9%	0.54	6.4%	35.0%	0.01	6.1%	0.45	12.4%
ECAPM (0.50%) using Value Line Betas	7.9%	0.54	6.4%	35.0%	0.01	6.1%	0.45	12.5%
ECAPM (1.50) using Value Line Betas	8.0%	0.54	6.4%	35.0%	0.01	6.1%	0.45	12.7%
Using Short-Term Risk-Free Rates:								
CAPM using Value Line Betas	8.0%	0.54	6.4%	35.0%	0.01	6.1%	0.45	12.7%
ECAPM (1%) using Value Line Betas	8.1%	0.54	6.4%	35.0%	0.01	6.1%	0.45	12.9%
ECAPM (2%) using Value Line Betas	8.2%	0.54	6.4%	35.0%	0.01	6.1%	0.45	13.2%
ECAPM (3%) using Value Line Betas	8.3%	0.54	6.4%	35.0%	0.01	6.1%	0.45	13.4%

Sources and Notes:
[1]: Table No. MJV-7; Panels A-B, [10].
[2]: Provided by Dominion East Ohio.
[3]: Based on a BBB rating, as provided by Dominion East Ohio. Yield from Bloomberg as of June 11, 2007.
[4]: Provided by Dominion East Ohio.
[5]: Provided by Dominion East Ohio.
[6]: From Mergent Bond Record, as of May 2007
[7]: Provided by Dominion East Ohio.
[8]: {[1] - ([2] x [3] x (1 - [4])+ [5] x [6])} / [7].

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

Virginia Electric and Power Company

Docket No. ER08- -000

DIRECT TESTIMONY AND SUPPORTING EXHIBIT OF MICHAEL J. VILBERT ON BEHALF OF VIRGINIA ELECTRIC AND POWER COMPANY

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I. INTRODUCTION AND SUMMARY

Q1. Please state your name and address for the record.

A1. My name is Michael J. Vilbert. My business address is The Brattle Group, 44 Brattle Street, Cambridge, MA 02138, USA.

Q2. Please describe your job and your educational experience.

A2. I am a Principal of The Brattle Group, ("Brattle"), an economic, environmental and management consulting firm with offices in Cambridge, Washington, London, San Francisco and Brussels. My work concentrates on financial and regulatory economics. I hold a B.S. from the U.S. Air Force Academy and a Ph.D. in finance from the Wharton School of Business at the University of Pennsylvania.

Q3. What is the purpose of your testimony in this proceeding?

A3. I have been asked by Virginia Electric and Power Company, doing business as Dominion Virginia Power ("Dominion") to estimate the cost of equity that results from the implementation of the discounted cash flow ("DCF") method favored by the Federal Energy Regulatory Commission (the "FERC" or the "Commission") when applied to a sample of regulated electric utilities that are members of the PJM Interconnection, L.L.C. ("PJM"). This estimate is the return on equity that the Commission should allow Dominion an opportunity to earn on the equity-financed portion of its rate base for its electric transmission assets located in the PJM.

Q4. Please summarize how you approached this task.

A4. To accomplish this task, I estimate the cost of equity capital for a sample of regulated electric companies chosen according to the Commission's guidelines recently articulated in *Trans-Allegheny Interstate Line Co.*, 119 FERC ¶ 61,219 (2007) ("TrAILCo."); *Midwest Independent Transmission System Operator, Inc.*, 100 FERC ¶ 61,292 (2002) (*"MISO"*); and *Bangor Hydro-Electric Co.*, 117 FERC ¶ 61,129 (2006) ("New England Power"). This sample is called the Commission-Based Sample. A "range of

reasonableness" is then determined for the cost of equity by applying the Commission's preferred DCF methodology to these sample companies.[1]

Q5. Please summarize the parts of your background and experience that are particularly relevant to your testimony on these matters.

A5. Brattle's specialties include financial economics, regulatory economics, and the gas and electric industries. I have worked in the areas of cost of capital, investment risk and related matters for many industries, regulated and unregulated alike, in many forums. I have testified or filed cost of capital testimony before the Arizona Corporation Commission, the Pennsylvania Public Utility Commission, the Public Service Commission of West Virginia, the Public Service Commission of Ohio, the Tennessee Regulatory Authority, the Public Service Commission of Wisconsin, the South Dakota Utilities Commission, the California Public Utilities Commission, the Canadian National Energy Board, Alberta Energy and Utilities Board, the Ontario Energy Board, and the Labrador & Newfoundland Board of Commissioners of Public Utilities. I have also filed testimony before this Commission. Appendix A contains more information on my professional qualifications.

Q6. Are you sponsoring any exhibits?

A6. Yes. I am sponsoring Exhibit No. DVP-13. This exhibit contains the workpapers supporting Tables 1 and 2 of my testimony. The sources indicated in the footnotes to Tables 1 and 2 refer to material provided in Exhibit No. DVP-13.

Q7. What are the results from the application of the Commission's preferred DCF method to the Commission-Based Sample of regulated companies you have selected?

A7. The Commission's preferred DCF methodology results in a full "range of reasonableness" for the cost of equity between 7.85 and 17.56 percent, with a mid-point of 12.70 percent. Dominion's transmission business risk is comparable to that of the other regulated transmission owners in the PJM; therefore, the Commission's

[1] *See, e.g., S. Cal. Edison Co.*, 92 FERC ¶ 61,070, at 61,261-67 (2000) ("Opinion No. 445")(discussing the Commission's preferred estimation methodology).

methodology indicates an allowed return on equity of 12.70 percent, the midpoint of the range of reasonableness. After addition of the 50 basis points ("bps") adder for membership in a regional transmission organization ("RTO"), the appropriate allowed return would be 13.20 percent. Alternatively, if the highest individual sample company estimate were deleted, the Commission's preferred DCF model results in a range of 7.85 to 15.61 percent, with a mid-point of 11.73 percent. Therefore, an estimate of 11.73 percent for Dominion would be appropriate, which would be 12.23 percent with the RTO adder.

Q8. Are there other ways to estimate the cost of capital for a FERC regulated electric transmission company?

A8. Certainly, the determination of the cost of capital requires the application of informed judgment as well as science. There are many different approaches, and I have used other methods in other FERC proceedings.

Q9. Do you believe that your estimate from the FERC DCF method is the best estimate of Dominion's cost of equity for its transmission assets in the PJM in this proceeding?

A9. The cost of capital can be estimated in several ways, and I believe a risk positioning method is generally superior. Moreover, the FERC DCF method does not directly consider differences in financial risk among the sample companies or between the sample companies and the target company.[2] Had I considered these other approaches, I may very well have reached a different conclusion.

Q10. Why did you not implement these approaches in connection with this proceeding?

A10. The Commission has consistently rejected the use of alternative estimation methods in the past. While I believe that the Commission should not mechanically reject other methods of estimating the cost of capital, I also believe that whatever method the Commission ultimately chooses to use, it should be consistent in its approach from

[2] There are other differences in my standard approach that I believe result in procedures that are more consistent with the latest theoretical developments in finance.

proceeding to proceeding. The FERC prescribes the DCF method and has used it in many previous cases to establish the allowed return on equity for other transmission companies. It would be unfair and would increase regulatory uncertainty if the Commission were to apply its current DCF procedure in one proceeding and ignore it in another for similarly situated electric transmission companies. Selectively applying precedent potentially results in arbitrary estimates of the cost of capital and may result in an unjust and unreasonable allowed rate of return. In this case, Dominion has expressed an interest in minimizing controversy and receiving a return on equity based on faithfully applying the FERC's precedent. To this end, I have provided the best estimate possible. Specifically, the 11.73 percent baseline cost of equity is the result of applying the FERC's DCF methodology consistent with precedents in previous cases. It is also conservative in that it is the result of dropping the highest individual cost of equity estimate.

Q11. Considering all of the evidence what is the recommended return on equity for Dominion?

A11. I recommend that the Commission allow a proposed ROE of 12.23 percent which includes the 50 bps adder for RTO membership.

Q12. How is your testimony organized?

A12. *Section II* formally defines the cost of capital and touches on the principles relating to the estimation of the cost of capital for a business. *Section III* first describes the selection of the Commission-Based Sample. It then describes the Commission's current cost of capital estimation method based upon the DCF model and provides the results of the FERC DCF model for the Commission-Based Sample. The section concludes with the recommended cost of equity for Dominion's regulated transmission assets in the PJM.

II. COST OF CAPITAL THEORY

A. THE COST OF CAPITAL AND RISK

Q13. Please formally define the "Cost of Capital."

A13. The cost of capital can be defined as *the expected rate of return in capital markets on alternative investments of equivalent risk*. In other words, it is the rate of return investors require based on the risk-return alternatives available in competitive capital markets. The cost of capital is a type of opportunity cost: it represents the rate of return that investors could expect to earn elsewhere without bearing more risk. "Expected" is used in the statistical sense: the mean of the distribution of possible outcomes. The terms "expect" and "expected" in this testimony, as in the definition of the cost of capital itself, refer to the probability-weighted average over all possible outcomes.

The definition of the cost of capital recognizes a tradeoff between risk and return that is known as the "security market risk-return line," or "security market line" for short. This line is depicted in Figure 1. The higher the risk, the higher is the cost of capital. A version of Figure 1 applies for all investments. However, for different types of securities, the location (i.e., the intercept and the slope) of the line may depend on corporate and personal tax rates.

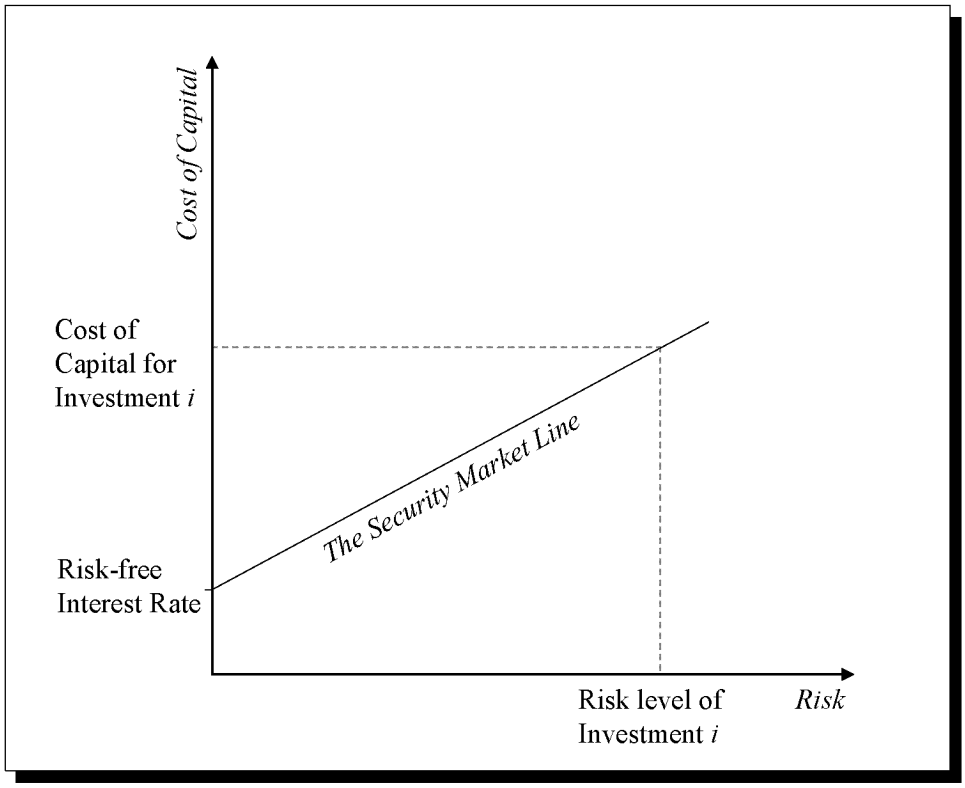

Figure 1: The Security Market Line

Q14. Why is the cost of capital relevant in rate regulation?

A14. It has become routine in U.S. rate regulation to accept the "cost of capital" as the right expected rate of return on utility investment.[3] That practice is normally viewed as consistent with the U.S. Supreme Court's opinions in *Bluefield Water Works & Improvement Co. v. Public Service Commission of West Virginia*, 262 U.S. 679 (1923), and *Federal Power Commission v. Hope Natural Gas Co.*, 320 U.S. 591 (1944).

From an economic perspective, rate levels that give investors a fair opportunity to earn the cost of capital are the lowest levels that compensate investors for the risks they bear. Over the long run, an expected return above the cost of capital makes customers overpay for service. Regulatory commissions normally try to prevent such outcomes unless there are offsetting benefits (*e.g.*, from incentive regulation that reduces future costs). At the

[3] A formal link between the cost of capital as defined by financial economics and the right expected rate of return for utilities is established by Stewart C. Myers, *Application of Finance Theory to Public Utility Rate Cases*, Bell J. of Econ. & Mgmt. Sci., 3:58-97 (1972).

same time, an expected return below the cost of capital does a disservice not just to investors but, importantly, to customers as well. In the long run, such a return denies the company the ability to attract capital, to maintain its financial integrity, and to expect a return commensurate with that of other enterprises attended by corresponding risks and uncertainties.

More important for customers, however, are the economic issues an inadequate return raises for them. In the short run, deviations of the expected rate of return on the rate base from the cost of capital may seemingly create a "zero-sum game"-- investors gain if customers are overcharged, and customers gain if investors are shortchanged. But in fact in the short run, such action may adversely affect the utility's ability to provide stable and favorable rates because some potential efficiency investments may be delayed or because the company is forced to file more frequent rate cases. In the long run, inadequate returns are likely to cost customers -- and society generally -- far more than is gained in the short run. Inadequate returns lead to inadequate investment, whether for maintenance or for new plant and equipment. The costs of an undercapitalized industry can be far greater than the short-run gains from shortfalls in the cost of capital. Moreover, in capital-intensive industries (such as the electric utility industry), systems that take a long time to decay cannot be fixed overnight. Thus, it is in the customers' interest not only to make sure the return investors expect does not exceed the cost of capital, but also to make sure that it does not fall short of the cost of capital, either.

Of course, the cost of capital cannot be estimated with perfect certainty, and other aspects of the way the revenue requirement is set may mean investors expect to earn more or less than the cost of capital even if the allowed rate of return equals the cost of capital exactly. However, a commission that sets rates so investors expect to earn the cost of capital on average treats both customers and investors fairly, and acts in the long-run interests of both groups.

B. INVESTMENT IN THE TRANSMISSION GRID

Q15. Has investment in the transmission grid generally been seen as adequate?

A15. No. The need for additional investment in the transmission grid appears to be widely acknowledged. For example, the following is a quotation from Chairman Kelliher:

> There has been a sustained period of underinvestment in the transmission system. Notwithstanding, use of the nation's grid has more than doubled in recent years. It is clear that we need to strengthen the system to meet consumer demand and today's rule takes a significant turn in that direction. Underinvestment in the grid is a national problem.[4]

Q16. Why do you raise this issue here?

A16. As noted above, it is in the interest of both customers and shareholders to provide an adequate rate of return if a regulated industry is to attract sufficient capital to maintain appropriate service levels in the long run. For the transmission grid, there continue to be concerns that investment has not been adequate.

Q17. Are you saying that the issues with the transmission grid have arisen because the allowed rate of return was inadequate over a sustained period of time?

A17. No, the cause of the under investment cannot be attributed to any single factor; however, the ongoing uncertainty associated with the restructuring of the industry may have led investors to question whether the allowed returns were adequate given that uncertainty.

Q18. Will an adequate allowed rate of return solve the problem of inadequate transmission investment?

A18. No, adequate rates of return alone are not enough to guarantee additional investment, but they are necessary. Investment in long-lived, inflexible assets is extraordinarily risky, and electric transmission assets are very long lived. In an environment in which full recovery of and on an investment in such long lived assets is not perceived to be assured, investment may lag particularly if the allowed return does not recognize the risk inherent

[4] Press Release, FERC, Final Rule Promoting Transmission Investment Adopted; Rate Incentives for Two Transmission Proposals Accepted (July 20, 2006) (available at http://www.ferc.gov/news/news-releases/2006/2006-3/07-20-06-E-3.asp#skipnavsub).

in such a circumstance. If the Commission wants investors to sink capital into transmission assets now, at an accelerated rate, it will be necessary to eliminate as many barriers as possible. A major potential barrier would be a fear on investors' part that investments will not earn returns adequate to justify the long-term risks involved.

Q19. How does this concern relate to Dominion at this time?

A19. Dominion plans to invest approximately $1.5 billion in transmission assets in the PJM through 2011.[5] An issue of concern is which customers will pay for the investment because the benefits of new transmission investment are frequently dispersed to customers not in the immediate location of the new transmission assets. As a result, disputes as to who benefits and who should pay arise that could make the timely recovery of new investment uncertain. In addition, in its final report for Docket No. 2007-OE-01, the Department of Energy ("DOE") designated the entire Mid-Atlantic area, including a substantial portion of the service territory of Dominion, as a National Interest Electric Transmission Corridor.[6] DOE's designation is based on studies demonstrating long-standing and increasing congestion on transmission lines in the region, including critical interfaces in Dominion's service area. As DOE points out in the press release, the states remain primarily responsible for addressing the critical congestion issues highlighted by these final corridor designations.

III. THE COMMISSION'S COST OF CAPITAL METHODOLOGY

Q20. How is this section of your testimony organized?

A20. This section first outlines the steps involved in selecting the Commission-Based Sample. It also describes the discounted cash flow method in general and then provides the

[5] For a description of the forecast transmission capital investment planned by Dominion, *see* John Smatlak Test., Exhibit No. DVP-1, at 3.

[6] *See* Press Release, U.S. Department of Energy, Office of Public Affairs, DOE Designates Southwest Area and Mid-Atlantic Area National Interest Electric Transmission Corridors, (October 2, 2007) (available at http.//www.doe.gov/news/5538.htm).

specifics of the implementation of the Commission's preferred DCF methodology. Finally, the results of calculations are presented.

A. THE COMMISSION-BASED SAMPLE

Q21. Please explain what criteria you applied in selecting a sample that is consistent with the Commission's precedent in regards to transmission.

A21. I have reviewed key Commission decisions and selected a sample of electric utilities based on criteria typically used by the Commission. I refer to this sample as the Commission-Based Sample.[7] Specifically, in order for a company (or its holding company) to be included in the Commission-Based Sample, I understand it has to meet all of the following conditions: have a direct link to the same RTO or ISO in which the applicant is located;[8] be publicly-traded and have available recent price and dividend data; pay dividends; have available growth rate data from *Value Line* or I/B/E/S (or comparable sources)[9]; and not be involved in recent, current or forecasted merger activity as of the date of the most recent growth rate data.

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[7] My sample selection procedures for the Commission-Based Sample are derived from review of various materials including Opinion No. 445; *N.Y. State Elec. & Gas Corp.*, 92 FERC ¶ 61,169 (2000) ("Opinion No. 447"), *order on reh'g*, 100 FERC ¶ 61,021 (2002) ("Opinion No. 447-A"), *reh'g denied*, 101 FERC ¶ 61,037 (2002) ("Opinion No. 447-B"), *order on reh'g*, 103 FERC ¶ 61,321 (2003) ("Opinion No. 447-C"); *Devon Power LLC*, 103 FERC ¶ 61,155 (2003); *Midwest Indep. Transmission Sys. Operator, Inc.*, 100 FERC ¶ 61,292 (2002), *reh'g denied*, 102 FERC ¶ 61,143 (2003), *aff'd on remand*, 106 FERC ¶ 61,302 (2004); *Bangor Hydro-Elec. Co.*, 117 FERC ¶ 61,129 (2006) ("Opinion No. 489"), *reh'g granted for further consideration* (2006); and *Trans-Allegheny Interstate Line Co.*, 119 FERC ¶ 61,219 (2007), *reh'g denied*, 121 FERC ¶ 61,009 (2007).

[8] The meaning of a "direct link" is ambiguous. Other interpretations are possible, but in this proceeding I have interpreted it to mean that the sample companies should be transmission owners in the same RTO.

[9] I rely upon Bloomberg for analyst forecasts of earnings growth rates instead of I/B/E/S because I/B/E/S long-term growth rates are no longer accessible for non-members of Thomson Financial. I also use *Value Line* estimates.

1. The Commission-Based Sample Selection Criteria

Q22. Please describe your selection of the Commission-Based Sample.

A22. I started with the universe of electric companies that are members of the PJM Interconnection, of which Dominion is a member. I restricted the sample to include only companies that own transmission assets in the PJM area, as identified by the PJM on its website. I eliminated cooperatives, municipality-owned companies and state agencies. Of the remaining companies, I then determined each member company's parent holding company, and eliminated those that were not publicly traded or had no data available from Bloomberg. This initial screen resulted in thirteen companies remaining in the sample.[10] Of these, one was eliminated because it has not recently paid dividends, and two were eliminated because their primary business line is outside of the electric industry.[11] The remaining ten companies comprise the Commission-Based Sample: American Electric Power Company, Inc., Consolidated Edison, Inc., Constellation Energy Group, Inc., Dominion Resources, Inc. ("Dominion Resources"), DPL, Inc., Exelon Corp., FirstEnergy Corp., Pepco Holdings, Inc., PPL Corp., and Public Service Enterprise Group, Inc. Section I of Appendix B contains a detailed description of the sample selection procedure.

Q23. Why is it appropriate to include Dominion Resources, the parent of Dominion, in the sample?

A23. Dominion Resources meets all of the conditions necessary for inclusion in the sample. The company owns transmission assets in the PJM and fulfills all other data requirements necessary for inclusion in the sample. Including the parent holding company of a regulated subsidiary that is the subject of the regulatory proceeding would be of concern if there were issues of circularity. Circularity would potentially result if the outcome of the regulatory proceeding substantially affects the estimated cost of capital of the holding

[10] Only companies with traded stock were included in the sample. Therefore, multiple companies in PJM with the same parent only appear once in the sample.

[11] The decision to eliminate these two companies (UGI Holdings and Valero Power Marketing) from the sample is consistent with Commission precedent as affirmed in *New England Power*.

company which is part of the sample being used to estimate the appropriate cost of capital. In this case, Dominion's regulated transmission assets are such a small portion of the total assets of Dominion Resources that any such effect is likely to be so small as to be undetectable by any cost of capital method.

2. Characteristics of the Commission-Based Sample

Q24. Please describe the financial characteristics of the Commission-Based Sample.

A24. Table 1 below provides information on the sample including each sample company's 2006 revenue, bond rating, and its S&P business risk profile ranking.

Table 1: Characteristics of the Commission-Based Sample

Company	S&P Business Profile Risk [1]	Revenue (2006) ($MM) [2]	Regulated Electric Assets [3]	Market Cap. (2nd Qtr 2007) ($MM) [4]	S&P Bond Rating (2007) [5]	Sustainable Growth Rate [6]	BEst Long-Term Growth Estimate [7]
American Electric Power Co Inc	5	12,622	R	18,681	BBB	6.1%	5.7%
Constellation Energy Group Inc	7	19,285	D	15,913	BBB	12.5%	13.4%
Dominion Resources Inc	7	16,482	D	30,405	BBB	5.0%	5.4%
DPL Inc	6	1,394	R	3,289	BBB	9.8%	13.6%
Consolidated Edison Inc	2	12,137	R	12,900	A	3.1%	3.7%
Exelon Corp	7	15,655	MR	50,091	BBB	12.4%	8.8%
FirstEnergy Corp	7	11,501	MR	20,109	BBB	7.5%	8.1%
Public Service Enterprise Group Inc	7	12,164	MR	22,073	BBB	10.9%	11.0%
Pepco Holdings Inc	5	8,363	MR	5,475	BBB	4.2%	8.5%
PPL Corp	7	6,899	MR	17,870	BBB	7.9%	11.4%

Notes and Sources:

[1] See Table No. MJV-2, Exhibit No. DVP-13 at 2.

[2] Bloomberg as of September 30, 2007.

[3] Key: R – Regulated (More than 80 % of assets regulated).
MR – Mostly Regulated (50 % to 80 % of assets regulated).
D – Diversified (Less than 50 % of assets regulated).
Source: EEI Quarterly Report of the U.S. Shareholder-Owned Electric Utility Industry, Q1 2007 Financial Update, Stock Performance.

[4] See Table No. MJV-3 for calculation, Exhibit No. DVP-13 at 3.

[5] Bloomberg as of September 30, 2007. See Table MJV-2.

[6] See Workpaper #1 to Table No. MJV-4, Exhibit No. DVP-13 at 7.

[7] See Workpaper #10 to Table No. MJV-4, Exhibit No. DVP-13 at 19.

B. THE DISCOUNTED CASH FLOW APPROACH

Q25. Please describe the discounted cash flow approach.

A25. The DCF model attempts to estimate the cost of capital in one step. The method assumes that the market price of a stock is equal to the present value of the dividends that its owners expect to receive. The method also assumes that this present value can be calculated by the standard formula for the present value of a cash flow stream:

$$P = \frac{D_1}{(1+k)} + \frac{D_2}{(1+k)^2} + \frac{D_3}{(1+k)^3} + \cdots + \frac{D_T}{(1+k)^T} \qquad \textbf{(1)}$$

where "P" is the market price of the stock; "D_t" is the dividend cash flow expected at the end of period t (i.e., subscript period 1, 2, 3 or T in the equation); "k" is the cost of capital; and "T" is the last period in which a dividend cash flow is to be received. The formula just says that the stock price is equal to the sum of the expected future dividends, each discounted for the time and risk between now and the time the dividend is expected to be received.

Very often, when the DCF is applied in regulatory proceedings, very strong (i.e., unrealistic) assumptions are used that yield a simplification of the standard formula, which then can be rearranged to estimate the cost of capital. Specifically, it is assumed that investors expect a dividend stream that will grow *forever* at a steady rate, and if so, the market price of the stock will be given by a very simple formula,

$$P = \frac{D_1}{(k-g)} \qquad \textbf{(2)}$$

where "D_1" is the dividend expected at the end of the first period, "g" is the perpetual growth rate, and "P" and "k" are the market price and the cost of capital, as before. Equation **(2)** is a simplified version of Equation **(1)** that can be solved to yield the well known "DCF formula" for the cost of capital:

$$k = \frac{D_1}{P} + g$$
$$= \frac{D_0 \times (1+g)}{P} + g \qquad \textbf{(3)}$$

where "D_0" is the current dividend, which investors expect to increase at rate g by the end of the next period, and the other symbols are defined as before. Equation **(3)** says that if Equation **(2)** holds the cost of capital equals the expected dividend yield plus the (perpetual) expected future (forever constant) growth rate of dividends. I refer to this as the simple DCF model because this simplification of the model relies on the use of very strong assumptions that are unlikely to reflect actual circumstances.

Q26. Are there other versions of the DCF models besides the "simple" one?

A26. Yes. The constant growth rate DCF model requires that dividends and earnings grow at the same rate for companies that earn their cost of capital on average.[12] It is inconsistent with the theory on which the model is based to have different growth rates in earnings and dividends over the period when growth is assumed to be constant. If the growth in dividends and earnings were expected to vary over some number of years before settling down into a constant growth period, then it would be appropriate to estimate a multistage DCF model. In the multistage model, earnings and dividends can grow at different rates, but must grow at the same rate in the final, constant growth rate period. A difference between forecasted dividend and earnings rates therefore is a signal that the facts do not fit the assumptions of the simple DCF model. Section II of Appendix B provides the details of my implementation of the FERC DCF method.

[12] Why must the two growth rates be equal in a steady-growth DCF model? Think of earnings as divided between reinvestment, which funds future growth, and dividends. If dividends grow faster than earnings, there is less investment and slower growth each year. Sooner or later dividends will equal earnings. At that point, growth is zero because nothing is being reinvested (dividends are constant). If dividends grow slower than earnings, each year a bigger fraction of earnings are reinvested. That makes for ever faster growth. Both scenarios contradict the steady-growth assumption. So if you observe a company with different expectations for dividend and earnings growth, you know the company's stock price and its dividend growth forecast are inconsistent with the assumptions of the steady-growth DCF model.

1. Strengths and Weaknesses of the DCF Approach

Q27. What are the merits of the DCF approach?

A27. The DCF approach is conceptually sound if its assumptions are met, but can run into difficulty in practice because those assumptions are so strong[13], and hence so unlikely to correspond to reality. Dividends, earnings and prices are unlikely to grow at a constant rate literally forever. Two conditions are also well known to be necessary for the DCF approach to yield a reliable estimate of the cost of capital: the variant of the present value formula that is used must actually match the variations in investor expectations for the growth of dividends, and the growth rate(s) used in that formula must match current investor expectations. Less frequently noted conditions may also create problems.

Q28. Is estimating the "right" dividend growth rate the most difficult part for the implementation of the DCF approach?

A28. Yes. Finding the right growth rate(s) is usually the "hard part" of a DCF application. The original approach to estimation of *g* relied on average historical growth rates in observable variables, such as dividends or earnings, or on the "sustainable growth" approach, which estimates *g* as the average book rate of return times the fraction of earnings retained within the firm. A major problem with using historical averages over periods with widely varying rates of inflation and costs of capital is that they are unlikely to equal current growth rate expectations.

Q29. Specifying the current price is straightforward, but how does one specify the expected stream of dividends for use in the model?

A29. This is the most difficult and subjective part of implementing the DCF methodology. Several models exist to simplify the process, and these generally transform the problem of specifying a stream of dividends into one of specifying a set of expected dividend growth rates. These DCF models are then distinguished by how they model expected growth rates. The Commission's preferred DCF model is a modification of the simple

[13] In this context "strong" means that the assumption is unlikely to match reality and that it also has a substantial impact on the model's results.

DCF model that relies upon two different estimates of the long-term growth. It is described next.

2. The Commission's Preferred DCF Model

Q30. Please describe the Commission's preferred DCF model.

A30. The Commission's preferred DCF model is a modification of the standard DCF model that uses a constant growth of dividends. The model is articulated in Opinion No. 445, at 61,262-63:[14]

> In the past, we have consistently applied a one-step, constant growth DCF model for calculating ROEs for electric utilities. The DCF methodology determines the ROE by summing the dividend yield (with an adjustment for the quarterly payment of dividends) and expected growth rate. The resulting formula is D/P (1+.5g) + g = k, where "D/P" is the dividend yield, "g" is the sustainable growth rate of dividends per share, and "k" is the resulting ROE. The sustainable growth rate is calculated by the following formula: g = br + sv, where "b" is the expected retention ratio, "r" is the expected earned rate of return on common equity, "s" is the percent of common equity expected to be issued annually as new common stock, and "v" is the equity accretion rate.

I disagree with the use of the 0.5 multiplier for the initial growth rate as a matter of economic principle, because it violates the basic assumptions of the DCF model. Nonetheless, I present results of the Commission's DCF method as described in Opinion No. 445 because the Commission has specified this version of the single-stage DCF model as its preferred estimation method for electric utilities.

Q31. Why do you disagree with the use of a 0.5 multiplier?

A31. The DCF model is derived under the assumption that dividends grow at the full growth rate for the period. However, as stated in Opinion No. 445, the Commission's approach results in a variation of this fundamental result displayed in Equation **(4)**:

[14] The Commission also calculates growth rates using analysts' earnings growth forecasts from I/B/E/S, using the same procedure to adjust the dividend yield. I use analogous growth rate forecasts from Bloomberg termed their BEst forecasts.

$$k = \frac{D_0 \times (1 + 0.5g)}{P} + g \qquad \textbf{(4)}$$

However, because it is the Commission's preferred method, I follow the Commission's precedent and use this version of the dividend yield in the DCF model.

Q32. Opinion No. 445 also references sustainable growth. Please explain how the sustainable growth rate is determined.

A32. Although companies can experience very high rates of growth from time to time (i.e., greater than growth of economy as a whole), these high rates cannot generally be expected to last indefinitely. Conversely, very low rates of growth can generally be expected to improve over time. As implied by the name, the sustainable growth rate of a company is that which can be expected to be maintained by the company through reinvestment of its earnings or additional equity issuances at prices above book value. The growth achieved by reinvestment of new earnings depends on both the amount of earnings retained, b = (1-Dividends/Net Income), and on the expected return on equity (r) those earnings will achieve. On the other hand, growth from new share issues depends on the percentage of new shares being issued, s, and the equity accretion ratio $v = \left[1 - \frac{1}{\textit{Market - to - Book Ratio}}\right]$. Together, the implied sustainable growth rate is given as shown in Equation **(5)**:

$$g = br + sv \qquad \textbf{(5)}$$

Q33. Is the sustainable growth rate the only growth rate you use in your implementation of the Commission's preferred DCF model?

A33. No. Consistent with the Commission's practice, I also implement a version of the model where g is set equal to the long-term earnings growth rates provided by securities analysts. My source is Bloomberg through their BEst Estimates.

Q34. How is the dividend yield determined?

A34. The high and low dividend yield is calculated as the 6-month average of the highest monthly closing prices or lowest monthly closing prices divided into the annualized current quarterly dividend, *i.e.*, the current dividend times 4. The result of combining the high and low dividend yields with the two estimates of the dividend growth rate is four estimates of the cost of equity for each sample company. The highest (lowest) of the four estimates is reported as the high (low) estimate for the company which in turn are used to establish the range of reasonableness for the sample. Details on the calculation of each parameter in Equations **(4)** and **(5)** above are provided in Appendix B.

C. THE COMMISSION-BASED RANGE OF REASONABLENESS

Q35. What are the results of the application of the Commission's DCF methodology to the sample of transmission-owning companies in the PJM?

A35. Table 2 below summarizes the results of the Commission's DCF methodology applied using data through September 2007, which is the most recent data available at this time. The table presents the high and low estimate for each company in the Commission-Based Sample as well as summary statistics for the sample.

Q36. What is the range of reasonableness from the sample?

A36. The estimates range from a high of 17.56 percent for DPL Inc. to a low of 7.85 percent for Pepco Holdings Inc. with a midpoint of 12.70 percent. Alternatively, if the highest cost of equity estimate is deleted as has sometimes been done in the past,[15] the top of the range is 15.61 percent for Constellation Energy Group Inc. In that case the range of reasonableness is 15.61 to 7.85 percent with a midpoint of 11.73 percent. Table 2 also

[15] For example, in *ISO New England Inc.*, 109 FERC ¶ 61,147 (2004) *("New England RTO Rehearing Order")*, the Commission affirmed the exclusion of an ROE estimate of 17.7 percent, asserting that it is "an extreme outlier" and would "skew the results" of the calculation (P 205). In the past, the Commission has not specifically defined what constitutes an outlier, but in *Midwest Indep. Transmission Sys. Operator, Inc.*, 106 FERC ¶ 61,302 (2004), an ROE value of 15.96 percent was not considered an outlier, based on the reasoning that it was not too different from the next highest ROE estimate, 14.9 percent (P 12). Based on these precedents, and in order to be conservative, I have dropped the highest estimate of 17.56 percent.

presents some other summary statistics including the median and average of the sample results with and without DPL's estimate.

Table 2: Results of the Commission's DCF Method

Company	Region	Implied Cost of Equity High [1]	Low [2]
American Electric Power Co Inc	PJM	9.62%	9.00%
Constellation Energy Group Inc	PJM	15.61%	14.48%
Dominion Resources Inc	PJM	8.86%	8.28%
DPL Inc	PJM	17.56%	13.45%
Consolidated Edison Inc	PJM	8.78%	7.86%
Exelon Corp	PJM	15.04%	11.14%
FirstEnergy Corp	PJM	11.38%	10.50%
Public Service Enterprise Group Inc	PJM	13.98%	13.57%
Pepco Holdings Inc	PJM	12.48%	7.85%
PPL Corp	PJM	14.30%	10.51%
Full Range		17.56%	7.85%
Midpoint		12.70%	
Median Estimate		11.26%	
Average		11.71%	
Range Excluding Highest Cost of Equity (DPL)		15.61%	7.85%
Midpoint		11.73%	
Median Estimate		11.14%	
Average		11.40%	

Sources and Notes:
[1]: See Table No. MJV-4, Panel A1, column [7], Exhibit No. DVP-13 at 4.
[2]: See Table No. MJV-4, Panel A1, column [8], Exhibit No. DVP-13 at 4.

Q37. Has the Commission relied on the midpoint or the median as the appropriate estimate of the cost of equity for the sample?

A37. For a company of comparable risk to the sample, the Commission has consistently relied upon the midpoint of the sample as the appropriate measure of the cost of equity for the sample.[16] In addition, the deletion of DPL Inc. results in a distribution of cost of equity estimates that is relatively symmetrical (i.e., is not skewed) as indicated by the fact that

[16] See Appendix B for a discussion of the decisions utilizing the midpoint in determining the allowed return.

the midpoint is only 33 bps higher than the average of the sample, and the median is only 26 bps lower than the sample average.

Q38. In Table 1 above, the estimated growth rates for the sample companies are displayed. Some of the annual growth rate estimates are greater than 12 percent. Are these growth rates sustainable?

A38. The question of sustainability depends critically on the length of time over which the growth rates would apply. Securities analysts generally limit their earnings growth rate forecasts to a five year period, and clearly they believe that the estimates they provide are sustainable over that period. The other set of growth rates used in the FERC DCF method are labeled "sustainable" growth rates because they are the product of the amount of earnings retained times the average return earning on equity. Growth rates estimated by application of the sustained growth rate methodology can be sustained as long as the company continues to retain earnings on which it earns the same average return on equity.

Q39. Are you saying that the growth rates could be sustainable forever?

A39. No. Growth rates for all companies vary over time, and no company can maintain a very high growth rate forever. Nor is it likely that very low current estimated growth rates would stay low forever. For purposes of the DCF analysis, the growth rates estimates are the best available estimates for the next five years.

Q40. What about the growth rates for year six and later?

A40. To my knowledge, there is no information available on the likely growth rate of earnings and dividends available for time periods more than five years in the future. Use of the DCF model is necessarily subject to this limitation. Analysts sometimes attempt to address this problem by making various assumptions about the likely growth path of dividends for the period beginning in year six. Given there is no recognized source of individual company data upon which to rely to make these assumptions, they are susceptible to the individual analyst's expectations as to the future.

Q41. What is your conclusion about the growth rates used in your application of the FERC DCF model?

A41. In my judgment, the question of whether the individual growth rates are sustainable is not a matter of concern in the current proceeding for two reasons. First, I believe that the five-year growth rates estimates used in the model come from widely recognized sources and are the best estimates currently available. Second, the FERC DCF methodology attempts to address the lack of data on long-term dividend growth rates by estimating the five-year growth rate in the two ways discussed above. The method then creates a range of reasonableness by looking to the highest and lowest estimates from the two growth rates and two dividend yield estimates. The likely motivation for this approach is the belief that the companies with high estimates are balanced by the companies with low estimates so that the estimation errors cancel out. If the sample is large enough, the expectation that the estimation errors for the growth rates are likely to cancel out is reasonable.

Q42. What are your conclusions from the FERC DCF model regarding the cost of equity for Dominion's regulated transmission assets in the PJM?

A42. As shown in Table 2 above, the midpoint of the range of reasonableness is 11.73 percent after deleting the highest cost of equity estimate from the sample. As noted above, the Commission has relied upon the midpoint as the best estimate of the cost of equity from the sample. In addition, Dominion's transmission assets are of comparable risk to that of other regulated transmission assets in the PJM so, following the FERC's approach in previous cases, the midpoint of the sample would be representative of the cost of equity for Dominion.

Q43. Given the results of the DCF model and Commission's precedent, what should be the allowed return on equity for Dominion's transmission assets in the PJM?

A43. Consistent with its precedent, the Commission should allow Dominion an 11.73 percent baseline return on equity to which should be added the 50 bps adder for membership in a

qualified RTO. The proposed total return on equity for use in the PJM's formula for determination of Dominion's transmission revenue requirement is 12.23 percent.

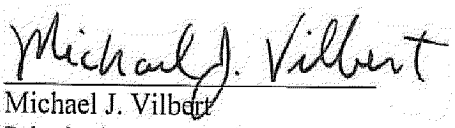
Q44. Does this conclude your testimony?

A44. Yes.

VERIFICATION

Pursuant to 28 U.S.C. § 1746 (2000), I state under penalty of perjury that the foregoing testimony is true and correct to the best of my information, knowledge and belief.

Executed this 23th day of October, 2007



Michael J. Vilbert
Principal
The Brattle Group

APPENDIX A

RESUME

MICHAEL J. VILBERT **PRINCIPAL**

Michael Vilbert is an expert in cost of capital, financial planning and valuation who has advised clients on these matters in the context of a wide variety of investment and regulatory decisions. He received his Ph.D. in Financial Economics from the Wharton School of the University of Pennsylvania, an MBA from the University of Utah, an M.S. from the Fletcher School of Law and Diplomacy, Tufts University, and a B.S. degree from the United States Air Force Academy. He joined The Brattle Group in 1994 after a career as an Air Force officer, where he served as a fighter pilot, intelligence officer, and professor of finance at the Air Force Academy.

REPRESENTATIVE CONSULTING EXPERIENCE

- In a securities fraud case, Dr. Vilbert designed and created a model to value the private placement stock of a drug store chain as if there had been full disclosure of the actual financial condition of the firm. He analyzed key financial data and security analysts' reports regarding the future of the industry in order to recreate pro forma balance sheet and income statements under a variety of scenarios designed to establish the value of the firm.

- For pharmaceutical companies rebutting price-fixing claims in antitrust litigation, Dr. Vilbert was a member of a team that prepared a comprehensive analysis of industry profitability. The analysis replicated, tested and critiqued the major recent analyses of drug costs, risks and returns. The analyses helped develop expert witness testimony to rebut allegations of excess profits.

- For an independent electric power producer, Dr. Vilbert created a model that analyzed the reasonableness of rates and costs filed by a natural gas pipeline. The model not only duplicated the pipeline's rates, but it also allowed simulation of a variety of "what if" scenarios associated with cost recovery under alternative time patterns and joint cost allocations. Results of the analysis were adopted by the intervenor group for negotiation with the pipeline.

- For the CFO of an electric utility, Dr. Vilbert developed the valuation model used to support a stranded cost estimation filing. The case involved a conflict between two utilities over the responsibility for out-of-market costs associated with a power purchase contract between them. In addition, he advised and analyzed cost recovery mechanisms

that would allow full recovery of the stranded costs while providing a rate reduction for the company's rate payers.

- Dr. Vilbert has testified as well as assisted in the preparation of testimony and the development of estimation models in numerous cost of capital cases for natural gas pipeline, water utility and electric utility clients before the Federal Energy Regulatory Commission ("FERC") and state regulatory commissions. These have spanned standard estimation techniques (e.g., Discounted Cash Flow and Risk Positioning models). He has also developed and applied more advanced models specific to the industries or lines of business in question, e.g., based on the structure and risk characteristics of cash flows, or based on multi-factor models that better characterize regulated industries.

- Dr. Vilbert has valued several large, residual oil-fired generating stations to evaluate the possible conversion to natural gas or other fuels. In these analyses, the expected pre- and post-conversion station values were computed using a range of market electricity and fuel cost conditions.

- For a major western electric utility, Dr. Vilbert helped prepare testimony that analyzed the prudence of QF contract enforcement. The testimony demonstrated that the utility had not been compensated in its allowed cost of capital for major disallowances stemming from QF contract management.

- Dr. Vilbert analyzed the economic need for a major natural gas pipeline expansion to the Midwest. This involved evaluating forecasts of natural gas use in various regions of the United States and the effect of additional supplies on the pattern of natural gas pipeline use. The analysis was used to justify the expansion before the FERC and the National Energy Board of Canada.

- For a Public Utility Commission in the Northeast, Dr. Vilbert analyzed the auction of an electric utility's purchase power agreements to determine whether the outcome of the auction was in the ratepayers' interest. The work involved the analysis of the auction procedures as well as the benefits to ratepayers of transferring risk of the PPA payments to the buyer.

- Dr. Vilbert led a team tasked to determine whether bridge tolls were "just and reasonable" for a non-profit port authority. Determination of the cost of service for the authority required estimation of the value of the authority's assets using the trended original cost methodology as well as evaluation of the operations and maintenance budgets. Investment costs, bridge traffic information and inflation indices covering a 75 year period were utilized to estimate the value of four bridges and a passenger transit line valued in excess of $1 billion.

- Dr. Vilbert helped a recently privatized railroad in Brazil develop an estimate of its revenue requirements, including a determination of the railroad's cost of capital. He also helped evaluate alternative rate structures designed to provide economic incentives to shippers as well as to the railroad for improved service. This involved the explanation

and analysis of the contribution margin of numerous shipper products, improved cost analysis and evaluation of bottlenecks in the system.

- For a utility in the Southeast, Dr. Vilbert quantified the company's stranded costs under several legislative electric restructuring scenarios. This involved the evaluation of all of the company's fossil and nuclear generating units, its contracts with Qualifying Facilities and the prudence of those QF contracts. He provided analysis concerning the impact of securitizing the company's stranded costs as a means of reducing the cost to the ratepayers and several alternative designs for recovering stranded costs.

- For a recently privatized electric utility in Australia, Dr. Vilbert evaluated the proposed regulatory scheme of the Australian Competition and Consumer Commission for the company's electric transmission system. The evaluation highlighted the elements of the proposed regulation which would impose uncompensated asymmetric risks on the company and the need to either eliminate the asymmetry in risk or provide additional compensation so that the company could expect to earn its cost of capital.

- For an electric utility in the Southwest, Dr. Vilbert helped design and create a model to estimate the stranded costs of the company's portfolio of Qualifying Facilities and Power Purchase contracts. This exercise was complicated by the many variations in the provisions of the contracts that required modeling in order to capture the effect of changes in either the performance of the plants or in the estimated market price of electricity.

- Dr. Vilbert helped prepare the testimony responding to a FERC request for further comments on the appropriate return on equity for electric transmission facilities. In addition, Dr. Vilbert was a member of the team that made a presentation to the FERC staff on the expected risks of the unbundled electric transmission line of business.

- Dr. Vilbert and Mr. Frank C. Graves, also of The Brattle Group, prepared testimony evaluating an innovative Canadian stranded cost recovery procedure involving the auctioning of the output of the province's electric generation plants instead of the plants themselves. The evaluation required the analysis of the terms and conditions of the long-term contracts specifying the revenue requirements of the plants for their entire forecasted remaining economic life and required an estimate of the cost of capital for the plant owners under this new stranded cost recovery concept.

- Dr. Vilbert served as the neutral arbitrator for the valuation of a petroleum products tanker. The valuation required analysis of the Jones Act tanker market and the supply and demand balance of the available U.S. constructed tanker fleet.

PRESENTATIONS

"Utility Distribution Cost of Capital," *EEI Electric Rates Advanced Course*, Bloomington, IN, 2002, 2003.

"Issues for Cost of Capital Estimation," with Bente Villadsen, *Edison Electric Institute Cost of Capital Conference*, Chicago, IL, February 2004.

"Not Your Father's Rate of Return Methodology," *Utility Commissioners/Wall Street Dialogue*, NY, May 2004.

"Current Issues in Cost of Capital," *EEI Electric Rates Advanced Course*, Madison, WI, July 2004.

"Cost of Capital Estimation: Issues and Answers," *MidAmerican Regulatory Finance Conference*, Des Moines, IA, April 7, 2005.

"Cost of Capital - Explaining to the Commission - Different ROEs for Different Parts of the Business," *EEI Economic Regulation & Competition Analysts Meeting*, May 2, 2005.

"Current Issues in Cost of Capital," with Bente Villadsen, *EEI Electric Rates Advanced Course*, Madison, WI, 2005.

"Current Issues in Estimating the Cost of Capital," *EEI Electric Rates Advanced Course*, Madison, WI, 2006.

"Revisiting the Development of Proxy Groups and Relative Risk Analysis," Society of Utility and Regulatory Financial Analysts: 39th Financial Forum, April 2007.

ARTICLES

"Flaws in the Proposed IRS Rule to Reinstate Amortization of Deferred Tax Balances Associated with Generation Assets Reorganized in Industry Restructuring," by Frank C. Graves and Michael J. Vilbert, white paper for *Edison Electric Institute* (EEI) to the IRS, July 25, 2003.

"The Effect of Debt on the Cost of Equity in a Regulatory Setting," by A. Lawrence Kolbe, Michael J. Vilbert, Bente Villadsen and The Brattle Group, *Edison Electric Institute*, April 2005.

"Measuring Return on Equity Correctly: Why current estimation models set allowed ROE too low," by A. Lawrence Kolbe, Michael J. Vilbert and Bente Villadsen, *Public Utilities Fortnightly*, August 2005.

"Understanding Debt Imputation Issues," by Michael J. Vilbert, Bente Villadsen and Joseph B. Wharton, *Edison Electric Institute*, August 2007.

TESTIMONY

Direct and rebuttal testimony before the Alberta Energy and Utilities Board on behalf of TransAlta Utilities Corporation in the matter of an application for approval of its 1999 and 2000 generation tariff, transmission tariff, and distribution revenue requirement, October 1998.

Direct testimony before the Federal Energy Regulatory Commission on behalf of Central Maine Power in Docket No. ER00-982-000, December 1999.

Direct testimony before the Alberta Energy and Utilities Board on behalf of TransAlta Utilities Corporation for approval of its 2001 transmission tariff, May 2000.

Direct testimony before the Federal Energy Regulatory Commission on behalf of Mississippi River Transmission Corporation in Docket No. RP01-292-000, March 2001.

Written evidence, rebuttal, reply and further reply before the National Energy Board in the matter of an application by TransCanada PipeLines Limited for orders pursuant to Part I and Part IV of the *National Energy Board Act*, Order AO-1-RH-4-2001, May 2001, Nov. 2001, Feb. 2002.

Written evidence before the Public Utility Board on behalf of Newfoundland & Labrador Hydro - Rate Hearings, October 2001.

Direct testimony (with William Lindsay) before the Federal Energy Regulatory Commission on behalf of DTE East China, LLC in Docket No. ER02-1599-000, April 2002.

Direct and rebuttal reports before the Arbitration Panel in the arbitration of stranded costs for the City of Casselberry, FL, Case No. 00-CA-1107-16-L, July 2002.

Direct reports before the Arbitration Board for Petroleum products trade in the Arbitration of the Military Sealift Command vs. Household Commercial Financial Services, fair value of sale of the Darnell, October 2002.

Direct testimony and hearing before the Arbitration Panel in the arbitration of stranded costs for the City of Winter Park, FL, In the Circuit Court of the Ninth Judicial Circuit in and for Orange County, FL, Case No. C1-01-4558-39, December 2002.

Direct testimony before the Federal Energy Regulatory Commission on behalf of Florida Power Corporation, dba Progress Energy Florida, Inc. in Docket No. SC03-1-000, March 2003.

Direct report before the Arbitration Panel in the arbitration of stranded costs for the Town of Belleair, FL, Case No. 000-6487-C1-007, April 2003.

Direct and rebuttal reports before the Alberta Energy and Utilities Board in the matter of the Alberta Energy and Utilities Board Act, R.S.A. 2000, c. A-17, and the Regulations under it; in the matter of the Gas Utilities Act, R.S.A. 2000, c. G-5, and the Regulations under it; in the

matter of the Public utilities Board Act, R.S.A. 2000, c. P-45, as amended, and the Regulations under it; and in the matter of Alberta Energy and Utilities Generic Cost of Capital Hearing, Proceeding No. 1271597, July 2003, November 2003.

Written evidence before the National Energy Board in the matter of the National Energy Board Act, R.S.C. 1985, c. N–7, as amended, (Act) and the Regulations made under it; and in the matter of an application by TransCanada PipeLines Limited for orders pursuant to Part IV of the *National Energy Board Act*, for approval of Mainline Tolls for 2004, RH-2-2004, January 2004.

Direct and rebuttal testimony before the Public Service Commission of West Virginia, on Cost of Capital for West Virginia-American Water Company, Case No 04-0373-W-42T, May 2004.

Direct and rebuttal testimony before the Federal Energy Regulatory Commission on Energy Allocation of Debt Cost for Incremental Shipping Rates for Edison Mission Energy, Docket No. RP04-274-000, December 2004 and March 2005.

Direct testimony before the Arizona Corporation Commission, Cost of Capital for Paradise Valley Water Company, a subsidiary of Arizona-American Water Company, Docket No. WS-01303A-05, May 2005.

Written evidence before the Ontario Energy Board, Cost of Capital for Union Gas Limited, Inc., Docket No. EB-2005-0520, January 2006.

Direct and rebuttal testimony before the Pennsylvania Public Utility Commission, Return on Equity for Metropolitan Edison Company, Docket No. R-00061366 and Pennsylvania Electric Company, Docket No. R-00061367, April 2006 and August 2006.

Expert report in the United States Tax Court, Docket No. 21309-05, 34th Street Partners, DH Petersburg Investment, LLC and Mid-Atlantic Finance, Partners Other than the Tax Matters Partner, Petitioner, v. Commissioner of Internal Revenue, Respondent, July 28, 2006.

Direct and supplemental testimony before the Federal Energy Regulatory Commission, Docket No. ER06-427-003, on behalf of Mystic Development, LLC on the Cost of Capital for Mystic 8 and 9 Generating Plants Operating Under Reliability Must Run Contract, August 2006 and September 2006.

Direct testimony before the Federal Energy Regulatory Commission, Docket No. ER07-46-000, on behalf of Northwestern Corporation on the Cost of Capital for Transmission Assets, October 2006.

Direct and rebuttal testimony before the Tennessee Regulatory Authority, Case No. 06-00290, on behalf of Tennessee American Water Company, on the Cost of Capital, November, 2006 and April 2007.

Direct testimony before the Public Service Commission of Wisconsin, Docket No. 5-UR-103, on behalf of Wisconsin Energy Corporation, on the Cost of Capital for Wisconsin Electric Power Company and Wisconsin Gas LLC, May 2007.

Rebuttal testimony before the California Public Utilities Commission, Docket No. A. 07-01-036-39, on behalf of California-American Water Company, on the Cost of Capital, May 2007.

Direct testimony before the Public Utilities Commission of the State of South Dakota, Docket No. NG-07-013, on behalf of NorthWestern Corporation, on the Cost of Capital for NorthWestern Energy Company's natural gas operations in South Dakota, June 2007.

Direct testimony before the Public Utilities Commission of Ohio, Case No. 07-551-EL-AIR, Case No. 07-552-EL-ATA, Case No. 07-553-EL-AAM, and Case No. 07-554-EL-UNC, on behalf of Ohio Edison Company, The Toledo Edison Company, and The Cleveland Electric Illuminating Company, on the cost of capital for the FirstEnergy Company's Ohio electric distribution utilities, June 2007.

Direct testimony before the State Corporation Commission of Virginia, Case No. PUE-2007-00066, on behalf of Virginia Electric and Power Company on the cost of capital for its southwest Virginia coal plant, July 2007.

Direct testimony before the Public Utilities Commission of Ohio, Case No. 07-829-GA-AIR, Case No. 07-830-GA-ALT, and Case No. 07-831-GA-AAM, on behalf of Dominion East Ohio Company, on the rate of return for Dominion East Ohio's natural gas distribution operations, September 2007.

APPENDIX B

THE FERC METHODOLOGY: SAMPLE SELECTION AND THE DCF METHOD

I. SAMPLE SELECTION 1

II. THE FERC'S PREFERRED DCF METHOD 4

I. SAMPLE SELECTION

Q1. How did you select your sample of transmission utilities?

A1. I first researched the precedents set by the Commission in choosing proxy groups in past transmission rate cases. In its recent decisions, the Commission has approved, or suggested it would be appropriate to use, proxy groups composed of either (1) transmission-owning companies that operate in the same ISO/RTO, or (2) transmission-owning companies that operate in the "broader, but inter-related RTO markets" in which the applicant operates, and which have a "direct link," or "direct correlation," with the applicant's RTO/ISO. For example, in the *Midwest ISO Initial Decision*,[1] the presiding judge ruled that the group of nine Midwest ISO transmission owners or parent corporations of the Midwest ISO transmission owners ("TO") with publicly-traded common stock was the appropriate proxy group in determining the return on equity ("ROE") for the Midwest ISO transmission owners. The Commission affirmed the judge's finding that the proxy group proffered by the Midwest ISO TOs was the appropriate group to use in determining the ROE for the Midwest ISO TOs.[2]

In *ISO New England* (Opinion 489),[3] the Commission agreed with the ALJ's initial decision to reject the argument that New England ISO's ROE should be set at a level comparable to that of the 12.4 percent ROE established by the Commission in *Midwest ISO*. The Commission affirmed the judge's ruling, stating "Using the Midwest ISO as the sole proxy would, in this instance, be inappropriate and must be rejected."[4] In the *New England RTO Rehearing Order*,[5] the Commission accepted the ROE Filers' proposed proxy group consisting of transmission-owning members located in ISO-New England RTO, the New York ISO, and PJM. The Commission accepted the proxy group

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1 *Midwest Indep. Transmission Sys. Operator, Inc.*, 99 FERC ¶ 63,011, at P 18 (2002).

2 *Midwest Indep. Transmission Sys. Operator, Inc.*, 100 FERC ¶ 61, 292, at P 12 (2002) ("Midwest ISO").

3 *Bangor Hydro-Elec. Co.,* 117 FERC ¶ 61, 129 (2006) ("ISO New England").

4 *Id.* P 74.

5 *ISO New England, Inc.*, 109 FERC ¶ 61,147, at P 204 (2004) ("New England RTO Rehearing Order").

on the grounds that a sample of northeast utility companies was "a sufficiently representative universe of companies for calculating an ROE applicable to the New England Transmission Owners."

The Commission has consistently rejected the inclusion in the proxy group of companies with no direct link to the ISO/RTO in which the applicant operates transmission assets. For example, in *Duquesne Light Co*,[6] the Commission rejected a proxy group that included companies with no direct link to PJM (in which Duquesne operates) or to the broader RTO markets with which PJM interacts. Similarly, in *Trans-Allegheny Interstate Line Company*,[7] the Commission rejected the proposal to include companies with no direct link to PJM in the proxy group. While the Commission has not ruled out the inclusion of other companies in the sample group, it has established a requirement that inclusion of such companies be fully justified:

> We set for hearing TrAILCo's proposed ROE, including the composition of its proxy group. In *Midwest Independent Transmission System Operator, Inc.*, the Commission accepted a proxy group of Midwest ISO transmission owners in setting an ROE applicable to the participating transmission owners in the Midwest ISO. Applying this reasoning here, TrAILCo has not shown that its proposal to include in its proxy group companies that have no direct link to PJM to be just and reasonable. [...] We will also permit TrAILCo and other participants to demonstrate that companies with no direct link to PJM should be included in TrAILCo's proxy group. However, we do not expect such companies to be included in TrAILCo's proxy group unless there is compelling evidence to support a deviation from our general policy of requiring a proxy group to be comprised of transmission owners with a direct link to the same RTO or Independent System Operator in which the applicant is located.[8]

Following the precedents set forth by the Commission as outlined above, I have selected a proxy group of transmission-owning utilities who are members of PJM.

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6 *Duquesne Light Co.*, 118 FERC ¶ 61,087, at PP 71-73 (2007) ("Duquesne Light Co.").

7 *Trans-Allegheny Interstate Line Co.*, 119 FERC ¶ 61,219 (2007) ("TrAILCo").

8 *TrAILCo*, at P 40.

Q2. Please elaborate on how companies in the PJM were selected for the sample.

A2. Using the PJM's website, I identified all companies that were listed as transmission owning members. I then determined each member company's parent holding company, and eliminated those member companies that were not publicly traded or had no data available from Bloomberg. This initial screen resulted in thirteen companies remaining. I then deleted companies whose primary business line is outside of the electric industry which is consistent with the Commission's Opinion No. 489 ("ISO New England"), where the Commission excluded UGI Holdings because it is primarily a natural gas company.[9] Therefore, UGI Holdings was eliminated, and Valero Power Marketing was eliminated because it is primarily an oil company. Finally, I excluded Allegheny Energy because it has not paid a dividend on common stock since 2002, which makes application of the DCF method unreliable.

The final sample consists of ten companies: American Electric Power Company, Inc., Consolidated Edison, Inc., Constellation Energy Group, Inc., Dominion Resources, Inc., DPL, Inc., Exelon Corp., FirstEnergy Corp., Pepco Holdings, Inc., PPL Corp., and Public Service Enterprise Group, Inc..

Q3. Are there any issues with the remaining companies in your sample?

A3. Possibly. Dominion Resources and Constellation Energy are characterized by Edison Electric Institute's 1st Quarter 2007 Stock Review report as having less than fifty percent regulated assets. These companies were not deleted from the sample because they meet all of the criteria for inclusion, including being transmission-owning members in the PJM with an investment grade bond rating. To my knowledge, the Commission has never before excluded a company because its share of regulated assets was too low. Not only is it important to be consistent in this matter, it is also critical that the Commission not impose so many restrictions that the sample size becomes too small.

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9 *ISO New England*, at P 37.

II. THE FERC'S PREFERRED DCF METHOD

Q4. What is the purpose of this section of the appendix?

A4. In this section, I discuss the details of my implementation of the Commission-based DCF method based upon my interpretation of various Commission decisions.

Q5. What is the basis of your procedures to implement the Commission-based DCF method?

A5. I have reviewed several Commission decisions and in particular the Commission's Opinion No. 445.[10] On pp. 61,262-63 of Opinion No. 445, the Commission states that:

> In the past, we have consistently applied a one-step, constant growth DCF model for calculating ROEs for electric utilities. The DCF methodology determines the ROE by summing the dividend yield (with an adjustment for the quarterly payment of dividends) and the expected growth rate. The resulting formula is D/P (1+.5g) + g = k, where "D/P" is the dividend yield, "g" is the sustainable growth rate of dividends per share, and "k" is the resulting ROE. The sustainable growth rate is calculated by the following formula: g = br + sv, where "b" is the expected retention ratio, "r" is the expected earned rate of return on common equity, "s" is the percent of common equity expected to be issued annually as new common stock, and "v" is the equity accretion rate.

Thus, the Commission has specified the single-stage DCF model as being its preferred estimation method for electric utilities. The procedure has been used more recently by the Commission in *ISO New England* and *Midwest ISO*, and its continued status as the Commission's preferred method is reaffirmed in Order 679[11] and Order 679-A.[12] Because it is the Commission's preferred method, I present evidence on this version of the dividend yield in a DCF model, as specified in Equation (B-1) below. However, I

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10 *S. Cal. Edison Co.*, 92 FERC ¶ 61,070 (2000) ("Opinion No. 445" or "Southern California Edison").

11 *Promoting Transmission Investment Through Pricing Reform*, Order No. 679, 71 Fed. Reg. 43,294 (July 31, 2006), FERC Stats. & Regs. ¶ 31,222, at PP 92, 102 (2006).

12 *Promoting Transmission Investment Through Pricing Reform*, Order No. 679-A, 72 Fed. Reg. 1,152 (Jan. 10, 2007), FERC Stats. & Regs. ¶ 31,236, at P 63 (2006).

must note that this approach will tend to underestimate the true cost of capital, all else equal.

The Commission implements the following equation:

$$k = \left[\left(D_0 / P_0\right) \times \left(1 + 0.5g\right)\right] + g \qquad \text{(B-1)}$$

In the Commission-based methodology, P_0 is the stock price calculated as the average of the highest and lowest closing common stock price over the most recent six month period. In other words, the low dividend yield is the annualized dividend divided by the average of the highest closing prices over the most recent six months, and the high dividend yield is the annualized dividend divided by the average of the lowest closing prices over the most recent six months. The estimate of g is either the average long-term (5-year) analyst growth rate forecast or the sustainable growth rate as calculated in Equation (B-2) below.

$$g = (b \times r) + (s \times v) \qquad \text{(B-2)}$$

In Equation (B-2), b is the expected retention ratio, r is the expected return on common equity, s is the expected growth in the number of common equity shares, and v is the accretion ratio.

The procedure in the testimony of Commission staff witnesses Randolph A. Barlow[13] and Franklin D. Knight[14] to implement the DCF model confirm that I have correctly interpreted the Commission's intention for implementation of the model. Both staff witnesses rely on Commission Opinion No. 445 and use the sustainable growth DCF as one of their estimation methods.

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13 Prepared Direct Answering Testimony of Commission Staff Witness Randolph A. Barlow, Pacific Gas and Electric Company, Dockets Nos. ER03-409-000, ER03-666-000, October 17, 2003.

14 Direct Testimony of Commission Staff Witness Franklin D. Knight, Allegheny Power, Docket No. ER02-136-004, November 25, 2002.

Q6. Exactly how do you implement the Commission-derived DCF method?

A6. The Commission's DCF approach calculates a high and a low dividend yield, sustainable growth rates from *Value Line* information and uses I/B/E/S's long-term growth rates as an alternative source for growth rates. Because I/B/E/S long-term growth rates are no longer accessible for non-members of Thomson Financial, I use Bloomberg BEst estimates instead. In the *New England RTO Rehearing Order*, the Commission stated that it would not "preclude the presiding judge from finding candidates for inclusion in the proxy group for which comparable data can reasonably be substituted for the growth rate data reported by I/B/E/S or *Value Line*."[15] Therefore, I calculate the sustainable growth rate for each sample company using methods that, to the best of my knowledge, are those recently relied upon by the Commission. I then determine the low, high and midpoint cost of equity estimates in accord with these procedures.

Q7. Please explain your calculations in detail.

A7. I obtain recent dividend and stock price information from Bloomberg. I annualize the Quarter 2, 2007 dividends and calculate the high and low average stock prices over the most recent six months using monthly data.[16] The high and low dividend yields are the annualized dividend divided by the average low and high stock price, respectively. Dividend yields for the sample companies calculated in this way are reported in Workpaper # 7, Panel A and B to Table No. MJV-4, Exhibit No. DVP-13 at 13-14.

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[15] See *New England RTO Rehearing Order*, at P 205.

[16] At the time of the analysis for this proceeding, the most recent six months period available in Bloomberg was April 2007 through September 2007.

To calculate the sustainable growth rate, I calculate each sample company's retention ratio, return on equity, expected growth in shares, and expected accretion ratio using *Value Line* information.[17] The components of the sustainable growth rate are calculated as follows.

Retention Ratio (*b*): I follow the calculation in Opinion No. 445[18] to determine the retention ratio for each of the years, 2007, 2008, and 2011[19] and use the average for my calculations.

Return on Equity (*r*): I again follow the calculation in Opinion No. 445. I calculate the return on equity for each of the years 2007, 2008, and 2010-2012 using *Value Line's* forecasted Earnings per Share ("EPS") and Book Value per Share ("BPS"). The average return on equity for the three years is adjusted using the formula provided in Opinion No. 445.[20] Thus, I multiply the average return on equity by the following adjustment factor:

$$Adjustment\ Factor = \frac{2 \times (1 + Growth\ in\ Common\ Equity)}{2 + Growth\ in\ Common\ Equity} \qquad \text{(B-3)}$$

The growth in common equity is calculated from the calculated common equity figures for 2007 and in 2011. The common equity for 2007 (2011) is determined as the common equity ratio for 2007 (2011) multiplied times the total capital for 2007 (2011). Data on the forecasted common equity ratio and total capital are obtained from *Value Line*.

Growth in Shares (*s*): I have not been able to find a specification for the calculation of the external growth component ("$s \times v$") of the sustainable growth rate in Opinion No. 445. However, I am able to calculate the growth in common shares from *Value Line*

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17 *Value Line* information is from August 31 and September 28, 2007.

18 See Opinion No. 445, at 61,263.

19 *Value Line* currently reports forecasts for the years 2007, 2008, and the 2010-12 period. I treat the *Value Line* numbers reported for the 2010-12 period to be for the year 2011, the midpoint of the period.

20 See Opinion No. 445, n.38.

information on the expected number of shares outstanding in 2007 and in 2011.[21] This figure is multiplied by the current price-to-book ratio to obtain *s*.[22]

Accretion Ratio (*v*): Opinion No. 445 does not specify the calculation of the accretion ratio, but the use of current data appears to be consistent with prior Commission practice.[23] The method uses *Value Line* information to calculate the accretion ratio as {1 − [1 / (Current Stock Price/Current Book Value)]} using *Value Line's* 2007 data.[24]

Q8. How do you use the sustainable growth rates described above and the long-term growth rate forecasts to determine the sample companies' Commission-based DCF cost of equity?

A8. I calculate each sample company's Commission-based DCF cost of equity, k, using the formula in Equation (B-2): $k = (D_0/P_0) \times (1 + .5g) + g$. For each company I calculate the cost of equity letting *g* take on either the BEst long-term growth rate forecasts or the sustainable growth rate calculated above.[25] I then determine the highest and lowest estimate that results using either the sustainable or BEst growth rate and high or low dividend yields, following the Commission's clarification in *Midwest ISO*.[26] In determining the lowest estimate, I discard any cost of equity estimate that is below the six-month average yield on bonds corresponding of a comparable rating to the company's bond rating plus 100 basis points. This procedure is consistent with Commission

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21 This calculation appears to be consistent with the calculation performed in *Devon Power, LLC*, 103 FERC ¶ 61,155 (2003) ("Devon Power LLC").

22 See *Devon Power LLC*.

23 The *Devon Power LLC* Order appears to rely on a weighted average of the book value for the past and current year plus current price data. Also, in *City of Vernon, California*, Docket No. EL00-105-007, Docket No. ER00-2019-007, Prepared Direct and Answering Testimony of Staff Witness Douglas M. Green, July 16, 2004 ("Green Testimony"), witness Green states on p. 29 that he used "the company's recent price-to-book ratio."

24 Note that, consistent with Commission documents, I present the external growth components, $s \times v$, as *s* = (growth in shares) × (Price per Share/BPS) and *v* = [1 - BPS/(Price per Share)].

25 BEst estimates are as of September 30, 2007.

26 See *Midwest ISO*, PP 18, 21.

precedent in several proceedings including *ISO New England*, *New England RTO Rehearing Order* and *Southern California Edison*.[27]

Q9. How do you use the sample companies' high and low computed ROEs to arrive at an estimate of the cost of equity?

A9. I first determine a range of reasonable returns as the range between the lowest and the highest ROE of all sample companies, computed as described above. I then compute the cost of equity estimate as the midpoint of the range of reasonable returns. In its decisions regarding the cost of equity for electric transmission companies, the Commission has consistently relied on the midpoint of the range of reasonable returns. The use of the midpoint is specifically mentioned and affirmed by the Commission in, among others, *Midwest ISO, New England RTO Rehearing Order,* and *ISO New England*.[28]

Moreover, in *Consumers Energy*,[29] the Commission specifically rejected and reversed the use of the sample median as an alternative estimate, relying on the precedent set in Opinion Nos. 445 and 446.[30] Acknowledging the fact that the median is frequently used in rate proceedings for regulated gas utilities, the Commission has nonetheless neither accepted nor required the use of the median in rate proceedings for electric utilities. In Order 679-A, the Commission stated:

> We agree with TAPS that averaging each company's low and high DCF return would result in a single average DCF result for each electric company, making it like the single DCF return for gas and oil pipelines, from which a median return on equity for the group can be calculated. While this is an acceptable method, we will not require use of that method in the Commission's DCF analysis because that issue is beyond the scope of this proceeding and is more appropriately addressed in the individual application proceedings.[31]

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27 Southern California Edison at 61,266.

28 See *Midwest ISO*, at P 30, *New England RTO Rehearing Order*, at P 203, *ISO New England*, at P 14.

29 *Consumers Energy Co.*, 98 FERC ¶ 61,333, at 62,416 (2002) (Opinion No. 456) ("Consumers Energy").

30 *System Energy Resources, Inc.*, 92 FERC ¶ 61,119 (2000) (Opinion No. 446) ("Systems Energy").

31 See Order 679-A, at P 63 n.105.

Therefore, in order to be consistent with past and current Commission methodology, I employ the midpoint of the range of reasonable returns as the estimate of the cost of equity in this proceeding.

EXHIBIT NO. DVP-13

Table No. MJV-1

Index to Tables for the Testimony of Michael J. Vilbert

Table No. MJV-2	2007 Commission-Based Electric Sample	Company Information
Table No. MJV-3	2007 Commission-Based Electric Sample	Capital Structure Information
Table No. MJV-4	2007 Commission-Based Electric Sample	DCF Cost of Equity

Table No. MJV-2

Commission-Based Electric Sample

Company Information

Company	S&P Business Profile [1]	Revenue for 2006 [2]	2nd Quarter, 2007 Bond Rating [3]
American Electric Power Co Inc	5	$12,622	BBB
Constellation Energy Group Inc	7	$19,285	BBB
Dominion Resources Inc	7	$16,482	BBB
DPL Inc	6	$1,394	BBB
Consolidated Edison Inc	2	$12,137	A
Exelon Corp	7	$15,655	BBB
FirstEnergy Corp	7	$11,501	BBB
Public Service Enterprise Group Inc	7	$12,164	BBB
Pepco Holdings Inc	5	$8,363	BBB
PPL Corp	7	$6,899	BBB

Sources and Notes:
[1]: From S&P Utility and Power Rankings, June 22, 2007.
[2] - [3]: Bloomberg as of September 30, 2007.

Table No. MJV-3

Commission-Based Electric Sample

Capital Structure Information (Q2, 2007)

	American Electric Power Co Inc	Constellation Energy Group Inc	Dominion Resources Inc	DPL Inc	Consolidated Edison Inc	Exelon Corp	FirstEnergy Corp	Public Service Enterprise Group Inc	Pepco Holdings Inc	PPL Corp	Notes
MARKET VALUE OF EQUITY											
Book Value, Common Shareholder's Equity	$9,656	$5,159	$12,577	$782	$8,806	$11,171	$8,640	$6,847	$3,677	$5,369	[a]
Shares Outstanding (in millions) - Common	399	180	349	114	271	674	305	254	194	385	[b]
Price per Share ($) - Common	$46.80	$88.16	$87.12	$28.97	$47.62	$74.32	$65.97	$86.88	$28.29	$46.42	[c]
Market Value of Common Equity	$18,681	$15,913	$30,405	$3,289	$12,900	$50,091	$20,109	$22,073	$5,475	$17,870	[d] = [b] x [c].
Market to Book Value of Common Equity	1.93	3.08	2.42	4.21	1.46	4.48	2.33	3.22	1.49	3.33	[e] = [d] / [a].
MARKET VALUE OF PREFERRED EQUITY											
Book Value of Preferred Equity	$61	$190	$257	$23	$213	$87	$0	$80	$0	$301	[f]
Market Value of Preferred Equity	$61	$190	$257	$23	$213	$87	$0	$80	$0	$301	[g] = [f].
MARKET VALUE OF DEBT											
Current Assets	$3,263	$7,988	$7,232	$504	$2,651	$4,959	$2,536	$3,897	$2,005	$4,079	[h]
Current Liabilities	$5,804	$5,707	$10,671	$467	$3,014	$5,361	$6,282	$3,699	$2,410	$3,040	[i]
Current Portion of Long-Term Debt	$1,521	$303	$2,592	$101	$536	$1,445	$2,000	$1,010	$646	$743	[j]
Net Working Capital	-$1,020	$2,585	-$847	$137	$173	$1,043	-$1,746	$1,208	$241	$1,782	[k] = [h] - ([i] - [j]).
Notes Payable (Short-Term Debt)	$438	$0	$2,745	$0	$315	$653	$2,416	$345	$286	$96	[l]
Adjusted Short-Term Debt	$438	$0	$847	$0	$0	$0	$1,746	$0	$0	$0	[m] = See Sources and Notes.
Long-Term Debt	$13,067	$4,669	$14,336	$1,452	$7,802	$11,006	$8,742	$9,863	$4,668	$6,841	[n]
Book Value of Long-Term Debt	$14,588	$4,972	$16,928	$1,553	$8,338	$12,451	$10,742	$10,873	$5,314	$7,584	[o] = [n] + [j].
Market Value of Long-Term Debt	$14,588	$4,972	$16,928	$1,553	$8,338	$12,451	$10,742	$10,873	$5,314	$7,584	[p] = [o].
Market Value of Debt	$15,026	$4,972	$17,775	$1,553	$8,338	$12,451	$12,488	$10,873	$5,314	$7,584	[q] = [p] + [m].
MARKET VALUE OF FIRM											
	$33,768	$21,075	$48,437	$4,865	$21,451	$62,629	$32,597	$33,026	$10,788	$25,755	[r] = [d] + [g] + [q]
DEBT AND EQUITY TO MARKET VALUE RATIOS											
Common Equity - Market Value Ratio	55.32%	75.51%	62.77%	67.62%	60.14%	79.98%	61.69%	66.84%	50.75%	69.39%	[s] = [d] / [r].
Preferred Equity - Market Value Ratio	0.18%	0.90%	0.53%	0.47%	0.99%	0.14%	-	0.24%	-	1.17%	[t] = [g] / [r].
Debt - Market Value Ratio	44.50%	23.59%	36.70%	31.91%	38.87%	19.88%	38.31%	32.92%	49.25%	29.45%	[u] = [q] / [r].

Sources and Notes:
Bloomberg as of September 30, 2007
[c]: Average of maximum and minimum closing prices for 6 months ending June 2007. Workpaper #8 to Table No. MJV-4, Panel C.
[j], [l]: Due to unavailable data, data from the previous year is used.
[m] =
(1): 0 if [k] > 0.
(2): The absolute value of [k] if [k] < 0 and |[k]| < [l].
(3): [l] if [k] < 0 and |[k]| > [l].

Table No. MJV-4

Commission-Based Electric Sample

Panel A1: Summary of High, Low and Midpoint Cost of Equity Estimates

DCF Cost of Equity

Company	Region		6-Month Dividend Yield High [1]	6-Month Dividend Yield Low [2]	Adjusted Dividend Yield High [3]	Adjusted Dividend Yield Low [4]	Growth Rates High [5]	Growth Rates Low [6]	Implied Cost of Equity High [7]	Implied Cost of Equity Low [8]
American Electric Power Co Inc	PJM	*	3.45%	3.22%	3.56%	3.31%	6.06%	5.69%	9.62%	9.00%
Constellation Energy Group Inc	PJM	*	2.07%	1.88%	2.21%	2.00%	13.40%	12.48%	15.61%	14.48%
Dominion Resources Inc	PJM	*	3.37%	3.16%	3.46%	3.24%	5.40%	5.04%	8.86%	8.28%
DPL Inc	PJM		3.70%	3.48%	3.96%	3.65%	13.60%	9.80%	17.56%	13.45%
Consolidated Edison Inc	PJM	*	5.02%	4.74%	5.11%	4.81%	3.67%	3.05%	8.78%	7.86%
Exelon Corp	PJM	*	2.49%	2.25%	2.65%	2.35%	12.39%	8.78%	15.04%	11.14%
FirstEnergy Corp	PJM	*	3.15%	2.92%	3.28%	3.03%	8.10%	7.47%	11.38%	10.50%
Public Service Enterprise Group Inc	PJM	*	2.82%	2.58%	2.97%	2.72%	11.01%	10.85%	13.98%	13.57%
Pepco Holdings Inc	PJM	*	3.82%	3.55%	3.98%	3.62%	8.50%	4.23%	12.48%	7.85%
PPL Corp	PJM	*	2.74%	2.52%	2.90%	2.62%	11.40%	7.89%	14.30%	10.51%
Full Range									17.56%	7.85%
Midpoint									12.70%	
Median Estimate									11.26%	
Average									11.71%	
Excluding Highest Cost of Equity (DPL)*									15.61%	7.85%
Midpoint									11.73%	
Median Estimate									11.14%	
Average									11.40%	

Sources and Notes:
[1]: Workpaper #7 to Table No. MJV-4, Panel B, [4].
[2]: Workpaper #7 to Table No. MJV-4, Panel A, [4].
[3]: [1] x (1 + .5 x [5]).
[4]: [2] x (1 + .5 x [6]).
[5]: Highest Growth Rate from Workpaper #1 to Table No. MJV-4, [7] and Workpaper #10 to Table No. MJV-4, [1].
[6]: Lowest Growth Rate from Workpaper #1 to Table No. MJV-4 [7] and Workpaper #10 to Table No. MJV-4, [1].
[7]: [3] + [5].
[8]: [4] + [6].

Table No. MJV-4

Commission-Based Electric Sample

Panel A2: Commission-Based Sustainable Growth DCF Method

DCF Cost of Equity

Company	High Dividend Yield [1]	Low Dividend Yield [2]	Sustainable Growth Rate [3]	Cost of Equity - High Dividend Yield [4]	Cost of Equity - Low Dividend Yield [5]
American Electric Power Co Inc	3.45%	3.22%	6.06%	9.62%	9.38%
Constellation Energy Group Inc	2.07%	1.88%	12.48%	14.68%	14.48%
Dominion Resources Inc	3.37%	3.16%	5.04%	8.49%	8.28%
DPL Inc	3.70%	3.48%	9.80%	13.68%	13.45%
Consolidated Edison Inc	5.02%	4.74%	3.05%	8.15%	7.86%
Exelon Corp	2.49%	2.25%	12.39%	15.04%	14.78%
FirstEnergy Corp	3.15%	2.92%	7.47%	10.75%	10.50%
Public Service Enterprise Group Inc	2.82%	2.58%	10.85%	13.82%	13.57%
Pepco Holdings Inc	3.82%	3.55%	4.23%	8.13%	7.85%
PPL Corp	2.74%	2.52%	7.89%	10.74%	10.51%
Highest CoE				15.04%	14.78%
Lowest CoE*				8.13%	7.85%
Midpoint				11.58%	11.32%

Sources and Notes:
[1]: Workpaper #7 to Table No. MJV-4, Panel B, [4].
[2]: Workpaper #7 to Table No. MJV-4, Panel A, [4].
[3]: Workpaper #1 to Table No. MJV-4, [7].
[4]: [1] x (1 + .5 x [3]) + [3].
[5]: [2] x (1 + .5 x [3]) + [3].
Sample consists of companies listed as transmission operators in the PJM Network.

Table No. MJV-4

Commission-Based Electric Sample

Panel A3: Commission-Based BEst Growth DCF Method

DCF Cost of Equity

Company	High Dividend Yield [1]	Low Dividend Yield [2]	BEst Long-Term Growth Rate [3]	High Cost of Equity [4]	Low Cost of Equity [5]
American Electric Power Co Inc	3.45%	3.22%	5.69%	9.24%	9.00%
Constellation Energy Group Inc	2.07%	1.88%	13.40%	15.61%	15.41%
Dominion Resources Inc	3.37%	3.16%	5.40%	8.86%	8.65%
DPL Inc	3.70%	3.48%	13.60%	17.56%	17.32%
Consolidated Edison Inc	5.02%	4.74%	3.67%	8.78%	8.49%
Exelon Corp	2.49%	2.25%	8.78%	11.38%	11.14%
FirstEnergy Corp	3.15%	2.92%	8.10%	11.38%	11.14%
Public Service Enterprise Group Inc	2.82%	2.58%	11.01%	13.98%	13.73%
Pepco Holdings Inc	3.82%	3.55%	8.50%	12.48%	12.20%
PPL Corp	2.74%	2.52%	11.40%	14.30%	14.07%
Highest Estimate				17.56%	17.32%
Lowest Estimate*				8.78%	8.49%
Midpoint Estimate				13.17%	12.91%

Sources and Notes:
[1]: Workpaper #7 to Table No. MJV-4, Panel B, [4].
[2]: Workpaper #7 to Table No. MJV-4, Panel A, [4].
[3]: Workpaper #10 to Table No. MJV-4, [1].
[4]: [1] x (1 + .5 x [3]) + [3].
[5]: [2] x (1 + .5 x [3]) + [3].
Sample consists of companies listed as transmission operators in the PJM Network.

Workpaper #1 to Table No. MJV-4

Commission-Based Electric Sample

Sustainable Growth Rate

Company	Expected Average Retention Ratio (b) [1]	Average Return on Equity [2]	Adjustment Factor [3]	Adjusted Average Return on Equity (r) [4]	(s) [5]	Accretion Ratio (v) [6]	Sustainable Growth Rate [7]
American Electric Power Co Inc	45.50%	12.10%	1.03	12.48%	0.82%	46.69%	6.06%
Constellation Energy Group Inc	63.47%	15.57%	1.06	16.54%	3.07%	64.72%	12.48%
Dominion Resources Inc	42.02%	16.16%	1.03	16.60%	-3.06%	63.33%	5.04%
DPL Inc	42.80%	23.79%	1.04	24.84%	-1.10%	75.66%	9.80%
Consolidated Edison Inc	28.67%	9.53%	1.02	9.75%	0.81%	32.07%	3.05%
Exelon Corp	58.52%	23.31%	1.05	24.38%	-2.43%	77.13%	12.39%
FirstEnergy Corp	51.54%	13.99%	1.04	14.50%	0.00%	56.11%	7.47%
Public Service Enterprise Group Inc	56.72%	16.93%	1.05	17.80%	1.13%	67.20%	10.85%
Pepco Holdings Inc	40.99%	9.76%	1.02	9.96%	0.45%	32.13%	4.23%
PPL Corp	49.59%	18.82%	1.03	19.47%	-2.56%	68.98%	7.89%

Sources and Notes:
[1]: Workpaper #2 to Table No. MJV-4, [10].
[2]: Workpaper #3 to Table No. MJV-4, [10].
[3]: Workpaper #4 to Table No. MJV-4, [8].
[4]: [2] x [3].
[5]: Workpaper #5 to Table No. MJV-4, [4].
[6]: Workpaper #6 to Table No. MJV-4, [4].
[7]: [1] x [4] + [5] x [6].

Workpaper #2 to Table No. MJV-4

Commission-Based Electric Sample

Calculation of Retention Ratio

Company	EPS Fiscal Year 2007 Estimate [1]	EPS Fiscal Year 2008 Estimate [2]	EPS 2010 - 2012 Estimate [3]	Forecasted Annualized Dividends - 2007 [4]	Forecasted Annualized Dividends - 2008 [5]	Forecasted Annualized Dividends - 2010 - 2012 [6]	Retention Ratio, 2007 [7]	Retention Ratio, 2007 [8]	Retention Ratio, 2010 - 2012 [9]	Expected Average Retention Ratio [10]
American Electric Power Co Inc	2.95	3.15	4.00	1.59	1.72	2.20	46.10%	45.40%	45.00%	45.50%
Constellation Energy Group Inc	4.65	5.55	7.75	1.74	2.00	2.80	62.58%	63.96%	63.87%	63.47%
Dominion Resources Inc	4.80	5.90	7.00	2.84	3.40	4.00	40.83%	42.37%	42.86%	42.02%
DPL Inc	1.85	1.90	2.05	1.04	1.08	1.20	43.78%	43.16%	41.46%	42.80%
Consolidated Edison Inc	3.20	3.30	3.40	2.32	2.34	2.40	27.50%	29.09%	29.41%	28.67%
Exelon Corp	3.90	4.40	5.75	1.78	1.86	2.10	54.36%	57.73%	63.48%	58.52%
FirstEnergy Corp	4.25	4.30	5.25	2.03	2.15	2.50	52.24%	50.00%	52.38%	51.54%
Public Service Enterprise Group Inc	5.10	5.80	6.20	2.34	2.40	2.64	54.12%	58.62%	57.42%	56.72%
Pepco Holdings Inc	1.60	1.85	2.45	1.08	1.12	1.20	32.50%	39.46%	51.02%	40.99%
PPL Corp	2.60	2.55	4.25	1.22	1.34	2.20	53.08%	47.45%	48.24%	49.59%

Sources and Notes:
[1] - [6]: Most recent Value Line Standard Edition dated as of August 31, 2007 and September 28, 2007.
[7]: ([1] - [4]) / [1].
[8]: ([2] - [5]) / [2].
[9]: ([3] - [6]) / [3].
[10]: Average of [7] through [9].

Workpaper #3 to Table No. MJV-4

Commission-Based Electric Sample

Calculation of Return on Equity

Company	EPS Fiscal Year 2007 Estimate [1]	EPS Fiscal Year 2008 Estimate [2]	EPS 2010 - 2012 Estimate [3]	Book Value Per Share - 2007 [4]	Book Value Per Share - 2008 [5]	Book Value Per Share - 2010 - 2012 [6]	Return on Equity, 2007 [7]	Return on Equity, 2008 [8]	Return on Equity, 2010 - 2012 [9]	Average Return on Equity [10]
American Electric Power Co Inc	2.95	3.15	4.00	24.95	26.50	31.75	11.82%	11.89%	12.60%	12.10%
Constellation Energy Group Inc	4.65	5.55	7.75	31.10	34.80	49.00	14.95%	15.95%	15.82%	15.57%
Dominion Resources Inc	4.80	5.90	7.00	31.95	35.15	42.00	15.02%	16.79%	16.67%	16.16%
DPL Inc	1.85	1.90	2.05	7.05	7.65	10.10	26.24%	24.84%	20.30%	23.79%
Consolidated Edison Inc	3.20	3.30	3.40	32.35	33.80	38.10	9.89%	9.76%	8.92%	9.53%
Exelon Corp	3.90	4.40	5.75	17.00	18.35	25.00	22.94%	23.98%	23.00%	23.31%
FirstEnergy Corp	4.25	4.30	5.25	28.95	31.10	39.00	14.68%	13.83%	13.46%	13.99%
Public Service Enterprise Group Inc	5.10	5.80	6.20	28.50	31.75	42.35	17.89%	18.27%	14.64%	16.93%
Pepco Holdings Inc	1.60	1.85	2.45	19.20	19.30	21.55	8.33%	9.59%	11.37%	9.76%
PPL Corp	2.60	2.55	4.25	14.40	15.35	19.50	18.06%	16.61%	21.79%	18.82%

Sources and Notes:
[1] - [6]: Most recent Value Line Standard Edition dated as of August 31, 2007 and September 28, 2007.
[7]: [1] / [4].
[8]: [2] / [5].
[9]: [3] / [6].
[10]: Average of [7] through [9].

Workpaper #4 to Table No. MJV-4

Commission-Based Electric Sample

Calculation of Return On Equity Adjustment Factor

Company	Common Equity Ratio 2007 [1]	Common Equity Ratio 2010 - 2012 [2]	Total Capital 2007 [3]	Total Capital 2010 - 2012 [4]	Common Equity, 2007 [5]	Common Equity, 2010 - 2012 [6]	Growth in Common Equity [7]	Adjustment Factor [8]
American Electric Power Co Inc	0.43	0.44	23,600	29,200	10,030	12,848	6.39%	1.03
Constellation Energy Group Inc	0.53	0.61	10,700	15,400	5,671	9,317	13.22%	1.06
Dominion Resources Inc	0.42	0.46	20,800	23,900	8,736	10,875	5.63%	1.03
DPL Inc	0.37	0.48	2,140	2,370	792	1,126	9.20%	1.04
Consolidated Edison Inc	0.49	0.51	17,850	20,905	8,747	10,557	4.82%	1.02
Exelon Corp	0.51	0.58	22,950	29,100	11,590	16,733	9.62%	1.05
FirstEnergy Corp	0.50	0.52	17,900	22,800	8,861	11,856	7.55%	1.04
Public Service Enterprise Group Inc	0.43	0.53	17,715	21,595	7,617	11,445	10.71%	1.05
Pepco Holdings Inc	0.47	0.50	7,985	8,800	3,713	4,356	4.07%	1.02
PPL Corp	0.43	0.50	12,950	14,500	5,504	7,250	7.13%	1.03

Sources and Notes:
[1] - [4]: Most recent Value Line Standard Edition dated as of August 31, 2007 and September 28, 2007.
[5]: [1] x [3].
[6]: [2] x [4].
[7]: ([6] / [5]) ^ (1/4) - 1.
[8]: (2 x (1 + [7]))/ (2 + [7]). See FERC Opinion No. 445, footnote 38.

Workpaper #5 to Table No. MJV-4

Commission-Based Electric Sample

Calculation of Expected Growth in Shares

Company	Common Shares Outstanding - 2007 [1]	Common Shares Outstanding - 2010 - 2012 [2]	Expected Growth in Shares [3]	(s) [4]
American Electric Power Co Inc	400.00	407.00	0.43%	0.82%
Constellation Energy Group Inc	182.00	190.00	1.08%	3.07%
Dominion Resources Inc	272.00	260.00	-1.12%	-3.06%
DPL Inc	112.40	111.20	-0.27%	-1.10%
Consolidated Edison Inc	272.00	278.00	0.55%	0.81%
Exelon Corp	680.00	665.00	-0.56%	-2.43%
FirstEnergy Corp	304.80	304.80	0.00%	0.00%
Public Service Enterprise Group Inc	268.00	272.00	0.37%	1.13%
Pepco Holdings Inc	193.60	196.00	0.31%	0.45%
PPL Corp	382.00	370.00	-0.79%	-2.56%

Sources and Notes:
[1] - [2]: Most recent Value Line Standard Edition dated as of August 31, 2007 and September 28, 2007.
[3]: ([2] / [1]) ^ (1/4) - 1.
[4]: [3] x ([3] from Workpaper #6 to Table No. MJV-4).

Workpaper #6 to Table No. MJV-4

Commission-Based Electric Sample

Calculation of Accretion Ratio

Company	FERC Average Price - High and Low [1]	Book Value Per Share - 2007 [2]	Market-to-Book Ratio [3]	Accretion Ratio (v) [4]
American Electric Power Co Inc	46.80	24.95	1.88	46.69%
Constellation Energy Group Inc	88.16	31.10	2.83	64.72%
Dominion Resources Inc	87.12	31.95	2.73	63.33%
DPL Inc	28.97	7.05	4.11	75.66%
Consolidated Edison Inc	47.62	32.35	1.47	32.07%
Exelon Corp	74.32	17.00	4.37	77.13%
FirstEnergy Corp	65.97	28.95	2.28	56.11%
Public Service Enterprise Group Inc	86.88	28.50	3.05	67.20%
Pepco Holdings Inc	28.29	19.20	1.47	32.13%
PPL Corp	46.42	14.40	3.22	68.98%

Sources and Notes:
[1]: Workpaper #8 to Table No. MJV-4, Panel C, [7].
[2]: Most recent Value Line Standard Edition dated as of August 31, 2007 and September 28, 2007.
[3]: [1] / [2].
[4]: 1 - (1 / [3]).

Workpaper #7 to Table No. MJV-4

Commission-Based Electric Sample

Panel A: Calculation of Dividend Yields using High Prices

Company	Average High Stock Price [1]	Current Dividend [2]	Annualized Dividend [3]	Low Dividend Yield [4]
American Electric Power Co Inc	$48.42	$0.39	$1.56	3.22%
Constellation Energy Group Inc	$92.36	$0.44	$1.74	1.88%
Dominion Resources Inc	$89.85	$0.71	$2.84	3.16%
DPL Inc	$29.86	$0.26	$1.04	3.48%
Consolidated Edison Inc	$48.99	$0.58	$2.32	4.74%
Exelon Corp	$78.05	$0.44	$1.76	2.25%
FirstEnergy Corp	$68.54	$0.50	$2.00	2.92%
Public Service Enterprise Group Inc	$90.68	$0.59	$2.34	2.58%
Pepco Holdings Inc	$29.33	$0.26	$1.04	3.55%
PPL Corp	$48.35	$0.31	$1.22	2.52%

Sources and Notes:
[1]: Workpaper #8 to Table No. MJV-4, Panel A, [7].
[2]: Workpaper #9 to Table No. MJV-4.
[3]: [2] x 4.
[4]: [3] / [1].

Workpaper #7 to Table No. MJV-4

Commission-Based Electric Sample

Panel B: Calculation of Dividend Yields using Low Prices

Company	Average Low Stock Price [1]	Current Dividend [2]	Annualized Dividend [3]	High Dividend Yield [4]
American Electric Power Co Inc	$45.18	$0.39	$1.56	3.45%
Constellation Energy Group Inc	$83.97	$0.44	$1.74	2.07%
Dominion Resources Inc	$84.39	$0.71	$2.84	3.37%
DPL Inc	$28.08	$0.26	$1.04	3.70%
Consolidated Edison Inc	$46.26	$0.58	$2.32	5.02%
Exelon Corp	$70.58	$0.44	$1.76	2.49%
FirstEnergy Corp	$63.40	$0.50	$2.00	3.15%
Public Service Enterprise Group Inc	$83.09	$0.59	$2.34	2.82%
Pepco Holdings Inc	$27.25	$0.26	$1.04	3.82%
PPL Corp	$44.48	$0.31	$1.22	2.74%

Sources and Notes:
[1]: Workpaper #8 to Table No. MJV-4, Panel B, [7].
[2]: Workpaper #9 to Table No. MJV-4.
[3]: [2] x 4.
[4]: [3] / [1].

Workpaper #8 to Table No. MJV-4

Commission-Based Electric Sample

Panel A: Maximum Closing Prices

Commission-Based Sustainable Growth Method

Company	Apr-07 [1]	May-07 [2]	Jun-07 [3]	Jul-07 [4]	Aug-07 [5]	Sep-07 [6]	Average [7]
American Electric Power Co Inc	$50.95	$50.66	$47.56	$46.83	$47.85	$46.68	$48.42
Constellation Energy Group Inc	$93.25	$94.97	$91.22	$96.22	$88.44	$90.05	$92.36
Dominion Resources Inc	$92.42	$92.24	$87.87	$88.60	$91.10	$86.85	$89.85
DPL Inc	$31.91	$31.83	$30.73	$29.36	$28.54	$26.80	$29.86
Consolidated Edison Inc	$52.63	$51.86	$48.63	$46.09	$47.43	$47.30	$48.99
Exelon Corp	$76.45	$78.45	$76.61	$82.05	$76.40	$78.36	$78.05
FirstEnergy Corp	$71.23	$72.23	$69.34	$68.10	$64.54	$65.80	$68.54
Public Service Enterprise Group Inc	$90.51	$92.88	$88.87	$92.56	$89.27	$89.96	$90.68
Pepco Holdings Inc	$30.64	$30.60	$29.81	$28.90	$27.88	$28.15	$29.33
PPL Corp	$45.27	$46.02	$47.16	$49.89	$52.04	$49.74	$48.35

Sources and Notes:
[1] - [6]: Bloomberg as of September 30, 2007.
[7]: Average of [1] - [6].

Workpaper #8 to Table No. MJV-4

Commission-Based Electric Sample

Panel B: Minimum Closing Prices

Commission-Based Sustainable Growth Method

	Apr-07 [1]	May-07 [2]	Jun-07 [3]	Jul-07 [4]	Aug-07 [5]	Sep-07 [6]	Average [7]
American Electric Power Co Inc	$48.60	$47.25	$43.49	$43.19	$43.97	$44.55	$45.18
Constellation Energy Group Inc	$87.25	$87.64	$82.91	$83.80	$79.25	$82.96	$83.97
Dominion Resources Inc	$88.74	$86.57	$80.55	$82.19	$84.00	$84.30	$84.39
DPL Inc	$31.27	$30.35	$28.08	$26.58	$26.04	$26.13	$28.08
Consolidated Edison Inc	$51.26	$48.12	$45.12	$43.65	$43.87	$45.53	$46.26
Exelon Corp	$70.40	$73.25	$69.92	$69.52	$67.37	$73.04	$70.58
FirstEnergy Corp	$66.99	$68.47	$63.51	$60.22	$59.58	$61.60	$63.40
Public Service Enterprise Group Inc	$85.15	$85.70	$82.43	$81.42	$80.50	$83.31	$83.09
Pepco Holdings Inc	$29.25	$28.91	$27.15	$27.07	$25.05	$26.07	$27.25
PPL Corp	$42.08	$43.33	$42.97	$45.84	$46.36	$46.30	$44.48

Sources and Notes:
[1] - [6]: Bloomberg as of September 30, 2007.
[7]: Average of [1] - [6].

Workpaper #8 to Table No. MJV-4

Commission-Based Electric Sample

Panel C: Average of Maximum and Minimum Closing Prices

Commission-Based Sustainable Growth Method

	Apr-07 [1]	May-07 [2]	Jun-07 [3]	Jul-07 [4]	Aug-07 [5]	Sep-07 [6]	Average [7]
American Electric Power Co Inc	$49.78	$48.96	$45.53	$45.01	$45.91	$45.62	$46.80
Constellation Energy Group Inc	$90.25	$91.31	$87.07	$90.01	$83.85	$86.51	$88.16
Dominion Resources Inc	$90.58	$89.41	$84.21	$85.40	$87.55	$85.58	$87.12
DPL Inc	$31.59	$31.09	$29.41	$27.97	$27.29	$26.47	$28.97
Consolidated Edison Inc	$51.95	$49.99	$46.88	$44.87	$45.65	$46.42	$47.62
Exelon Corp	$73.43	$75.85	$73.27	$75.79	$71.89	$75.70	$74.32
FirstEnergy Corp	$69.11	$70.35	$66.43	$64.16	$62.06	$63.70	$65.97
Public Service Enterprise Group Inc	$87.83	$89.29	$85.65	$86.99	$84.89	$86.64	$86.88
Pepco Holdings Inc	$29.95	$29.76	$28.48	$27.99	$26.47	$27.11	$28.29
PPL Corp	$43.68	$44.68	$45.07	$47.87	$49.20	$48.02	$46.42

Sources and Notes:
[1] - [6]: Average of Workpaper #8 to Table No. MJV-4, Panels A and B.
[7]: Average of [1] - [6].

Workpaper #9 to Table No. MJV-4

Commission-Based Electric Sample

2nd Quarter 2007 Dividend Payments

Company	Most Recent Dividend
American Electric Power Co Inc	$0.39
Constellation Energy Group Inc	$0.44
Dominion Resources Inc	$0.71
DPL Inc	$0.26
Consolidated Edison Inc	$0.58
Exelon Corp	$0.44
FirstEnergy Corp	$0.50
Public Service Enterprise Group Inc	$0.59
Pepco Holdings Inc	$0.26
PPL Corp	$0.31

Sources and Notes:
Bloomberg as of September 30, 2007.

Workpaper #10 to Table No. MJV-4

Commission-Based Electric Sample

BEst Information

Company	Long Term Growth Forecasts [1]	Number of Estimates [2]
American Electric Power Co Inc	5.69%	5
Constellation Energy Group Inc	13.40%	5
Dominion Resources Inc	5.40%	5
DPL Inc	13.60%	2
Consolidated Edison Inc	3.67%	7
Exelon Corp	8.78%	6
FirstEnergy Corp	8.10%	5
Public Service Enterprise Group Inc	11.01%	6
Pepco Holdings Inc	8.50%	4
PPL Corp	11.40%	5

Sources and Notes:
[1] - [2]: Bloomberg as of September 30, 2007.

Workpaper #11 to Table No. MJV-4

Commission-Based Electric Sample

Bloomberg Bond Yields

Date	Corporate Bond Rating A Yield	Corporate Bond Rating Baa Yield	Public Utility Bond Rating A Yield	Public Utility Bond Rating Baa Yield
Apr-07	6.05	6.43	6.14	6.24
May-07	6.06	6.46	6.18	6.28
Jun-07	6.37	6.77	6.47	6.57
Jul-07	6.33	6.71	6.36	6.45
Aug-07	6.38	6.72	6.29	6.35
Sep-07	6.35	6.70	6.31	6.38
Average Yield	6.26	6.63	6.29	6.38

Sources and Notes:
Bloomberg as of September 30, 2007.

BEFORE THE PUBLIC UTILITIES COMMISSION

OF THE STATE OF CALIFORNIA

Order Instituting Investigation to Consider Policies to Achieve the Commission's Conservation Objectives for Class A Water Utilities.	Investigation 07-01-022 (Filed January 11, 2007)
In the Matter of the Application of Golden State Water Company (U 133 E) for Authority to Implement Changes in Ratesetting Mechanisms and Reallocation of Rates.	Application 06-09-006 (Filed September 6, 2006)
Application of California Water Service Company (U 60 W), a California Corporation, requesting an order from the California Public Utilities Commission Authorizing Applicant to Establish a Water Revenue Balancing Account, a Conservation Memorandum Account, and Implement Increasing Block Rates.	Application 06-10-026 (Filed October 23, 2006)
Application of Park Water Company (U 314 W) for Authority to Implement a Water Revenue Adjustment Mechanism, Increasing Block Rate Design and a Conservation Memorandum Account.	Application 06-11-009 (Filed November 20, 2006)
Application of Suburban Water Systems (U 339 W) for Authorization to Implement a Low Income Assistance Program, an Increasing Block Rate Design, and a Water Revenue Adjustment Mechanism.	Application 06-11-010 (Filed November 22, 2006)
Application of San Jose Water Company (U 168 W) for an Order Approving its Proposal to Implement the Objectives of the Water Action Plan.	Application 07-03-019 (Filed March 19, 2007)

DIRECT TESTIMONY OF MICHAEL J. VILBERT ON BEHALF OF CALIFORNIA-AMERICAN WATER COMPANY

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BEFORE THE PUBLIC UTILITIES COMMISSION

OF THE STATE OF CALIFORNIA

Order Instituting Investigation to Consider Policies to Achieve the Commission's Conservation Objectives for Class A Water Utilities.	Investigation 07-01-022 (Filed January 11, 2007)
In the Matter of the Application of Golden State Water Company (U 133 E) for Authority to Implement Changes in Ratesetting Mechanisms and Reallocation of Rates.	Application 06-09-006 (Filed September 6, 2006)
Application of California Water Service Company (U 60 W), a California Corporation, requesting an order from the California Public Utilities Commission Authorizing Applicant to Establish a Water Revenue Balancing Account, a Conservation Memorandum Account, and Implement Increasing Block Rates.	Application 06-10-026 (Filed October 23, 2006)
Application of Park Water Company (U 314 W) for Authority to Implement a Water Revenue Adjustment Mechanism, Increasing Block Rate Design and a Conservation Memorandum Account.	Application 06-11-009 (Filed November 20, 2006)
Application of Suburban Water Systems (U 339 W) for Authorization to Implement a Low Income Assistance Program, an Increasing Block Rate Design, and a Water Revenue Adjustment Mechanism.	Application 06-11-010 (Filed November 22, 2006)
Application of San Jose Water Company (U 168 W) for an Order Approving its Proposal to Implement the Objectives of the Water Action Plan.	Application 07-03-019 (Filed March 19, 2007)

DIRECT TESTIMONY OF MICHAEL J. VILBERT ON BEHALF OF CALIFORNIA-AMERICAN WATER COMPANY

I. INTRODUCTION AND SUMMARY

A. Introduction

Q1. Please state your name, address and position.

A1. My name is Michael J. Vilbert, and I am a Principal at The Brattle Group, 44 Brattle Street, Cambridge, MA 02138.

Q2. What is the purpose of your testimony?

A2. I have been asked by California-American Water Company ("California American Water") to evaluate whether the adoption of a water revenue adjustment mechanism

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("WRAM"), or a conservation loss adjustment mechanism ("CLAM"), together I will refer to these as revenue adjustment mechanisms ("RAMs"), would warrant a reduction in the allowed rate of return on equity for a regulated water utility. The answer to this question requires consideration of several factors: first, what is the policy goal of the RAM? If it is to remove the risk created by implementation of adoption of a policy promoting conservation, there would be no effect on the cost of capital if the RAM is well designed. Second, the conditions under which a RAM might or might not affect the cost of capital must be considered. The answer depends critically on the mechanism proposed, how it might be implemented and how the adoption of a RAM interacts with other aspects of the regulatory system. Whether an adjustment to the allowed return on equity is warranted depends upon the answers to these questions.

Q3. Please describe your job and your educational experience.

A3. I am a Principal of The Brattle Group ("Brattle"), an economic, environmental and management consulting firm with offices in Cambridge, Washington, London, San Francisco and Brussels. My work concentrates on financial and regulatory economics. I hold a B.S. from the U.S. Air Force Academy and a Ph.D. in finance from the Wharton School of Business at the University of Pennsylvania.

Q4. Please summarize the parts of your background and experience that are particularly relevant to your testimony on these matters.

A4. Brattle's specialties include financial economics, regulatory economics, and the gas and electric industries. I have worked in the areas of cost of capital, investment risk and related matters for many industries, regulated and unregulated alike, in many forums. I have testified or filed cost of capital testimony before the Federal Energy Regulatory Commission, the Arizona Corporation Commission, the Pennsylvania Public Utility Commission, the Public Service Commission of West Virginia, the Public Service Commission of Ohio, the Tennessee Regulatory Authority, the Public Service

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Commission of Wisconsin, the South Dakota Utilities Commission, the Canadian National Energy Board, Alberta Energy and Utilities Board, the Ontario Energy Board, and the Labrador & Newfoundland Board of Commissioners of Public Utilities. I have also testified before this Commission. Appendix A contains more information on my professional qualifications.

B. Summary

Q5. Please summarize your testimony.

A5. This testimony focuses on several topics including how adoption of a RAM may or may not affect the cost of capital. First, a regulated utility has an incentive to increase sales because, in general, increased sales generate higher earnings. A RAM is being considered as a result of the promulgation of policies by the California Public Utilities Commission (the "Commission" or the "PUC") that promote conservation and a general reduction in the quantity of water consumed. (I will refer to the collection of such policies as the "conservation policy".) The RAM is intended to remove the incentive to increase sales and to reduce the regulated company's risk from the conservation policy. Risk would increase for the utility because forecast sales may not adequately reflect the effect on consumption (i.e., sales) from implementation of the conservation policy. Failure to meet sales forecasts would result in not fully recovering costs unless some other measures were adopted to ensure full cost recovery. The adoption of a RAM, if it is well designed, would simply offset the additional risk created by pursuit of the conservation policy. In other words, the starting point for consideration of the effect of the RAM on the cost of capital is not the cost of capital of the water utility before implementation of the conservation policy but after.[1]

[1] This particular point was first brought to my attention by my partner, Dr. A. Lawrence Kolbe, also of *The Brattle Group*.

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Second, not all risks affect the cost of capital, so the RAM would only affect the cost of capital if it reduces the risk that affects the cost of capital. Therefore, it is necessary to determine which types of risk are affected by the proposed RAM. The division of a company's total risk into components that do and do not affect the cost of capital is discussed in more detail below. If the RAM is well developed, it would simply offset the new risk created so it must also be shown that the RAM more than reduces the risk created by adoption of the conservation policies. If the RAM were shown to affect the cost of capital, the next step would be to determine how large the effect may be and how the magnitude of the effect can be estimated. This is likely to be difficult, if not impossible, because the available sample of regulated water utilities is limited and estimating the cost of capital is imprecise. In particular, there is not a good sample of comparable water utilities that have had a RAM-like mechanism in place for a period of time. Of course, the magnitude of the effect depends upon the mechanism proposed and how it is implemented.

Third, adopting regulatory procedures that evaluate the effect on the utility's cost of capital resulting from individual Commission decisions on elements of cost recovery is likely to be poor regulatory policy, because it opens the door to endless debates about the effect of many other policies also one at a time.

Fourth, if the regulated water utilities in California can only expect to earn their allowed return on equity if they manage to sell more than forecast (because, for example, their costs are consistently underestimated in the ratemaking process), the implementation of a RAM would require an increase in the allowed return in order for the utility to again expect to earn its cost of capital on average.

Fifth, any effect of a RAM must be considered in the whole context of regulation in California. The electric utilities have had an Electric Revenue Adjustment Mechanism

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("ERAM")[2] in place for many years,[3] but there is no indication that the cost of capital for the California electric utilities was explicitly adjusted for this fact.

As a final point, it is important to note that the current Commission procedures do not directly consider financial risk in determining the allowed rate of return on equity. It is well established in financial theory that financial risk affects the cost of equity. Higher financial risk leads to a higher cost of equity. There are well established financial theories to measure and compensate for financial risk. Moreover, differences in financial risk will lead to much greater differences in the cost of capital than any plausible effect of a RAM. The Commission should focus on differences in financial risk before any attempt to adjust for the effect of a RAM.

For all of these reasons adjusting the allowed return as a result of implementing a RAM is not warranted.

II. REVENUE ADJUSTMENT MECHANISMS

Q6. In general, what is the purpose of a revenue adjustment mechanism for a regulated utility?

A6. In general, revenue adjustment mechanisms are designed to fully or partially decouple the normal relationship between volumes sold and the recovery of the regulated company's fixed costs. To understand the issue it is useful to first discuss cost of service ratemaking. A utility's revenue requirement is the sum of all of its fixed costs, including its cost of capital,[4] and variable costs. Therefore the revenue requirement is equal to total fixed

[2] The successor to the ERAM is the Distribution Revenue Adjustment Mechanism ("DRAM").

[3] In 1982, PG&E was the first electric utility in California (and the country) to adopt an ERAM.

[4] The overall cost of capital includes the costs of debt, preferred equity, and common equity and income taxes and depreciation.

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costs plus variable cost per unit times the expected number of units to be sold. See equation (1) below:

$$RR_f = FC_f + AVC_f \times Q_f \quad \textbf{(1)}$$

Where

RR_f = Revenue Requirement,

FC_f = Fixed Costs,

VC_f = Variable Cost, and

Q_f = Quantity. The "f" subscript means that each of the quantities is a forecast.

In simplest terms, rates are set so that dividing the revenue requirement by the expected volumes to be sold equals the rate per unit. If actual volumes sold equal the forecast and costs are as forecast, the revenue requirement would be fully recovered. Note that in this simple example, the rate for each unit sold includes the recovery of the variable cost of producing the unit plus a pro rata share of the fixed costs. Equation (2) below shows that the price paid for a unit of consumption includes a portion of fixed cost recovery, where P denotes the price customers pay.

$$\frac{RR_f}{Q_f} = \frac{FC_f}{Q_f} + \frac{VC_f}{Q_f} \times Q_f \quad \textbf{(2)}$$

$$P = \frac{FC_f}{Q_f} + VC_f$$

Q7. You have illustrated the simplest rate structure possible. How is recovery of the revenue requirement affected by different rate structures?

A7. Of course, rate structures usually are much more complicated than illustrated in this simple example. Rates to customers can be divided into a fixed and variable portion as well as having different rates per unit of consumption depending upon the level of consumption per period, but the essence of the example is generally unchanged: normally, some of the utility's fixed costs are recovered in the variable portion of the rate.

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Under these more complicated rate structures, full recovery of the revenue requirement still requires that volumes sold be equal to volumes forecast.[5]

Q8. What is the effect on the earned return on equity of selling more or less than the forecast volumes?

A8. The effect on the earned return on equity depends, in part, on the rate structure, but assuming that a portion of the utility's authorized fixed costs are recovered in the portion of rates that varies with volume, the return on equity varies directly with sales. Absent a RAM, higher (lower) sales than forecast increases (decreases) the earned return on equity. This is because common stock is the residual claimant to a company's cash flows. Any variation in cost recovery results in a higher or lower realized return on equity.

Q9. Why are regulatory commissions interested in revenue adjustment mechanisms at this time?

A9. The focus on the conservation of natural resources including energy and water resources has dramatically increased in recent years. Conservation is seen as beneficial not only because of its environmental benefits, but also because conservation is viewed as a cheaper alternative to producing more water, electricity, natural gas, etc. Consumers have an incentive to conserve, i.e., use less, because consumers would pay less, but the incentive for utilities is the opposite. Under traditional rate making, utilities earn a higher return on equity by selling more, and therefore utilities have an incentive to increase sales. Regulatory commissions have recognized this incentive conflict for utilities. Revenue adjustment mechanisms have been proposed to address the conflict and reduce the risk resulting from the adoption of the conservation policies.

[5] Full recovery of costs in this example assumes that costs have been accurately forecast. Errors in forecasts result in under or over recovery of actual costs.

Q10. Why does the adoption of conservation policies increase the risk of the utility?

A10. Adoption of policies aimed at reducing consumption increases the risk that the company would not fully recover its costs. As noted above, a portion of the rate charged for a unit of consumption includes recovery of fixed costs, and a reduction in the volumes sold would impact the earned return on equity if the effects of the conservation policy are not accurately forecast.

Q11. How do revenue adjustment mechanisms offset the risk of a conservation policy and attempt to address the conflict of interest?

A11. Revenue adjustment mechanisms vary, but in general, they are intended to offset the loss of authorized fixed cost recovery from lower sales volumes by attempting to ensure up to full recovery of fixed costs regardless of the actual volumes sold. They do this by tracking actual volumes sold relative to forecast volumes and determining the amount of authorized fixed costs to be recovered per unit of volume sold. If volumes sold are lower (higher) than forecast, the portion of forecast fixed costs under (over) recovered is determined and set for recovery (refund) through an adder (credit) to consumers' bills. The time period between the variation in sales and the corresponding adjustment to authorized fixed cost recovery varies and may or may not include the carrying costs of the balance, but this is the essence of the mechanisms. Note that even with a RAM in place the utility is at risk for any difference in actual and forecast costs.

Q12. If the RAM is well designed, wouldn't it simply remove the risk created by the policy to pursue conservation?

A12. Yes. If the RAM is well designed, the utility's risk would be returned to its risk level before the adoption of the conservation policy. In that case, no reduction in the cost of capital would be warranted because the net risk would be unchanged.

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Q13. Is it possible that a RAM could reduce the utility's risk to a level below the risk before the implementation of the conservation policy?

A13. Yes, it is possible, but this raises a whole series of policy concerns that have not been explicitly addressed. If the risk to the utility's investors has been reduced below the level before implementation of the conservation policy, the risk must have been transferred to another party. In this case, it would be transferred to ratepayers, but such a result requires analysis as to whether this is in the best interest of the ratepayers in the long run.

Q14. Why do you question whether the transfer of risk to the rate payers is a good idea?

A14. Risk that can be controlled by the utility induces the utility to be more efficient than it might otherwise be. If cost recovery is guaranteed in all circumstance, the utility's incentive for efficiency is substantially reduced. Instead, the utility may focus on cost justification because any cost justified is fully recovered. It has been demonstrated repeatedly that a focus on cost justification results in inefficiency. Government owned or heavily regulated utilities around the world have been privatized in an effort to squeeze out such inefficiencies. Examples abound. The breakup of the telecommunications industry, deregulation of the trucking industry, the introduction of competition into the delivery of packages are all examples of industries in which competition (risk) resulted in reduction of costs to consumers. Of course, the result may not be exactly as envisioned as shown by the electric industry and the airline industry restructuring,[6] but the goals were the same.

Q15. How does all of this apply to the water industry?

A15. Before the adoption of the conservation policy, there was a balance of risk among the utility and ratepayers. If adoption of a RAM alters that balance, there should be a debate

[6] The restructuring of the airline industry certainly reduced costs and inefficiency, but it also has had the effect of reducing service quality.

about the proper allocation of risk between the utility and ratepayers. Before any such policy is adopted, the ramifications should be fully explored. For example, a RAM that is deemed to remove more risk than was created by the conservation policy risks creating inefficiency as a result. Of course, this concern would not apply to any risk that the utility could not control such as weather related risk.

Q16. Why do you say that the mechanisms "attempt to ensure up to full recovery of fixed costs"?

A16. There are a number of reasons that a RAM would not result in full recovery of actual fixed costs, as opposed to forecast fixed costs. First, actual fixed costs always differ from forecast fixed costs, and for water utilities in California it appears that generally the utilities are authorized less than full recovery of all fixed costs. This topic is addressed in more detail below in Section III.B. Under fair regulation, the error in estimating actual fixed costs should average out over time. Sometimes, forecast costs may be too high and sometimes too low, but on average the forecast error should be zero. If the forecast error is systematically positive or negative, this would present a problem for fair regulation as well as for implementing a RAM. This issue is discussed in more detail below.

Second, some RAMs attempt to distinguish between variation in sales due to conservation or due to differences in weather versus other reasons for variations in sales. In that case, authorized fixed cost recovery can vary simply because of an error in the measurement of the amount of conservation or the amount of variation due to weather.

Third, without a carrying charge equal to the company's overall cost of capital, delay in the recovery (refund) of any variation in authorized fixed cost recovery will affect the recovery of authorized fixed costs. In other words, sales greater or less than forecast would still increase or decrease equity return.

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Fourth, embedded in a RAM is an assumption that the variable cost per unit does not change as volume changes. This can be addressed by providing an additional mechanism that adjusts for variations in marginal and average variable costs recovered in the variable price. In particular, if the variable costs change at different levels of service, and there has not been a proper implementation of a mechanism to capture the marginal/average cost differential, then the return on equity will be affected because there is a mismatch between the forecast and actual average variable cost per unit sold.

Q17. Have the details of the water revenue adjustment mechanism for regulated water utilities been determined?

A17. To my knowledge the Commission has not ruled on the exact details of the proposed RAM, but in general it is likely to similar to the DRAM adopted and now in place in California for electric utilities. The effect of a RAM on a utility's cost of capital depends critically on the mechanism proposed and how it is implemented. If the RAM adopted for the water utilities is similar in nature to the DRAM, the Commission has already implicitly addressed the effect on the cost of capital for the electric utilities and has not imposed a reduction in the cost of capital.

III. RISK AND THE COST OF CAPITAL

Q18. What topics does this section address?

A18. This section describes the effect of risk on the cost of capital. The section starts with a discussion of the cost of capital and then proceeds to a discussion of the different types of risk. In particular, it discusses how total risk can be divided into two components one of which is risk that affects the cost of capital and one of which is risk that does not. Risks that affect the cost of capital are frequently labeled systematic risk, and risks that do not are labeled diversifiable.

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A. The Cost of Capital and Risk

Q19. Please formally define the "Cost of Capital."

A19. The cost of capital can be defined as the *expected rate of return in capital markets on alternative investments of equivalent risk.* In other words, it is the rate of return investors require based on the risk-return alternatives available in competitive capital markets. The cost of capital is a type of opportunity cost: it represents the rate of return that investors could expect to earn elsewhere without bearing more risk. "Expected" is used in the statistical sense: the mean of the distribution of possible outcomes. The terms "expect" and "expected" in this testimony, as in the definition of the cost of capital itself, refer to the probability-weighted average over all possible outcomes.

The definition of the cost of capital recognizes a tradeoff between risk and return that is known as the "security market risk-return line," or "security market line" for short. This line is depicted in Figure 1. The higher the risk, the higher is the cost of capital. A version of Figure 1 applies for all investments. However, for different types of securities, the location (i.e., the intercept and the slope) of the line may depend on corporate and personal tax rates.

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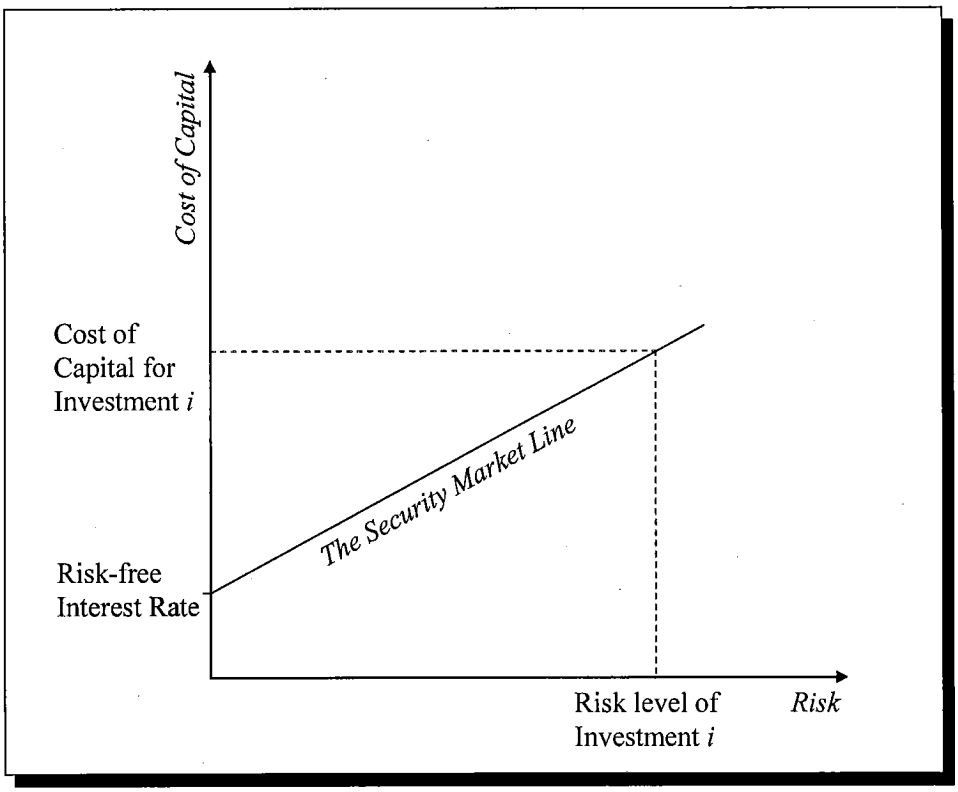

Figure 1: The Security Market Line

Q20. Why is the cost of capital relevant in rate regulation?

A20. It has become routine in U.S. rate regulation to accept the "cost of capital" as the right expected rate of return on utility investment.[7] That practice is normally viewed as consistent with the U.S. Supreme Court's opinions in *Bluefield Waterworks & Improvement Co. v. Public Service Commission*, 262 U.S. 678 (1923), and *Federal Power Commission v. Hope Natural Gas*, 320 U.S. 591 (1944).

From an economic perspective, rate levels that give investors a fair opportunity to earn the cost of capital are the lowest levels that compensate investors for the risks they bear. Over the long run, an expected return above the cost of capital makes customers overpay for

[7] A formal link between the cost of capital as defined by financial economics and the right expected rate of return for utilities is established by Stewart C. Myers, "Application of Finance Theory to Public Utility Rate Cases," *The Bell Journal of Economics and Management Science*, 3:58-97 (Spring 1972).

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service. Regulatory commissions normally try to prevent such outcomes, unless there are offsetting benefits (e.g., from incentive regulation that reduces future costs). At the same time, an expected return below the cost of capital does a disservice not just to investors but, more importantly, to customers as well. In the long run, such a return denies the company the ability to attract capital, to maintain its financial integrity, and to expect a return commensurate with that of other enterprises attended by corresponding risks and uncertainties.

More important for customers, however, are the economic issues an inadequate return raises for them. In the short run, deviations of the expected rate of return on the rate base from the cost of capital may seemingly create a "zero-sum game"-- investors gain if customers are overcharged, and customers gain if investors are shortchanged. But in fact, even in the short run, such action may adversely affect the utility's ability to provide stable and favorable rates because some potential efficiency investments may be delayed or because the company is forced to file more frequent rate cases. In the long run, inadequate returns are likely to cost customers -- and society generally -- far more than what may be gained in the short run. Inadequate returns lead to inadequate investment, whether for maintenance or for new plant and equipment. The costs of an undercapitalized industry can be far greater than the short-run gains from shortfalls in the cost of capital. Moreover, in capital-intensive industries (such as the water industry), systems that take a long time to decay cannot be fixed overnight. Thus, it is in the customers' interest not only to make sure the return investors expect does not exceed the cost of capital, but also to make sure that it does not fall short of the cost of capital, either.

Of course, the cost of capital cannot be estimated with perfect certainty, and other aspects of the way the revenue requirement is set may mean investors expect to earn more or less than the cost of capital even if the allowed rate of return equals the cost of capital exactly. However, a commission that sets rates so investors expect to earn the cost of capital on

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average treats both customers and investors fairly, and acts in the long-run interests of both groups.

B. Asymmetric Risk and Allowed Returns

Q21. If a commission sets the allowed return equal to the cost of capital, is that sufficient to ensure that the regulated company has a fair opportunity to earn its cost of capital?

A21. In general, yes, but there are circumstances in which it would not. Specifically, if the regulated company faces a substantial level of asymmetric risk, the regulated company may not expect to earn its cost of capital on average. Asymmetric risk for a regulated company exists when the possibility of a large negative outcome is not balanced by the possibility of a corresponding positive outcome, or if the regulated company consistently fails to earn its allowed return because of other factors in the way rates are set. In such a situation, the regulated company will expect to earn less than its cost of capital, and its treatment would not meet the requirements established by the Supreme Court discussed above. The solution would be to either remove the source of the asymmetric risk or set the allowed return high enough so that the regulated company can again expect to earn its cost of capital.

Q22. Does asymmetric risk affect the cost of capital?

A22. Maybe. In general, asymmetric risk affects the probability that a regulated utility would expect to earn its allowed return, but it may not affect its cost of capital. The cost of capital would be affected if the asymmetric risk were correlated with changes in the capital markets. However, if a regulated utility faces substantial asymmetric risk, the allowed return on equity would have to be increased in order for the regulated company to expect to earn its cost of capital on average.

Q23. Please expand the discussion of how a regulator can correct the effect of asymmetric risk.

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A23. There are two ways to correct asymmetric risk. The first is to add a premium to the allowed rate of return on equity for the regulated company so that it can again expect to earn its cost of capital on average. The premium would be just large enough to offset the expected level of asymmetric risk. The second method is to remove the source of the asymmetric risk, which in this example means insuring that the way rates are set provides the company a fair opportunity to earn its allowed return on equity. I believe that removing the source of the asymmetric risk is a more efficient and cost effective way to establish the conditions necessary for the regulated company to expect to earn its cost of capital on average.

Q24. Is this an issue for California American Water Company at this time?

A24. Yes. Beginning in 2001 and for every year since, California American Water has not been able to earn its allowed return, and the gap between authorized and achieved return on equity has been increasing. In fact, the actual earned return on equity in 2005 and 2006 has been negative. This is a clear indication that California American Water is facing substantial asymmetric risk that must be addressed. This is in contrast to the period 1979 to 2000, during which California American Water earned 10.6 percent on average compared to an average authorized 10.5 percent. See Table 1 below for a comparison of the allowed and earned return on equity since calendar year 2000.

Table 1

	2000	2001	2002	2003	2004	2005	2006
Authorized Return on Equity	10.23%	10.17%	10.11%	10.10%	10.04%	10.04%	10.04%
Realized Return on Equity	12.56%	9.61%	3.17%	4.04%	2.99%	-0.38%	-2.82%
Difference	2.33%	-0.56%	-6.94%	-6.06%	-7.05%	-10.42%	-12.86%

Note that the realized return on equity has been steadily declining since 2000, and California American Water has had a *negative* return on equity during 2005 and 2006.

Q25. What is the source of the asymmetric risk for California American Water?

A25. In general, the asymmetric risk appears to be the result of a mismatch between costs authorized for recovery and costs actually experienced. For example, some test year costs

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such as health care premiums are only authorized to increase at the rate of inflation in the second and third years between rate cases, but it is well known that these categories of costs have increased much more rapidly than that. Additional examples include capital investment beyond the amounts forecast, delayed recovery for "advice letter" capital investments, pension cost increases greater than allowed, salary increases greater than allowed due to promotions and advancements, and the inability to update costs based on more recent information after the initial rate case filing.

Q26. Would the adoption of a RAM affect the asymmetric risk faced by the regulated water utilities in California?

A26. Yes. The adoption of a RAM is likely to increase asymmetric risk. If the ability to sell more than forecast is one of the only ways that a regulated water utility can hope to earn its allowed return, implementation of a RAM may require an increase rather than a decrease in the allowed return in order for the company to again expect to earn its cost of capital on average.[8] For example, if the utility's costs consistently turn out to be above the forecast values used in the ratemaking process, the company would need to sell more than forecast to recover its actual costs. If the possibility of recovering more than forecast fixed costs is eliminated under the RAM, then as long as underestimation persists, the only way for the company to earn its cost of capital would be if the allowed return were increased sufficiently so that the return actually expected to be earned would be equal to the cost of capital. Preferably, the systematic underestimation of costs should be eliminated.

Q27. Please explain why an increase in the allowed return would be necessary.

[8] This situation is complicated by the interaction of the RAM and the asymmetric risk. If the RAM reduces systematic risk, the cost of capital would be reduced, but the allowed return would still need to be set higher than the cost of capital due to the asymmetric risk.

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A27. Regulatory commissions normally try to set the allowed return equal to the company's cost of capital. Under fair regulation, the company should expect to earn its allowed return on average - sometimes more and sometimes less. In those circumstances, setting the allowed return equal to the cost of capital results in the company earning its cost of capital on average. On the other hand, if the company consistently fails to earn its allowed rate of return on equity due to some aspect of the regulatory system, then the allowed return must be set to a value sufficiently high so that the company can again expect to earn its cost of capital on average. To the extent that water utilities rely on selling more than forecast to earn their cost of capital, implementation of a RAM would increase the asymmetry inherent in the regulatory system and require an increase in the allowed return. However, it is preferable and likely to be less costly to customers to ensure that costs are forecast more accurately.

C. Types of Risk

Q28. Please describe the different types of risk.

A28. The total risk of holding a company's stock can be divided in several different ways. In general total risk is measured by the total variation in the stock's return, i.e., its variance, but total risk is not the risk that affects a company's cost of capital. The risks that affect a company's cost of capital are labeled systematic or market risk while those that do not are labeled diversifiable, because they can be avoided by holding a diversified portfolio of investments.

Q29. Please describe diversification and diversifiable risk.

A29. A stock's expected return is its cost of capital, but the realized returns are different from expected return during any period of time. The returns on individual stocks are not perfectly correlated which simply means that just because the return on one stock is higher (lower) than expected for a period, it does not necessary mean the return on another stock will also be higher (lower) than expected. Because investments are not perfectly

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correlated, investors can reduce their total risk by combining investments, i.e., creating a portfolio of investments. The expected return of the portfolio will be the market-value weighted-average of the expected returns of the investments in the portfolio, but the total risk of the portfolio will be less than the weighted-average of the total risks of the individual investments. Figure 2 below illustrates the effect on the total risk of the portfolio as the number of different investments in the portfolio increases.[9] Note that at some point, adding additional investments to the portfolio will not result in any further reduction in risk. The risk that remains is called non-diversifiable risk. It is also called systematic or market risk. The risk that was eliminated through the formation of a portfolio is called diversifiable risk. Portfolio theory says that investors receive compensation in the form of expected return only for non-diversifiable risk. They receive no return for bearing diversifiable risk because diversifiable risk can be avoided by forming a portfolio.[10]

[9] The example assumes that each security added to the portfolio has the same level of systematic risk, but the point would not change if the individual securities varied in the amount of systematic risk.

[10] The theory of risk and return, as well as of diversification and portfolio risk, is well-established and explained, for example, in Chapters 7 and 8 of Brealey, Myers and Allen, *Principles of Corporate Finance*, 8th ed., McGraw-Hill, 2006.

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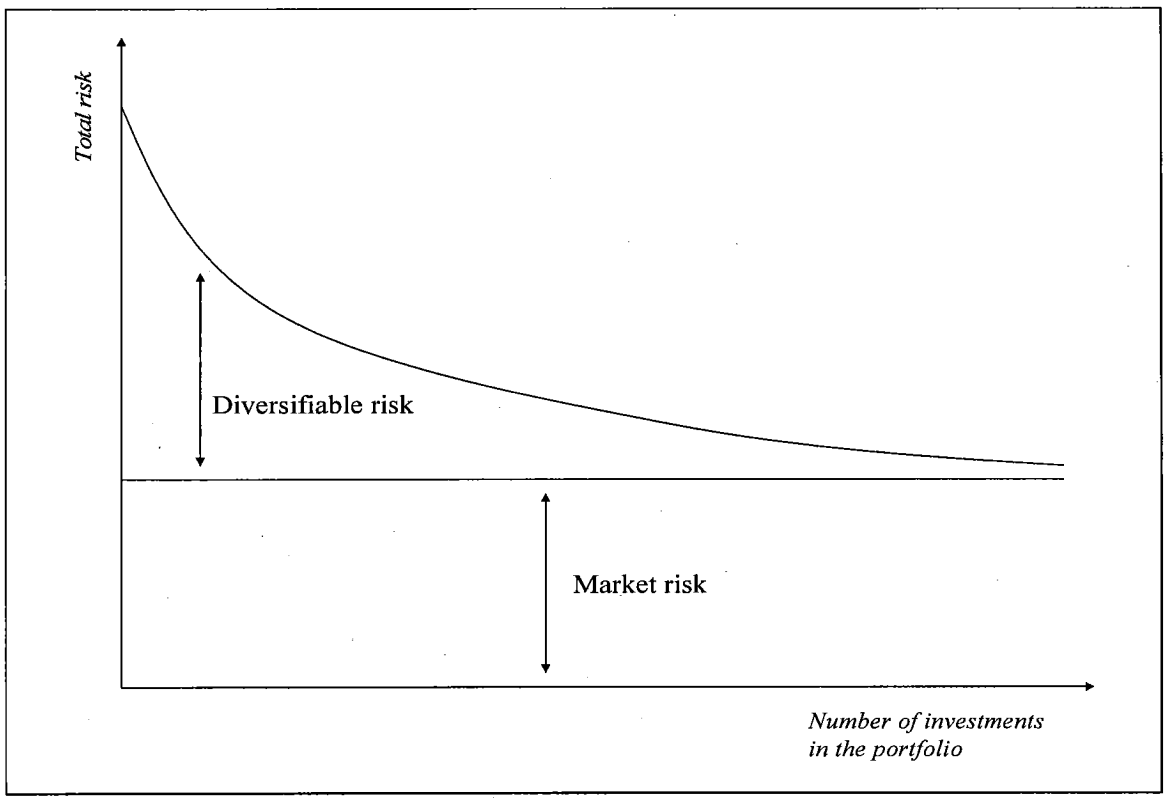

Figure 2: Market Risk vs. Diversifiable Risk

Q30. Why aren't investors compensated for diversifiable risk?

A30. Investors holding an individual stock may like to be compensated for total risk but they will not be. A stock that is more risky is worth less to that individual for a given stream of cash flows. Diversified investors would see that the stock's systematic risk is less than its total risk and bid the price up to reflect that fact that a portion of the stock's total risk could be diversified away. Non-diversified investors will only be able to buy the stock at a price that reflects its systematic risk not its total risk and because their portfolio is undiversified, will bear the total risk of the asset.

Q31. What is the relevance of the division of total risk into diversifiable and non-diversifiable (systematic) components to the adoption of a RAM and its effect on the utility's cost of capital?

A31. There are four issues of importance with regard to the effect of the adoption of a RAM on a utility's cost of capital. First, as noted above, if the RAM merely restores the level of

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risk to the level faced by the utility before the adoption of the conservation policies, there would be no adjustment required for the cost of capital. Second, if the RAM only has the effect of reducing a company's diversifiable risk, it would have no effect on the company's cost of capital. Investors can eliminate diversifiable risk through holding the company's stock in a portfolio. They will not pay more for a company (i.e., reduce their required cost of capital) because a commission has removed diversifiable risk through a RAM. Investors can easily diversify their investments for themselves. Third, the RAM only affects the cost of capital to the extent that systematic (non-diversifiable) risk is reduced, so the key to determining whether the RAM has any effect on the cost of capital hinges on demonstrating its effect on systematic risk. Of course, the RAM may affect both systematic and diversifiable risk, but it is only the effect on systematic risk that matters for cost of capital. Finally, focusing on systematic risk highlights an omission in the Commission's traditional cost of capital procedures. Specifically, systematic risk can be further divided into business risk and financial risk. Sample selection focuses on selecting a sample of companies of comparable business risk to use to estimate the utility's cost of capital, but the sample companies may have very different levels of financial risk among themselves and relative to the regulated utility. Traditionally, no direct consideration is made of differences in financial risk between the sample and the regulated company. This omission is highly likely to have a much larger effect on the cost of equity than the adoption of a RAM would have, depending, of course, on the provisions of the RAM.

Q32. Can you please provide a simple illustration of the division of total risk into its components?

A32. Yes. Figure 3 illustrates the different types of risk facing investors and the effect of regulatory actions on these risks. Decisions by the regulator can mitigate the effects of business and regulatory risk on the regulated company, but regulatory actions can also increase risk. As shown in Figure 3 below, the regulator's decisions can shift some risks

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to the customers. To the extent that regulatory actions have truly reduced business and regulatory risk without creating new risks, the overall cost of capital would be reduced. However, it must also be kept in mind that although actions by regulators can indirectly affect stock prices, they cannot directly affect the prices investors will pay for a company's equity.

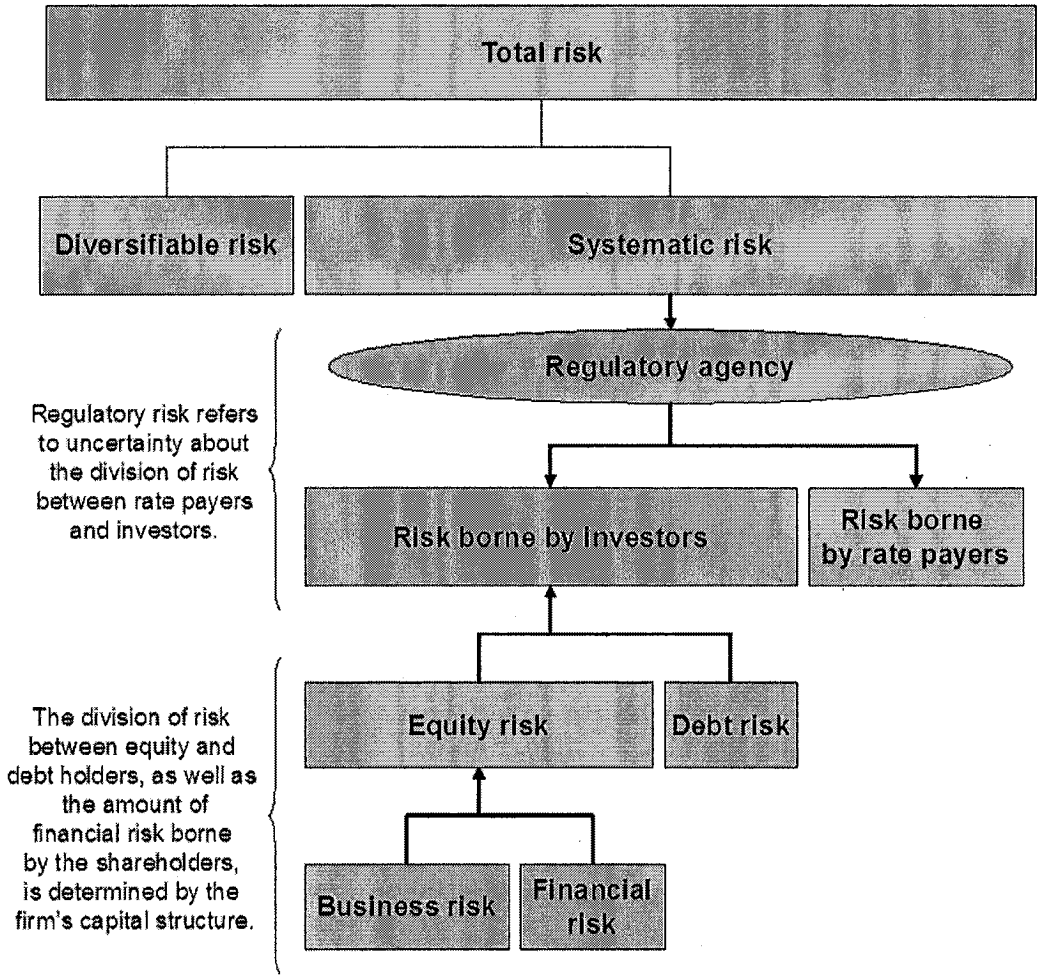

Figure 3: Different types of risk and the effect of regulatory actions and capital structure.

D. Business Risk & Financial Risk: Capital Structure and the Cost of Equity

Q33. Please explain briefly the difference between business risk and financial risk.

A33. Business risk is the risk of a company from its line of business if it used no debt financing. When a firm uses debt to finance its assets, the business risk of the assets is shared between the debt holders and the equity holders, but the equity holders bear more of the

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risk because debt holders have a prior claim on the company's cash flows. Equity holders are residual claimants, which simply means that equity holders get paid last. In other words, the use of debt imposes financial risk on the equity holders.

Q34. Please explain why it is necessary to report the cost of equity adjusted for capital structure.

A34. Briefly, rate regulation in North America tends to focus on the components of the overall cost of capital, and in particular, on what the "right" cost of equity and capital structure should be. Frequently, there is no consideration of whether the financial risks of the sample companies differ among themselves or differ from the regulated company. The cost of equity estimated using the standard models (e.g., the DCF model or the risk positioning model) reflects both the business and financial risk of the sample companies. However, the overall cost of capital depends primarily on the business the firm is in, i.e., business risk, while the costs of the debt and equity components depend not only on this business risk alone but also on the distribution of revenues between debt and equity, i.e. financial risk.

E. Implications for Analysis

Q35. Please explain the implications of the relationship between capital structure and the cost of equity in your testimony.

A35. The risk equity holders carry, and therefore the cost of equity, depends on the capital structure. As leverage increases, financial risk increases, and hence the required return on equity increases. An approach that estimates the cost of equity for each firm in a sample selected to have similar business risk without explicit consideration of the market value capital structure (i.e., the financial risk) underlying those costs risks material errors. The costs of equity of the sample companies at their actual market-value capital structures do not necessarily reflect the same degree of financial risk as faced by equity holders in the regulated company, and thus could lead to an unfair rate of return if the sample's cost of

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equity estimate were simply and mechanically applied to the regulated company's capital structure. This problem can be avoided by calculating each sample company's ATWACC (after-tax weighted-average cost of capital) using its market value capital structure. Using the sample's average overall cost of capital (i.e., the average of the sample companies' ATWACCs) as an estimate of the company's cost of capital, the corresponding return on equity at the filed regulatory capital structure is then determined. This procedure ensures that the capital structure (i.e., financial risk) and the estimated cost of equity are consistent with the market derived sample information. In Appendix B I provide a detailed discussion of the effects of debt on the cost of equity.

Q36. Can you provide a simple example of the calculation of the cost of equity consistent with the market-determined estimate of the sample's average overall cost of capital?

A36. Yes. Consider the following equation to calculate the ATWACC:[11]

$$ATWACC = r_D \times (1 - T_C) \times D + r_E \times E \quad \textbf{(3)}$$

where r_D = market cost of debt,

r_E = market cost of equity,

T_C = corporate income tax rate,

D = percentage of debt in the capital structure, and

E = percentage of equity in capital structure.

The cost of equity consistent with overall cost of capital estimate (ATWACC) from the sample, the market cost of debt and equity, the marginal corporate income tax rate and the amount of debt and equity in the capital structure can be determined by solving equation (1) for r_E.

[11] Note that this equation assumes that only debt and equity are in the capital structure, but it is straight forward to add preferred equity to the equation.

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IV. COST OF CAPITAL AND ADOPTION OF A RAM

Q37. Please outline the topics addressed in this section of your testimony.

A37. This section first reviews the nature of the Electric Revenue Adjustment Mechanism ("ERAM") that has been in place in California for a number of years. No specific reduction in the allowed return for electric utilities has been implemented. It then turns to the conditions necessary for the adoption of a RAM to affect the cost of capital for a regulated water utility in California, and if there is an effect on the cost of capital, how the effect might be measured.

A. Electric Revenue Adjustment Mechanism

Q38. You note that electric utilities in California have had an ERAM in place since 1982. Please describe the history of the ERAM.

A38. In 1982, California became the first state to adopt electric decoupling through a plan submitted by Pacific Gas & Electric called an ERAM. The program's main purpose was to remove the disincentives for energy efficiency and conservation by separating electric utilities' revenues from sales.[12] The ERAM enabled the utilities to recover their forecast fixed costs regardless of their actual sales. Any over- or under-collection of the forecasted base rate revenues would be refunded to or recovered from rate-payers in terms of rate adjustments.[13] A study in 1994 carried out by Eto, Stoft, and Belden from University of California, Berkeley, on the implementation of ERAM by Pacific Gas & Electric and by San Diego Gas & Electric concluded that ERAM helped reduce variations in rates to customers and lessen variations in revenue to the utilities.[14]

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[12] Brian C. Prusnek, 2005, Promoting Energy Efficiency in California. *See also* Utility Decoupling: Giving Utilities Incentives to Promote Energy Efficiency available on the website: *http://www.progressivestates.org/content/671/utility-decoupling-giving-utilities-incentives-to-promote-energy-efficiency*

[13] *Ibid.*

[14] Joseph Eto, Steven Stoft, and Timothy Belden (1994), *The Theory and Practice of Decoupling,* p.46. The work described in this report was funded by the Assistant Secretary for Conservation and Renewable Energy, Office of Utility Technologies, Office of Energy Management of the U.S.

(continued...)

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In 1996, the ERAM was eliminated due to the deregulation of the electric industry in California, but deregulation did not adequately promote energy conservation. As a result, the ERAM has been resurrected for the CPUC regulated electric distribution companies in California. In September 2003, PG&E reached an agreement with parties in its general rate case stating to adopt the "Distribution Revenue Adjustment Mechanism" (DRAM) and "Utility Generation Balancing Account" (UGBA) (regarded as revenue decoupling mechanisms), which became effective on January 1, 2004.[15] Southern California Edison and San Diego Gas & Electric have similar revenue decoupling mechanisms in place.[16]

B. The Effect of a RAM on the Cost of Capital

Q39. Please outline the conditions necessary for the adoption of a RAM to affect a utility's cost of capital.

A39. As noted above, the total risk faced by equity holders in a regulated company consists of business risk, financial risk and regulatory risk. A portion of total risk can be avoided by investors through diversification and therefore that portion is not part of the risk reflected in the cost of capital. Only the part of total risk which is non-diversifiable (i.e., systematic) affects the cost of capital; so, a RAM must reduce a company's systematic risk to have any effect on its cost of capital. For example, to the extent that a proposed RAM results in the removal of California American Water's weather-related risk, it would not affect the cost of capital because weather risk is normally a diversifiable risk (i.e., investors can avoid it, for example by including in their portfolio water utilities in different parts of the country). Weather risk is part of total risk, and it does affect the likelihood that the company will earn its allowed rate of return, but because weather risk

(continued...)
Department of Energy under Contract No. DE-AC03-76SF00098.

[15] *See* PG&E Form 8-K.

[16] *See* EEI Q2 2007 *Financial Update*, p. 10.

is diversifiable, it is not part of the risks affecting the cost of capital.[17] Removing weather risk would not reduce the company's cost of capital. Finally, none of these mechanisms removes financial risk.

Q40. If a RAM affected the cost of capital, would it be possible to measure accurately its individual effect on the utility's cost of capital?

A40. There is a danger of attempting to estimate the cost of capital "one risk at a time." Estimating the cost of capital is frequently controversial. Attempting to estimate precisely the effect of one change in regulatory procedures will be even more difficult and imprecise. Estimating the cost of capital for each risk individually is likely to result in an estimate that is much higher or much lower than estimating the cost of capital for the total systematic risk of the company. It would be like estimating the cost of an automobile by measuring the cost of each individual part. Each risk must first be categorized as either diversifiable (no effect on the cost of capital) or systematic (affects cost of capital). For those systematic risks, the cost of capital for each risk must then be estimated. However, the returns of the available sample companies reflect their full systematic risk, not any one component. Furthermore, there are not enough sample companies to create a sample with only a subset of the risk characteristics on which we may want to focus. In short, the difficulty of estimating the cost of capital for the individual risks is likely to make an accurate determination of the size of the cost of capital adjustment necessary for adoption of a RAM impossible even if it were determined that the RAM would affect systematic risk.

Q41. Please describe the sample of publicly traded water companies.

[17] The *cost of capital* is *the expected rate of return in capital markets on alternative investments of equivalent risk* and therefore an ex ante concept.

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A41. The sample of publicly traded water utilities consists of eight companies[18] but the sample companies are relatively small and frequently lack the full set of data required to estimate the cost of capital using both the DCF and the risk positioning methods.

Q42. Why would the size and quality of the available sample of water utilities make the determination of the effect of the adoption of a RAM on the cost of capital difficult?

A42. Ideally, an empirical determination of the effect of a RAM on the cost of capital would be determined by estimating the cost of capital for water utilities some of which have a RAM and some of which do not. This is not currently the case for the available sample of water utilities. Moreover, even if a few of the sample companies were to adopt a RAM, it would still be extremely difficult to determine the effect on the cost of capital because the cost of capital estimates for the individual sample companies vary substantially even without having a RAM. It would be difficult to determine how much of any observed variation in cost of capital estimates is from differences in risk due to the RAM compared to a variation due to some other reason.

Q43. Please describe the danger for customers and California American Water if the effect of a RAM on the cost of capital is over estimated.

A43. The water industry is the most capital intensive industry in the country, which means that the water industry has more capital invested for every dollar of revenue than any other industry. Moreover, the water industry is facing rapidly increasing demands for new capital investment to replace aging infrastructure, to expand service and to meet increasingly stringent environmental and safety regulations. Reducing a utility's allowed return on equity below its cost of capital will hinder the utility's ability to acquire the

[18] The available sample companies include American States Water, Aqua American, California Water Services Group, Connecticut Water Services Inc., Middlesex Water, SJW Corp, Southwest Water Company and York Water Company of which half are considered small-cap stocks by *Value Line*, for example.

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capital necessary to meet its need for capital investment. Moreover, reducing the allowed return on equity will have a disproportionate effect on water utilities' cash flow because capital costs are such a large part of the revenue requirement for water utilities, and depreciation rates are based upon depreciation lives that can be as long as 100 years although the composite average is in the range of 30 to 40 years. The point is that investment needs are high, and the return of the capital invested takes a long time. Ultimately, customers suffer from any potential underinvestment in the industry, and the costs of underinvestment are likely to far exceed the costs to customers of setting the allowed return too high.

Q44. Do you have an example of the water infrastructure investment required in California?

A44. Yes. According to the American Society of Civil Engineers 2005 Report Card, California has the following required water infrastructure needs:[19]

- California's drinking water infrastructure needs $17.5 billion over the next 20 years.
- California loses 222 million gallons of drinking water a day due to leaking pipes.
- California has $14.4 billion in wastewater infrastructure needs.
- There are 44 state determined deficient dams in California.
- California has 336 high hazard dams. A high hazard dam is defined as a dam whose failure would cause a loss of life and significant property damage. The estimated rehabilitation cost for California's most critical dams is estimated at $679 million.

To meet these investment needs and others associated with environmental standards and the development of new supply, the water utilities in California will require access to the

[19] 2005 Report Card for America's Infrastructure, American Society of Civil Engineers, available at www.asce.org/files/pdf/reportcard/statesadfactsheets.pdf.

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capital markets. Establishing a system in which the allowed return on equity is judged to be inadequate by investors or in which the utility cannot expect to earn its allowed return on average will make it much more difficult (if not impossible) to acquire the full amount of capital required.

V. CONCLUSIONS

Q45. What are your conclusions regarding the possible adoption of a RAM on the cost of capital for regulated water utilities in California?

A45. In general, I recommend that the cost of capital not be adjusted for the possible adoption of a RAM for several reasons.

First, a well designed RAM should merely remove the increased risk that resulted from the adoption of policies that promote conservation. Recognition of the increase in risk from the policy and the corresponding reduction of that risk from adoption of a RAM should result in no net change in risk for the utility for a well designed RAM. Therefore, no cost of capital adjustment is warranted. This conclusion seems to be consistent with the PUC's conclusion with regard to the effect of the ERAM/DRAM for California's electric utilities.

Second, if the RAM were determined to more than offset the level of risk of the conservation policy, there should first be a policy debate about whether this is a desirable outcome because such a result could lead to inefficiency in the provision of water service. It would also be necessary to determine the type of risk being reduced. If the RAM affects only diversifiable risk, such as weather related volume risk, no cost of capital adjustment is warranted. Only in the case that the net effect of the RAM is determined to reduce the risk that affects the cost of capital, i.e., systematic risk, would it be necessary to determine the magnitude of the effect on the cost of capital.

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Determining the magnitude of the effect on the cost of capital is likely to be very difficult if not impossible to accomplish accurately because there are a limited number of publicly traded water utilities to include in a sample. Estimating the cost of capital with the precision necessary to estimate the effect of the adoption of the RAM is likely to exceed the precision of the models, because cost of capital estimation models estimate the cost of capital for a sample company as a whole. Any estimate of the cost of capital from the sample must consider any differences in the regulatory environment, business and financial risk of that sample company compared to the California companies in order to interpret the results accurately.

Overestimating the effect on the cost of capital could handicap the water utilities in acquiring the capital necessary to meet the increasing demands for access to high quality water. Underestimating the effect on the cost of capital means that customers pay more for service than necessary, but that increased cost is likely to be far less expensive to customers in the long run than the costs from under investment in the water infrastructure.

Third, attempting to adjust the allowed return for this one new provision is poor regulatory policy because it inevitably leads to debates about whether other regulatory provisions have been accurately considered in the allowed cost of capital.

Fourth, the adoption of the RAM could result in an even more asymmetric regulatory environment for water utilities in California. One measure of a fair regulatory system is that the regulated company can expect to earn its allowed return on average. If it consistently fails to earn its allowed return, the regulatory system is asymmetric and unfair. If the RAM were to make that asymmetry worse, then the appropriate response to adoption of a RAM would be to *increase* not decrease the allowed return in order to provide the utility an opportunity to earn its cost of capital.

Fifth, any effect of a RAM must be considered in the whole context of regulation in California. The electric utilities have had such a mechanism in place for many years, but there is no indication that their allowed return on equity was explicitly adjusted for this fact.

Finally, and perhaps most significantly, the current Commission procedures do not directly consider differences in financial risk. It is well established in financial theory that financial risk affects the cost of equity. Higher financial risk leads to a higher cost of equity, and there are well established financial theories to measure and compensate for financial risk. Moreover, differences in financial risk will lead to much greater differences in the cost of capital than any plausible effect of a RAM. The Commission should focus on differences in financial risk before any attempt to adjust for the effect of a RAM.

For all of these reasons, the Commission should not adjust the allowed return for water utilities if a RAM were adopted.

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PROOF OF SERVICE

I, Michelle Chavez, declare as follows:

I am employed in the City and County of San Francisco, California. I am over the age of eighteen years and not a party to this action. My business address is STEEFEL, LEVITT & WEISS, One Embarcadero Center, 30th Floor, San Francisco, California 94111-3719. On October 19, 2007, I served the within:

Direct Testimony of Michael J. Vilbert on Behalf of California-American Water Company

on the interested parties in this action addressed as follows:

See attached service list

☒ **(BY PUC E-MAIL SERVICE)** By transmitting such document(s) electronically from Steefel, Levitt & Weiss, San Francisco, California, to the electronic mail addresses listed above. I am readily familiar with the practices of Steefel, Levitt & Weiss for transmitting documents by electronic mail, said practice being that in the ordinary course of business, such electronic mail is transmitted immediately after such document has been tendered for filing. Said practice also complies with Rule 1.1 of the Public Utilities Commission of the State of California and all protocols described therein.

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I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct and that this declaration was executed on October 19, 2007, at San Francisco, California.

Michelle Chavez

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APPENDIX A

RÉSUMÉ

APPENDIX A

RESUME

MICHAEL J. VILBERT **PRINCIPAL**

Michael Vilbert is an expert in cost of capital, financial planning and valuation who has advised clients on these matters in the context of a wide variety of investment and regulatory decisions. He received his Ph.D. in Financial Economics from the Wharton School of the University of Pennsylvania, an MBA from the University of Utah, an M.S. from the Fletcher School of Law and Diplomacy, Tufts University, and a B.S. degree from the United States Air Force Academy. He joined The Brattle Group in 1994 after a career as an Air Force officer, where he served as a fighter pilot, intelligence officer, and professor of finance at the Air Force Academy.

REPRESENTATIVE CONSULTING EXPERIENCE

- In a securities fraud case, Dr. Vilbert designed and created a model to value the private placement stock of a drug store chain as if there had been full disclosure of the actual financial condition of the firm. He analyzed key financial data and security analysts' reports regarding the future of the industry in order to recreate pro forma balance sheet and income statements under a variety of scenarios designed to establish the value of the firm.

- For pharmaceutical companies rebutting price-fixing claims in antitrust litigation, Dr. Vilbert was a member of a team that prepared a comprehensive analysis of industry profitability. The analysis replicated, tested and critiqued the major recent analyses of drug costs, risks and returns. The analyses helped develop expert witness testimony to rebut allegations of excess profits.

- For an independent electric power producer, Dr. Vilbert created a model that analyzed the reasonableness of rates and costs filed by a natural gas pipeline. The model not only duplicated the pipeline's rates, but it also allowed simulation of a variety of "what if" scenarios associated with cost recovery under alternative time patterns and joint cost allocations. Results of the analysis were adopted by the intervenor group for negotiation with the pipeline.

- For the CFO of an electric utility, Dr. Vilbert developed the valuation model used to support a stranded cost estimation filing. The case involved a conflict between two utilities over the responsibility for out-of-market costs associated with a power purchase contract between them. In addition, he advised and analyzed cost recovery mechanisms

that would allow full recovery of the stranded costs while providing a rate reduction for the company's rate payers.

- Dr. Vilbert has testified as well as assisted in the preparation of testimony and the development of estimation models in numerous cost of capital cases for natural gas pipeline, water utility and electric utility clients before the Federal Energy Regulatory Commission ("FERC") and state regulatory commissions. These have spanned standard estimation techniques (e.g., Discounted Cash Flow and Risk Positioning models). He has also developed and applied more advanced models specific to the industries or lines of business in question, e.g., based on the structure and risk characteristics of cash flows, or based on multi-factor models that better characterize regulated industries.

- Dr. Vilbert has valued several large, residual oil-fired generating stations to evaluate the possible conversion to natural gas or other fuels. In these analyses, the expected pre- and post-conversion station values were computed using a range of market electricity and fuel cost conditions.

- For a major western electric utility, Dr. Vilbert helped prepare testimony that analyzed the prudence of QF contract enforcement. The testimony demonstrated that the utility had not been compensated in its allowed cost of capital for major disallowances stemming from QF contract management.

- Dr. Vilbert analyzed the economic need for a major natural gas pipeline expansion to the Midwest. This involved evaluating forecasts of natural gas use in various regions of the United States and the effect of additional supplies on the pattern of natural gas pipeline use. The analysis was used to justify the expansion before the FERC and the National Energy Board of Canada.

- For a Public Utility Commission in the Northeast, Dr. Vilbert analyzed the auction of an electric utility's purchase power agreements to determine whether the outcome of the auction was in the ratepayers' interest. The work involved the analysis of the auction procedures as well as the benefits to ratepayers of transferring risk of the PPA payments to the buyer.

- Dr. Vilbert led a team tasked to determine whether bridge tolls were "just and reasonable" for a non-profit port authority. Determination of the cost of service for the authority required estimation of the value of the authority's assets using the trended original cost methodology as well as evaluation of the operations and maintenance budgets. Investment costs, bridge traffic information and inflation indices covering a 75 year period were utilized to estimate the value of four bridges and a passenger transit line valued in excess of $1 billion.

- Dr. Vilbert helped a recently privatized railroad in Brazil develop an estimate of its revenue requirements, including a determination of the railroad's cost of capital. He also helped evaluate alternative rate structures designed to provide economic incentives to

shippers as well as to the railroad for improved service. This involved the explanation and analysis of the contribution margin of numerous shipper products, improved cost analysis and evaluation of bottlenecks in the system.

- For a utility in the Southeast, Dr. Vilbert quantified the company's stranded costs under several legislative electric restructuring scenarios. This involved the evaluation of all of the company's fossil and nuclear generating units, its contracts with Qualifying Facilities and the prudence of those QF contracts. He provided analysis concerning the impact of securitizing the company's stranded costs as a means of reducing the cost to the ratepayers and several alternative designs for recovering stranded costs.

- For a recently privatized electric utility in Australia, Dr. Vilbert evaluated the proposed regulatory scheme of the Australian Competition and Consumer Commission for the company's electric transmission system. The evaluation highlighted the elements of the proposed regulation which would impose uncompensated asymmetric risks on the company and the need to either eliminate the asymmetry in risk or provide additional compensation so that the company could expect to earn its cost of capital.

- For an electric utility in the Southwest, Dr. Vilbert helped design and create a model to estimate the stranded costs of the company's portfolio of Qualifying Facilities and Power Purchase contracts. This exercise was complicated by the many variations in the provisions of the contracts that required modeling in order to capture the effect of changes in either the performance of the plants or in the estimated market price of electricity.

- Dr. Vilbert helped prepare the testimony responding to a FERC request for further comments on the appropriate return on equity for electric transmission facilities. In addition, Dr. Vilbert was a member of the team that made a presentation to the FERC staff on the expected risks of the unbundled electric transmission line of business.

- Dr. Vilbert and Mr. Frank C. Graves, also of The Brattle Group, prepared testimony evaluating an innovative Canadian stranded cost recovery procedure involving the auctioning of the output of the province's electric generation plants instead of the plants themselves. The evaluation required the analysis of the terms and conditions of the long-term contracts specifying the revenue requirements of the plants for their entire forecasted remaining economic life and required an estimate of the cost of capital for the plant owners under this new stranded cost recovery concept.

- Dr. Vilbert served as the neutral arbitrator for the valuation of a petroleum products tanker. The valuation required analysis of the Jones Act tanker market and the supply and demand balance of the available U.S. constructed tanker fleet.

PRESENTATIONS

"Utility Distribution Cost of Capital," *EEI Electric Rates Advanced Course*, Bloomington, IN, 2002, 2003.

"Issues for Cost of Capital Estimation," with Bente Villadsen, *Edison Electric Institute Cost of Capital Conference*, Chicago, IL, February 2004.

"Not Your Father's Rate of Return Methodology," *Utility Commissioners/Wall Street Dialogue*, NY, May 2004.

"Current Issues in Cost of Capital," *EEI Electric Rates Advanced Course*, Madison, WI, July 2004.

"Cost of Capital Estimation: Issues and Answers," *MidAmerican Regulatory Finance Conference*, Des Moines, IA, April 7, 2005.

"Cost of Capital - Explaining to the Commission - Different ROEs for Different Parts of the Business," *EEI Economic Regulation & Competition Analysts Meeting*, May 2, 2005.

"Current Issues in Cost of Capital," with Bente Villadsen, *EEI Electric Rates Advanced Course*, Madison, WI, 2005.

"Current Issues in Estimating the Cost of Capital," *EEI Electric Rates Advanced Course*, Madison, WI, 2006.

"Revisiting the Development of Proxy Groups and Relative Risk Analysis," Society of Utility and Regulatory Financial Analysts: 39th Financial Forum, April 2007.

ARTICLES

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APPENDIX B

EFFECT OF DEBT ON THE COST OF EQUITY

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Q1. What is the purpose of this Appendix?

A1. In this appendix, I provide details on the effects of debt on the cost of equity. First, I summarize a fairly large body of financial research on capital structure. Second, I provide an extended example to illustrate the effect of debt on the cost of equity.

I. AN OVERVIEW OF THE ECONOMIC LITERATURE

Q2. What is the focus of the economic literature on the effects of debt?

A2. The economic literature focuses on the effects of debt on the value of a firm. The standard way to recognize one of these effects, the impact of the fact that interest expense is tax-deductible, is to discount the all-equity after-tax operating cash flows generated by a firm or an investment project at a weighted average cost of capital, typically known in textbooks as the "WACC." The textbook WACC equals the *market*-value weighted average of the cost of equity and the *after-tax*, *current* cost of debt. However, rate regulation in North America has a legacy of working with another weighted-average cost of capital, the *book*-value weighted average of the cost of equity and the *before-tax*, *embedded* cost of debt. To distinguish the concepts, I refer to the after-tax weighted-average cost of capital as ATWACC.

Q3. How is this section of the appendix organized?

A3. It starts with the tax effects of debt. It then turns to other effects of debt.

A. TAX EFFECTS

Q4. What are the key findings in the literature regarding tax effects?

A4. Three seminal papers are vital for this literature. The first assumes no taxes and risk-free debt. The second adds corporate income taxes. The third adds personal income taxes.

1. Base Case: No Taxes, No Risk to High Debt Ratios

Q5. Please start by explaining the simplest case of the effect of debt on the value of a firm.

A5. The "base case," no taxes and no costs to excessive debt, was worked out in a classic 1958 paper by Franco Modigliani and Merton Miller, two economists who eventually won Nobel Prizes in part for their body of work on the effects of debt.[1] Their 1958 paper made what is in retrospect a very simple point: if there are no taxes and no risk to the use of excessive debt, use of debt will have no effect on a company's operating cash flows (i.e., the cash flows to investors as a group, debt plus equity combined). If the operating cash flows are the same regardless of whether the company finances mostly with debt or mostly with equity, then the value of the firm cannot be affected at all by the debt ratio. In cost of capital terms, this means the overall cost of capital is constant regardless of the debt ratio, too.

In the base case, issuing debt merely divides the cash flows into two pools, one for bondholders and one for shareholders. If the divided pools have different priorities in claims on the cash flows, the risks and costs of capital will differ for each pool. But the risk and overall cost of capital of the entire firm, the sum of the two pools, is constant regardless of the debt ratio. Thus,

$$r_1^* = r_{A1} \qquad \text{(B-1a)}$$

where r^*_1 is the overall after-tax cost of capital at any particular capital structure and r_{A1} is the all-equity cost of capital for the firm. (The "1" subscripts distinguish the case where there are no taxes from subsequent equations that consider first corporate and then both corporate and personal taxes.) With no taxes and no risk to debt, the overall cost of capital does not change with capital structure.

This implies that the relationship of the overall cost of capital to the component costs of debt and equity is

[1] Franco Modigliani and Merton H. Miller (1958), "The Cost of Capital, Corporation Finance and the Theory of Investment," *American Economic Review*, 48, pp. 261-297.

$$r_{E1} \times \left(\frac{E}{V}\right) + r_{D1} \times \left(\frac{D}{V}\right) = r_1^* \qquad \text{(B-1b)}$$

with the overall cost of capital (r^*) on the *right* side, as the *independent* variable, and the costs of equity (r_E) and debt (r_D) on the left side, as *dependent* variables determined by the overall cost of capital and by the capital structure (i.e., the shares of equity (E) and debt (D) in overall firm value (V=E+D)) that the firm happens to choose. Note that if equation (B-1a) were correct, the equation that solved it for the cost of equity would be,

$$r_{E1} = r_1^* + (r_1^* - r_D) \times \left(\frac{D}{E}\right) \qquad \text{(B-1c)}$$

Note also that (D/E) gets exponentially higher in this equation as the debt-to-value ratio increases[2] i.e., the cost of equity increases exponentially with leverage.

2. Corporate Tax Deduction for Interest Expense

Q6. What happens when you add corporate taxes to the discussion?

A6. If corporate taxes exist with risk-free debt (and if only taxes at the corporate level matter, not taxes at the level of the investor's personal tax return), the initial conclusion changes. Debt at the corporate level reduces the company's tax liability by an amount equal to the marginal tax rate times interest expense. All else equal, this will add value to the company because more of the operating cash flows will end up in the hands of investors as a group. That is, if only corporate taxes mattered, interest would add cash to the firm equal to the corporate tax rate times the interest expense. This increase in cash would increase the value of the firm, all else equal. In cost of capital terms, it would reduce the overall cost of capital.

How much the value of the firm would rise and *how far* the overall cost of capital would fall would depend in part on how often the company adjusts its capital structure, but this is a second-order effect in practice. (The biggest effect would be if companies could

[2] For example, at 20-80, 50-50, and 80-20 debt-equity ratios, (D/E) equals, respectively, (20/80) = 0.25, (50/50) = 1.0, and (80/20) = 4.0. The extra 30 percent of debt going from 20-80 to 50-50 has much less impact on (D/E) [i.e., by moving it from 0.25 to 1.0] than the extra 30 percent of debt going from 50-50 to 80-20 [i.e., by moving it from 1.0 to 4.0]. Since the cost of equity equals a constant risk premium times the debt-equity ratio, the cost of equity grows ever more rapidly as you add more and more debt.

issue riskless perpetual debt, an assumption Profs. Modigliani and Miller explored in 1963, in the second seminal paper;[3] this assumption could *not* be true for a real company.) Prof. Robert A. Taggart provides a unified treatment of the main papers in this literature and shows how various cases relate to one another.[4] Perhaps the most useful set of benchmark equations for the case where only corporate taxes matter are:

$$r_2^* = r_{A2} - r_D \times t_C \times \left(\frac{D}{V}\right) \tag{B-2a}$$

$$r_2^* = r_{E2} \times \left(\frac{E}{V}\right) + r_D \times \left(\frac{D}{V}\right) \times (1 - t_C) \tag{B-2b}$$

which imply for the cost of equity,

$$r_{E2} = r_{A2} + (r_{A2} - r_D) \times \left(\frac{D}{E}\right) \tag{B-2c}$$

where the variables have the same meaning as before but the "2" subscripts indicate the case that considers corporate but not personal taxes.

Note that Equation (B-2a) implies that when only corporate taxes matter, the overall after-tax cost of capital declines steadily as more debt is added, until it reaches a minimum at 100 percent debt (i.e., when D/V = 1.0). Note also that Equation (B-2c) still implies an exponentially increasing cost of equity as more and more debt is added. In fact, except for the subscript, Equation (B-2c) looks just like Equation (B-1c).

However, whether any value is added and whether the cost of capital changes at all also depends on the effect of taxes at the personal level.

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[3] Franco Modigliani and Merton H. Miller (1963), "Corporate Income Taxes and the Cost of Capital: A Correction," *American Economic Review*, 53, pp. 433-443.

[4] Robert A. Taggart, Jr. (1991), "Consistent Valuation and Cost of Capital Expressions with Corporate and Personal Taxes," *Financial Management* 20, pp. 8-20.

3. Personal Tax Burden on Interest Expense

Q7. How do personal taxes affect the results?

A7. Ultimately, the purpose of investment is to provide income for consumption, so personal taxes affect investment returns. For example, in the U.S., municipal bonds have lower interest rates than corporate bonds because their income is taxed less heavily at the personal level. In general, capital appreciation on common stocks is taxed less heavily than interest on corporate bonds because (1) taxes on unrealized capital gains are deferred until the gains are realized, and (2) the capital gains tax rate is lower. Dividends are taxed less heavily than interest, also, under current tax law.[5] The effects of personal taxes on the cost of common equity are hard to measure, however, because common equity is so risky.

Professor Miller, in his Presidential Address to the American Finance Association,[6] explored the issue of how personal taxes affect the overall cost of capital. The paper pointed out that personal tax effects could offset the effect of corporate taxes entirely.

Q8. Is it likely that the effect of personal taxes will completely neutralize the effect of corporate taxes?

A8. I do not believe so, although the likelihood of such a result would be increased if the current federal tax reductions on dividends and capital gains became permanent rather than expiring in 2010. However, personal taxes are important even if they do not make the corporate tax advantage on interest vanish entirely. Capital gains and dividend tax advantages definitely convey some personal tax advantage to equity, and even a partial personal advantage to equity reduces the corporate advantage to debt.

The Taggart paper explores the case of a partial offset, also. With personal taxes, the risk-free rate on the security market line is the after-personal-tax rate, which must be

[5] The current maximum personal tax rate on dividend income was extended to the end of 2010 by the President on May 17, 2006. It is uncertain whether the reduced rates on dividend income will be further extended.

[6] Merton H. Miller (1977), "Debt and Taxes," *The Journal of Finance*, 32: 261-276, the third of the seminal papers mentioned earlier.

equal for risk-free debt and risk-free equity.[7] Therefore, the pre-personal-tax risk-free rate for equity will generally not be equal to the pre-personal-tax risk-free rate for debt. In particular, $r_{fE} = r_{fD}H[(1!t_D)/(1!t_E)]$, where r_{fE} and r_{fD} are the risk-free costs of equity and debt and t_E and t_D are the personal tax rates for equity and debt, respectively. In terms of the cost of debt, the Taggart paper's results imply that a formal statement of these effects can be written as:[8]

$$r_3^* = r_{A3} - r_D \times t_N \times \left(\frac{D}{V}\right) \quad \text{(B-3a)}$$

$$= r_{E3} \times \left(\frac{E}{V}\right) + r_D \times \left(\frac{D}{V}\right) \times (1 - t_C) \quad \text{(B-3b)}$$

which imply

$$r_{E3} = r_{A3} + \left[r_{A3} - r_D \times \left(\frac{1-t_D}{1-t_E}\right)\right] \times \left(\frac{D}{E}\right) \quad \text{(B-3c)}$$

Suppose, for example, that $t_C = 0.35$ percent, $t_E = 7.7$ percent and $t_D = 40$ percent. Then $[(1!t_D)/(1!t_E)] = 0.65 = (1!t_C)$. That condition corresponds to Miller's 1977 paper, in which the net personal tax advantage of equity fully offsets the net corporate tax advantage of debt. Note also that in that case, $t_N = 0$.[9] Therefore, if the personal tax advantage on equity fully offsets the corporate tax advantage on debt, Equation (B-3a) confirms that the overall after-tax cost of capital is a constant.

However, it is unlikely that the personal tax advantage of equity fully offsets the corporate tax advantage of debt. If taxes were all that mattered (i.e., if there were no

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[7] As Prof. Taggart notes (his footnote 9), it is not necessary that a specific, risk-free equity security exist as long as one can be created synthetically, through a combination of long and short sales of traded assets. Such constructs are a common analytical tool in financial economics.

[8] The net all-tax effect of debt on the overall cost of capital, t_N, equals $\{[t_C+t_E!t_D!(t_CHt_E)] / (1!t_E)\}$, where t_D is the personal tax rate on debt, as before. This measure of net tax effect is designed for use with the cost of debt in Equation (B-3a), which seems more useful in the present context. The Taggart paper works with a similar measure, but one which is designed for use with the cost of risk-free equity in the equivalent Taggart equation.

[9] In the above example, $t_N = \{[0.35+0.077!0.4!(0.35H0.077)] / (1.0!0.077)\} = 0.0/0.923 = 0$.

other costs to debt), the overall after-corporate-tax cost of capital would still fall as debt was added, just not as fast.

Finally, note that the overall after-tax cost of capital, Equation (B-3b), still uses the corporate tax rate even when personal taxes matter. Equations (B-2b) and (B-3b) both correspond to the usual formula for the ATWACC. Personal taxes affect the way the cost of equity changes with capital structure -- Equation (B-3c) -- but not the formula for the overall after-tax cost of capital given that cost of equity.

B. NON-TAX EFFECTS

Q9. Please describe the non-tax effects of Debt.

A9. If debt is truly valuable, firms should use as much as possible, and competition should drive firms in a particular industry to the same, optimal capital structure for the industry. If debt is harmful on balance, firms should avoid it. Neither picture corresponds to what we actually see. A large economic literature has evolved to try to explain why.

Part of the answer clearly is the costs of excessive debt. Here the results cannot be reduced to equations, but they are no less real for that fact. As companies add too much debt, the costs come to outweigh the benefits. Too much debt reduces or eliminates financial flexibility, which cuts the firm's ability to take advantage of unexpected opportunities or weather unexpected difficulty. Use of debt rather than internal financing may be taken as a negative signal by the market.

Even if the company is generally healthy, more debt increases the risk that the company cannot use all of the interest tax shields in a bad year. As debt continues to grow, this problem grows and others may crop up. Management begins to worry about meeting debt payments instead of making good operating decisions. Suppliers are less willing to extend trade credit, and a liquidity shortage can translate into lower operating profits.

Ultimately, the firm might have to go through the costs of bankruptcy and reorganization. Collectively, such factors are known as the costs of "financial distress."[10]

The net tax advantage to debt, if positive, is affected by costs such as a growing risk that the firm might have to bear the costs of financial distress. First, the expected present value of these costs offsets the value added by the interest tax shield. Second, since the likelihood of financial distress is greater in bad times when other investments also do poorly, the possibility of financial distress will increase the risks investors bear. These effects increase the variability of the value of the firm. Thus, firms that use too much debt can end up with a higher overall cost of capital than those that use none.

Other parts of the answer include the signals companies send to investors by the decision to issue new securities, and by the type of securities they issue. Other threads of the literature explore cases where management acts against shareholder interests, or where management attempts to "time" the market by issuing specific securities under different conditions. For present purposes, the important point is that no theory, whether based on taxes or on some completely different issue, has emerged as "the" explanation for capital structure decisions by firms. Nonetheless, despite the lack of a single "best" theory, there is a great deal of relevant empirical research.

Q10. What does that research show?

A10. The research does not support the view that debt makes a material difference in the value of the firm, at least not once a modest amount of debt is in place. If debt were truly valuable, competitive firms should use as much debt as possible short of producing financial distress, and competitive firms that use less debt ought to be less profitable. The research shows exactly the opposite.

[10] See, for example, Section 18.3 of Brealey, Myers and Allen, 2006, *Principles of Corporate Finance*, 8th Edition, McGraw-Hill/Irwin, 2006.

For example, Kester[11] found that firms in the same industry in both the U.S. and Japan do not band around a single, "optimal" capital structure, and the most profitable firms are the ones that use the *least* debt. This finding comes despite the fact that both countries at the time (unlike the U.S. currently) had fully "classical" tax systems, in which dividends are taxed fully at both the corporate and personal level. Wald[12] confirms that high profitability implies low debt ratios in France, Germany, Japan, the U.K., and the U.S. Booth *et al.* find the same result for a sample of developing nations.[13] Fama and French[14] analyze over 2000 firms for 28 years (1965-1992, inclusive) and conclude, "Our tests thus produce no indication that debt has net tax benefits."[15] A paper by Graham[16] carefully analyzes the factors that might have led a firm not to take advantage of debt. It confirms that a large proportion of firms that ought to benefit substantially from use of additional debt, including large, profitable, liquid firms, appear not to use it "enough."

This research leaves us with only three options: either (1) apparently good, profit-generating managers are making major mistakes or deliberately acting against shareholder interests, (2) the benefits of the tax deduction on debt are less than they appear, or (3) the non-tax costs to use of debt offset the potential tax benefits. Only the first of these possibilities is consistent with the view that the tax deductibility of debt conveys a material cost advantage. Moreover, if the first explanation were interpreted to mean that otherwise good managers are acting against shareholder interests, either deliberately or by mistake, it would require the additional assumption that their competitors (and potential acquirers) let them get away with it.

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[11] Carl Kester (1986), "Capital and Ownership Structure: A Comparison of United States and Japanese Manufacturing Concerns," *Financial Management*, 15:5-16.

[12] John K. Wald (1999), "How Firm Characteristics Affect Capital Structure: An International Comparison," *Journal of Financial Research*, 22:161-167.

[13] Laurence Booth *et al.* (2001), "Capital Structures in Developing Countries," *The Journal of Finance* Vol. LVI, pp. 87-130, finds at p. 105 that "[o]verall, the strongest result is that profitable firms use less total debt. The strength of this result is striking ..."

[14] Eugene F. Fama and Kenneth R. French (1998), "Taxes, Financing Decisions and Firm Value," *The Journal of Finance*, 53:819-843.

[15] *Ibid.*, p. 841.

[16] John R. Graham (2000), "How Big Are the Tax Benefits of Debt," *The Journal of Finance*, 55:1901-1942.

Q11. Are there any explanations in the financial literature for this puzzle other than stupid or self-serving managers at the most profitable firms?

A11. Yes. For example, Stewart C. Myers, a leading expert on capital structure, made it the topic of his Presidential Address to the American Finance Association.[17] The poor performance of tax-based explanations for capital structure led him to propose an entirely different mechanism, the "pecking order" hypothesis. This hypothesis holds that the net tax benefits of debt (i.e., corporate tax advantage over personal tax disadvantage) are at most of a second order of importance relative to other factors that drive actual debt decisions.[18] Similarly, Baker and Wurgler (2002)[19] observe a strong and persistent impact that fluctuations in market value have on capital structure. They argue that this impact is not consistent with other theories. The authors suggest a new capital structure theory based on market timing -- capital structure is the cumulative outcome of attempts to time the equity market.[20] In this theory, there is no optimal capital structure, so market timing financing decisions just accumulate over time into the capital structure outcome. (Of course, this theory only makes sense if investors do not recognize what managers are doing.)

Q12. Do inter-firm differences within an industry explain the wide variations in capital structure across the firms in an industry?

A12. No. This view is contradicted by the empirical research. As mentioned before, it has long been found that the most profitable firms in an industry, i.e., those in the best position to take advantage of debt, use the least.[21] Graham (2000) carefully examines differences in firm characteristics as possible explanations for why firms use "too little"

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[17] Stewart C. Myers (1984), "The Capital Structure Puzzle," *The Journal of Finance*, 39: 575-592. See also S. C. Myers and N. S. Majluf (1984), "Corporate Financing Decisions When Firms Have Information Investors Do Not Have," *Journal of Financial Economics* 13:187-222.

[18] See also Stewart C. Myers (1989), "Still Searching for Optimal Capital Structure," *Are the Distinctions Between Debt and Equity Disappearing?,* R.W. Kopke and E. S. Rosengren, eds., Federal Reserve Bank of Boston.

[19] Malcolm Baker and Jeffrey Wurgler (2002), "Market Timing and Capital Structure," *The Journal of Finance* 57:1-32.

[20] *Ibid.*, p. 29.

[21] For example, Kester, *op. cit.* and Wald, *op. cit.*

debt and concludes that such differences are *not* the explanation: firms that ought to benefit substantially from more debt by all measurable criteria, if the net tax advantage of debt is truly valuable, voluntarily do not use it.[22]

Nor does the research support the view that firms are constantly trying to adjust their capital structures to optimal levels. Additional research on the pecking order hypothesis demonstrates that firms do not tend towards a target capital structure, or at least do not do so with any regularity, and that past studies that seemed to show the contrary actually lacked the power to distinguish whether the hypothesis was true or not.[23] In the words of the Shyam-Sunder - Myers paper p. 242, "If our sample companies did have well-defined optimal debt ratios, it seems that their managers were not much interested in getting there."

II. EXPANDED EXAMPLE

Q13. What topics do you cover in this section?

A13. The discussion in my testimony did not detail the impact of different starting points for the level of debt nor did it address income earned on the investment, interest expense, or taxes. This section covers these topics. First, it discusses how the level of debt affects the cost of equity. Second, it addresses the influence of income and interest on the investment. Third, it explains the impact of taxes on capital structure decisions. The final topic covered in this section is the combined consequence of tax and non-tax effects of debt.

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[22] While not contradicting Graham's finding that differences in firm characteristics do not explain capital structure differences, Nengjiu Ju, Robert Parrino, Allen M. Poteshman, and Michael S. Weisbach, "Horses and Rabbits? Trade-Off Theory and Optimal Capital Structure," *Journal of Financial and Quantitative Analysis*, June 2005, pp. 1-24, looks at the issue in a different manner. Their paper uses a dynamic rather than static model to analyze the tradeoff between the tax benefits of debt and the risk of financial distress. It finds that bankruptcy costs by themselves are enough to explain observed capital structures, once dynamic effects are considered. This means debt is not as valuable as suggested by the traditional static analysis (of the sort used by Graham).

[23] Lakshmi Shyam-Sunder and Stewart C. Myers (1999), "Testing static tradeoff against pecking order models of capital structure," *Journal of Financial Economics* 51:219-244.

A. Details Of Different Levels Of Debt

Q14. Why does more debt mean more risk for equity holders?

A14. Debt magnifies the variability of the equity return. As a simple example, think of an investor who takes money out of her savings and invests $100,000 in real estate. The future value of the real estate is uncertain. If the real estate market booms, she wins. If the real estate market goes down, she loses. Figure B-1 below illustrates this.

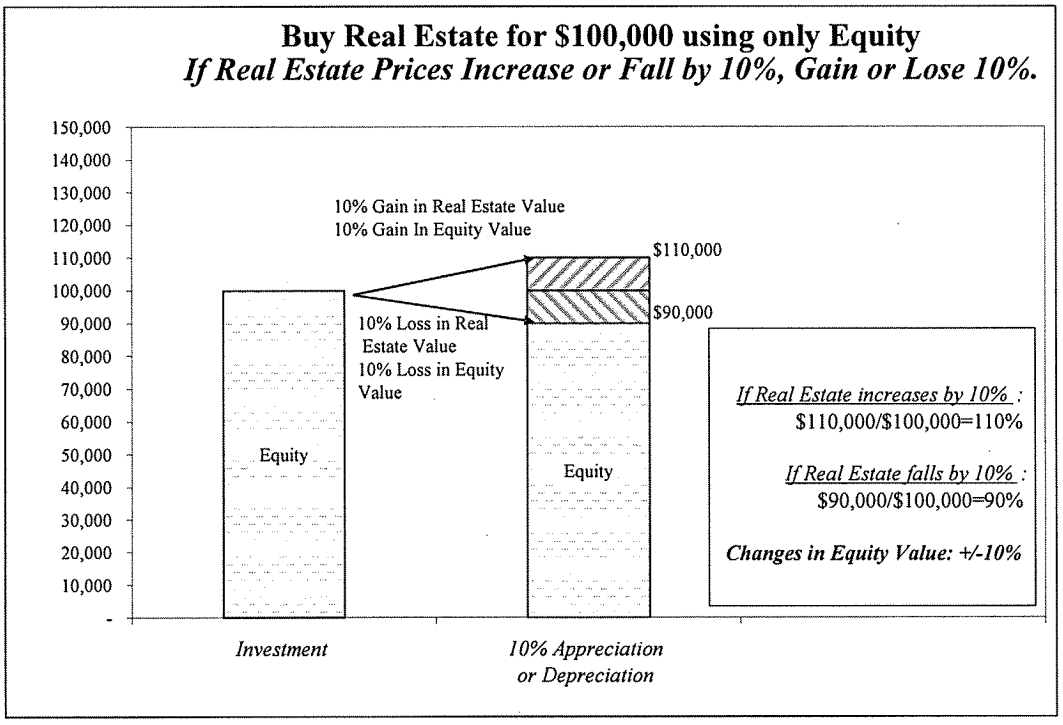

Figure B-1

In the scenario above, the investor financed her real estate purchase through 100 percent equity. Suppose instead that the investor had financed 50 percent of her real estate investment with a mortgage of $50,000. The mortgage lender does not expect to share in any benefits from increases in real estate values. Neither does the mortgage lender expect to share in any losses from falling real estate values, i.e., the investor carries the entire risk of fluctuating real estate prices. Figure B-2 illustrates this effect.

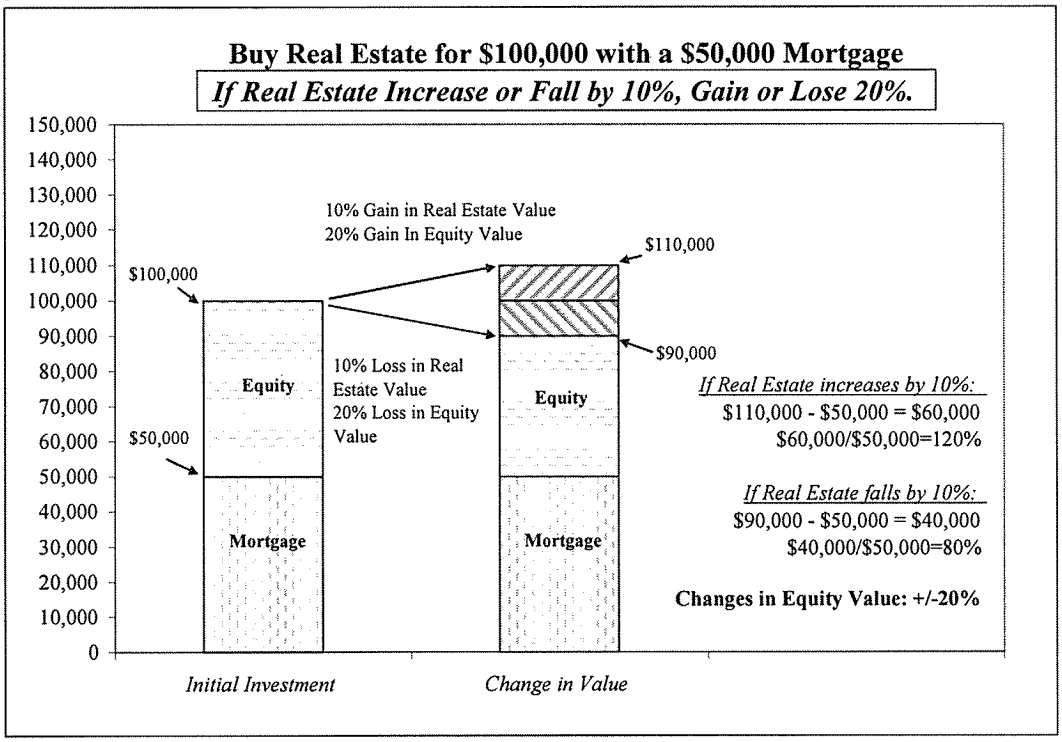

Figure B-2

In Figure B-2 where the investor financed her purchase through 50 percent equity and 50 percent debt, the variability in the investor's equity return is two times greater than that of Figure B-1. The entire fluctuation of 10 percent from rising or falling real estate prices falls on the investor's $50,000 equity investment. The lesson from the example is obvious, debt adds risk to equity.

Q15. What happens if the investor finances the real estate purchase with different proportions of debt?

A15. The equity return becomes more variable when the mortgage percentage is a greater proportion of the initial price. Table B-1 below calculates the return on equity when real estate prices increase by 10 percent when mortgages are 0 percent, 30 percent, 50 percent, and 70 percent of the initial price.

Table B-1: The Impact of Leverage on the Return on Equity

	100% Equity	70% Equity	50% Equity	30% Equity
Debt	$0	$30,000	$50,000	$70,000
Original Equity Investment	$100,000	$70,000	$50,000	$30,000
Increase in Market Value of Equity	$10,000	$10,000	$10,000	$10,000
Return on Equity Investment	10%	14.3%	20%	33.3%

Note that going from 70 percent equity down to 50 percent equity increases the return on the equity investment by 5.7 percent while going from 50 percent equity to 30 percent equity increases the return on equity by 13.3 percent. This illustrates a general point; the rate of return on equity increases more quickly at higher levels of debt than at lower levels. Investors demand a higher equity rate of return to bear more risk and debt magnifies equity's risk at an ever increasing rate. Therefore, the required equity rate of return goes up at an ever increasing rate as debt is added. This is not only basic finance theory, it is the everyday experience of anyone who buys a home. The bigger the mortgage, the more percentage risk the equity faces from changes in housing prices.

Q16. Please provide an example that illustrates why market values are relevant.

A16. Suppose in the above example that the investor has invested in real estate 10 years ago. Further assume that depreciation has reduced the book value of the real estate from $100,000 to $75,000 and assume the investor has paid off 40 percent of his $50,000 mortgage. Thus, the investor has a remaining mortgage of $30,000 (= 60% H $50,000). The book value of the investor's equity investment is therefore $45,000 (= $75,000 - $30,000).

What happens now if real estate prices rise or fall 20 percent? To answer that question, we need to know how real estate prices have developed over the past 10 years. If the market value of the real estate now is $200,000 then a 20 percent decrease in the price of

real estate ($40,000) is almost equal to the investor's book value equity. However, his market value equity (or net worth) is equal to the value of the real estate minus what he owes on the mortgage. If we assume that the market value of the mortgage equals the unpaid balance ($30,000), then the investor's net worth is calculated as follows:

Net Worth	=	Market Value of Real Estate	-	Remaining Mortgage
	=	$200,000	-	$30,000
	=	$170,000		

Therefore, the rate of return on equity due to a 20 percent decline in real estate prices is calculated in Table B-2.

Table B-2: Calculating the Rate of Return on Equity

Decline in Real Estate Value	$40,000
Market-Value Equity	$170,000
Rate of Return on Equity	- $40,000/$170,000 = -23.5%

B. THE IMPACT OF INCOME AND INTEREST

Q17. How does earning income from the investment and paying interest on debt affect the results?

A17. In the following explanation, I ignore income taxes which I deal with in Section C below. Assume the investor is receiving income, e.g., rent, from the real estate. Specifically, assume the investor receives $500 per month in income after all non-interest expenses ($6,000 per year). Also, assume that the expected appreciation is 5 percent per year, so the expected market value is $105,000 after one year. Then the expected rate of return from the real estate with all equity financing is:

$$\text{Expected Return on Equity @ 0\% debt} = \frac{\text{Expected Net Income + Expected Appreciation}}{\text{Initial Investment}}$$

$$= \frac{\$6{,}000 + (\$105{,}000 - \$100{,}000)}{\$100{,}000}$$

$$= 11\%$$

Now suppose that the mortgage interest rate were 5 percent. Then at a mortgage equal to 50 percent, or $50,000, interest expense would be ($50,000 x 0.05), or $2,500. The expected equity rate of return would be:

$$\text{Expected Return on Equity @ 50\% debt} = \frac{\text{Expected (Net Income + Appreciation) – Int. Expense}}{\text{Initial } \textit{Equity} \text{ Investment}}$$

$$= \frac{\$6{,}000 + \$5{,}000 - \$2{,}500}{\$50{,}000}$$

$$= 17\%$$

Notice that the expected return on equity is higher as is the risk carried by equity.

Q18. Can you provide a more general illustration?

A18. Yes. Figure B-3 uses these assumptions at different mortgage levels to plot both (i) the expected rate of return on the equity in the dwelling, and (ii) the realized rate of return on

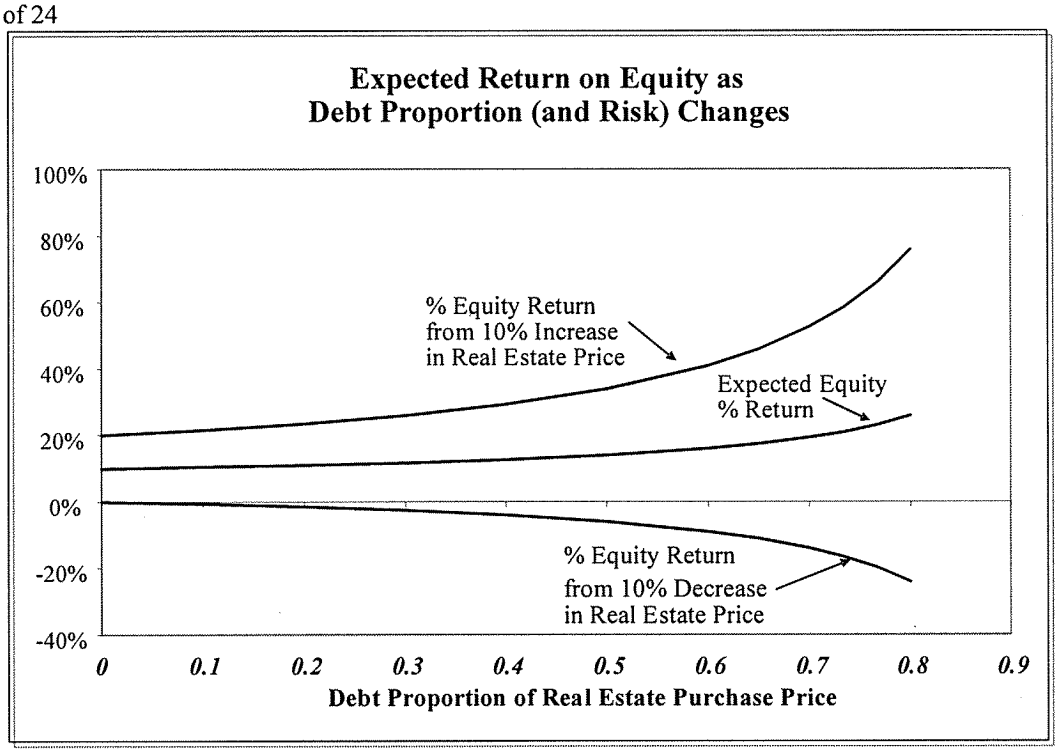

Figure B-3

that equity in a year if the dwelling value increases by 10 percent more than the expected 5 percent rate (i.e., if the value increases by 15 percent) or by 10 percent less than expected (i.e., if it decreases by 5 percent).[24]

The expected rate of return on equity increases at an increasing rate as the investor finances more and more of the real estate through loans (e.g., with a mortgage). Since equity bears all the risk of increases or decreases in real estate values (absent financial distress or bankruptcy), the amount of risk the buyer bears grows at an ever increasing rate as the mortgage percentage also increases.

Q19. What are the implications of this example?

A19. Any time an individual or a company uses debt to finance part an investment, the same risk magnifies. For example, if an investor buys stocks "on margin" -- by borrowing part of the money used to buy the stock -- the expected rate of return will be higher as will the

[24] For simplicity, the figure assumes the debt's interest rate is independent of the debt proportion. This might not always be true, and in general would not be true for a corporation that issued debt. However, the general shape of the graphs remains the same.

risks the investor carries. As an everyday example, imagine investing your retirement savings in a stock portfolio bought with as much margin as possible. If you were lucky, you could end up living very well in retirement. But you would be taking a lot of risk on the opposite outcome, since your portfolio could decline by more than 100 percent of your initial investment.

The same risk-magnifying effects happen when companies borrow to finance part of their investments.

C. The Effect Of Taxes

Q20. What is the impact of taxes?

A20. Analyzing the net effect of taxes in capital structure decisions by corporations is an important part of the financial research. (Other parts of that research address such issues as the risk of financial distress or bankruptcy, and the signals corporations send investors by the choice of how to finance new investments.) The bottom line is that taxes complicate the picture without changing the basic conclusion.

Q21. Please describe the potential impact of taxes.

A21. Interest expense is tax-deductible for corporations. That increases the pool of cash the corporation gets to keep out of its operating earnings (i.e., its earnings before interest expense). With no debt, 100 percent of operating income is subject to taxes. With debt, only the equity part of the operating income is subject to taxes.

All else equal, the extra money kept from operating income increases the value of the corporation. The standard way to recognize that increase in value is to use an after-tax weighted-average cost of capital as a discount rate when valuing a company's operating cash flows.

Q22. Do personal taxes affect the value of debt, too?

A22. Yes, but in the other direction. One offset to debt's tax benefits at the corporate level is its higher tax burden at the personal level. Investors care about the money they get to

keep after all taxes are paid, and while the corporation saves taxes by opting for debt over equity, individuals pay more taxes on interest than on capital gains from equity (and for now, on dividends as well).

Q23. Are there factors other than taxes matter?

A23. Absolutely, "all else" does not remain equal as more debt is added. The more debt, the more the non-tax effects of debt offset the tax benefits. Other costs include such effects as a loss of flexibility, the possibility of sending negative signals to investors, and a host of costs and risks associated with the danger of financial distress.

Q24. Does the tradeoff between the tax and non-tax effects of debt mean that firms have well-defined, optimal capital structures?

A24. No, this sort of "tradeoff" model does not explain actual corporate behavior. A substantial body of economic research confirms that real-world corporations act as if, after a moderate amount of debt is in place, the tax benefits of debt are not worth debt's other costs. In country after country and in industry after industry, the most profitable corporations in an industry tend to use the least debt. The research on this point is quite thorough, and the finding that the most profitable companies tend to use the least debt in a given industry is robust. Yet these are the companies with the most operating income to shield from taxes, who would benefit most if interest tax shields were truly valuable net of debt's other costs. They also presumptively are the best-managed on average (else why are they the most profitable?). This means it is unrealistic to suppose that more debt is always better, or that greater tax savings due to higher interest expense always add value to the firm on balance.

Q25. If the tradeoff model doesn't explain capital structure decisions by firms, is there a model that does?

A25. No single model has (yet) emerged as 'the" explanation of capital structure. However, several alternative models attempt to model the tradeoff (e.g., the "pecking order" hypothesis and "agency cost" explanations).

Q26. What does the absence of an agreed theory of capital structure in the financial literature imply about the overall effect of debt on the value of the firm?

A26. The findings of the financial literature mean that within an industry, there is no well-defined optimal capital structure. The use of some debt does convey some value advantage in most industries, but that advantage is offset by other costs as firms add more debt.[25] The range of capital structures over which the value of the firm in any industry is maximized is wide and should be treated as flat. The location and level of that range, however, does vary from industry to industry, just as the overall cost of capital varies from industry to industry.

Figure B-4 illustrates the picture that emerges from the research. This figure shows the present value of an investment in each of four different industries. For simplicity, the investment is expected to yield $1.00 per year forever. For firms in relatively high-risk industries (Industry 1 in the graph, the lowest line), the $1.00 perpetuity is not worth much and any use of debt decreases firm value. For firms in relatively low-risk industries (Industry 4 in the graph), the perpetuity is worth more and substantial amounts of debt make sense. Industries 2 and 3 are intermediate cases.

The maximum net rate at which taxes can increase value in this figure equals 20 percent of interest expense, representing a balance between the corporate tax advantage to debt and the personal tax disadvantage. The figure plots the maximum possible impact of taxes on value as a separate line, starting at the all-equity value of the lowest-risk industry (Industry 4).

[25] Note that if debt did increase the value of the firm materially, competition would tend to take that value away, since issuing debt is an easy-to-copy competitive strategy. Prices would fall as firms copied the strategy, lowering operating earnings and passing the net tax advantages to debt through to customers (just as happens under rate regulation). Therefore, if also there were a narrow range of optimal capital structures within an industry, competition would drive all firms in the industry to capital structures within that range. This does not happen in practice, which contradicts one or both of the assumptions, i.e., (1) that debt adds material value on balance, and/or (2) that there is a narrow range of optimal capital structures.

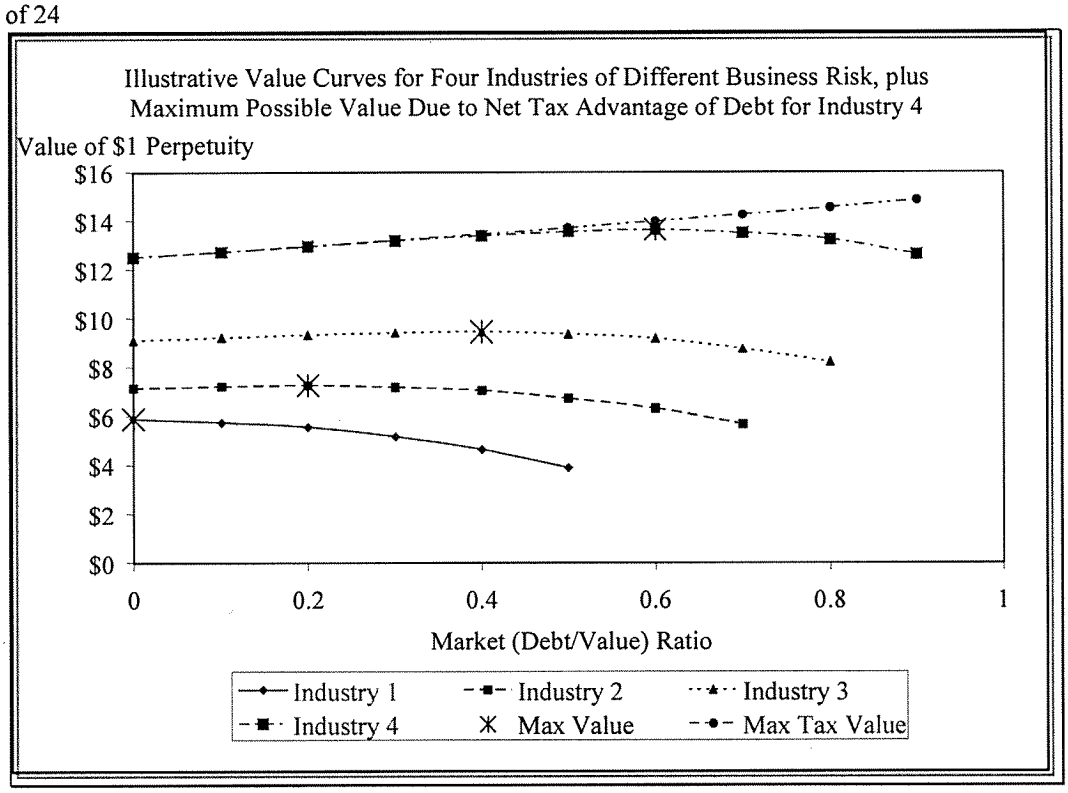

Figure B-4

Figure B-4 identifies a particular point as the maximum value on each of the four curves. However, the research shows that reliable identification of this maximum point, except in the extreme case where no debt should be used, is impossible. In accord with the research, the graph is prepared so that in none of the industries does a change in capital structure make much difference near the top of the curve. Even Industry 4, which increases in value at the maximum rate as quite a lot of debt is added, eventually must reach a broad range where changes in the debt ratio make little difference to firm value, given the research. For Industry 4, debt makes less than a 2 percent difference in the total value of the firm for debt-to-value ratios between 40 and 70 percent. (While these particular values are illustrative, numbers of this order of magnitude are the only ones consistent with the research.)

Q27. What does this imply for the overall cost of capital?

A27. Figure B-5 plots the after-tax weighted-average costs of capital ("ATWACCs") that correspond to the value curves in Figure B-4. This picture just turns Figure B-4 upside

down.[26] All the same conclusions remain, except that they are stated in terms of the overall cost of capital instead of the overall firm value. In particular, except for high-risk industries, the overall cost of capital is essentially flat across a broad middle range of capital structures for each industry, which is the only outcome consistent with the research. For Industry 4, for example, the ATWACC changes by less than 15 basis points for debt-to-value ratios between 40 and 70 percent.

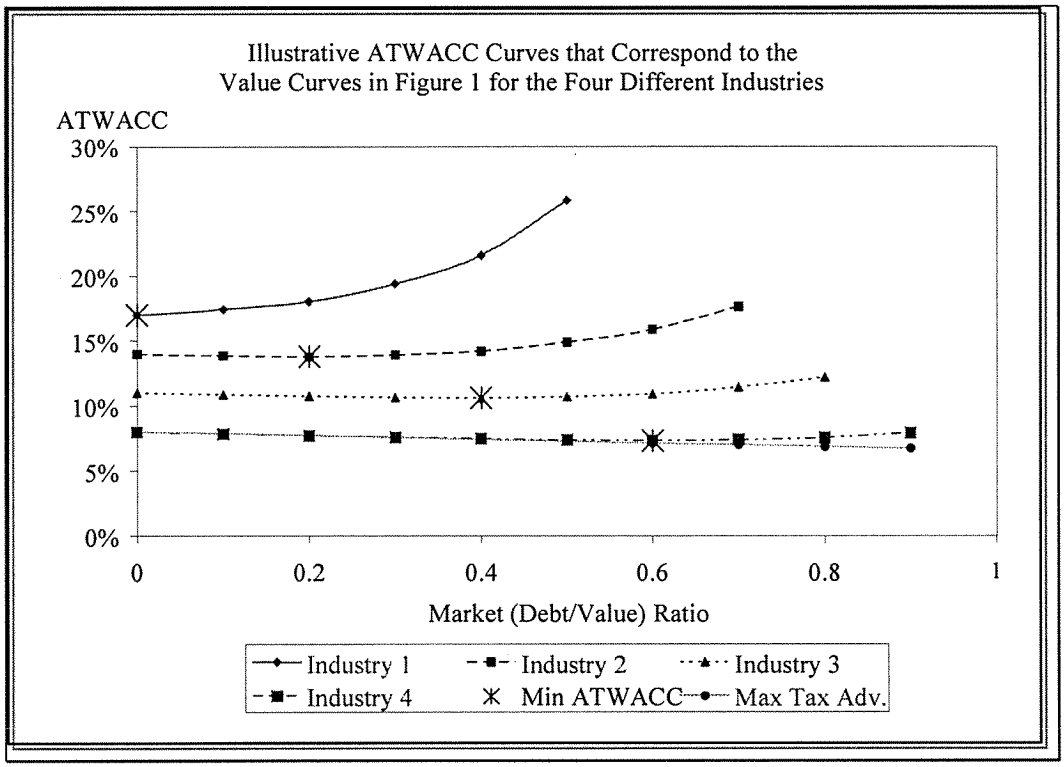

Figure B-5

Q28. How does this discussion relate to estimation of the right cost of equity for ratemaking purposes?

A28. When an analyst estimates the cost of equity for a sample of companies, s/he does so at the sample's actual market-value capital structure. That is, the sample evidence corresponds to ATWACCs that are already out somewhere in the broad middle range in

[26] Note that the actual estimated ATWACC at higher debt ratios will tend to underestimate the ATWACC that corresponds to the value curves in Figure B-4, which are depicted in Figure B-5, and so will tend to overestimate the value of debt to the firm. The reason is that some of the non-tax effects of excessive debt, such as a loss of financial flexibility, may be hard to detect and not show up in cost of capital measurement.

which changes in the debt ratio have little or no impact on the overall value of the firm or the ATWACC.

An analyst therefore should assume the ATWACCs for the sample companies are literally flat. This assumption always provides the exact tradeoff between the cost of equity and capital structure at the literal minimum of the company's ATWACC curve. The research shows that this minimum is actually a broad, flat region, as depicted above. If the company happens to be somewhat to one side or the other of the literal minimum within this region, the recommended procedure may lead to a small understatement or overstatement of the amount that the cost of equity will change as capital structure changes. The degree of this under- or overstatement, however, is very small compared to the inherent uncertainty in estimating the cost of equity in the first place. Otherwise, the financial research would have found very different results about the existence of a narrowly defined optimal capital structure.

D. COMBINED EFFECTS

Q29. Please summarize the implications for the combined impact of the tax and non-tax effects of debt.

A29. The most profitable firms do not behave as if the precise amount of debt they use makes any material difference to value, and competition does not force them into an alternative decision, as it would if debt were genuinely valuable. The explanation that fits the facts and the research is that within an industry, there is no well-defined optimal capital structure. Use of some debt does convey an advantage in most industries, but that advantage is offset by other costs as firms add more debt. The range of capital structures over which the value of the firm in any industry is maximized is wide and should be treated as flat. The location and level of that range, however, does vary from industry to industry, just as the overall cost of capital varies from industry to industry. To conclude that more debt does add more value, once the firm is somewhere in the normal range for the industry, is to conclude that corporate management in general is either blind to an

easy source of value or otherwise incompetent (and that their competitors let them get away with it).

The finding that there is no narrowly defined optimal capital structure implies that analysts should estimate the ATWACCs for a sample of companies in a given industry and treat the average ATWACC value as independent of capital structure (at least within a broad middle range of capital structures). The right cost of equity for a rate-regulated company in the same industry is the number that yields the same ATWACC at the capital structure used to set the revenue requirement, since that is the cost of equity that (estimation problems aside) the sample companies would have had if their market-value capital structures had been equal to the regulatory capital structure.

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Order Instituting Investigation to Consider Policies to Achieve the Commission's Conservation Objectives for Class A Water Utilities.	Investigation 07-01-022 (Filed January 11, 2007)
In the Matter of the Application of Golden State Water Company (U 133 E) for Authority to Implement Changes in Ratesetting Mechanisms and Reallocation of Rates.	Application 06-09-006 (Filed September 6, 2006)
Application of California Water Service Company (U 60 W), a California Corporation, requesting an order from the California Public Utilities Commission Authorizing Applicant to Establish a Water Revenue Balancing Account, a Conservation Memorandum Account, and Implement Increasing Block Rates.	Application 06-10-026 (Filed October 23, 2006)
Application of Park Water Company (U 314 W) for Authority to Implement a Water Revenue Adjustment Mechanism, Increasing Block Rate Design and a Conservation Memorandum Account.	Application 06-11-009 (Filed November 20, 2006)
Application of Suburban Water Systems (U 339 W) for Authorization to Implement a Low Income Assistance Program, an Increasing Block Rate Design, and a Water Revenue Adjustment Mechanism.	Application 06-11-010 (Filed November 22, 2006)
Application of San Jose Water Company (U 168 W) for an Order Approving its Proposal to Implement the Objectives of the Water Action Plan.	Application 07-03-019 (Filed March 19, 2007)

REBUTTAL TESTIMONY OF DR. MICHAEL J. VILBERT ON BEHALF OF CALIFORNIA-AMERICAN WATER COMPANY

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REBUTTAL TESTIMONY OF DR. MICHAEL J. VILBERT ON BEHALF OF CALIFORNIA-AMERICAN WATER COMPANY

Q1. Please state your name, address and position.

A1. My name is Michael J. Vilbert, and I am a Principal at The Brattle Group, 44 Brattle Street, Cambridge, MA 02138.

Q2. Please describe your job and your educational experience.

A2. I am a Principal of The Brattle Group, ("Brattle"), an economic, environmental and management consulting firm with offices in Cambridge, Washington, London, San Francisco and Brussels. My work concentrates on financial and regulatory economics. I

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hold a B.S. from the U.S. Air Force Academy and a Ph.D. in finance from the Wharton School of Business at the University of Pennsylvania.

Q3. Did you submit direct testimony in this proceeding?

A3. Yes. I submitted direct testimony ("Vilbert Direct") on October 19, 2007.

Q4. What is the purpose of your rebuttal testimony?

A4. I have been asked by California-American Water Company ("California American Water" or the "Company") to respond to the direct testimony of Ms. Terry L. Murray ("Murray Direct") on behalf of the Division of Ratepayer Advocates with regard to the effect of the introduction of a proposed Water Revenue Adjustment Mechanism ("WRAM") on the required rate of return on equity for a regulated water utility company.

Q5. What is the Murray Direct's opinion in this regard?

A5. The Murray Direct recommends a 50-100 basis points reduction in the allowed return on equity ("ROE"),[1] and proposes a method by which the Commission could estimate an ROE adjustment using a forecast of the reduction in accounting earnings variability induced by the WRAM. More precisely, the Murray Direct recommends that the portion of the ROE in excess of the rate of return on 30-year Treasury bonds be reduced by a fraction equal to the forecast fractional reduction in the Company's earnings volatility, adjusted for seasonality.[2]

[1] Murray Direct, p. 20.

[2] Murray Direct, p. 15.

Q6. Do you believe that the Murray Direct recommendation is well-founded?

A6. No. The Murray Direct's recommendation relies on two assumptions: 1) that a WRAM reduces accounting earnings variability, and 2) that lower accounting earnings variability translates one-for-one into lower systematic risk for the company, and thus into a lower expected return on equity. The Murray Direct justifies the latter assumption by reference to two academic articles.[3] However, as I will explain below, neither of these articles actually provides support for this assumption.

Q7. Does the article by Beaver et al. (1970) provide support for the methodology recommended by Murray Direct?

A7. No. It is important to note the context of the Beaver et al. article. The article notes that many companies do not have traded stock and therefore cannot rely upon market information to estimate the company's beta, its measure of systematic risk, but these companies have a need for a reliable measure of systematic risk in order to make decisions for capital budgeting. As a substitute for market information, the Beaver et al. article hopes to use accounting information to develop a measure of the systematic risk of a firm that does not have traded stock.

To develop this forecast of the systematic risk, the Beaver et al. article starts from the assumption that the systematic risk of the security (its beta) does not change over time.[4] The purpose of their inquiry is to develop a good forecast of the future beta based on currently known variables, and they show that relying on several accounting measures, including the variability of earnings, outperforms the forecast based on the market beta

[3] Beaver, William, Kettler, Paul, and Scholes, Myron, "The Association Between Market Determined and Accounting Determined Risk Measures," *The Accounting Review*, October 1970, and Kose John, Teresa A. John, and Haim Reisman, "Accounting Data and Asset Valuation," *Review of Quantitative Finance and Accounting*, 1994.

[4] Beaver et al., pp. 671-672.

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estimated from historical stock return data. It is also important to stress that the goal in their paper is forecasting, not establishing a causal link between accounting variables and systematic risk. As such, all that is required for a good forecast is correlation between accounting variables and systematic risk. This is a crucial distinction, because in the absence of causality, it does not follow that a change in any of the accounting variables correlated with systematic risk translates into a change in systematic risk. In other words, unless it can be established that systematic risk is *caused* by earnings variability and other accounting variables under consideration, it cannot be established how the systematic risk would be affected by a change in earnings variability, if at all.

Q8. Please elaborate on the distinction between correlation and causation.

A8. When two events are correlated, it means that they tend to occur together. When two variables are positively (negatively) correlated it means that when one variable increases, the other variable will also tend to increase if positively correlated or decrease if negatively correlated. Causation is when one event causes another event to occur. For example, water boils when sufficient heat has been applied. The water is caused to boil by heating it. On the other hand, in the past it was noted that the performance of the U.S. stock market was correlated with the length of women's skirts. The higher the skirt length, the higher the market would be in the future, but there was no causal relationship. In other words, shortening women's skirts would not cause the stock market to increase.

Q9. But surely variation in accounting earnings has a more fundamental relationship to the systematic risk of a company, doesn't it?

A9. Perhaps. Beaver et al. recognize that "the accounting risk measures reflect both the systematic and individualistic risk components."[5] In this context, the Murray Direct

[5] Beaver et al., p. 659.

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methodology assumes that the WRAM reduces all risks by the same factor, whether they are systematic or diversifiable. If this were true, then the relationship between earnings variability and systematic risk would not change when earnings variability is changed, and one could rely on the estimated relationship between the two measures before the change to make predictions about the effects of the change. However, the Murray Direct does not show that this is likely to be the case, and offers no justification for this assumption. In other words as noted in the Vilbert Direct[6], the effect of the WRAM could be to reduce the variability in earnings that is related to diversifiable risk which would have no effect on the systematic risk of the company. It would therefore not warrant a reduction in the allowed return on equity for the company.

Q10. But Murray Direct points to a theoretical study that "provides a rigorous justification for the use of accounting variables as empirical proxies for market betas."[7]

A10. The article by John et al. (1994) referenced by Murray Direct does not support the use of earnings volatility as a proxy for systematic risk. As stated in their article "This paper derives one set of sufficient conditions so that the market beta can be replaced by an accounting beta."[8] An accounting beta is a quantity computed analogously to the market beta, except it is based on earnings rather than stock returns. It is a measure proportional to the covariance between a firm's earnings and the earnings of the market portfolio. Notice that the relevant quantity is the covariance of earnings with market earnings, not the variance of earnings. Recall that beta is a measure of the covariance of a company's stock returns with the market scaled by the variance of the market returns. The John et al. article does not provide support for the use of the variance of earnings as a proxy for a

[6] Vilbert Direct, p. 18.

[7] Murray Direct, Technical Appendix, p. 1.

[8] John et al., p. 312.

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stock's market beta. At best, it can be interpreted as supporting a measure of systematic risk based on the covariance of earnings with market earnings, but that is not the quantity suggested by Murray Direct.

Q11. If one were to nonetheless use the relationship between accounting variables and systematic risk advocated by Beaver et al. to predict the effect on beta of changing the firm's earnings volatility, would this imply a one-for-one change in beta, as suggested by Murray Direct?

A11. No. The Beaver et al. article uses three accounting variables to forecast the systematic risk: earnings variability, payout ratio, and average asset growth.[9] The Murray Direct argues that the WRAM would cause a reduction in earnings variability, but makes no statement about the other two variables. However, because the beta estimate developed by Beaver et al. is a linear combination of these three accounting variables and a constant term, a particular percentage change in one of them will not, in general, translate in an equal percentage change in beta. An appropriate implementation of their methodology would involve forecasting the effect of the WRAM on all accounting variables used in the prediction, and then using the estimated linear relationship between these variables and beta to compute the implied change in beta. However, this approach would then rely on the assumption that the structural relationship between earnings variability and the other accounting variables, and beta, remains unchanged after the introduction of the WRAM.[10] This is something that Murray Direct makes no attempt to justify, and is not supported by any of the studies relied upon by the Murray Direct.

[9] Beaver et al., p. 672.

[10] By structural relationship I mean the magnitude of the estimated coefficients that define the linear relation between the accounting variables and beta, such as those given in Table 6 of Beaver et al. While earnings and systematic risk could still be correlated after the introduction of the WRAM, there is no basis on which to assume that the magnitude of the correlation would not change. This is why the article's assumption that the stock's beta does not change over time is important to their results, and why their method cannot be used in the context of the introduction of the WRAM.

Q12. Is the methodology developed by the Beaver et al. article relied on to estimate systematic risk today?

A12. No, I am not aware that it is. Both academics and practitioners rely on stock returns to estimate systematic risk, not on the accounting variables suggested by Beaver et al. In this context, it is important to keep in mind that their results may not be able to be replicated using recent accounting data. The accounting information available for today's companies is vastly different than what was available in the 1950s and 1960s, when the data used by Beaver et al. was generated. Similarly, other available information (e.g., analysts reports and management's forecasts) have changed dramatically and research has shown that the amount and quality of non-accounting information impacts the relationship between market prices and accounting information.[11] Certain relations that may have held at that time could very well not hold today, which may explain why their method is not in widespread use today.

Q13. Please summarize your conclusions regarding the Murray Direct's proposed reduction in the allowed ROE from the adoption of a WRAM.

A13. The recommendation of the Murray Direct relies on the assumption that changes in a firm's earnings variability cause commensurate changes in its systematic risk. However, the article by Beaver et al. on which the Murray Direct primarily relies only establishes that earnings variability and systematic risk are correlated, not causally related. This is not a fault of the article – correlation is all that is needed to ensure an accurate prediction when the underlying structural model does not change. The Murray Direct however suggests using the model in an application for which it was not intended, namely inferring the effect on systematic risk from a change in one of the accounting variables in the model. The original article does not consider this situation. Moreover, the Murray Direct

[11] D. Shores, "The association between interim information and security returns around earnings announcements," Journal of Accounting Research 28, 1990, pp. 164-181.

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does not provide an analysis of whether the Beaver et al. model would still apply under this change in assumptions. As a result, the Murray Direct's proposed adjustment to the allowed ROE for regulated water utilities lacks support from the articles on which it relies, and it should not be implemented without such support.

Q14. Does this conclude your rebuttal testimony at this time?

A14. Yes.

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PROOF OF SERVICE

I, Michelle Chavez, declare as follows:

I am employed in the City and County of San Francisco, California. I am over the age of eighteen years and not a party to this action. My business address is STEEFEL, LEVITT & WEISS, One Embarcadero Center, 30th Floor, San Francisco, California 94111-3719. On November 13, 2007, I served the within:

Rebuttal Testimony of Dr. Michael J. Vilbert on Behalf of California-American Water Company

on the interested parties in this action addressed as follows:

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☒ **(BY PUC E-MAIL SERVICE)** By transmitting such document(s) electronically from Steefel, Levitt & Weiss, San Francisco, California, to the electronic mail addresses listed above. I am readily familiar with the practices of Steefel, Levitt & Weiss for transmitting documents by electronic mail, said practice being that in the ordinary course of business, such electronic mail is transmitted immediately after such document has been tendered for filing. Said practice also complies with Rule 1.1 of the Public Utilities Commission of the State of California and all protocols described therein.

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I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct and that this declaration was executed on November 13, 2007, at San Francisco, California.

Michelle Chavez

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NATIONAL ENERGY BOARD

IN THE MATTER OF the *National Energy Board Act*, R.S.C. 1985, c. N-7, as amended, and the Regulations made thereunder;

AND IN THE MATTER OF an Application by Trans Québec & Maritimes Pipeline Inc. for orders pursuant to Parts I and IV of the *National Energy Board Act*.

WRITTEN EVIDENCE OF

MICHAEL J. VILBERT

FOR

TRANS QUÉBEC & MARITIMES PIPELINE INC.

The Brattle Group
44 Brattle Street
Cambridge, MA 02138

December 2007

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APPENDIX A: QUALIFICATIONS OF MICHAEL J. VILBERT

APPENDIX B: SAMPLE SELECTION

APPENDIX C: RISK POSITIONING APPROACH METHODOLOGY: DETAILED PRINCIPLES AND RESULTS

APPENDIX D: DISCOUNTED CASH FLOW METHODOLOGY: DETAILED PRINCIPLES AND RESULTS

I. INTRODUCTION AND SUMMARY

Q1. Please state your name and address for the record.

A1. My name is Michael J. Vilbert. My business address is The Brattle Group, 44 Brattle Street, Cambridge, MA 02138, USA.

Q2. Please summarize your background and experience.

A2. I am a Principal of The Brattle Group, ("Brattle"), an economic, environmental and management consulting firm with offices in Cambridge, Washington, London, San Francisco and Brussels.

My work concentrates on financial and regulatory economics. I hold a B.S. from the U.S. Air Force Academy and a Ph.D. in finance from the Wharton School of Business at the University of Pennsylvania. Appendix A to this written evidence is a more complete description of my professional qualifications.

Q3. What is the purpose of your written evidence in this proceeding?

A3. Trans Québec & Maritimes Pipeline Inc. ("TQM") has asked Brattle (Dr. A. Lawrence Kolbe and me) to estimate the required return for TQM in three ways:

1) as the after-tax weighted-average cost of capital ("ATWACC") necessary to provide it a fair return on its assets;
2) as the deemed equity ratio necessary for a fair return on its assets at the National Energy Board's ("NEB" or the "Board") formula return on equity (based on the 2007 value of 8.46 percent and a 2008 value of 8.71 percent) determined by the NEB; and
3) as the rate of return necessary for a fair return on its assets at a 40 percent deemed equity thickness.

We derive these values based upon the market-determined overall cost of capital estimates from a selection of companies with business risk comparable to that of TQM's assets. Since companies with comparable business risk will have approximately the same overall cost of capital, these estimates provide an estimate of TQM's overall cost of capital. The market-determined costs of equity consistent with the samples' estimated overall cost of capital and with a 40 percent deemed equity thickness are then calculated. Similarly, we derive the equity thickness compatible with the samples' estimated overall cost of capital and the NEB's allowed ROE of 8.46 percent for 2007.[1]

My specific role is to estimate the overall cost of capital for the sample companies, as well as to compute the implied cost of equity and equity thickness for each sample estimate. I provide a range of estimates using both the risk positioning method (also called "equity risk premium" method) and the discounted cash flow ("DCF") estimation method. Dr. Kolbe then uses these estimates, in conjunction with evidence on the relative business risk of TQM, to provide both a recommended ROE at a 40 percent equity thickness and a recommended equity thickness at the 2007 formula ROE of 8.46 percent and at an estimate of the 2008 formula ROE of 8.71 percent.

Q4. Please summarize any parts of your background and experience that are particularly relevant to your written evidence on these matters.

A4. Brattle's specialties include financial economics, regulatory economics, and the gas and electric industries. I have worked in the areas of cost of capital, investment risk and related matters for many industries, regulated and unregulated alike, in many forums. I have testified on the cost of capital before the Alberta Energy and Utilities Board ("AEUB") on behalf of TransAlta Utilities in 1999 and on behalf of NOVA Transmission Ltd. in 2003, before the National Energy Board on behalf of TransCanada PipeLines

[1] Dr. Kolbe also estimates the deemed equity thickness that would be consistent with the expected NEB formula return on equity of about 8.71 percent for 2008.

Limited ("TransCanada") for the Mainline in 2002 and before the Newfoundland & Labrador Board of Commissioners of Public Utilities on behalf of Industrial Customers of Newfoundland and Labrador Hydro in 2001. I filed written evidence before the AEUB in 2000, and before the Ontario Energy Board in 2005. I have also testified before the U.S. Federal Energy Regulatory Commission ("FERC") and before several state regulatory commissions.

Q5. Please outline the steps in your analysis.

A5. To evaluate TQM's cost of capital, I analyze three samples: Canadian regulated utilities, U.S. gas local distribution companies ("Gas LDCs") and a sample of U.S. Master Limited Partnerships ("MLPs") that own and operate natural gas pipelines ("MLP Pipelines") throughout North America.

For each of the benchmark samples, I estimate the market-value capital structures and market costs of debt and preferred stock for the sample companies. These are then combined with cost of equity estimates for the companies using the equity risk positioning approach to compute each firm's overall cost of capital, i.e., its ATWACC. As a check on these results, I use the DCF method to estimate cost of equity for the Canadian Utilities and the Gas LDC samples. Regrettably, the DCF model is difficult to apply reliably to the MLP Pipelines sample due to complexities in the way that distribution growth is divided between the limited partners and the general partner as distributions grow.[2] Because of these concerns, I do not provide DCF estimates for the MLP Pipelines sample.

[2] The FERC has begun to address this issue in the United States as part of ROE deliberations for natural gas pipelines. It had originally raised concerns with the fact that distributions are often in excess of earnings, fearing that this might call into question the standard application of its DCF method to MLP companies. More recently, this concern has expanded to concerns over the correct estimation of the growth component of the DCF model applied to MLPs. The issue is yet to be resolved.

The result of this process is a sample average ATWACC for each benchmark group and each cost of equity estimation method. I report the cost of equity consistent with each sample's average estimated ATWACC as if the sample's average market-value capital structure had been one with a 40 percent equity ratio. This procedure results in a cost of equity that is consistent with the financial risk inherent in a 40 percent deemed equity ratio for TQM and the market-determined information on the sample's average overall average cost of capital. I also report the deemed equity percentage consistent with the NEB's formula ROE for 2007 and the sample average ATWACC.

Q6. Are the return on equity estimates from each of the samples the end of the analysis?

A6. No. The cost of capital and cost of equity capital estimates for the three samples are evaluated by Dr. Kolbe, who first considers TQM's business risk compared to the sample companies and then determines the recommended return on equity for TQM corresponding to the samples' cost of capital evidence at a deemed equity ratio for TQM. He also uses this information to compute the implied equity thickness consistent with TQM's cost of capital and the NEB's 2007 and estimated 2008 allowed formula ROEs.

Q7. Please summarize your findings about the benchmark samples' costs of capital.

A7. Consistent with a regulatory capital structure with 40 percent equity, the best point estimate of the cost of equity is 10½ percent for the Canadian Utilities sample, 10¾ percent for the MLP Pipelines sample and 12 percent for the Gas LDC sample. However the analysis results in a range of estimates for each sample, so I report a range for each sample of plus or minus ½ percentage point. The result is a range of 10 to 11 percent for the Canadian Utilities sample, 10¼ to 11¼ percent for the MLP Pipelines sample and 11½ to 12½ percent for the Gas LDC sample. Taken together this results in an overall range for the return on equity based on the results of all three samples of between 10 and

12½ percent.[3] Although the best point estimate for the MLP Pipelines sample is 10¾, this should be viewed as a lower bound of the estimate of the cost of equity for the sample because the MLP Pipeline's estimates are based solely on data from the limited partner shares, which constitute the MLP's only publicly traded equity.[4] The limited partners' equity is less risky than the general partner's equity and is therefore expected to have a lower cost of capital. As such, estimation based on the limited partner shares will generally underestimate the MLPs' costs of capital and provide an underestimate of TQM's cost of equity.

In terms of implied equity thickness and ATWACC, an equity ratio of 57½ percent for an ATWACC of just slightly less than 6½ percent is appropriate for the Canadian Utilities sample, and an equity ratio of 70 percent for an ATWACC of 7 percent for the Gas LDC sample is consistent with the NEB's currently allowed ROE of 8.46 percent. For the MLP Pipelines sample, the equity ratio is 60 percent for an ATWACC of slightly greater than 6½ percent. Taken together the range of equity thickness consistent with the NEB's allowed ROE of 8.46 percent and the sample evidence is 57½ percent to 70 percent.

For both the Canadian Utilities and the Gas LDC samples, I believe that the results of the DCF model are less reliable than those based upon the risk positioning model; however, the DCF model results serve as a check on the results from the equity risk positioning approach.

Q8. How is your written evidence organized?

---

[3] I specify the return on equity to the nearest ¼ percent because I do not believe that it is possible to estimate the cost of equity more precisely than that. All calculations supporting my analyses are presented in the attached tables labeled Table No. MJV-1 to Table No. MJV-28.

[4] There are exceptions to this as some MLPs have begun to market the GP shares to provide liquidity to the value of certain rights that the GP possesses. Of the MLPs that were suitable for inclusion in my sample, only Enterprise Product Partners currently trades its GP shares.

A8. *Section II* formally defines the cost of capital and touches on the principles relating to the cost of capital and capital structure for a business. Dr. Kolbe's written evidence provides additional detail on these points. *Section III* presents the methods used to estimate the cost of capital for the benchmark samples. *Section IV* provides the associated numerical analyses, and explains the basis of my conclusions for the benchmark samples' overall costs of capital and equity return consistent with the 40 percent deemed equity ratio for TQM. Appendices B through D support *Section III* and *Section IV* with additional details on the sample selection procedures, estimating the market value capital structures and cost of debt, the risk positioning method and the DCF approach including the details of the numerical analyses. *Section V* concludes.

II. COST OF CAPITAL THEORY

A. COST OF CAPITAL AND RISK

Q9. Please formally define the "cost of capital."

A9. The cost of capital can be defined as the expected rate of return in capital markets on alternative investments of equivalent risk. In other words, it is the rate of return investors require based on the risk-return alternatives available in competitive capital markets. The cost of capital is a type of opportunity cost: it represents the rate of return that investors could expect to earn elsewhere without bearing more risk. "Expected" is used in the statistical sense: the mean of the distribution of possible outcomes. The terms "expect" and "expected" in this written evidence, as in the definition of the cost of capital itself, refer to the probability-weighted average over all possible outcomes.

The definition of the cost of capital recognizes a tradeoff between risk and return that is known as the "security market risk-return line," or "security market line" for short. This line is depicted in Figure 1. The higher the risk, the higher the cost of capital. A

version of Figure 1 applies for all investments. However, for different types of securities, the location of the line may depend on corporate and personal tax rates.

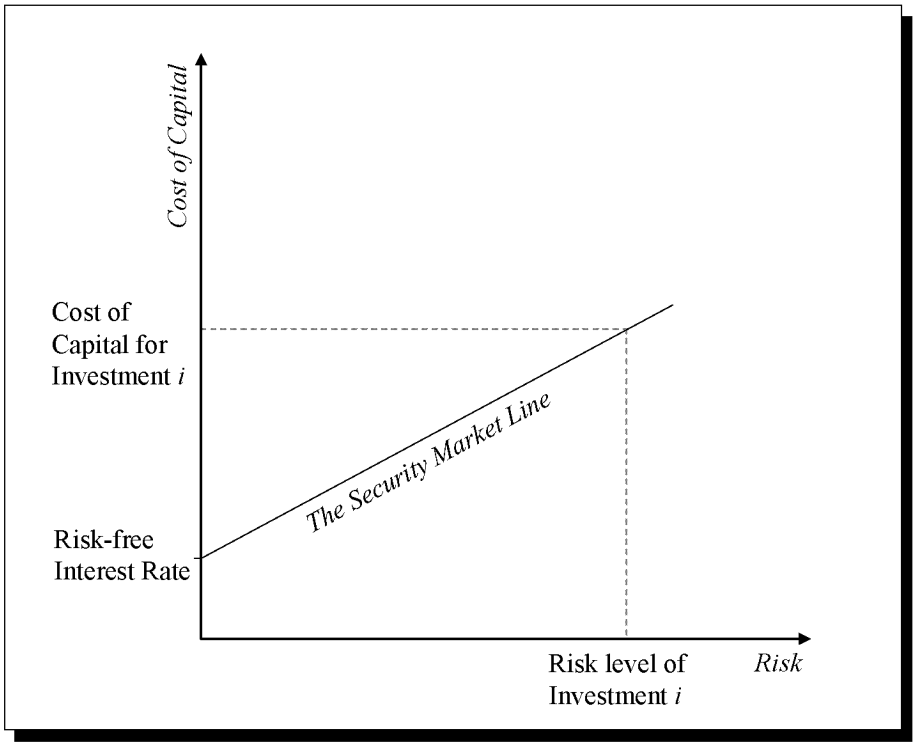

Figure 1: **The Security Market Line**

Q10. Why is the cost of capital relevant in rate regulation?

A10. It has become routine in rate regulation to accept the "cost of capital" as the right expected rate of return on utility investment.[5] That practice normally is viewed as consistent with the U.S. Supreme Court's opinions in Bluefield Waterworks & Improvement Co. v. Public Service Commission, 262 U.S. 678 (1923), and Federal Power

[5] To the best of my knowledge, the first paper formally to link the cost of capital as defined by financial economics with the correct expected rate of return for utilities is Stewart C. Myers, *Application of Finance Theory to Public Utility Rate Cases*, *The Bell Journal of Economics and Management Science*, 3:58-97 (Spring 1972).

Commission v. Hope Natural Gas, 320 U.S. 591 (1944). In Canada the comparable decision is Northwestern Utilities v. City of Edmonton [1929] S.C.R. 186.

From an economic perspective, rate levels that give investors a fair opportunity to earn the cost of capital are the lowest levels that compensate investors for the risks they bear. Over the long run, an expected return above the cost of capital makes customers overpay for service. Regulators normally try to prevent such outcomes, unless there are offsetting benefits to customers (e.g., from incentive regulation that reduces future costs). At the same time, an expected return below the cost of capital shortchanges investors. In the long run, such a return denies the company the ability to attract capital, to maintain its financial integrity, and to expect a return commensurate with that on other enterprises attended by corresponding risks and uncertainties.

More important for customers, however, are the economic issues an inadequate return raises for them. In the short run, deviations of the expected rate of return on the rate base from the cost of capital create a "zero-sum game"-- investors gain if customers are overcharged, and customers gain if investors are shortchanged. In the long run, however, inadequate returns are likely to cost customers -- and society generally -- far more than is gained in the short run. Inadequate returns lead to inadequate investment, whether for maintenance or for new plant and equipment. The costs of an undercapitalized industry can be far greater than the gains from short-run shortfalls from the cost of capital. Moreover, in capital-intensive industries, (such as gas transmission, storage and distribution), systems that take a long time to decay cannot be fixed overnight, either. Thus, it is in the customers' interest not only to make sure the return investors expect does not exceed the cost of capital, but also to make sure that it does not fall short of the cost of capital, either.

Of course, the cost of capital cannot be estimated with perfect certainty, and other aspects of the way the revenue requirement is set may mean investors expect to earn more or less than the cost of capital even if the allowed rate of return equals the cost of capital

exactly. However, a regulator that on average sets rates so investors expect to earn the cost of capital treats both customers and investors fairly, and acts in the long-run interests of both groups.

B. RELATIONSHIP BETWEEN CAPITAL STRUCTURE AND THE COST OF EQUITY

Q11. Please explain why it is necessary to report the return on equity estimated from the samples adjusted for the deemed equity ratio of TQM.

A11. Dr. Kolbe's written evidence covers this topic in detail. Briefly, the cost of equity and the capital structure are inextricably entwined in that the use of debt increases the financial risk of the company and therefore increases the cost of equity. The more debt, the higher the cost of equity for a given level of business risk. Rate regulation normally focuses on the components of the cost of capital, and in particular, on what the "right" cost of equity capital and capital structure should be. The cost of capital depends primarily on the business the firm is in, while the costs of the debt and equity components depend not only on the business risk but also on the distribution of revenues between debt and equity. The cost of capital is thus the more basic concept. Although the cost of capital is constant (ignoring taxes and costs of excessive debt), the distribution of the costs among debt and equity is not. Reporting the average cost of equity estimates from the samples without consideration of the differences in financial risk may result in material errors in the allowed return for TQM. Section III and Appendix B of Dr. Kolbe's evidence set out the principles and procedures on which I rely to calculate the cost of equity consistent with the samples' estimated ATWACC and a 40 percent deemed equity thickness or with the NEB's formula allowed ROE.

C. IMPLICATIONS FOR ANALYSIS

Q12. Please explain how you determine the return on equity for TQM that is consistent with the market evidence on the sample companies' cost of capital.

A12. Traditional approaches often involve estimating the cost of equity for each of the sample firms without explicit consideration of the market-value capital structure underlying those costs. Then, relying on the sample's average cost of equity, one estimates the cost of equity for the company in question. Note that the traditional method often makes no direct connection between differences in the capital structures of the sample firms used to estimate the cost of equity and the regulatory capital structure used to set rates. Consequently, the sample's estimated return on equity does not necessarily correspond to the financial risk faced by investors in the regulated assets. If the sample's estimated cost of equity were adopted without consideration of differences in financial risk, it could lead to an unfair rate of return.

I avoid this problem by calculating each sample company's overall after-tax weighted-average cost of capital using its market value capital structure. Using the sample's average cost of capital, I then determine the return on equity that maintains the sample's estimated average ATWACC at a 40 percent deemed equity ratio. In other words, if I know the cost of debt and TQM's regulatory capital structure, I can calculate the return on equity that results in an ATWACC equal to the sample's average ATWACC. This procedure ensures that the recommended cost of equity is consistent with information from the capital markets on the samples' overall cost of capital and TQM's deemed equity ratio. Similarly, the implied equity thickness given the NEB's formula allowed ROE can also be determined so as to result in an ATWACC equal to the sample's average ATWACC.

Q13. Can you provide a simple example of the calculation of the return on equity consistent with the market-determined estimate of the sample's average cost of capital?

A13. Yes. Consider the following equation:[6]

$$ATWACC = r_D \times (1 - T_C) \times \%D + r_E \times \%E \quad \textbf{(1)}$$

where r_D = market cost of debt,
r_E = market cost of equity,
T_C = corporate income tax rate,
%D = percent debt in the capital structure, and
%E = percent equity in the capital structure.

The return on equity consistent with the sample's cost of capital estimate (the ATWACC), the market cost of debt, the corporate income tax rate and the amount of debt and equity in the capital structure can be determined by solving equation (1) for r_E. Alternatively, if r_E is given and the capital structure is not, one can solve for %E instead.

III. COST OF CAPITAL METHODOLOGY

Q14. How is this section of your testimony organized?

A14. As noted in Section II, I estimate the cost of capital using samples of Canadian regulated utilities, gas distribution companies in the U.S., and companies organized as MLPs that own pipeline assets. This section first outlines the steps involved in selecting these benchmark samples, in determining the market-value capital structure, and in estimating the sample companies' costs of debt. It then turns to the procedures for estimating the costs of equity and describes the two cost of equity estimation methodologies used in this testimony, the Risk Positioning method and DCF approach. These are the foundations

[6] Note that this equation assumes that only debt and equity are in the market value capital structure, but it is straightforward to add preferred equity to the equation.

of my cost of capital calculations, which I present in the following section and which I use to derive my cost of equity and equity thickness estimates from the samples at a deemed equity thickness of 40 percent or for an allowed return of 8.46 percent.

A. SAMPLE SELECTION

Q15. What is the goal of your sample selection procedures?

A15. The cost of capital for a part of a company engaged in different lines of business depends on the risk of the business in which the part is engaged, not on the overall risk of the parent company. According to financial theory, the overall risk of a diversified company equals the market-value-weighted average of the risks of its components.

Estimating the fair total return for TQM's regulated gas transmission assets is the subject of this proceeding. The ideal sample for TQM would be composed of publicly traded pure plays in the regulated natural gas transmission business.[7] Publicly traded firms, firms whose shares are freely traded on stock exchanges, are ideal because the best way to infer the cost of capital is to examine evidence from capital markets on companies in the given line of business.

Unfortunately, the available sample of publicly traded, regulated pure play natural gas transmission companies in Canada is too small to form an ideal sample. However, there is an emerging sample whose assets consist almost exclusively of pipelines. The MLP Pipelines sample is still relatively small, but there are a number of new MLPs that will be available for inclusion in the sample as they become seasoned and their data become available. These are U.S. companies, but some of the MLPs are as close to a pure play in the natural gas transmission line of business as has been available for many years.

[7] "Pure-play" is an investment term referring to companies with operations only in one line of business.

I form benchmark samples to estimate the cost of capital for TQM's assets from the universe of all Canadian Utilities with regulated assets, the universe of Gas LDCs in the industry as classified by the *Value Line Investment Survey Plus Edition*,[8] and the universe of MLP Pipelines listed by Bloomberg and the publicly traded partnerships website (http://naptp.org). I then apply my standard selection procedures to ensure that reliable estimates and a sufficiently large sample are obtained. I require data from S&P or Moody's, *Value Line*, and Bloomberg be available for all sample companies. Moreover, the companies must own some regulated assets, must not exhibit any signs of financial distress, and must not be involved in any substantial merger and acquisition activities that could bias the estimation process. In general, this requires that companies have an investment grade credit rating, a high percentage of regulated assets, no significant merger activity in recent years, and no recent dividend cuts or other activity that could cause the growth rates or beta estimates to be biased. Additional details of the sample selection process can be found in Section IV.B below and in Appendix B.

B. CAPITAL STRUCTURE & THE COST OF DEBT

1. Market-Value Capital Structures

Q16. What capital structure information do you require?

A16. For reasons discussed in Dr. Kolbe's written evidence and explained in detail in his Appendix B, explicit evaluation of the market-value capital structures of the sample companies is vital for a correct interpretation of the market evidence on the return on

[8] An exception is Vectren, a highly regulated company that has more regulated gas assets than electric assets, but which is classified by *Value Line* as an electric company. I include it in the Gas LDC sample, a practice also followed by Bloomberg.

equity. This requires estimates of the market values of common equity, preferred equity and debt, and the current market costs of preferred equity and debt.

Q17. Do you use the same approach to estimate the market value capital structures for each of the samples?

A17. I follow the same principles for all samples. However, due to data issues, the implementation of these principles requires a slight adjustment in the case of the MLP Pipelines sample. Details concerning this calculation for each sample can be found in Appendix B.

a) The Canadian Utilities and the Gas LDC Samples

Q18. Briefly describe how you calculate the market values of common equity, preferred equity and debt for the Canadian Utilities and the Gas LDC samples.

A18. I determine the capital structure for each company by estimating the market values of common equity, preferred equity and debt from the most recent publicly available data.

Briefly, the market value of common equity is calculated as the price per share times the number of shares outstanding. For my risk positioning estimates, I estimate each company's average market value of equity over the most recent five year period. The idea is to optimally match the estimated "betas", which are computed over this five year period, to the degree of financial risk present during their estimation. This addresses one of the Board's concerns with my evidence in the RH-2-2004, Phase II proceeding. Specifically, the Board was concerned that the period used to estimate beta was not the same as the period used to determine the market value capital structure.[9] I compute year-end capital structures for each year between 2002 and the second quarter of 2007, using

[9] See p.55, Reasons for Decision, TransCanada PipeLines Limited., RH-2-2004, Phase II, April 2005. For the Canadian and the MLP Pipelines samples, betas are provided by Bloomberg and computed over a five year period where possible, as detailed in Appendix C. For the Gas LDC sample, betas are provided by *Value Line* (and unadjusted) which also uses five years of historical data to estimate its forecasted betas.

company reported shares outstanding at year end and an average price over the last fifteen trading days of each year.[10] For the current year, information on shares outstanding comes from each company's most recent 10-Q. The year-end capital structures are then weighted as detailed in Appendix B to arrive at an estimate of the five year average capital structure for each company.

Since the DCF estimates utilize current prices and forward-looking growth rates, I only estimate the current market value of equity, again using data from each company's most recent 10-Q on shares outstanding.[11] Specifically, I use the average stock price over 15 trading days ending on the day I obtain the Bloomberg BEst[12] growth rates used in the DCF analysis.[13]

The market value of long-term debt for the companies in the samples is based upon the "Estimated Fair (market) Value" of long-term debt as reported in the companies' 10-Ks (U.S. sample) or annual reports (Canadian Utilities sample). The book value of long-term debt from Bloomberg[14] is "adjusted" by adding the difference between the

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[10] The data on shares outstanding for each company is obtained from their 10-K for each corresponding year.

[11] I combine the most recent information on outstanding shares from each company's 10-Q with the average stock price over the 15 trading days ending on the day that the earnings growth rate forecasts are obtained from Bloomberg. In this instance, forecasts were obtained on August 28, 2007 for all companies in the Canadian Utilities and Gas LDC samples.

[12] Bloomberg's BEst is a system that gathers and compiles estimates made by stock analysts on the future earnings for the majority of U.S. publicly traded companies. Growth forecasts for the Canadian Utilities companies are also from Bloomberg which sources Thompson Research.

[13] August 28, 2007 for both the Canadian Utilities sample and for the Gas LDC sample. The Gas LDC sample estimates also make use of the most recent *Value Line* sheets to derive implied growth estimates for each company, and these are dated June 15, 2007 for all companies except Vectren Corp., which is dated June 29, 2007. As a minor simplification, it is assumed that these forecasts can be considered *Value Line's* forecasts as of the August 28, 2007 date as well. Thus, capital structures can all be set as of one common date.

[14] The book value of debt from Bloomberg includes all interest-bearing financial obligations that are not current and includes capitalized leases and mandatory redeemable preferred and trust preferred securities in accordance with FASB 150 effective June 2003. See Bloomberg definition of long-term debt for

estimated fair value and the carrying value of long-term debt from the company's 10-K or annual report. The market value of preferred stock for the samples is set equal to its book value because the market values and book values do not vary much and because the percent of preferred stock in the capital structures is relatively small compared to the debt and common equity components.

b) The MLP Pipelines Sample

Q19. What is different in your estimation of the market value capital structures for the MLP Pipeline sample companies?

A19. The MLP companies have different types of equity, not all of which is publicly traded. Specifically, a MLP's equity is divided between the limited partner ("LP") shares and the general partner's ("GP") shares. In some instances, additional classes of LP units are also issued with different rights. As a general rule, however, only one class of the LP shares is publicly traded. Thus no price data are available for the non-traded LP units nor, more importantly, for the GP's equity share. The market value of the traded LP units can be estimated as described earlier, but the lack of price data for the non-traded LP units and for the GP's equity share makes it impossible to directly estimate the total market value of equity for the MLP companies. This is particularly problematic for determining the value of the GP's equity, since in all of the MLPs, the GP is granted "Incentive Distribution Rights" (or "IDRs"), which give the GP an increasing share of the MLPs total cash distributions as these distributions grow to different "tiers". Although the GP supplies only two percent of the book value of equity at inception, the market value of this equity increases more than the LP shares because the GP receives an increasing portion of the partnership's cash flow.[15]

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additional detail.

[15] The value of the GP share relative to the value of the LP shares can be seen in the one MLP in my sample whose GP shares are now traded, Enterprise Product Partners. Using its price data, I have estimated the market value of the GP equity to be currently about 27 percent of total market value - far from the two percent it commands in book value.

I estimate the MLP's market value of equity by assuming that the GP's equity has a market value in the same proportion as the share of total cash distributions it currently commands. That is, if the GP is currently receiving 25 percent of the MLP's total cash distribution, then an estimate of the total market value of equity is obtained as:[16]

$$0.75 \times \text{Total LP Equity Value} = \$100$$

$$\text{Total Equity Value} = \frac{\$100}{0.75}$$

$$= \$133.33$$

In a discounted cash flow framework, this valuation would be almost exactly correct if the division of cash distributions were going to be fixed forever at this proportion.[17] As noted before, however, the IDR structure provides for the GP's proportion of total cash flow to *increase* as distributions grow. Depending on the specific IDR structure in place, this will generally result in the GP's proportion growing towards 50 percent of total cash flow, albeit at an ever declining growth rate as distributions increase. Since the GP is expected to receive a greater share of growth into the future, the current distribution sharing will still underestimate the market value of the GP's equity.

To approximate the value of the non-traded LP units, I assume a unit value equal to the price of their traded counterpart. These classes of units generally provide for the same distribution as given to the traded LP units, although in some cases rights are subordinated but have additional conversion provisions.

Q20. In light of these issues, how do you estimate the market value of equity for the MLP Pipelines sample?

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[16] This example ignores the non-traded LP units for simplicity.

[17] I say almost exactly correct because the GP has additional control rights, which would likely lead to greater value as well as some additional risk which would reduce value.

A20. As with the Canadian Utilities and the Gas LDC sample, my estimates require an average capital structure over the period used in estimating the risk positioning parameters. For most of the MLPs in my sample, this is the span between 2002 and the second quarter of 2007.[18] I estimate the GP share as discussed above.

Q21. Are there any issues in calculating the market value of debt for the MLP Pipelines sample companies?

A21. Yes. Some MLPs, notably TC Pipeline Partners and Oneok Partners, do not consolidate their share of debt used to finance some of their income generating assets. Instead they use the equity method of accounting to account for these assets. I estimate these missing debt shares using data from annual reports (see Workpaper #3 to Table No. MJV-24). The MLPs additionally do not report any fair market value adjustments to debt in their annual reports. I therefore estimate a fair market value of debt adjustment based on the adjustments reported by companies in the Gas LDC sample. Specifically, I compute the average fair value-to-book value ratio of debt in the Gas LDC sample for each of the years 2002 through 2007 (see Workpaper #1 to Table No. MJV-24). These ratios represent adjustment factors which are then used to adjust the book value of debt in each year for each of the MLP companies. For example, if in 2002 the market values of debt in the Gas LDC sample were, on average, 1.09 times book value, I would multiply each of the MLPs 2002 book value of debt by 1.09 to obtain an estimate of its market value.

2. Market Costs of Debt and Preferred Equity

Q22. How do you estimate the current market cost of debt?

[18] Boardwalk Pipeline Partners is an exception, since it only has data available going back to 2005.

A22. For all three samples, the market cost of debt for each company used in the analysis is the current yield on an index of utility bonds corresponding to the company's current debt rating for the DCF models or the average debt rating over the beta estimation period for the risk positioning models. The sample companies' bond ratings are reported by Bloomberg.

Note that for the firms in the Gas LDC sample and the MLP Pipelines sample, the bond rating reported by Bloomberg for each company is used with the estimated current yield data on Canadian bonds of an equivalent rating. Calculation of the after-tax cost of debt uses TQM's estimated marginal income tax rate of 31.9 percent.

Q23. How do you estimate the market cost of preferred equity?

A23. The cost of preferred equity is set equal to the cost of debt on Canadian Utilities bonds of a comparable rating. There is to my knowledge no public source for yields on preferred equity delineated by credit rating in Canada. The cost of preferred equity is likely to be somewhat higher than the after-tax cost of debt but lower than the pre-tax cost of debt, but because the amount of preferred equity in the capital structures of the Canadian Utilities sample companies average about three percent and less than one percent for the Gas LDC companies, this approximation will have a minimal impact on the overall results.[19]

C. COST OF EQUITY ESTIMATION

Q24. How do you estimate the cost of equity for your sample companies?

[19] TQM has no preferred securities in its proposed regulatory capital structure.

A24. Recall the definition of the cost of capital from the outset of my testimony: *the expected rate of return in capital markets on alternative investments of equivalent risk*. My cost of capital estimation procedures address three key points implied by the definition:

1. Since the cost of capital is an expected rate of return, it cannot be directly observed; it must be inferred from available evidence.
2. Since the cost of capital is determined in capital markets (e.g., the New York Stock Exchange), data from capital markets provide the best evidence from which to infer it.
3. Since the cost of capital depends on the return offered by alternative investments of equivalent risk, measures of the risks that matter in capital markets are part of the evidence that needs to be examined.

Q25. How does the above definition help in cost of capital estimation?

A25. The definition of the cost of capital recognizes a tradeoff between risk and expected return – the security market line – plotted earlier in Figure 1. Cost of capital estimation methods take one of two approaches: (1) they try to identify a comparable-risk sample of companies and to estimate the cost of capital directly; or (2) they establish the location of the security market line and estimate the relative risk of the security, which jointly determine the cost of capital. In terms of Figure 1, the first approach focuses directly on the vertical axis, while the second focuses both on the security's position on the horizontal axis and on the position of the security market line.

The first type of approach is more direct, but ignores the wealth of information available on securities not thought to be of precisely comparable risk. The "discounted cash flow" or "DCF" model is an example. The second type of approach requires an extra step, but as a result can make use of information on all securities, not just a very limited subset. The Capital Asset Pricing Model ("CAPM") is an example. While both approaches can work equally well if conditions are right, one may be preferable to the

other under other circumstances. In particular, approaches that rely on the entire security market line are less sensitive to deviations from the assumptions that underlie the model, all else equal. I examine both DCF and risk positioning approach evidence for the samples.

1. The Risk Positioning Approach

Q26. Please explain the risk positioning method.

A26. The risk positioning method estimates the cost of equity as the sum of a current interest rate and a company specific risk premium. It is therefore sometimes also known as the equity "risk premium" approach. This approach may sometimes be applied informally. For example, an analyst or regulator may check the spread between interest rates and what is believed to be a reasonable estimate of the cost of capital at one time, and then apply that spread to changed interest rates to get a new estimate of the cost of capital at another time.

More formal applications of the risk positioning approach take full advantage of the security market line depicted in Figure 1 – they use information on all securities to identify the security market line and derive the cost of capital for the individual security based on that security's relative risk. This reliance on the entire security market line makes the method less vulnerable to the kinds of problems that arise for the DCF method, which relies on one stock at a time. The risk positioning approach is widely used and underlies most of the current research published in academic journals on the nature, determinants and magnitude of the cost of capital.

Q27. How are the "more formal" applications of risk positioning approach implemented?

A27. The first step is to specify the current values of the benchmarks that determine the security market line. The second is to determine the security's or investment's relative

risk. The third is to specify exactly how the benchmarks combine to produce the security market line, so the company's cost of capital can be calculated based on its relative risk. All of these elements and how they relate are usefully formulated in the framework of the CAPM.

a) The Capital Asset Pricing Model

Q28. Please start with the CAPM, by describing the model.

A28. As noted above, modern models of capital market equilibrium express the cost of equity as the sum of a risk-free rate and a market risk premium. The CAPM is the longest-standing and most widely used of these theories. The CAPM states that the cost of capital for an investment, *s*, (e.g., a particular common stock) is given by the following equation:

$$r_S = r_f + \beta_S \times MRP \qquad (2)$$

where r_s is the cost of capital for investment S; r_f is the risk-free rate, β_S is the beta risk measure for the investment S; and MRP is the market risk premium.

The CAPM relies on the empirical fact that investors price risky securities to offer a higher expected rate of return than safe securities do. It says that the security market line starts at the risk-free interest rate (that is the return on a zero-risk security, the y-axis intercept in Figure 1, equals the risk-free interest rate). Further, it says that the risk premium of a security over the risk-free rate equals the product of the beta of that security and the risk premium on a value-weighted portfolio of all investments, which by definition has average risk.

The Risk-free Interest Rate

Q29. What interest rates do your procedures require?

A29. Modern capital market theories of risk and return use the short-term risk-free rate of return as the starting benchmark, but regulatory bodies frequently use a version of the risk positioning model that is based upon the long-term risk-free rate. In this proceeding, I rely upon the long-term version of the risk positioning model. Accordingly, the implementation of my procedures requires use of a forecast of the long-term Canadian Government bond rate. I obtain this information from *Consensus Forecasts*.[20]

The Market Risk Premium

Q30. Why is a risk premium necessary?

A30. Experience (e.g., the U.S. market's October Crash of 1987) demonstrates that shareholders, even well diversified shareholders, are exposed to enormous risks. By investing in stocks instead of risk-free Government Treasury bills, investors subject themselves not only to the risk of earning a return well below those they expected in any year but also to the risk that they might lose much of their initial capital. This is why investors demand a risk premium.

In regulatory proceedings, two versions of the CAPM are often reported. The first version measures the market risk premium as the risk premium of average risk common stocks over short-term Treasury bills, which is the usual measure of the "market risk premium" used in capital market theories. The second version measures the risk premium relative to a long-term risk-free rate. To determine the cost of capital in a regulatory proceeding, the MRP should be used with a forecast of the same interest rate used to calculate the MRP (i.e., the short-term Treasury bill rate or the long-term Government rate). In this proceeding, I report results only for the version of the risk positioning model

[20] Every month, *Consensus Forecasts* surveys over 240 financial and economic analysts for their forecasts of a range of variables including inflation, economic growth, interest rates and exchange rates for more than 20 countries.

that relies upon the long-term risk-free rate as is standard in Canadian regulatory proceedings.

Q31. Hasn't the estimate of the MRP been controversial over the recent past?

A31. Yes. Historically, it was generally accepted that the appropriate method to estimate the MRP was to consider the historical average realized return on the market minus the return on a risk-free asset over as long a series of time as possible; however, this procedure came under attack during the period of time generally referred to as the "tech bubble" when the stock markets in the U.S. and Canada reached very high valuation levels relative to traditional metrics of value. The period of the tech bubble also resulted in the average realized return on the market increasing to a very high level. Attempts to explain the high stock market valuation levels centered on the hypothesis that the MRP must be dramatically lower than previously believed, but this hypothesis conflicted with the fact that realized returns over the period were very high. The result was an academic debate on the level of the forward-looking MRP and how best to estimate, a debate that has still not been fully resolved. A discussion of this debate is provided in Appendix C.

Q32. What is your conclusion regarding the MRP?

A32. Much of the controversy over market risk premium has centered on various reasons that the market risk premium may not be as high as frequently estimated in the past. Although none of the arguments are completely persuasive in and of themselves, I generally give some weight to these issues, and did so more conservatively in 2003 in my previous evidence before the NEB in RH-2-2004, Phase II. Specifically, I reduced my 1999 estimate of the Canadian market risk premium from 6.0 percent to 5.5 percent for that proceeding. I further reduced my estimate by 25 basis points for my evidence before the Ontario Energy Board in 2006. However, considering all the evidence including a recent

working paper on the worldwide equity premium[21] and current information on the historical MRP, I conclude that S&P/TSX stocks of average risk today command a premium of about 5.75 percent over the long-term government bond yield. I believe that this results in an estimate of the MRP that is fully consistent with the historical evidence in Canada and the latest academic evidence.

Beta

Q33. Please explain beta in more detail.

A33. The basic idea behind beta is that risks that cannot be diversified away in large portfolios matter more than those that can be eliminated by diversification. Beta is a measure of the risks that cannot be eliminated by diversification. That is, it measures the "systematic" risk of a stock — the extent to which a stock's value fluctuates more or less than average when the market fluctuates.

Diversification is a vital concept in the study of risk and return. (Harry Markowitz won a Nobel Prize for work showing just how important it was.) Over the long run, the rate of return on the stock market has a very high standard deviation, on the order of 15-20 percent per year.[22] But many individual stocks have much higher standard deviations than this. The stock market's standard deviation is "only" about 15-20 percent because when stocks are combined into portfolios, some of the risk of individual stocks is eliminated by diversification. Some stocks go up when others go down, and the average portfolio return — positive or negative — is usually less extreme than that of individual stocks within it.

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[21] "The Worldwide Equity Premium: A Smaller Puzzle," Elroy Dimson, Paul Marsh, and Mike Staunton, London Business School Working Paper, Revised 7 April 2006.

[22] See Brealey, Myers and Allen, *Principles of Corporate Finance, 8th Edition*, McGraw-Hill Irwin, New York, p. 158.

In the limiting case, if the returns on individual stocks were completely uncorrelated with one another, the formation of a large portfolio of such stocks would eliminate risk entirely. That is, the market's long-run standard deviation would be not 15-20 percent per year, but virtually zero.

The fact that the market's actual annual standard deviation is so large means that, in practice, the returns on stocks are correlated with one another, and to a material degree. The reason is that many factors that make a particular stock go up or down also affect other stocks. Examples include the state of the economy, the balance of trade, and inflation. Thus some risk is "non-diversifiable". Single-factor equity risk premium models are based upon the assumption that all of the factors that affect stock returns can be considered simultaneously, through their impact on one factor, the market portfolio. Other models derive somewhat less restrictive conditions under which several factors might be individually relevant.

Again, the basic idea behind all of these models is that risks that cannot be diversified away in large portfolios matter more than those that can be eliminated by diversification, because there are a large number of large portfolios whose managers actively seek the best risk-reward tradeoffs available. Of course, undiversified investors would like to get a premium for bearing diversifiable risk, but they cannot.

Q34. Why not?

A34. Well-diversified investors compete away any premium rates of return for diversifiable risk. Suppose a stock were priced especially low because it had especially high diversifiable risk. Then it would seem to be a bargain to well diversified investors. For example, suppose an industry is subject to active competition, so there is a large risk of loss of market share. Investors who held a portfolio of all companies in the industry would be immune to this risk, because the loss on one company's stock would be offset by a gain on another's stock. (Of course, the competition might make the whole industry

more vulnerable to the business cycle, but the issue here is the diversifiable risk of shifts in market share among firms.)

If the shares were priced especially low because of the risk of a shift in market shares, investors who could hold shares of the whole industry would snap them up. Their buying would drive up the stocks' prices until the premium rates of return for diversifiable risk were eliminated. Since all investors pay the same price, even those who are not diversified can expect no premium for bearing diversifiable risk.

Of course, substantial non-diversifiable risk remains, as the October Crash of 1987 demonstrates. Even an investor who held a portfolio of all traded stocks could not diversify against that type of risk. Sensitivity to such market-wide movements is what beta measures. That type of sensitivity, whether considered in a single- or multi-factor model, determines the risk premium in the cost of equity.

Q35. What does a particular value of beta signify?

A35. By definition, a stock with a beta equal to 1.0 has average non-diversifiable risk: it goes up or down by 10 percent on average when the market goes up or down by 10 percent. Stocks with betas above 1.0 exaggerate the swings in the market: stocks with betas of 2.0 tend to fall 20 percent when the market falls 10 percent, for example. Stocks with betas below 1.0 are less volatile than the market. A stock with a beta of 0.5 will tend to rise 5 percent when the market rises 10 percent.

Q36. How is beta measured?

A36. The usual approach to calculating beta is a statistical comparison of the sensitivity of a stock's (or a portfolio's) return to the market's return. Many investment services report betas, including FPinfomart,[23] Merrill Lynch's quarterly Security Risk Evaluation,

[23] Beta estimates from *FPinfomart* are not publicly available. FPinfomart.ca is an online media monitoring service that offers timely, reliable and in-depth access to Canada's news and business sources.

Bloomberg and the *Value Line Investment Survey*. Betas are not always calculated the same way, and therefore must be used with a degree of caution, but the basic point that a high beta indicates a risky stock has long been widely accepted by both financial theorists and investment professionals.

Q37. Are there circumstances when the "usual approach" should not be used?

A37. There are at least two cases where the standard estimate of beta should be viewed skeptically. First, companies in serious financial distress seem to "decouple" from their normal sensitivity to the stock market. The stock prices of financially distressed companies tend to change based more on individual news about their particular circumstances than upon overall market movements. Thus, a risky stock could have a low estimated beta if the company was in financial distress. Other circumstances that may cause a company's stock to decouple include an industry restructuring or major changes in a company's supply or output markets.

Second, similar circumstances seem to arise for companies "in play" during a merger or acquisition. Once again, the information about the progress of the proposed takeover is so much more important for that individual stock than day-to-day market fluctuations that, in practice, beta estimates for such companies seem to be too low.

Q38. How reliable is beta as a risk measure?

A38. Scholarly studies have long confirmed the importance of beta for a stock's required rate of return. It is widely regarded as the best single risk measure available. The merits of beta seemed to be challenged in widely publicized work by Professors Eugene F. Fama and Kenneth R. French.[24] However, despite the early press reports of their work as signifying that "beta is dead," it turns out that beta was still a potentially important

[24] See for example, "The Capital Asset Pricing Model: Theory and Evidence", Eugene F. Fama and Kenneth R. French, *Journal of Economic Perspectives*, Volume 18, Summer 2004, pp. 25-46.

explanatory factor (albeit one of several) in their work. Thus, beta remains alive and well as the best single measure of relative risk.

b) The Empirical Capital Asset Pricing Model

Q39. What other equity risk premium model do you use?

A39. Empirical research has long shown that the CAPM tends to overstate the actual sensitivity of the cost of capital to beta: low-beta stocks tend to have higher risk premia than predicted by the CAPM and high-beta stocks tend to have lower risk premia than predicted. A number of variations on the original CAPM theory have been proposed to explain this finding, but this finding can also be used to estimate the cost of capital directly, using beta to measure relative risk without simultaneously relying on the CAPM.

The second model makes use of these empirical findings. It estimates the cost of capital with the equation,

$$r_S = r_f + \alpha + \beta_S \times (MRP - \alpha) \qquad (3)$$

where α is the "alpha" adjustment of the risk-return line, a constant, and the other symbols are defined as above. I label this model the Empirical Capital Asset Pricing Model, or "ECAPM." The alpha adjustment has the effect of increasing the intercept but reducing the slope of the security market line in Figure 1 which results in a security market line that more closely matches the results of empirical tests.

Q40. Why is it appropriate to use the empirical CAPM?

A40. The CAPM has not generally performed well as an empirical model, but its short-comings are directly addressed by the ECAPM. Specifically, the ECAPM recognizes the consistent empirical observation that the CAPM underestimates (overestimates) the cost of capital for low (high) beta stocks. In other words, the ECAPM is based on recognizing

that the actual slope of the risk-return tradeoff is flatter than predicted and the intercept higher based upon repeated empirical tests of the CAPM. The alpha parameter (α) in the ECAPM adjusts for this fact. The difference between the CAPM and the type of relationship identified in the empirical studies is depicted in Figure 2.

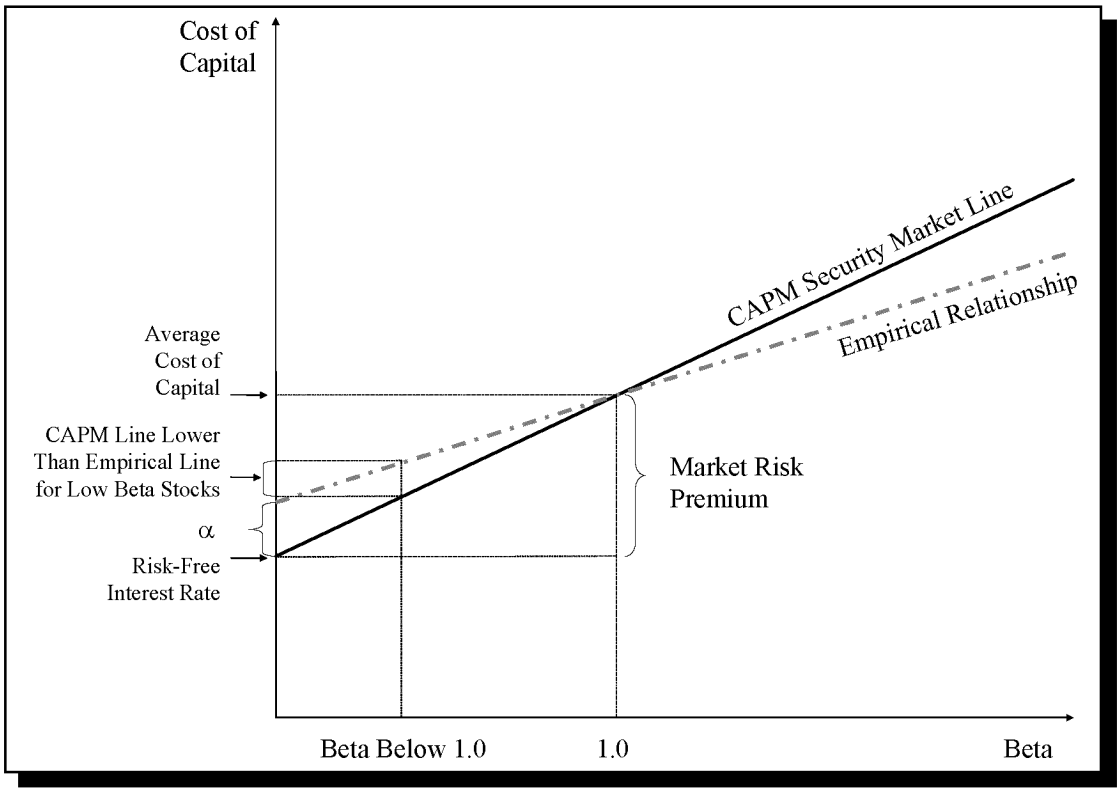

Figure 2: The Empirical Security Market Line

Research supports values for α of one to seven percent when using a short-term interest rate. I use baseline values of α of one percent for the long-term risk-free rate. I also conduct sensitivity tests for different values of α. For the long-term risk-free rate, the corresponding α value sensitivities are computed at zero (the CAPM), one, and two percent. These values are lower than would be justified by the magnitude of the misestimation in the tests of the CAPM, however, I use lower values of α when using a

long-term horizon because use of a long-term risk-free rate incorporates some of the desired effect of using the ECAPM. That is, the long-term risk-free rate version of the security market line has a higher intercept and a flatter slope than the short-term risk-free version which is the version that has been extensively tested. Thus, it is likely that I do not need to make the same degree of adjustment when I use the long-term risk-free rate.

2. The Discounted Cash Flow Model

Q41. Please describe the discounted cash flow approach.

A41. The DCF model takes the first approach to cost of capital estimation, i.e., to attempt to estimate the cost of capital in one step. The method assumes that the market price of a stock is equal to the present value of the dividends that its owners expect to receive. The method also assumes that this present value can be calculated by the standard formula for the present value of a cash flow stream:

$$P = \frac{D_1}{(1+r)} + \frac{D_2}{(1+r)^2} + \frac{D_3}{(1+r)^3} + \cdots + \frac{D_T}{(1+r)^T} \quad (4)$$

where "P" is the market price of the stock; "D_i" is the dividend cash flow expected at the end of period i; "r" is the cost of capital; and "T" is the last period in which a dividend cash flow is to be received. The formula just says that the stock price is equal to the sum of the expected future dividends, each discounted for the time and risk between now and the time the dividend is expected to be received.

Most DCF applications go even further, and make very strong (i.e., unrealistic) assumptions that yield a simplification of the standard formula, which then can be rearranged to estimate the cost of capital. Specifically, if investors expect a dividend

stream that will grow *forever* at a steady rate, the market price of the stock will be given by a very simple formula,

$$P = \frac{D_1}{(r - g)} \tag{5}$$

where "D_1" is the dividend expected at the end of the first period, "g" is the perpetual growth rate, and "P" and "r" are the market price and the cost of capital, as before. Equation (5) is a simplified version of equation (4) that can be solved to yield the well known "DCF formula" for the cost of capital:

$$\begin{aligned} r &= \frac{D_1}{P} + g \\ &= \frac{D_0 \times (1 + g)}{P} + g \end{aligned} \tag{6}$$

where "D_0" is the current dividend, which investors expect to increase at rate g by the end of the next period, and the other symbols are defined as before. Equation (6) says that if equation (5) holds, the cost of capital equals the expected dividend yield plus the (perpetual) expected future growth rate of dividends. I refer to this as the simple DCF model. Of course, the "simple" model is simple because it relies on very strong assumptions.[25]

Q42. Are there other versions of the DCF models besides the "simple" one?

[25] In this context "strong" means assumptions that are unlikely to reflect reality but that also are expected to have a large effect on the estimate.

A42. Yes. The constant growth rate DCF model requires that dividends and earnings grow at the same rate for companies that earn their cost of capital on average.[26] It is inconsistent with the theory on which the model is based to have different growth rates in earnings and dividends over the period when growth is assumed to be constant. If the growth in dividends and earnings were expected to vary over some number of years before settling down into a constant growth period, then it would be appropriate to estimate a multistage DCF model. In the multistage model, earnings and dividends can grow at different rates, but must grow at the same rate in the final, constant growth rate period. A difference between forecasted dividend and earnings rates therefore is a signal that the facts do not fit the assumptions of the simple DCF model.

I consider a variant of the DCF model that relies on slightly less strong assumptions in that it allows for varying dividend growth rates in the near term before assuming a perpetual growth rate beginning in year eleven. I use the forecast growth of GDP as the forecast of the long-term growth rate, i.e. year eleven on. This is a variant of the "multistage" DCF method.

Q43. What are the merits of the DCF approach?

A43. The DCF approach is conceptually sound if its assumptions are met, but can run into difficulty in practice because those assumptions are so strong, and hence so unlikely to correspond to reality. Two conditions are well known to be necessary for the DCF approach to yield a reliable estimate of the cost of capital: the variant of the present value

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[26] Why must the two growth rates be equal in a steady-growth DCF model? Think of earnings as divided between reinvestment, which funds future growth, and dividends. If dividends grow faster than earnings, there is less investment and slower growth each year. Sooner or later dividends will equal earnings. At that point, growth is zero because nothing is being reinvested (dividends are constant). If dividends grow slower than earnings, each year a bigger fraction of earnings are reinvested. That makes for ever faster growth. Both scenarios contradict the steady-growth assumption. So if you observe a company with different expectations for dividend and earnings growth, you know the company's stock price and its dividend growth forecast are inconsistent with the assumptions of the steady-growth DCF model.

formula that is used must actually match the variations in investor expectations for the growth of dividends, and the growth rate(s) used in that formula must match current investor expectations. Less frequently noted conditions may also create problems (see Appendix D for details). Nevertheless, I believe that the DCF model serves as a useful check on the results of the risk positioning model.

Q44. Do you agree that estimating the "right" dividend growth rate is usually the most difficult part for the implementation of the DCF approach?

A44. Yes, usually finding the right growth rate(s) is the "hard part" of a DCF application. The original approach to estimation of *g* relied on average historical growth rates in observable variables, such as dividends or earnings, or on the "sustainable growth" approach, which estimates *g* as the average book rate of return times the fraction of earnings retained within the firm. But it is highly unlikely that these historical averages over periods with widely varying rates of inflation and costs of capital will equal current growth rate expectations.

Q45. Are the DCF model's assumptions met at this time?

A45. No, not entirely for these industries. As noted earlier, the DCF model was not applied to the MLP Pipelines sample. The DCF model is extremely sensitive to small deviations from its required assumptions. Although there has been relatively less turmoil in the natural Gas LDC line of business in the U.S., for example, both the electric industry and the natural gas industry have been affected by the recent increase in the level and volatility of gas prices which has created extra uncertainty looking forward. Moreover, there have been a number of mergers and acquisitions in the Gas LDC industry. Part of the observed market price for these companies almost certainly reflects the expected cash

flow impacts for investors that would arise from more such mergers,[27] but this potential source of investor cash flow is not generated within the company and so does not show up in the data used to forecast expected growth rates in the DCF model. That is, at present, Gas LDC stock prices will be above the levels justified by those companies' own dividends and growth paths. Instead of Equation (4), their price at the current time is given by

$$P = PV(Expected\ Dividends) + PV(Expected\ Buyout\ Increment) \quad (7)$$

where "PV" indicates "the present value of" the quantity in parentheses. In these circumstances, since the DCF model attributes the entire price to the present value of future dividends, it will underestimate the cost of capital used to value those dividends and produce a downward-biased estimate of the cost of capital.

Q46. Does your multistage DCF estimate overcome these problems?

A46. No, not in these circumstances. The multistage method assumes a particular smoothing pattern and a long-term growth rate afterwards. That can be a useful approach in cases where the basic DCF assumptions are approximately met, but here they are not met even approximately. The smoother growth pattern, for example, might be quite wrong, given the initial uncertainty. And even a perfect forecast of growth that ignored the component of the market price represented by a potential acquisition, as shown in Equation (7), would still produce a materially downward biased DCF estimate of the cost of capital. Until the stability conditions the DCF model requires are restored, the DCF method cannot provide completely reliable estimates of the cost of capital.

[27] See, for example, the *Value Line* summary of the natural gas utility industry, June 15, 2007, which highlights this potential for gas utilities.

IV. TQM AND THE SAMPLES' COST OF CAPITAL ESTIMATES

A. TRANS QUÉBEC & MARITIMES PIPELINE

Q47. Please describe TQM's operations in general terms?

A47. TQM operates natural gas transportation facilities as mandatary of TQM Pipeline and Company, Limited Partnership, of which Gaz Métro Limited Partnership ("Gaz Métro") and TransCanada PipeLines Limited are the limited partners. The facilities were authorized by NEB certificates of public convenience and necessity GC-64, GC-65 and GC-96, and other orders of the Board. The TQM facilities are located in the Province of Québec and extend from a point of interconnection with the TransCanada system at Saint-Lazare to a point near Québec City in the Municipality of Lévis on the south shore of the St. Lawrence River, and from Terrebonne, north of Montréal, to East Hereford on the border of the Province of Québec with the state of New Hampshire, where it interconnects with the Portland Natural Gas Transmission System. TQM's right-of-way covers 572 km and its system has 31 delivery points and two compressor stations.

B. THE BENCHMARK SAMPLES AND THEIR CHARACTERISTICS

Q48. Why is it necessary to use three samples?

A48. The cost of capital for a part of a company depends on the risk of the lines of business in which the *part* is engaged, *not* on the overall risk of the parent company on a consolidated basis. According to financial theory, the overall risk of a diversified company equals the market-value weighted average of the risks of its components. There is no ideal sample of publicly traded pure play Canadian natural gas transmission companies currently available, and as the Board has noted, the companies in the Canadian regulated utilities

sample are not pure plays in the natural gas pipeline business.[28] In an effort to gather as much information as possible about the cost of capital for a regulated natural gas pipeline and to address the Board's concerns regarding comparability of the samples, Dr. Kolbe and I select three samples as benchmarks: Canadian regulated utilities, Gas LDC companies and a sample of U.S. MLPs that own pipeline assets.[29]

The sample of Canadian utilities is used to assess the risks for Canadian utilities in general. Unlike the Canadian Utilities sample, all companies in the Gas LDC sample have operations concentrated in the natural gas industry. However, neither the Canadian Utilities sample nor the Gas LDC sample are pure plays in the natural gas pipeline industry. Although the companies in the MLP Pipelines sample represent nearly pure play companies in pipeline operations, the sample companies are organized with a structure that pays little or no corporate income taxes. However, some of the pipelines are petroleum or natural gas liquids pipelines and some MLPs own non-pipeline assets. To the degree that there are differences in risk among the benchmark samples and TQM, Dr. Kolbe will take that into consideration as he considers the sample evidence and the business risks of TQM.

Additional details of the sample selection process for each sample are described below as well as in Appendix B.

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[28] Reasons for Decision, TransCanada PipeLines Limited., RH-2-2004, Phase II, April 2005, pp. 54-55.

[29] The companies in the MLP Pipelines sample do not report income or assets by lines of business in the same way the companies in the Canadian Utilities and the Gas LDC samples do; therefore, it is not possible to report the exact percentage of income/assets from regulated lines of business based upon public information for all companies.

1. The Canadian Utilities Sample

Q49. How did you select the Canadian regulated utilities sample?

A49. To construct this sample, I started with the universe of Canadian companies classified as being in the utility industry or in the oil and gas storage and transportation industry in the FPinfomart database.[30] I eliminated companies that were not listed in the FP500 Sales category on FPinfomart which eliminated a number of smaller companies and companies that do not trade on the Toronto Stock Exchange. I then applied additional selection criteria designed to narrow the sample to companies with characteristics similar to that of TQM. I also eliminated companies with unique circumstances which may bias the cost of capital estimates. The final sample consists of the five companies listed in Table 1 below.

[30] The information was extracted in July 2007 from www.fpinformart.ca.

Table 1: Characteristics of the Canadian Utilities Sample

Company [1]	Business Activities [2]	Revenue (2006) ($MM) [3]	Regulated Assets [4]	Market Cap. (2006) ($MM) [5]	S&P Credit Rating (2007) [6]	Beta [7]	Long-Term Growth Estimate [8]
Canadian Utilities (AB)	DI (NG-LDC, E, PL, W)	2,430	MR	6,004	A	0.64	7.9%
Enbridge Inc. (AB, NB, ON, QC, IL, NY, OK, OR, WA)	NG-LDC, L-PL, NG-PL	10,645	MR	14,046	A-	0.69	6.5%
TransCanada Corp. (AB, BC, ON, QC, CA, ME, OR, WA)	NG-T, E G	7,520	MR	19,779	A	0.64	8.1%
Emera Inc. (NS, ME)	E (G, T, D)	1,166	R	2,509	BBB	0.48	6.3%
Fortis Inc. (AB, BC*, NF, PEI, ON, Belize, Grand Cayman, Turks and Caicos Islands)	E (D, G) NG-LDC, NG-T	1,462	R	3,098	A-	0.58	7.9%

Sources and Notes:

[1] Operating region as reported in company annual reports for significant operations.

[2] 2006 Company Annual Reports.
Key: DI – Diversified; NG – Natural Gas, E – Electricity; PL – Pipelines;W – Water; L – Liquids
LDC – Local Distribution Company; D – Distribution; T – Transmission; G – Generation

[3] Key: R – Regulated (More than 80 % of assets regulated).
MR – Mostly Regulated (50 % to 80 % of assets regulated).
Source: 2006 Company Annual Reports. See Table No. MJV-2.

[4] 2006 Company Annual Reports.

[5] Bloomberg, August 28, 2007.

[6] Bloomberg, August 28, 2007.

[7] Bloomberg as of August 28, 2007. See Workpaper # 1 to Table MJV-10.

[8] Bloomberg as of August 28, 2007. See Table MJV-5.

*Fortis Inc. did not own assets in BC as of December 2006, but in May 2007 they acquired Terasen Inc. which does.

2. The Gas LDC Sample

Q50. How do you select your sample of U.S. gas local distribution companies?

A50. One reason for use of the Gas LDC sample is to generate a sample of regulated companies whose primary source of revenues is in the regulated portion of the natural gas industry. Therefore, I started with the universe of publicly traded natural gas distribution utilities covered by *Value Line Investment Survey Plus Edition*. This resulted in an initial

group of 23 companies, to which I added Vectren Corporation because it is often viewed as a natural Gas LDC.[31] Vectren is involved in both gas and electric distribution activities, but more of its regulated assets are invested in the gas distribution operations.[32,33] I then eliminated companies by applying additional selection criteria designed to remove companies with unique circumstances which may bias the cost of capital estimates. The final sample consists of the ten Gas LDCs listed in Table 2 below, from which I also consider a sub-sample of five companies with the fewest reliability concerns. Appendix B discusses the selection process for the Gas LDC sample in more detail. Please refer to Dr. Paul Carpenter's evidence for additional information on the risk characteristics of the Gas LDC sample.[34]

Q51. Please compare the characteristics of the Canadian Utilities sample and the Gas LDC sample.

A51. The percentage of regulated assets for the Canadian Utilities sample is somewhat lower to substantially lower than for the Gas LDC sample depending upon classification of assets for the companies in the Canadian Utilities sample.[35]

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[31] This company is also covered by *Value Line*, but is classified as an Electric Utility due to its regulated electric operations.

[32] Vectren Utility Holdings, Inc.'s 2006 10K reveals that about 57 percent of its assets are regulated natural gas distribution assets and 37 percent are regulated electric assets. Because it has a substantial amount of regulated electric activity, I exclude it from the sub-sample of companies I consider to be the most representative of the natural gas distribution line of business and to be most free of characteristics that may bias cost of equity estimates.

[33] The 24 companies are from *Value Line Investment Survey Plus*, dated June 15, 2007 for all companies except Vectren which is dated June 29, 2007.

[34] It should be noted that whereas regulated assets are displayed in Table 2 below, Dr. Carpenter's written evidence presents data on regulated Property, Plant, and Equipment. As such, classification may differ.

[35] See Table No. MJV-2 (Canadian Utilities sample) and Table No. MJV-13 (Gas LDC sample).

The samples differ primarily in the fact that the Gas LDC sample is concentrated in one segment of the regulated natural gas industry while the Canadian Utilities sample consists of companies in the electric, natural gas pipeline, natural gas distribution and petroleum industries. Therefore, it is more difficult to determine the risk of any single regulated industry using the Canadian Utilities sample because differences in estimated cost of capital among the sample companies could be due to differences in industry risk as well as other factors. In addition, the Canadian Utilities sample's results are potentially affected by the recent increase in the amount of merger activities involving companies in the sample, as well as by the difficulty in estimating beta for the sample companies.[36] Due to mergers and acquisitions within the Gas LDC sample, the companies in the sample are not as close to pure plays as they were the last time I testified before the Board. Therefore, I delete companies with any substantial merger activity from the Gas LDC sample to form a sub-sample that does not suffer from this weakness. Please refer to Appendix B for additional details comparing the two samples.

[36] For example, Fortis remains in the Canadian Utilities sample for purposes of estimating the average capital structure of the sample even though it has recently been involved in an acquisition because removing it would leave only four companies in the sample. The recent acquisition of ANR Pipeline by TransCanada may also have affected the market.

Table 2: Characteristics of the Gas LDC Sample

Company		Revenue (2006) ($MM)	Regulated Assets	Cap. (2006) ($MM)	S&P Credit Rating (2007)	Beta Estimate	Long-Term Growth Estimate
[1]		[2]	[3]	[4]	[5]	[6]	[7]
AGL Resources Inc (FL, GA, MD, NJ, TN, VA)		2,621	MR	3,049	A	0.90	4.8%
Atmos Energy Corp (CO, GA, IA, IL, KS, KY, LA, MO, MS, TN, TX, VA)		6,152	R	2,619	BBB	0.67	5.7%
The Laclede Group (IL, IN, MO)	•	1,998	R	759	A	0.82	4.2%
New Jersey Resources (NJ)		3,300	MR	1,380	A	0.67	4.1%
Northwest Natural Gas (OR,WA)	•	1,013	R	1,151	AA	0.60	5.2%
Piedmont Natural Gas (NC, SC, TN)	•	1,925	R	2,049	A	0.67	4.5%
South Jersey Industries (NJ)		931	MR	974	BBB	0.52	6.5%
Southwest Gas Corp (AZ, CA, NV)	•	2,025	R	1,601	BBB	0.75	5.5%
Vectren Corp (IN, OH)		2,042	R	2,170	A	0.90	3.4%
WGL Holdings Inc (DC, MD, VA)	•	2,638	R	1,607	AA	0.75	4.3%

Sources and Notes:

[1] Operating region as reported in company annual reports for significant operations.

[2] Bloomberg, August 28, 2007.

[3] Key: R – Regulated (More than 80 % of assets regulated).
MR – Mostly Regulated (50 % to 80 % of assets regulated).
Source: 2006 Company 10-K's. See Table MJV-13.

[4] Bloomberg, August 28, 2007.

[5] Bloomberg, August 28, 2007.

[6] Value Line Investment Survey – see Workpaper # 1 to Table MJV-20.

[7] See Table MJV-16.

• Company included in gas LDC sub-sample (see text for discussion).

3. The MLP Pipelines Sample

Q52. Please summarize how you selected your sample of MLP Pipelines?

A52. The MLP Pipelines sample was selected by searching Dividend Detective and the Publicly Traded Partnerships (PTP) website. Forty-nine companies were listed as owning

pipelines. Of those forty-nine, eight had less than investment grade bond ratings, twenty six had no investment rating, one had mergers and acquisitions of over 100 percent of market capitalization, and four had distribution cuts. Of the ten remaining MLPs, four were strictly oil companies. The six remaining are Boardwalk Pipeline Partners, Kinder Morgan Energy Partners, TC Pipelines, Oneok Partners, Enbridge Energy Partners, and Enterprise Products Partners. Their characteristics are summarized in Table 3 below. Operating regions are not explicitly noted in the table because most of these MLPs operate on a national scale with pipelines crossing many states. However, the regulated operations for these pipelines are generally under FERC's jurisdiction.

Q53. Did you consider broadening the sample with other pipeline related MLPs?

A53. Yes. TEPPCO Partners, Buckeye Partners, NuStar Energy, and Sunoco Logistics Partners were considered, but a majority of their business is in the form of U.S. oil pipelines. I do not feel these to be fully representative of either U.S. natural gas pipelines or Canadian natural gas pipelines.

Q54. What are the merits of using the MLP Pipelines as a benchmark sample?

A54. The MLP Pipelines sample is the closest to a pure play natural gas pipeline sample currently available, and the universe of MLP pipeline companies is growing. It is likely that the vast majority of U.S. natural gas pipelines will be incorporated into an MLP type structure over the next few years. As a result, the MLP Pipelines sample will increasingly become the sample that is closest to the ideal of a pure play natural gas pipeline sample.

Table 3: Characteristics of the MLP Pipelines Sample

Company	Revenue (2006) ($MM) [1]	Regulated PP&E [2]	Regulated Natural Gas PP&E [3]	Market Cap. (2006) ($MM) [4]	S&P Credit Rating (2007) [5]	Beta Estimate [6]
Boardwalk Pipeline Partners, LP	608	R	R	3,336	BBB+	0.62
TC Pipelines, LP	63†	R	R	630	A	0.30
ONEOK Partners, LP	4,714*	NR	NR	5,250	BBB	0.37
Enbridge Energy Partners, LP	6,509	MR	MR	3,832	BBB	0.37
Enterprise Products Partners, LP	13,991	MR	MR	12,531	BBB-	0.37
Kinder Morgan Energy Partners, LP	8,955	NR‡	NR‡	11,038	BBB	0.45

Sources and Notes:

[1] Bloomberg, August 28, 2007.

[2]-[3] Key: R – Regulated (More than 80% of Property, Plant & Equipment regulated)
MR – Mostly Regulated (50% to 80% of PP&E regulated)
NR – Non Regulated (less than 50% of PP&E regulated)
Source: 2006 Company 10-Ks. See Table No. MJV-23.

[4] Bloomberg, August 28, 2007.

[5] Bloomberg, August 28, 2007.

[6] Most recent reports from *Value Line Plus Edition* dated as of August 3, August 17, and September 14, 2007. Value Line beta is not available for Boardwalk Pipeline Partners due to its shorter history. Bloomberg beta is used instead (see text).

† Net Sales include equity income from investment in Northern Border Pipeline, equity income from investment in Tuscarora and transmission revenues. This number does not account for revenues from Northern Border Pipeline (of which TC Pipelines owns a 50% share), which was US$ 310.9 million in 2006, as reported in the company's 2006 10-K. Neither does it include revenues from Tuscarora (of which TC Pipelines own a 99% share).

‡ Kinder Morgan Energy Partners, LP has significant owernership interests in non-consolidated in pipeline assets (2006 10-K).

* Operating Revenue does not contain equity earnings from investments in Northern Border Pipeline and other non-consolidated affiliates.

Q55. Are there any issues with this sample that warrant caution?

A55. Yes. Boardwalk Pipelines Partners only has two years of data in Bloomberg, while the rest have a full five years. All of the companies had a BBB debt rating, except for TC Pipelines which is A-rated. Because this sample is already small, Oneok Partners despite their merger and acquisition activity of 56% market capitalization, was not excluded. Also, three of the sample companies own a mixture of assets some of which are FERC regulated natural gas pipelines, but some of which are oil and natural gas liquids pipelines regulated by either the FERC or state regulatory commissions. As a result, I report the results for both the full sample of MLP Pipelines and for a sub-sample of MLP Pipelines

companies whose assets are concentrated solely in FERC-regulated natural gas pipelines. This sub-sample is as close to a pure play sample of regulated natural gas pipelines as there is currently available.

C. COST OF EQUITY ESTIMATION

Q56. How do you ensure that the evidence from U.S. sample companies is consistent with Canadian capital markets?

A56. I ensure consistency with the Canadian capital markets by combining the risk measures (beta) of the U.S. sample companies with Canadian capital market parameters to estimate the sample's average overall after-tax weighted-average cost of capital. Beta is a measure of the relative risk of a company compared to the risk of an average stock in the market as discussed above in Section III-C.1. In other words, I use the Canadian risk-free interest rate, tax rates, interest rates on utility bonds and market risk premium to estimate the cost of equity for the Gas LDC and the MLP Pipelines sample companies. The result is cost of capital estimates for the sample companies as if their stocks were trading in Canadian capital markets with a relative risk as measured by the companies' betas.

Note that the unadjusted DCF estimates for the Gas LDC sample are estimates of the cost of equity in the U.S. capital markets. Therefore, I subtract the difference in long-term government bond yields in the U.S. and Canada from the DCF estimates for the Gas LDC sample in order to compare the results on a more consistent basis with the Canadian capital market conditions.

1. Equity Risk Premium Estimates

Q57. How is this section of your evidence on the risk positioning approach to cost of capital estimates organized?

A57. This section first describes the input data used in the CAPM and ECAPM models, then reports the resulting cost of equity estimates for the samples. Appendix C provides additional details on the empirical analysis.

a) Interest Rate Forecasts

Q58. How do you determine the expected risk-free interest rate?

A58. I obtain the forecast of the long-term risk-free rates on government bonds from the survey information available from Consensus Economics, Inc., a London based forecasting survey firm. *Consensus Forecasts* provides forecasts of both the U.S. 10-year Treasury bond rate and the 10-year Government of Canada bond rate. The Consensus Economics forecasts for the year ending August 2008 show that Canadian long-term interest rates are expected to increase over the coming year compared to current rates. The long-term interest rate is expected to be about 5.0 percent including a 20 basis point maturity premium.[37] I add a maturity premium of 20 basis points to the forecast 10-year government bond yield to reflect the additional yield required for bonds of longer maturity.[38]

Q59. Why is it necessary to add a maturity premium to the forecast of the 10-year bond yield?

A59. The addition of the maturity premium is necessary for consistency so that the average bond maturities in the data used to estimate the long-term market risk premium correspond to the maturity of the benchmark for the long-term risk-free rate.[39]

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[37] *Consensus Forecasts* as of August 2007.

[38] The average term to maturity is reported to be 18 years for the yields provided in the Report on Canadian Economic Statistics 1924-2006.

[39] The 20 basis point addition is a conservative estimate of the premium that investors require to hold bonds with a maturity of 18 years instead of bonds with a maturity of 10 years. The estimate is derived from a

The maturity premium represents the extra return investors demand for tying up their money for longer periods. The *Report on Canadian Economic Statistics 1924-2006,* released by the Canadian Institute of Actuaries in April 2007, reports data on three-month, one-to-three-year, three-to-five-year, five-to-ten year, and long-term Government yields from 1951 through 2006. I use these data to infer a set of maturity premiums for intermediate maturities. See Workpaper #3 to Table No. MJV-9 for details.

Q60. What value do you use for the risk-free interest rate in your risk-positioning model?

A60. I use a value of 5.0 percent for the long-term risk-free interest rate as the benchmark interest rates in the risk positioning analyses. I do not rely on the short-term version of the risk-positioning model in this proceeding.

b) The Estimated Market Risk Premium

Q61. Please remind us of your estimate of the market risk premium.

A61. As I stated earlier, I estimate the market risk premium at 5.75 percent in Canada.

c) Beta Estimates

Q62. How do you normally calculate beta?

A62. My standard approach is to calculate beta by statistical regression of the excess (positive or negative) of the return on the stock over the risk-free rate against the excess return over the risk-free rate on either the S&P/TSX index for the Canadian companies or the NYSE index for the U.S. companies. I normally use monthly return data for the most recent 60-month period for which data exist, but the unique factors affecting the stock market and the utility industry make the most recent 60 month period unsuitable to estimate the

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yield curve constructed from the historical average maturity premiums of Canadian Government bonds from 1951 through 2006 for bonds with five different average maturities (see Workpaper #3 to Table No. MJV-9).

sample companies' betas. These events have caused the returns of the companies in the samples to "decouple" from their normal relationship to the returns on the market indices. I believe that the risk of the sample companies has increased given the changes in the natural gas market and the restructuring in the electric industry, but betas estimated over the most recent 60 month period have fallen dramatically for both the Canadian Utilities and the Gas LDC samples from estimates based upon data from only a few years earlier. Several of the estimated betas for the individual companies in both samples were very close to zero for the most recent 60 month period. These results cause me to question the validity of the estimates, and I feel alternative methods to estimate betas need to be considered (see below).

Q63. What evidence do you have that the betas estimated over the most recent 60 months are unusual?

A63. Displayed in Figures 3 and 4 below are the estimated average rolling betas of the Canadian Utilities sample and the Gas LDC sample, respectively, for the period June 1995 to July 2007. For each graph, each point on the line represents a beta estimated using monthly excess returns over the previous 60 months. Market returns are represented by either the S&P/TSX or the S&P 500 indices, as appropriate, and risk-free rates are taken as each country's 30-day T-bill returns. Rolling betas allow us to track the changes in the estimated betas over time.

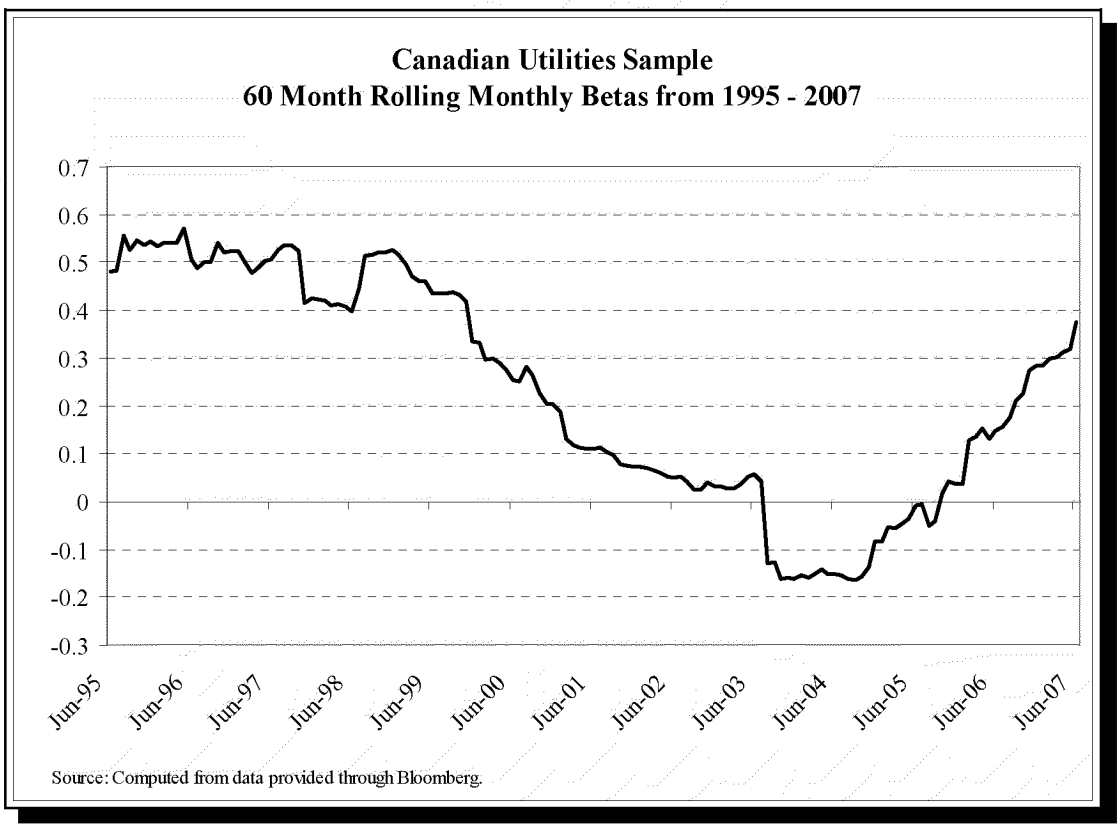

Figure 3: Trends in Canadian utility betas between 1995 and 2007

Q64. Do you believe that this is evidence of the "decoupling" that you mentioned earlier?

A64. Yes, because I do not believe that these beta estimates can be an accurate measure of the relative risk of the sample companies in many of the periods. I therefore modify my computation of betas for the Canadian Utilities sample for this proceeding.

Q65. In light of decoupling illustrated in Figures 3 and 4 of your evidence, how do you estimate the betas for the samples?

A65. For the Gas LDC sample, I am able to rely on forecasts of beta from *Value Line*, but *Value Line* does not provide betas for the companies in the Canadian Utilities sample.

Consequently, I have chosen to instead rely upon betas provided by Bloomberg based upon 260 weeks (five years) of weekly return data.

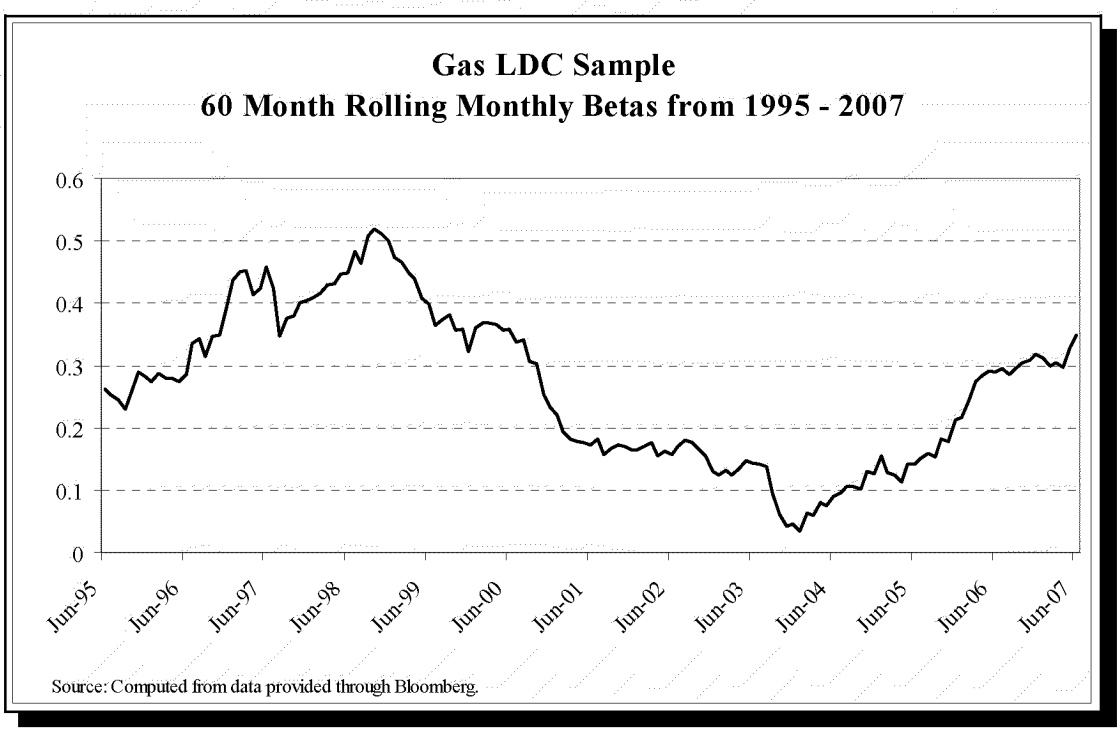

Figure 4: Trends in U.S. Gas LDC betas between 1995 and 2007

Q66. Please discuss the Canadian 260-week beta estimates.

A66. The Bloomberg 260-week betas for the period ending August 28, 2007 are displayed in Workpaper #1 to Table No. MJV-10. Bloomberg adjusts their raw betas towards 1.0 as is standard practice in the industry. This is typically meant to compensate for the observed tendency of betas to regress towards 1.0 in repeated sampling, but is also relevant if one believes that the stock returns being evaluated display interest rate sensitivity. The average adjusted beta is around 0.60, which is consistent with average

monthly betas observed before their plunge at the end of 1999 (see Figure 3). As a forecast, it is also consistent with the recovery observed in betas since 2004.

Q67. Are you satisfied that the 260-week betas for the Canadian samples are completely reliable?

A67. Not entirely. As Figure 3 illustrates, the beta relationship has not been anywhere near stable in the last ten years, and the estimated betas are on an increasing trend. As such, these results must be interpreted with caution, which is partly why additional samples are needed to provide a more complete and reliable picture.

Q68. With respect to the Gas LDC sample, do you have any concerns with the betas obtained from *Value Line*?

A68. I have reviewed the betas estimated by *Value Line*, and the estimated values declined only very slightly over the last few years and have now returned to values that in many cases are higher than their previous levels, as opposed to the dramatic decline that resulted from my standard estimation procedures illustrated in Figure 4 above. *Value Line* uses five years of weekly return data computed as the difference in the logarithms of prices (i.e., they use continuously compounded returns), and computes betas by regressing company returns against the NYSE index returns, again computed on a continuously compounded basis. Their recent beta estimates suggest that *Value Line* also agrees that the risk of these sample companies has not suddenly decreased. It is important to note, however, that the betas reported by *Value Line* are also adjusted towards one. For reasons explained below, I reverse the process to get "unadjusted" values for use in the models for the companies in the Gas LDC sample.

Q69. How do the unadjusted and adjusted betas for the Gas LDC sample companies compare?

A69. *Value Line's* adjusted betas for the Gas LDC sample range from 0.70 to 0.95, with an average of 0.84. The resulting unadjusted betas range from 0.52 to 0.90 (See Workpaper #1 to Table No. MJV-20), with an average of 0.72.[40]

Q70. Why do you "unadjust" the *Value Line* betas?

A70. In the RH-2-2004, Phase II decision the Board expressed concern regarding reliance on U.S. company data.[41] To reduce that concern, I use unadjusted betas for the Gas LDC sample in this proceeding, although I have used adjusted betas when testifying recently in the U.S. because I believe that adjusted betas give a more accurate estimate of the cost of equity for companies regulated on the basis of original cost rate base.[42]

Adjustment moves betas one-third of the way toward a value of one, the average stock beta. The adjustment is designed as a correction for the tendency of companies with low estimated betas to have negative sampling errors and for the tendency of companies with high estimated betas to have positive sampling errors; however, that is not the reason that I normally use adjusted betas.

Companies regulated on the basis of original cost rate base frequently display unusual sensitivity to interest rate changes in a manner similar to bonds. I use adjusted betas when the sample companies display such unusual interest rate sensitivity. The sample companies do not currently display interest rate sensitivity, but I believe that this is because the "decoupling" of the the sample companies' returns from the market return, which is resulting in very low or negative beta estimates for the sample companies, is also making it impossible to detect interest rate sensitivity that companies regulated on the

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[40] As noted earlier, results from a sub-sample of companies with a high degree of regulation are also considered for the Gas LDC sample. The average adjusted and unadjusted betas for the subsample are 0.83 and 0.72 respectively.

[41] See p.55, Reasons for Decision, TransCanada PipeLines Limited., RH-2-2004, Phase II, April 2005.

[42] Appendix D of Dr. Kolbe's evidence discusses this point in more detail.

basis of an original cost rate base normally display. Nonetheless, even though I believe that adjusted betas would be a better estimate of the relative risk of the Gas LDC sample companies, I use unadjusted betas for these companies because I want to ensure that I address the concerns of the Board expressed in the RH-2-2004, Phase II decision.[43]

Q71. You have not yet discussed how betas are computed for the MLP Pipelines sample. Does *Value Line* provide any such estimates?

A71. Yes. As with the Gas LDC sample, I rely on *Value Line's* estimates of beta for the MLP Pipelines sample. I also unadjust these betas for the reasons explained above (see Workpaper #1 to Table No. MJV-26).

Q72. Why do you use adjusted betas in your analysis of the Canadian Utilities sample?

A72. I use adjusted betas for the Canadian Utilities sample for two reasons. First, in the past when betas were estimated reliably, the companies in the sample exhibited the sensitivity to interest rate changes as predicted by theory for companies regulated on the basis of original cost rate base. I believe that this sensitivity is still present, but the difficulty with estimating the sample companies' betas is making it impossible to detect. Second, as I noted earlier, Figure 3 above shows that the 60-month betas for the Canadian Utilities sample are still increasing from their lows of the "tech bubble" period. Note that using adjusted betas corrects only for the interest rate sensitivity of the companies and not for the expected increase in the risk of the sample companies. I note the expected increase in risk only because I believe that not using adjusted betas would risk underestimating the cost of equity for the sample companies for both reasons. I have adjusted for only one of the two reasons.

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[43] This adjustment is part of the effort Dr. Kolbe and I are making in this proceeding to address the concerns the Board expressed in the RH-2-2004, Phase II decision and to be as conservative as possible in our judgments in implementing the cost of equity estimation models.

Although I use these adjusted betas in my analysis, I believe that these estimates of the relative risk of the Canadian Utilities sample are likely to be downward biased estimates of the risk of the sample companies because the period of turmoil in the market that resulted in low or negative beta estimates is still included in the estimation period. In other words, the unadjusted betas are likely to be too low for the sample.

d) Equity Risk Premium Results

Q73. What are the cost of equity and overall cost of capital estimates for the samples using the risk positioning approach?

A73. As noted earlier, I use the long-term risk-free rate in the two risk positioning models (CAPM and ECAPM) with two different values for the ECAPM parameter, α, (one and two percent) to produce three estimators for the cost of equity. Then I take the average across companies of these ATWACCs to produce three representative cost of capital estimates for the sample. The sample average ATWACC estimates for each estimation method are then used to determine the cost of equity estimates which are consistent with a deemed equity thickness for TQM of 40 percent and the market cost of debt.[44] I also report the deemed equity percentage that would be consistent with the samples' ATWACC estimates and the NEB's formula ROE. These estimates, along with each sample's representative ATWACC, are reported in Table 4 below. The table also reports analogous estimates for the Canadian Utilities sample, the Gas LDC sample and the MLP Pipelines sample.

Q74. Do you have any preliminary comments regarding the results of the risk positioning models?

[44] See Section II.B for a complete discussion of this procedure and its rationale.

A74. Yes. As shown above in Figures 3 and 4, betas measured in the standard way using 60 months of historical data declined to values very near to zero before recently beginning to recover toward more normal values. Ordinarily, using historical data to estimate beta is not a serious problem because the overall business risk of an industry probably does not change rapidly. For an industry undergoing major changes, however, the beta estimates based upon the historical data may not capture the full changes in risk in the industry. This is true even though information on the probability of change and the likely provisions of the industry changes has been available some months ago. The fall in the estimated betas for both the Gas LDC and Canadian Utilities samples estimated in the standard way might seem to be an unexpected result because the introduction of more competition in the natural gas and electric industries increases risk. However, such "decoupling" of beta from the normal relationship to the market appears to be a common feature of industries undergoing structural changes. This factor also suggests that the risk positioning estimates may be downward biased and is consistent with the information from the DCF model for the samples (see next section).

Table 4: Summary of Risk Positioning Results

2008 Tax Rate: 31.9%	CAPM	α = 1%	α = 2%
[1] **Canadian Utilities Sample**			
Cost of Equity at 40% Equity	10.0%	10.5%	11.0%
Equity Thickness at ROE of 8.46%	53%	57%	61%
Average ATWACC	6.3%	6.5%	6.7%
[2] **Gas LDC Sample**			
Full Sample			
Cost of Equity at 40% Equity	11.9%	12.4%	12.8%
Equity Thickness at ROE of 8.46%	70%	73%	77%
Average ATWACC	7.0%	7.2%	7.4%
Sub-Sample			
Cost of Equity at 40% Equity	11.6%	12.1%	12.5%
Equity Thickness at ROE of 8.46%	67%	71%	74%
Average ATWACC	6.9%	7.1%	7.3%
[3] **MLP Pipelines Sample**			
Full Sample			
Cost of Equity at 40% Equity	10.0%	11.0%	12.0%
Equity Thickness at ROE of 8.46%	53%	62%	70%
Average ATWACC	6.3%	6.7%	7.1%
Sub-Sample			
Cost of Equity at 40% Equity	9.9%	10.8%	11.7%
Equity Thickness at ROE of 8.46%	52%	60%	68%
Average ATWACC	6.2%	6.6%	7.0%
[4] Risk Positioning Parameters			
Risk-Free Rate Estimate:			5.00%
Estimated MRP:			5.75%

[1] See Table 1 for details on the Canadian utilities sample composition. Risk positioning results are from Table No. MJV-12.

[2] See Table 2 for details on the Gas LDC sample composition. Risk positioning results are from Table No. MJV-22.

[3] See Table 3 for details on the MLP pipelines sample composition. Risk positioning results are from Table No. MJV-28.

[4] See Appendix C for details on the risk positioning parameters used in the estimates.

Q75. What conclusions do you draw from the equity risk premium results?

A75. Of the equity risk premium results, the CAPM values deserve the least weight, because this method does not adjust for the empirical finding that the cost of capital is less sensitive to beta than predicted by the CAPM (which my written evidence considers by using the ECAPM). Conversely, the ECAPM numbers deserve the most weight, because this method adjusts for the empirical findings. For the Canadian Utilities sample, the estimates range for 10.0 percent to 11.0 percent compared to a range of 11.9 percent to 12.8 percent for the full Gas LDC sample and 11.6 percent to 12.5 percent for the Gas LDC sub-sample. For the sub-sample of MLP Pipelines with the greatest percentage of natural gas pipeline assets, the estimates range from a low of 9.9 percent to a high of 11.7 percent.

2. DCF Estimates

Q76. What steps do you take in your DCF analyses?

A76. The steps are to collect the data on current market value capital structures, prices, dividends, and growth forecasts. From these estimates, the sample companies' costs of equity are computed and used to determine the return on equity and the equity thickness consistent with the sample's estimated ATWACC and the NEB's current allowed ROE of 8.46 percent.

a) Growth Rates

Q77. What growth rate information do you use?

A77. For reasons discussed above and in Appendix D, historical growth rates today are not relevant as forecasts of current investor expectations for these samples. I therefore use forecasted rates.[45]

The ideal in a DCF application would be a detailed forecast of future dividends, year by year well into the future until a true steady state (constant) dividend growth rate was reached, based on a large sample of investment analysts' expectations. I know of no source of such data. Dividends are ultimately paid from earnings, however, and earnings forecasts from a number of analysts are available for a few years. Investors do not expect dividends to grow in lockstep with earnings, but for companies for which the DCF approach can be used reliably (*i.e.*, for relatively stable companies whose prices do not include the option-like values described in Appendix D), they do expect dividends to track earnings over the long-run. Thus, use of earnings growth rates as a proxy for expectations of dividend growth rates is a common practice.

Accordingly, the first step in my DCF analysis is to examine a sample of investment analysts' forecasted earnings growth rates from Bloomberg and from *Value Line* for companies in the Gas LDC sample. The details are in Appendix D. At present, the data run through the 2010-2012 horizon, which represents on average about a 4½ year forecast (from the 3rd quarter of 2007 to the end of 2011). The longest-horizon forecast growth rates from these sources underlie my simple DCF model (*i.e.*, the standard perpetual-growth model associated with the "DCF formula," dividend yield plus growth). Unfortunately, the longest growth forecast data only go out for a period of about five years, which is too short a period to make the DCF model completely reliable. I also use the five-year forecasts in conjunction with a forecast of the long-run GDP growth rate in

[45] I obtain growth rate forecasts from Bloomberg for the samples as well as from *Value Line* for the Gas LDC sample.

a modest attempt at obtaining a multistage DCF estimate using company-specific growth rates.

Q78. Do these growth rates correspond to the ideal you mentioned above?

A78. No. While forecasted growth rates are the quantity required in principle, the forecasts need to go far enough out into the future so that it is reasonable to believe that investors expect a stable growth path afterwards. As can be seen in Table No. MJV-5 for the Canadian Utilities sample and in Table No. MJV-16 for the Gas LDC sample, the growth rates estimates do not support the view that investors are expecting growth rates equal to the single perpetual growth rate assumed in the simple DCF model. There are also fewer analysts forecasting earnings for the companies in the Canadian Utilities sample on average than for the Gas LDC sample. The five-year growth rate forecasts vary from company to company, but the range for both samples is relatively narrow. The Canadian Utilities sample earnings growth forecasts range from a low of 6.3 percent forecast for Emera to a high of 8.1 percent forecast for TransCanada Corporation. The pattern is similar though a little wider for the Gas LDC sample, whose forecasts vary from 3.4 percent to 6.5 percent. However, in my opinion, a much longer detailed growth rate forecasts than currently available from Bloomberg and *Value Line* would be needed to implement the DCF model in a completely reliable way for these two samples at this time.

b) Dividend and Price Inputs

Q79. What values do you use for dividends and stock prices?

A79. Dividends are for the 3rd quarter of 2007, the last recorded dividend payment reported by Compustat at the time of the preparation of this evidence. This dividend is grown at the estimated growth rate and divided by the price described below to estimate the dividend yield for the simple DCF model.

Stock prices are an average of closing stock prices for the 15-day trading period ending August 28, 2007 for both the Canadian Utilities sample and for the Gas LDC sample. This date coincides with the date that the growth forecasts for the samples was extracted from Bloomberg. A 15-day stock price average is used to guard against anomalous price changes in any single day.

c) DCF Results

Q80. What are the DCF estimates for the samples?

A80. Following the procedures outlined earlier, simple and multistage DCF estimates of the cost of equity are obtained for the Canadian Utilities and the Gas LDC sample companies, and are presented in Table 5 below.[46] Because the analysts' 5-year growth rate forecasts are in general higher than the forecast growth rate for GDP, the simple DCF estimates are higher than the the multistage DCF estimates for both samples. For the Canadian Utilities sample, the multistage DCF estimate is 10.3 percent which is just slightly below the middle of the range of the risk positioning estimates for the sample. For the Gas LDC sample, the multistage cost estimate at 10.6 percent (and also 10.3 percent for the sub-sample) are about 150 bps lower than the risk positioning estimates.

Q81. What conclusions do you draw from the DCF analysis?

A81. The simple DCF model estimates that rely on company-specific growth rate forecasts are less reliable because the long-run growth rate forecast drives the results, and there are *no* objective data on the long-run growth rate investors truly expect, *nor* on when the industry is expected to settle down into some sort of stable-growth equilibrium. The ATWACC and cost of equity estimates that rely on the multistage DCF model are more

[46] See Section III.B of above and Appendix D for details of DCF estimation.

reliable because the long-term growth rate used in the analysis is the forecast growth rate for the economy.

Table 5: Summary of DCF Results

2008 Tax Rate: 31.9%	Simple	Multi Stage
[1] **Canadian Utilities Sample**		
Cost of Equity at 40% Equity	13.7%	10.3%
Equity Thickness at ROE of 8.46%	85%	56%
Average ATWACC	7.7%	6.4%
[2] **Gas LDC Sample**		
Full Sample		
Cost of Equity at 40% Equity	11.5%	10.6%
Equity Thickness at ROE of 8.46%	66%	58%
Average ATWACC	6.9%	6.5%
Sub-Sample		
Cost of Equity at 40% Equity	11.1%	10.3%
Equity Thickness at ROE of 8.46%	63%	56%
Average ATWACC	6.7%	6.4%
[3] Canadian GDP Growth Estimate:		4.14%

[1] See Table 1 for details on the Canadian utilities sample composition. Results are from Table No. MJV-8.
[2] See Table 2 for details on the Gas LDC sample composition. Results are from Table No. MJV-19.
[3] See Appendix D for details on the growth and other DCF parameters used in the estimates.

Although I do not believe one can rely heavily on the DCF estimates, I do believe they provide a useful check on the risk positioning results for both samples. In addition, because the forecast growth rates for the sample companies are more stable than they have been in the recent past, I believe that the simple DCF results for both the Canadian Utilities sample and the Gas LDC sample suggest that the risk positioning model

estimates for the Canadian Utilities sample are probably underestimated which is consistent with the evidence from the risk positioning model for the other samples.

V. CONCLUSIONS

Q82. Please summarize the evidence from the samples regarding the return on equity and deemed equity component that is consistent with the ATWACC evidence from the samples.

A82. Based on the cost of equity estimates displayed in Tables 4 and 5 above, the best estimate of the cost of equity for a deemed equity thickness of 40 percent is 10½ percent with a range of 10 percent to 11 percent for the Canadian Utilities sample. This estimate is only slightly higher than the multistage DCF estimate of 10.3, but it is substantially less than the simple DCF estimate of 13.7 percent. The corresponding estimate of the equity thickness at the NEB allowed ROE is about 57½ percent.

For the Gas LDC sample, the point estimate is 12 percent with a range of 11½ to 12½ percent. This estimate is based on the more reliable sub-sample than on the higher risk positioning estimates from the full Gas LDC sample. As noted earlier, the DCF estimates for the Gas LDC sample are lower than this estimate. The corresponding estimate of the equity thickness at the NEB allowed ROE is about 70 percent.

For the MLP Pipelines sample, the point estimate is 10¾ percent with a range of 10¼ to 11¼ percent, but I believe that this estimate is conservative because of the difficulty of estimating the market value of the GP share of the equity. It is highly likely that the market value (as well as the risk) of the GP shares exceeds the estimate I have used in determining the sample's results. Although I have attempted to addressed this issue in my calculations, I believe that the overall cost of capital estimates for this sample represent a floor as opposed to a midpoint of the likely range of the cost of capital for the

sample. The corresponding estimate of the equity thickness at the NEB allowed ROE is about 60 percent.

Note that in estimating the samples' returns on equity, I round to the nearest ¼ percent because I do not believe that cost of capital estimates can be made more precisely than that.

Q83. What is the cost of equity that you estimate for TQM based upon its relative risk compared to the samples?

A83. Dr. Kolbe interprets these results in relation to TQM's risk and provides a recommended cost of equity and corresponding deemed equity thickness in his written evidence.

Q84. Does this conclude your written evidence?

A84. Yes, it does.

APPENDIX A: QUALIFICATIONS OF MICHAEL J. VILBERT

APPENDIX B: SAMPLE SELECTION

APPENDIX C: RISK POSITIONING APPROACH METHODOLOGY: DETAILED PRINCIPLES AND RESULTS

APPENDIX D: DISCOUNTED CASH FLOW METHODOLOGY: DETAILED PRINCIPLES AND RESULTS

APPENDIX A

QUALIFICATIONS OF MICHAEL J. VILBERT

Michael Vilbert is an expert in cost of capital, financial planning and valuation who has advised clients on these matters in the context of a wide variety of investment and regulatory decisions. He received his Ph.D. in Financial Economics from the Wharton School of the University of Pennsylvania, an MBA from the University of Utah, an M.S. from the Fletcher School of Law and Diplomacy, Tufts University, and a B.S. degree from the United States Air Force Academy. He joined *The Brattle Group* in 1994 after a career as an Air Force officer, where he served as a fighter pilot, intelligence officer, and professor of finance at the Air Force Academy.

REPRESENTATIVE CONSULTING EXPERIENCE

- In a securities fraud case, Dr. Vilbert designed and created a model to value the private placement stock of a drug store chain as if there had been full disclosure of the actual financial condition of the firm. He analyzed key financial data and security analysts' reports regarding the future of the industry in order to recreate pro forma balance sheet and income statements under a variety of scenarios designed to establish the value of the firm.

- For pharmaceutical companies rebutting price-fixing claims in antitrust litigation, Dr. Vilbert was a member of a team that prepared a comprehensive analysis of industry profitability. The analysis replicated, tested and critiqued the major recent analyses of drug costs, risks and returns. The analyses helped develop expert witness testimony to rebut allegations of excess profits.

- For an independent electric power producer, Dr. Vilbert created a model that analyzed the reasonableness of rates and costs filed by a natural gas pipeline. The model not only duplicated the pipeline's rates, but it also allowed simulation of a variety of "what if" scenarios associated with cost recovery under alternative time patterns and joint cost allocations. Results of the analysis were adopted by the intervenor group for negotiation with the pipeline.

- For the CFO of an electric utility, Dr. Vilbert developed the valuation model used to support a stranded cost estimation filing. The case involved a conflict between two utilities over the responsibility for out-of-market costs associated with a power purchase contract between them. In addition, he advised and analyzed cost recovery mechanisms that would allow full recovery of the stranded costs while providing a rate reduction for the company's rate payers.

- Dr. Vilbert has prepared testimony as well as assisted in the preparation of testimony and the development of estimation models in numerous cost of capital cases for natural gas pipeline, water utility and electric utility clients before the Federal Energy Regulatory Commission ("FERC") and state regulatory commissions. These have spanned standard estimation techniques (e.g., Discounted Cash Flow and Risk Positioning models). He has also developed and applied more advanced models specific to the industries or lines of business in question, *e.g.*, based on the structure and risk characteristics of cash flows, or based on multi-factor models that better characterize regulated industries.

- Dr. Vilbert has valued several large, residual oil-fired generating stations to evaluate the possible conversion to natural gas or other fuels. In these analyses, the expected pre- and post-conversion station values were computed using a range of market electricity and fuel cost conditions.

- For a major western electric utility, Dr. Vilbert helped prepare testimony that analyzed the prudence of QF contract enforcement. The testimony demonstrated that the utility had not been compensated in its allowed cost of capital for a major disallowance stemming from QF contract management.

- Dr. Vilbert analyzed the economic need for a major natural gas pipeline expansion to the Midwest. This involved evaluating forecasts of natural gas use in various regions of the United States and the effect of additional supplies on the pattern of natural gas pipeline use. The analysis was used to justify the expansion before the FERC and the National Energy Board of Canada.

- For a Public Utility Commission in the Northeast, Dr. Vilbert analyzed the auction of an electric utility's purchase power agreements to determine whether the outcome of the auction was in the ratepayers' interest. The work involved the analysis of the auction procedures as well as the benefits to ratepayers of transferring risk of the PPA payments to the buyer.

- Dr. Vilbert led a team tasked to determine whether bridge tolls were "just and reasonable" for a non-profit port authority. Determination of the cost of service for the authority required estimation of the value of the authority's assets using the trended original cost methodology as well as evaluation of the operations and maintenance budgets. Investment costs, bridge traffic information and inflation indices covering a 75 year period were utilized to estimate the value of four bridges and a passenger transit line valued in excess of $1 billion.

- Dr. Vilbert helped a recently privatized railroad in Brazil develop an estimate of its revenue requirements, including a determination of the railroad's cost of capital. He also helped evaluate alternative rate structures designed to provide economic incentives to shippers as well as to the railroad for improved service. This involved the explanation and analysis of the contribution margin of numerous shipper products, improved cost analysis and evaluation of bottlenecks in the system.

- For a utility in the Southeast, Dr. Vilbert quantified the company's stranded costs under several legislative electric restructuring scenarios. This involved the evaluation of all of the company's fossil and nuclear generating units, its contracts with Qualifying Facilities and the prudence of those QF contracts. He provided analysis concerning the impact of securitizing the company's stranded costs as a means of reducing the cost to the rate payers and several alternative designs for recovering stranded costs.

- For a recently privatized electric utility in Australia, Dr. Vilbert evaluated the proposed regulatory scheme of the Australian Competition and Consumer Commission for the company's electric transmission system. The evaluation

highlighted the elements of the proposed regulation which would impose uncompensated asymmetric risks on the company and the need to either eliminate the asymmetry in risk or provide additional compensation so that the company could expect to earn its cost of capital.

- For an electric utility in the Southwest, Dr. Vilbert helped design and create a model to estimate the stranded costs of the company's portfolio of Qualifying Facilities and Power Purchase contracts. This exercise was complicated by the many variations in the provisions of the contracts that required modeling in order to capture the effect of changes in either the performance of the plants or in the estimated market price of electricity.

- Dr. Vilbert helped prepare the testimony responding to a FERC request for further comments on the appropriate return on equity for electric transmission facilities. In addition, Dr. Vilbert was a member of the team that made a presentation to the FERC staff on the expected risks of the unbundled electric transmission line of business.

- Dr. Vilbert and Mr. Frank C. Graves, also of *The Brattle Group*, prepared testimony evaluating an innovative Canadian stranded cost recovery procedure involving the auctioning of the output of the province's electric generation plants instead of the plants themselves. The evaluation required the analysis of the terms and conditions of the long-term contracts specifying the revenue requirements of the plants for their entire forecasted remaining economic life and required an estimate of the cost of capital for the plant owners under this new stranded cost recovery concept.

- Dr. Vilbert served as the neutral arbitrator for the valuation of a petroleum products tanker. The valuation required analysis of the Jones Act tanker market and the supply and demand balance of the available U.S. constructed tanker fleet.

PRESENTATIONS

"Utility Distribution Cost of Capital", *EEI Electric Rates Advanced Course, Bloomington, IN*, 2002, 2003.

"Issues for Cost of Capital Estimation," by Bente Villadsen and Michael J. Vilbert, *Edison Electric Institute Cost of Capital Conference*, Chicago, IL, February 2004.

"Not Your Father's Rate of Return Methodology", *Utility Commissioners/Wall Street Dialogue*, NY, May 2004.

"Current Issues in Cost of Capital," *EEI Electric Rates Advanced Course, Madison, WI*, July 2004.

"Cost of Capital Estimation: Issues and Answers," MidAmerican Regulatory Finance Conference, Des Moines, IA, April 7, 2005.

"Cost of Capital - Explaining to the Commission - Different ROEs for Different Parts of the Business," *EEI Economic Regulation & Competition Analysts Meeting*, May 2, 2005.

"Current Issues in Cost of Capital," by Michael J. Vilbert and Bente Villadsen, *EEI Electric Rates Advanced Course, Madison, WI*, 2005.

"Current Issues in Estimating the Cost of Capital," *EEI Electric Rates Advanced Course, Madison, WI*, 2006.

"Revisiting the Development of Proxy Groups and Relative Risk Analysis," Society of Utility and Regulatory Financial Analysts: 39th Financial Forum, April 2007.

"Estimating the Cost of Capital for an Electric Utility," *EEI Electric Rates Advanced Course, Madison, WI*, 2007.

ARTICLES

"Flaws in the Proposed IRS Rule to Reinstate Amortization of Deferred Tax Balances Associated with Generation Assets Reorganized in Industry Restructuring," by Frank C. Graves and Michael J. Vilbert, white paper for Edison Electric Institute (EEI) to the IRS, July 25, 2003.

"The Effect of Debt on the Cost of Equity in a Regulatory Setting," by A. Lawrence Kolbe, Michael J. Vilbert, Bente Villadsen and The Brattle Group, *Edison Electric Institute*, April 2005.

"Measuring Return on Equity Correctly: Why current estimation models set allowed ROE too low," by A. Lawrence Kolbe, Michael J. Vilbert and Bente Villadsen, *Public Utilities Fortnightly*, August 2005.

"Understanding Debt Imputation Issues," by Michael J. Vilbert, Bente Villadsen and Joseph B. Wharton, *Edison Electric Institute*, August 2007.

TESTIMONY

Direct and rebuttal testimony before the Alberta Energy and Utilities Board on behalf of TransAlta Utilities Corporation in the matter of an application for approval of its 1999 and 2000 generation tariff, transmission tariff, and distribution revenue requirement, October 1998.

Direct testimony before the Federal Energy Regulatory Commission on behalf of Central Maine Power in Docket No. ER00-982-000, December 1999.

Direct testimony before the Alberta Energy and Utilities Board on behalf of TransAlta Utilities Corporation for approval of its 2001 transmission tariff, May 2000.

Direct testimony before the Federal Energy Regulatory Commission on behalf of Mississippi River Transmission Corporation in Docket No. RP01-292-000, March 2001.

Written evidence, rebuttal, reply and further reply before the National Energy Board in the matter of an application by TransCanada PipeLines Limited for orders pursuant to Part I and Part IV of the *National Energy Board Act*, Order AO-1-RH-4-2001, May 2001, Nov. 2001, Feb. 2002.

Written evidence before the Public Utility Board on behalf of Newfoundland & Labrador Hydro - Rate Hearings, October 2001.

Direct testimony (with William Lindsay) before the Federal Energy Regulatory Commission on behalf of DTE East China, LLC in Docket No. ER02-1599-000, April 2002.

Direct and rebuttal reports before the Arbitration Panel in the arbitration of stranded costs for the City of Casselberry, FL, Case No. 00-CA-1107-16-L, July 2002.

Direct reports before the Arbitration Board for Petroleum products trade in the Arbitration of the Military Sealift Command vs. Household Commercial Financial Services, fair value of sale of the Darnell, October 2002.

Direct testimony and hearing before the Arbitration Panel in the arbitration of stranded costs for the City of Winter Park, FL, In the Circuit Court of the Ninth Judicial Circuit in and for Orange County, FL, Case No. C1-01-4558-39, December 2002.

Direct testimony before the Federal Energy Regulatory Commission on behalf of Florida Power Corporation, dba Progress Energy Florida, Inc. in Docket No. SC03-1-000, March 2003.

Direct report before the Arbitration Panel in the arbitration of stranded costs for the Town of Belleair, FL, Case No. 000-6487-C1-007, April 2003.

Direct and rebuttal reports before the Alberta Energy and Utilities Board in the matter of the Alberta Energy and Utilities Board Act, R.S.A. 2000, c. A-17, and the Regulations under it; in the matter of the Gas Utilities Act, R.S.A. 2000, c. G-5, and the Regulations under it; in the matter of the Public utilities Board Act, R.S.A. 2000, c. P-45, as amended, and the Regulations under it; and in the matter

of Alberta Energy and Utilities Generic Cost of Capital Hearing, Proceeding No. 1271597, July 2003, November 2003.

Written evidence before the National Energy Board in the matter of the National Energy Board Act, R.S.C. 1985, c. N–7, as amended, (Act) and the Regulations made under it; and in the matter of an application by TransCanada PipeLines Limited for orders pursuant to Part IV of the *National Energy Board Act*, for approval of Mainline Tolls for 2004, RH-2-2004, January 2004.

Direct and rebuttal testimony before the Public Service Commission of West Virginia, on Cost of Capital for West Virginia-American Water Company, Case No 04-0373-W-42T, May 2004.

Direct and rebuttal testimony before the Federal Energy Regulatory Commission on Energy Allocation of Debt Cost for Incremental Shipping Rates for Edison Mission Energy, Docket No. RP04-274-000, December 2004 and March 2005.

Direct testimony before the Arizona Corporation Commission, Cost of Capital for Paradise Valley Water Company, a subsidiary of Arizona-American Water Company, Docket No. WS-01303A-05, May 2005.

Written evidence before the Ontario Energy Board, Cost of Capital for Union Gas Limited, Inc., Docket No. EB-2005-0520, January 2006.

Direct and rebuttal testimony before the Pennsylvania Public Utility Commission, Return on Equity for Metropolitan Edison Company, Docket No. R-00061366 and Pennsylvania Electric Company, Docket No. R-00061367, April 2006 and August 2006.

Expert report in the United States Tax Court, Docket No. 21309-05, 34th Street Partners, DH Petersburg Investment, LLC and Mid-Atlantic Finance, Partners Other than the Tax Matters Partner, Petitioner, v. Commissioner of Internal Revenue, Respondent, July 28, 2006.

Direct and supplemental testimony before the Federal Energy Regulatory Commission, Docket No. ER06-427-003, on behalf of Mystic Development, LLC on the Cost of Capital for Mystic 8 and 9

Generating Plants Operating Under Reliability Must Run Contract, August 2006 and September 2006.

Direct testimony before the Federal Energy Regulatory Commission, Docket No. ER07-46-000, on behalf of Northwestern Energy Corporation on the Cost of Capital for Transmission Assets, October 2006.

Direct and rebuttal testimony before the Tennessee Regulatory Authority, Case No. 06-00290, on behalf of Tennessee American Water Company, on the Cost of Capital, November 2006 and April 2007.

Direct and rebuttal testimony before the Public Service Commission of Wisconsin, Docket No. 5-UR-103, on behalf of Wisconsin Energy Corporation, on the Cost of Capital for Wisconsin Electric Power Company and Wisconsin Gas LLC, May 2007 and October 2007.

Rebuttal testimony before the California Public Utilities Commission, Docket No. A. 07-01-036-39, on behalf of California-American Water Company, on the Cost of Capital, May 2007.

Direct and rebuttal testimony before the Public Utilities Commission of the State of South Dakota, Docket No. NG-07-013, on behalf of NorthWestern Corporation, on the Cost of Capital for NorthWestern Energy Company's natural gas operations in South Dakota, June 2007 and November 2007.

Direct testimony before the Public Utilities Commission of Ohio, Case No. 07-551-EL-AIR, Case No. 07-552-EL-ATA, Case No. 07-553-EL-AAM, and Case No. 07-554-EL-UNC, on behalf of Ohio Edison Company, The Toledo Edison Company, and The Cleveland Electric Illuminating Company, on the rate of return for the FirstEnergy Company's Ohio electric distribution utilities, June 2007.

Direct testimony before the State Corporation Commission of Virginia, Case No. PUE-2007-00066, on behalf of Virginia Electric and Power Company on the cost of capital for its southwest Virginia coal plant, July 2007.

Direct testimony before the Public Utilities Commission of Ohio, Case No. 07-829-GA-AIR, Case No. 07-830-GA-ALT, and Case No. 07-831-GA-AAM, on behalf of Dominion East Ohio Company, on the rate of return for Dominion East Ohio's natural gas distribution operations, September 2007.

Direct testimony before the Federal Energy Regulatory Commission, Docket No. ER08- -000, on behalf of Virginia Electric and Power Company, on the Cost of Capital for Transmission Assets, October 2007.

Direct and rebuttal testimony before the California Public Utilities Commission, Docket No. A. 07-01-22, on behalf of California-American Water Company, on the Effect of a Water Revenue Adjustment Mechanism on the Cost of Capital, October 2007 and November 2007.

Appendix B

SAMPLE SELECTION

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Appendix B

SAMPLE SELECTION

Q1. What is the purpose of this appendix?

A1. This appendix describes the sample selection procedure for forming the proxy groups and discusses their inter-relationships and limitations. The ideal sample would be a sample of Canadian regulated natural gas pipelines, but such a sample does not exist so I must rely upon other samples. Specifically, I examine the cost of capital for samples of Canadian Utilities, U.S. Gas local distribution companies ("Gas LDCs") and U.S. master limited partnerships ("MLPs") concentrated in the pipeline industry. Each sample is discussed below.

I. THE CANADIAN UTILITIES SAMPLE

Q2. How do you select the Canadian Utilities sample?

A2. The goal of the selection process for this sample is to create a sample of companies whose primary business is as a regulated utility in Canada with business risk generally similar to that of TQM.

To construct this sample, I started with the universe of Canadian companies classified as being in the utilities or energy industry group and categorized as either Electric, Gas, or Pipelines by FPInfomart.[1] I further restricted the sample to those companies that were listed in the FP500 Sales category which eliminated a number of smaller companies. I further eliminated companies without a Bloomberg ticker. This provided a sample of thirteen companies. I then applied additional selection criteria designed to narrow the sample to companies with characteristics similar to that of TQM. I also eliminated companies with unique circumstances which may bias the cost of capital estimates.

[1] The information was extracted in July 2007 from www.fpinformart.ca.

Q3. What are the additional selection criteria you applied?

A3. I eliminated all companies not traded on the Toronto Stock Exchange and companies with a high probability of financial distress.[2] Financial distress is measured by a bond rating of less than BBB-, which is the lowest investment grade credit rating.[3]

Finally, I eliminated companies whose 2006 total revenues were less than $300 million to avoid problems associated with small companies such as thin trading and size effects. Table No. MJV-2 reports whether a company's assets are primarily regulated, mostly regulated, or not regulated.[4] No companies were eliminated for having too low a percentage of regulated assets.

Q4. Why would you normally eliminate companies currently involved in a relatively large merger or acquisition from your sample?

A4. The stock prices of companies involved in mergers are often more affected by news relating to the merger than to movements in the stock market. In other words, the stock price begins to "decouple" from its normal relationship to the stock market (the economy) which is the basis upon which a company's cost of capital is calculated. Instead the stock price of a merger candidate is more affected by the latest speculation on the terms and probability of the merger. Merger activity by many of the remaining Canadian companies (though not necessarily large in relative terms) is another reason why I feel other sample groups should be considered as a cross-check on the Canadian sample results.

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[2] Usually, I would also eliminate companies that had dividend cuts during the relevant period. In this case, there are no companies eliminated for this reason.

[3] Credit ratings and associated yields were obtained from Bloomberg on August 28, 2007.

[4] I estimate the approximate percentage of each company's assets that are devoted to regulated activities and deem companies for which more than 80% of assets are regulated to be Regulated while companies with 50 to 79 percent regulated assets are Mostly Regulated, and companies who have less than 50 percent regulated assets are deemed Non-Regulated. For the MLP Pipelines sample the percentage of property, plant and equipment was used to be consistent with the information presented in Dr. Carpenter's Written Evidence.

Q5. What companies were eliminated because they do not trade on the Toronto Stock Exchange or due to lack of data?

A5. Hydro-Québec, British Columbia Hydro and Power Authority, Saskatchewan power Corporation, and, Union Gas Limited. No company trading on the Toronto Stock Exchange lacks data.

Q6. Were companies eliminated from the Canadian Utilities sample due to the magnitude of their annual revenues?

A6. Yes, Boralex Inc. and Pacific Northern Gas LTD all had 2006 revenues significantly below $300 million.

Q7. Were any other companies eliminated from the Canadian Utilities sample?

A7. Yes. To avoid double counting ATCO LTD was dropped because it belongs to the same group as Canadian Utilities. TransAlta was eliminated due to divestiture of its transmission assets. Lastly, I did not consider income funds for my sample. Not only is the procedure for reliably estimating their cost of capital complex at best, the tumultuous path they have experienced since the Federal government's announcement to alter their tax status in October 2006 makes them unsuitable candidates.

Q8. What companies constitute the Canadian Utilities sample?

A8. The final sample is comprised of five companies (Canadian Utilities, Emera, Enbridge, TransCanada, and Fortis).

Q9. Do you have any remaining concerns with the final sample?

A9. Unfortunately, these remaining companies have other issues which raise concerns. For example, several companies have non-regulated activities and assets. In addition, several companies have recently engaged in acquisition activities. For example, TransCanada acquired ANR Pipeline in February 2007 and thereby added a substantial amount to its

pipeline assets.[5] Similarly, Fortis Inc. acquired Terasen Gas in May 2007.[6] For these reasons, it is my opinion that additional samples are necessary to provide a more reliable estimate of the Company's cost of capital and its fair return on equity.

II. THE GAS LDC SAMPLE

Q10. How do you select the Gas LDC sample?

A10. To select this sample, I started with the universe of publicly traded natural gas distribution utilities covered by Value Line Investment Survey Plus. This resulted in an initial group of 23 companies, to which I added Vectren Corporation because it is often viewed as a natural gas LDC. Vectren is involved in both gas and electric distribution activities, but more of its regulated assets are invested in the gas distribution operations.[7] This company is also covered by Value Line, but is classified as an Electric Utility due to its regulated electric operations. I then eliminated companies by applying additional selection criteria designed to remove companies with unique circumstances which may bias the cost of capital estimates. The final sample consists of ten gas LDCs, from which I also consider a sub-sample of five companies with the fewest reliability concerns. Table No. MJV-13 reports the classification of the gas LDCs in my Gas LDC sample.

Q11. What are the other selection criteria you applied?

A11. I applied my standard criteria to narrow the sample to those companies likely to have reliable cost of equity estimates. Specifically, I eliminated all companies whose S&P bond rating as reported by Bloomberg was not investment grade, i.e., less than BBB-. To

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[5] TransCanada Press Release, February 22, 2007.

[6] Fortis Inc. Press Release, May 17, 2007.

[7] Vectren Utility Holdings, Inc.'s 2006 10K reveals that about 57 percent of its assets are regulated natural gas distribution assets and 37 percent are regulated electric assets. Because it has a substantial amount of regulated electric activity, I exclude it from the sub-sample of companies I consider to be the most representative of the natural gas distribution line of business and to be most free of characteristics that may bias cost of equity estimates.

guard against measurement bias caused by "thin trading," I also restricted the sample to companies with total operating revenues greater than $300 million (USD) in 2006 as reported by Bloomberg.[8] Companies with a large merger during the period January 2004 to August 2007 (i.e. the past three and a half years) were also generally removed from the sample, although two companies which would otherwise not survive the process were included since their primary merger activity occurred in 2004. These two companies were Atmos Energy and AGL Resources, and they were subsequently excluded from a sub-sample of cleanest companies I also considered as part of my analysis. The screen for merger activity was primarily done by scanning each company's news history on Bloomberg and a search of company web pages.[9]

Q12. Please elaborate on how companies were eliminated.

A12. Six companies were immediately eliminated due to a lack of long-term earnings per share ("EPS") growth rate estimates from Bloomberg. Of these, five also experienced dividend cuts and had either no bond rating or were rated less than BBB-. From the remaining companies, three were not rated and one had a rating of B+. Keyspan Corp. was eliminated for high levels of merger and acquisition activity ("M&A") and recent dividend cuts. UGI Corp. was removed for high levels of merger activity, and because it primarily sells propane which is not regulated. Southern Union was eliminated for its unusually high levels of M&A activity. Nicor Inc. was eliminated from the sample because it restated earnings for 1999-2001 and because it settled regulatory compliance issues with the Federal Energy Regulatory Commission ("FERC") in 2003.[10]

Q13. Are there any issues with the remaining companies in your sample?

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[8] Data from Bloomberg was as of August 28, 2007.

[9] This was done in August 2007.

[10] Nicor announced on October 29, 2002 that its earnings for 1999-2001 would be revised downwards by $15-$35 million. March 4, 2003, Nicor released its restated earnings for 1999-2001 along with 2002 earnings.

A13. Perhaps. Several companies in the sample engage in natural gas marketing activities or other non-regulated activities.[11,12] Given the turmoil of the energy trading markets, the companies' cost of capital estimates may be more volatile than those of more stable companies. Although still investment grade, Southwest Gas is at the bottom of the scale of investment grade credit ratings and has a relatively low average equity thickness over the past five years – 41 percent compared an average of 60 percent for the sample.[13] Closer investigation shows that Southwest Gas's capital structure has been shifting rapidly towards equity over the last five years, with a level of about 50 percent over the most recent two years. These factors suggest a potential reliability problem for estimates of this company's cost of capital at this time. The Laclede Group's market cap of about $685 million is a bit smaller than the average of the group and in 2006 the company reported significant income from non-regulated activities.[14] In 2006, Piedmont Natural Gas restated some portions of its 2003-2005 financial reports. Although this can generally lead to less reliable estimates from the equity estimation models, the restatements were not caused by fraudulent activities but were due to an accounting error in the classification of hedging amounts. This type of reclassification would not be expected to change the value of the firm and prices did not show any erratic behavior in the period surrounding the announcement of this reclassification. A potential concern for the DCF estimates is that the industry has experienced a sustained level of merger and acquisition activity over the last five years that has implications for the stability of the industry necessary for the reliable application of the DCF model. Due to the concerns with the sample, I also report the results for a sub-sample of the gas LDC sample that consists of companies with no material data issues.

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[11] See Attachment C to the Written Evidence of Dr. Carpenter for a description of each sample company.

[12] The percentages of regulated assets calculated for the samples are only estimates due to data reporting limitations.

[13] See Table No. MJV-15 and Workpaper #1 to Table No. MJV-15.

[14] See Attachment C to the Written Evidence of Dr. Carpenter.

III. THE MLP PIPELINES SAMPLE

Q14. How do you select the MLP Pipelines sample?

A14. The Master Limited Partnerships Pipelines ("MLP Pipelines") sample was selected by searching the Dividend Detective and the Publicly Traded Partnerships (PTP) websites.[15] Forty-nine companies were listed as owning pipelines. Of those forty-nine, eight had less than investment grade bond ratings, twenty six had no investment rating, one had mergers and acquisitions of over 100% of market capitalization, and four had distribution cuts. Of the ten remaining MLPs, four were strictly oil companies. The six remaining are Boardwalk Pipeline Partners, Kinder Morgan Energy Partners, TC Pipelines, Oneok Partners, Enbridge Energy Partners, and Enterprise Products Partners. Boardwalk Pipelines Partners only has two years of data in Bloomberg, while the rest have a full five years. All of the companies had a BBB debt rating, except for TC Pipelines which is A-rated. Because this sample is already small, Oneok Partners despite their merger and acquisition activity of 56% market capitalization, was not excluded.

Q15. Did you consider broadening the sample with other utility related MLPs?

A15. Yes. The addition of TEPPCO Partners, Buckeye Partners, NuStar Energy, and Sunoco Logistics Partners was considered, but a majority of their business comes from oil pipelines. Hence, I deemed it to be less representative of a natural gas pipeline in Canada.

Q16. Are there any issues with the remaining companies in this sample?

A16. Yes. Of these six companies, only Boardwalk Pipeline Partners, Oneok Partners, and TC Pipelines conduct a significant amount of business in the natural gas pipeline sector. Kinder Morgan Energy Partners, Enbridge Energy Partners, and Enterprise Products Partners have mixed operations in both crude oil pipelines and natural gas pipelines. Additionally, in recent years several of the companies have expanded their non-regulated

[15] Found at *www.dividenddetective.com* and *www.naptp.org* respectively.

activities, so that less than 50 percent of Oneok Partners' and Kinder Morgan Energy Partners' consolidated property, plant and equipment is regulated as of year-end 2006. However, in the past both companies have had additional regulated property, plant and equipment and now have additional off-balance sheet regulated assets. Therefore, I keep these companies in my sample of MLP Pipelines.

Q17. Above, you commented on data issues for the Canadian Utilities sample. Does the MLP Pipelines sample have data issues?

A17. Yes. There are several data issues with the sample. One company, Boardwalk Energy Partners, has only a about two years of data. The company does not have a *Value Line* beta estimate, so I relied on Bloomberg's estimate. In 2006 Oneok Partners sold part of its pipeline assets, including part of its interest in Northern Border Pipeline and no longer consolidates the pipeline in its financial statements.[16] Similarly, TC Pipelines does not consolidate its holdings in Northern Border Pipeline or Tuscarora Gas Transmission,[17] but accounts for these assets using the equity method of accounting. As noted in my written evidence, I make an adjustment to ensure that the capital structures reflect the debt of these particular equity investments. Further, as also noted, the MLP Pipelines sample companies generally do not disclose information about the fair value of their debt, so I approximated the difference between the fair value and the book value using the Gas LDC sample's ratio of market value to book value of debt. Moreover, two companies, Oneok Partners and Kinder-Morgan Energy Partners appear to have begun investing in non-regulated assets such as gathering systems, natural gas liquids and other energy assets.[18] These factors are described in more detail in my written evidence. Table 3 in my written evidence summarizes the sample's characteristics.

[16] Oneok Partners' 2006 10-K.

[17] TC Pipelines 2006 Annual report.

[18] Oneok Partners' 2006 10-K p. 64. Kinder Morgan Energy Partners' 2006 10-K p. 32.

Appendix C

RISK POSITIONING APPROACH METHODOLOGY: DETAILED PRINCIPLES AND RESULTS

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Appendix C

RISK POSITIONING APPROACH METHODOLOGY: DETAILED PRINCIPLES AND RESULTS

Q1. What is the purpose of this appendix?

A1. This appendix describes the estimation of the parameters used in the equity risk premium models and the details of the cost of capital estimates obtained from this methodology.

I. RISK-FREE INTEREST RATE FORECAST

Q2. How do you obtain the forecasts of the risk-free interest rate?

A2. I rely on interest rate forecasts from Consensus Economics Inc., a London-based forecast survey firm which provides forecasts of interest rates, inflation rates and other economic indicators for many countries worldwide. In particular, I use the August 13, 2007 *Consensus Forecasts* which forecasts a 4.80 percent yield for the 10-year Canadian Government bonds for the year ending August 2008.[1]

I add a maturity premium of 20 basis points to the 10-year bond yield forecast to adjust the forecast to the average maturity of the long-term bond yields used to estimate the long-term MRP. The bond maturity premium represents the extra return investors demand for tying up their money for longer periods. The addition of the maturity premium is necessary for consistency so that the average bond maturities in the data used to estimate the long-term market risk premium correspond to the maturity of the benchmark for the long-term risk free rate.[2] The addition of the maturity premium provides a yield forecast for Canadian bonds with 15 to 18 years of maturity.

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[1] See *Consensus Forecasts*, Survey Date, August 13, 2007 published by Consensus Economics, Inc.

[2] The 20 basis point addition is a conservative estimate of the premium that investors require to hold bonds with a maturity of 15-18 years instead of bonds with a maturity of 10 years. The estimate is derived from a yield curve constructed from the historical average maturity premiums of Canadian Government bonds from 1951 through 2006 for bonds with five different average maturities (See Workpaper #3 to Table No. MJV-9).

Q4. What value do you use for the long-term risk-free interest rate in the risk positioning models?

A4. I use a value of 5.0 percent for the long-term risk-free interest rate as the benchmark interest rates in the equity risk premium analyses.

II. MARKET RISK PREMIUM ESTIMATION

Q5. How do you estimate the MRP?

A5. There is presently little consensus on "best practice" for estimating the MRP (which is not the same thing as saying that all practices are equally good). For example, the latest edition of the leading U.S. graduate textbook in corporate finance, after recommending use of the arithmetic average realized excess return on the market for many years (which for a while was noticeably over 9 percent in the U.S.), reviews the current state of the research and expresses the view that a range between 5.0 to 8.0 percent (short-term MRP) is reasonable for the U.S.[3,4]

A top selling text in corporate finance in Canada calculates the average arithmetic market risk premium in Canada to be 6.53 percent over the period 1948-2003 but only 3.84 percent for the period 1957 to 2003.[5] The authors conclude by suggesting that a (short-term) MRP "of around 4 percent is a quite reasonable prediction for the equity MRP in Canada looking to the future. However, we do have to acknowledge that this remains a controversial issue about which experts disagree."[6]

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[3] Richard A. Brealey, Stewart C. Myers and Franklin Allen, *Principles of Corporate Finance,* McGraw-Hill, 8th edition, 2006, pp. 151-154.

[4] In past editions, the authors expressed the view that they are "most comfortable" with values toward the upper end of that range, but this language does not appear in the 8th edition. Although Professor Myers still holds this view, this language and other sections were dropped to accommodate a request to reduce the length of the text.

[5] Stephen A. Ross, Randolph W. Westerfield, Jeffrey F. Jaffe, and Gordon S. Roberts, *Corporate Finance*, 4th Canadian ed, McGraw-Hill Ryerson (2005), pp.268- 283.

[6] *Ibid.*, p. 282.

My written evidence considers both the historical evidence and the results of scholarly studies of the factors that affect the risk premium for average-risk stocks in order to estimate the benchmark risk premium investors currently expect. I consider the historical differences between the S&P/TSX Composite Index[7] ("S&P/TSX") and the risk-free rate for the Canadian market risk premium, historical differences between the Standard & Poor's 500 ("S&P 500") and the risk-free rate for the U.S. market risk premium, and the relationship between the market returns in Canada and in the U.S. Finally, I reviewed Ibbotson Associates discussion on the "International Cost of Capital" in the *SBBI: Valuation Edition 2007 Yearbook*.[8] The international cost of equity models reviewed in Ibbotson result in estimates of the Canadian MRP that are greater than the MRP in the U.S. rather than less as is the result based upon historical realized returns.

Q6. Please summarize the recent literature on the MRP and the conclusions you draw from it?

A6. Research based upon U.S. data challenges the conventional wisdom of using arithmetic average historical excess returns to estimate the MRP. However, after reviewing the issues in the debate, I remain skeptical for several reasons that the market risk premium has declined substantially in the U.S. or in Canada.

First, despite eye-catching claims like "equity risk premium as low as three percent,"[9] and "the death of the risk premium,"[10] not all recent research arrives at the same conclusion. In his presidential address to the American Finance Association in

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[7] Prior to May 1, 2002 the key index on the Toronto Stock Exchange was the TSE 300 composite index ("TSE 300") which was always composed of 300 companies. The index was replaced by the S&P/TSX composite index on May 1, 2002. The number of companies in the latter index is not fixed but consists of those companies that meet Standard & Poor's inclusion criteria.

[8] See *SBBI: Valuation Edition 2007 Yearbook*, pp. 175-184.

[9] Claus, J. and J. Thomas, (2001), "Equity Risk Premium as Low as Three Percent: Evidence from Analysts' Earnings Forecasts for Domestic and International Stocks," *Journal of Finance* 56:1629-1666.

[10] Arnott, R. and R. Ryan, (2001), "The Death of the Risk Premium," *Journal of Portfolio Management* 27(3):61-84.

2001, Professor Constantinides seeks to estimate the unconditional equity premium based on average historical stock returns.[11] (Note that this address was based upon evidence just before the major fall in market value.) He adjusts the average returns downward by the change in price-earnings ratio because he assumes no change in valuations in an unconditional state. His estimates for 1926 to 2000 and 1951 to 2000 are 8.0 percent and 6.0 percent, respectively, over the 3-month T-bill rate. In another published study in 2001, Professors Harris and Marston use the DCF method to estimate the market risk premium for the U.S. stocks.[12] Using analysts' forecasts to proxy for investors' expectation, they conclude that over the period 1982-1998 the MRP over the **long-term risk-free rate** is 7.14 percent. As yet another example, the paper by Drs. Ibbotson and Chen (2003) adopts a supply side approach to estimate the forward looking long-term sustainable equity returns and equity risk premium based upon economic fundamentals. Their equity risk premium **over the long-term risk-free rate** is estimated to be 3.97% in geometric terms and 5.90% on an arithmetic basis. They conclude their paper by stating that their estimate of the equity risk premium is "far closer to the historical premium than being zero or negative."[13] It is also noteworthy that the most recent edition of Ibbotson Associates' annual yearbook updates this study with more recent data and estimate an MRP of 6.35 percent.[14]

Second, Professor Ivo Welch surveyed a large group of financial economists in 1998 and 1999. The average of the estimated MRP was 7.1 percent in Prof. Welch's first survey[15] and 6.7 percent in his second survey which was based on a smaller number of

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[11] Constantinides, G.M. (2002), "Rational Asset Prices," *Journal of Finance* 57:1567-1591.

[12] Robert S. Harris and Felicia C. Marston (2001), "The Market Risk Premium: Expectational Estimates Using Analysts' Forecasts," *Journal of Applied Finance* 11 (1) 6-16.

[13] Ibbotson, R. and P. Chen (2003), "Stock Market Returns in the Long Run: Participating in the Real Economy," *Financial Analyst Journal*, 59(1):88-98. Cited figures are on p. 97.

[14] Ibbotson Associates, Stocks, Bonds, Bills, and Inflation: Valuation Edition, 2007 Yearbook, p. 98.

[15] Ivo Welch (2000), "Views of Financial Economists on the Equity Premium and on Professional Controversies," *Journal of Business*, 73(4):501-537. The cited figures are in Table 2 p. 514.

individuals. However, a more recent survey by Prof. Welch reported only a 5.5 percent MRP.[16] In characterizing these results Prof. Welch notes that "[T]he equity premium consensus forecast of finance and economics professors seems to have dropped during the last 2 to 3 years, a period with low realized equity premia."[17]

The above quotation from Prof. Welch emphasizes the caution that must attend survey data even from knowledgeable survey participants: the outcome is likely to change quickly with changing market circumstances. Regulators should not, in my opinion, attempt to keep pace with such rapidly changing opinions.

Third, some of the evidence for negative or close to zero market risk premium simply does not make sense. Despite relatively high valuation levels, stock returns remain much more volatile than Treasury bond returns. I am not aware of any empirical or theoretical evidence showing that investors would rationally hold equities and not expect to earn a positive risk premium for bearing the risk.

Fourth, I am unaware of a convincing theory for why the future MRP should have substantially declined. At the height of the stock market bubble in the U.S. and Canada, many claimed that the only way to justify the high stock prices would be if the MRP had declined dramatically,[18] but this argument is heard less frequently now that the market has declined substantially. All else equal, a high valuation ratio such as price-earnings ratio implies a low required rate of return, hence a low MRP. However, there is considerable debate about whether the high level of stock prices (despite the burst of the internet bubble in the last couple of years) represents the transition to a new economy or is simply an "irrational exuberance," which cannot be sustained for the long term. If the former case is true, then the MRP may have decreased permanently. Conversely, the long-run MRP may remain the same even if expected market returns in the short-term are smaller.

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[16] Ivo Welch, 2001, "The Equity Premium Consensus Forecast Revisited," School of Management at Yale University working paper. The cited figure is in Table 2.

[17] *Ibid.*, p. 8.

[18] See Robert D. Arnott and Peter L. Bernstein (2002), "What Risk Premium is 'Normal'?", *Financial Analysts Journal* 58:64-85, for an example.

Another common argument for a lower expected MRP is that the U.S. experienced very remarkable growth in the 20th century that was not anticipated at the start of the century. As a result, the average realized excess return is overestimated meaning the standard method of estimating the MRP would be biased upward. However, one recent study by Profs. Jorion and Goetzmann[19] finds, under some simplifying assumptions, that the so-called "survivorship bias" is only 29 basis points[20] and a more recent working paper by Dimson, Marsh, and Staunton find a survivorship bias of only 0.1 percent.[21] Furthermore, "[I]f investors have overestimated the equity premium over the second half of the last century, Constantinides (2002) argues that 'we now have a bigger puzzle on our hands'" Why have investors systematically biased their estimates over such a long horizon?[22]

There are also a number of papers that argue that the MRP is variable and depends on a broad set of economic circumstances. For example, Mayfield (2004) estimates the MRP in a model that explicitly accounts for investment opportunities. He models the process that governs market volatility and finds that the MRP varies with investment opportunities which are linked to market volatility. Thus, the MRP varies with investment opportunities and about half of the measured MRP is related to the risk of future changes in investment opportunities. Based on this approach Mayfield estimates

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[19] Jorion, P., and W. Goetzmann (1999), "Global Stock Markets in the Twentieth Century," *Journal of Finance* 54:953-980.

[20] Dimson, Marsh, and Staunton (2003), "Global Evidence on the Equity Risk Premium," Journal of Applied Corporate Finance, 15, pp. 27-38 make a similar point when they comment on the equity risk premia for 16 countries based on returns between 1900 and 2001: "While the United States and the United Kingdom have indeed performed well, compared to other markets there is no indication that they are hugely out of line." p.4.

[21] Dimson, E., P. Marsh, and M. Staunton (2006), "The Worldwide Equity Premium: A Smaller Puzzle," Working Paper, London Business School, April 2006, p. 22.

[22] Mehra, R., and E.C. Prescott (2003), "The Equity Premium in Retrospect," in *Handbook of the Economics of Finance*, Edited by G.M. Constantinides, M. Harris and R. Stulz, Elsevier B.V, p. 926

the U.S. MRP to be 5.6 percent measured since 1940.[23] However, the problem with such an approach is determining when the MRP has changed and by how much.

To sum up the above, I cite two passages from Profs. Mehra and Prescott's review of the theoretical literature on the equity premium puzzle:[24]

> Even if the conditional equity premium given current market conditions is small, and there appears to be general consensus that it is, this in itself does not imply that it was obvious either that the historical premium was too high or that the equity premium has diminished.
>
> In the absence of this [knowledge of the future], and based on what we currently know, we can make the following claim: over the long horizon the equity premium is likely to be similar to what it has been in the past and the returns to investment in equity will continue to substantially dominate that in T-bills for investors with a long planning horizon.

Q7. Is there other scholarly discussion on the value of the MRP?

A7. Yes. Another line of research was pursued by Steven N. Kaplan and Richard S. Ruback. They estimate the market risk premium in their article, "The Valuation of Cash Flow Forecasts: An Empirical Analysis."[25] Professors Kaplan and Ruback compare published cash flow forecasts for management buyouts and leveraged recapitalization over the 1983 to 1989 period against the actual market values that resulted from these transactions. One of their results is an estimate of the market risk premium over the long-term Treasury bond yield that is based on careful analysis of actual major investment decisions, not realized market returns. Their median estimate is 7.78 percent and their mean estimate is 7.97 percent.[26] This is considerably higher than my estimate of 6.5 percent for the U.S. Even if the maturity premium of Treasury bonds over Treasury bills were only 1 percent,

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[23] E. Scott Mayfield (2004), "Estimating the market risk premium," Journal of Financial Economics 73, pp. 465-496.

[24] Mehra, R., and E.C. Prescott, *op cit.*, p. 926.

[25] *Journal of Finance*, 50, September 1995, pp. 1059-1093.

[26] *Ibid*, p. 1082.

well below the best estimate of 1.5 percent, the resulting estimate of the market risk premium over Treasury bills is higher than my estimate of 8.0 percent for the U.S. Because the capital markets in the U.S. and Canada are becoming increasingly integrated, the MRP in Canada will be affected by the investment opportunities in the U.S. and the rest of the world. For example, in a recent study of Canadian utilities Standard & Poor's noted that "[b]oth utilities and power income funds are focused on opportunities south of the Canada-U.S. border."[27]

Q8. Please review the evidence on the historical market risk premium in Canada?

A8. I consider evidence on two different measures of the historical MRP. The first is for use with the short-term risk free rate and the other is based on the constant maturity yields of long-term government bonds. The short-term measure is the average return on the market minus the average annual total return on 3-month Treasury bills. The second measure subtracts the average annual total return on long-term government bonds. The data are from the Report on Canadian Statistics 1924-2006. (See Workpaper #2 to Table No. MJV-9)

From 1936 to 2006, the full period for which long-term Government bond total returns are reported, the data show that the average premium of stocks over three-month Government bills is 6.6 percent. I also examine the "post-War" period. The risk premium for 1948-2006 is also 6.7 percent. (I exclude 1946 and 1947 because their economic statistics appear to be heavily influenced by the War years. They are not really "post-War" years, from an economic viewpoint.) The average risk premium is even higher at 7.1 percent if the full period of data, 1934-2006, for the short-term rate is used.[28] Subtracting the average maturity premium of about one percent for long-term bond yields over Treasury bill yields gives an estimate of 5.5 to 6.0 percent for the MRP over long-

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[27] Standard & Poor's RatingsDirect, "Industry Report Card: Top Seven Canadian Utilities Reflect Ongoing Sector Stability," October 27, 2006.

[28] Historical data on Government bond yields are not available until 1936 although information on 3-month Treasury bills is available in 1934. Total return on long-term Government bonds extends from 1924.

term bonds.[29] The average premium over the total return on long-term Government bonds is 5.4% for the period 1924 to 2006, the longest period for the available data.[30] The average premium is 5.1 percent for the 1936 to 2006 period and 5.6 percent for the post-war period, 1948 to 2006.

Q9. What is the "long-run realized risk premium"in the U.S.?

A9. From 1926 to 2006, the full period reported, Ibbotson Associates data show that the average premium of stocks over Treasury bills is 8.6 percent[31]. I also examine the "post-War" period. The risk premium for 1947-2006 is 8.4 percent. (I exclude 1946 because its economic statistics are heavily influenced by the War years; *e.g.*, the end of price controls yielded an inflation rate of 18 percent. It is not really a "post-War" year, from an economic viewpoint.) These averages often change slightly when another year of data is added to the Ibbotson series. However, as discussed above, there has been a great deal of academic research on the MRP done recently. This research has put practitioners in a dilemma: there is nothing close to a consensus about how the MRP should be estimated, but a general agreement in the academic community seems to be emerging that the old approach of using the average realized return over long periods gives too high an answer.

For the MRP over the long-term risk-free rate, the Ibbotson Associates data show that the average maturity premium of government bond yields over one month Treasury bills is about 1.5 percent. This suggests that stocks of average risk have commanded a premium of about 7.1 percent over the long-term risk-free rate and a market risk premium of 8.6 percent over the short-term risk-free rate in the U.S.

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[29] Recall that the maturity premium is the difference in yield for bonds of longer maturity over those with shorter maturity.

[30] The Canadian Government bonds used to estimate the long-term market risk premium represents bonds having an average maturity of 18 years.

[31] Ibbotson Associates, *Stocks, Bonds, Bills, and Inflation: Valuation Edition*, 2007 Yearbook, Appendix A.

Q10. How do you use these estimates of the U.S. MRP to help determine the appropriate Canadian MRP?

A10. The increasing integration of the Canadian capital markets with those in the U.S., which is generally considered to have a higher MRP than Canadian markets, is likely to result in a narrowing of the difference in MRP, resulting in a slight increase in the Canadian MRP. Any estimate of the MRP for Canada must therefore consider the size of the MRP in United States as an important factor in determining the MRP for Canada.

Q11. Given all of the evidence, what is your conclusion on the MRP in Canada?

A11. It is clear that market return information is volatile and difficult to interpret, but my judgment is that the best available evidence on the MRP in Canada is that it lies in the range of 5.25 to 6 percent relative to the long-term risk free rate. This is consistent with a recent study of the MRP for 16 countries using data from more than 100 years (1900 to 2001) by Profs. Dimson, Marsh, and Staunton who report a 5.5 percent arithmetic mean excess return for Canada, over both the long-term and short-term risk-free rate.[32] In a more recent working paper by the same authors, the historical equity premium relative to bonds is 5.67 percent for the period 1900-2005.[33] Dimson, Marsh and Staunton (2007)[34] find an arithmetic equity premium of 5.9 percent over bills (5.7 percent relative to bonds) in Canada for 1900-2006. The realized historical risk premium varies, but the evidence from U.S. market data, scholarly articles and the models referenced in the Ibbotson Yearbook together lead to the conclusion that the MRP is likely to be at the upper end of the range so that 5.75 percent is a reasonable estimate of the risk premium over long-term bonds in Canada.

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[32] See Table 1 of Dimson, E., R. Marsh, and M. Staunton (2003), "Global Evidence on the Equity Risk Premium," *Journal of Applied Corporate Finance*, Volume 15, No. 4, pp. 27-38.

[33] Dimson, E., F. Marsh, and M. Staunton (2006), op. cit., p. 18.

[34] E.R. Dimson, R. Marsh and M. Stauton (2007), "Global Investment Returns Yearbook 2007," ABN-AMRO p. 44.

III. COST OF CAPITAL ESTIMATES

Q11. How do you obtain the final parameter, the beta estimate for your sample companies?

A11. I obtain the beta estimates for my Canadian Utilities sample from Bloomberg and the estimates for the Gas LDC and MLP Pipelines sample companies from *Value Line Investment Survey*. The details of the beta estimates are discussed in my written evidence *Section IV*.1.[35]

Q13. Now that the basic parameters for the risk positioning model have been collected, how do you estimate the cost of equity values for the sample companies?

A13. The procedures for all three samples are basically the same, and for each sample the calculations are displayed in three tables. The first table, e.g., Table No. MJV-10 for the Canadian Utilities sample, presents three cost of equity estimates corresponding to the three versions of the equity risk premium method based upon the long-term risk-free rate. The first estimate is the CAPM estimate and the next two rely upon values of α of one and two percent in the ECAPM. The corresponding tables for the other two samples are Table No. MJV-20 (Gas LDC sample), Table No. MJV-26 (MLP Pipelines sample).

Q14. How do you use the cost of equity results to estimate the companies' overall cost of capital?

A14. For the Canadian Utilities sample, the second of the three tables implementing the risk positioning approach combine the cost of equity estimates from the first table with the sample's average market-value capital structure, cost of debt and preferred and TQM's marginal tax rate to estimate the ATWACC for the sample. These calculations are displayed in Table No. MJV-11 for the Canadian Utilities sample.

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[35] *Value Line Investment Survey*, June 15 and June 29, 2007 for the Gas LDC sample. *Value Line Investment Survey* August 3, August 17, and September 14, 2007 for the MLP Pipelines sample. Bloomberg as of August 28, 2007.

For the Gas LDC sample and the MLP Pipelines sample, the procedures are the same except that the cost of equity estimates for each individual sample company from the first table in the risk positioning calculations are combined with the individual company's market value capital structure information and the Company's tax rate to estimate the after-tax weighted average cost of capital for each individual company. These calculations are displayed in Table No. MJV-21, Panels A, B and C (Gas LDC sample) and in Table No. MJV-27, Panels A, B, and C (MLP Pipelines sample). Sample averages are reported in the bottom row of each panel.

Q15. How do you use the sample estimates of the ATWACC to determine what the results imply about the appropriate return on equity at 40 percent deemed equity ratio for TQM?

A15. For each of the three samples, the next step in the risk positioning analysis uses the sample representative ATWACC from each panel of the second table (i.e., Table No. MJV-11 for the Canadian Utilities sample, Table No. MJV-21 for the Gas LDC sample, and Table No. MJV-27 for the MLP Pipelines sample). Each estimate of the sample's representative ATWACC is reproduced in column one of the third set of tables (Table No. MJV-12 for the Canadian Utilities sample, Table No. MJV-22 for the Gas LDC sample, Table No. MJV-28 for the MLP Pipelines sample). The third table then reports the return on equity (Column [6]) consistent with each of the three estimates of the sample's average risk positioning ATWACC and a deemed equity ratio of 40 percent for TQM. The sample average ATWACCs and corresponding ROE estimates for each of the samples are displayed in Table 1 in my written evidence.

Q16. What do these values imply for the fair return on equity for TQM?

A16. I discuss the implications of the equity risk positioning results in the main body of my written evidence.

Q17. Does this complete Appendix C?

A17. Yes, except for the Table MJV-C1 which provides the academic references upon which I rely to estimate the value of the α parameter for use in the Empirical Capital Asset Pricing Model.

WRITTEN EVIDENCE OF
MICHAEL J. VILBERT

Table MJV-C1

EMPIRICAL EVIDENCE ON THE ALPHA FACTOR IN ECAPM*

AUTHOR	RANGE OF ALPHA	PERIOD RELIED UPON
Black (1993)[1]	1% for betas 0 to 0.80	1931-1991
Black, Jensen and Scholes (1972)[2]	4.31%	1931-1965
Fama and McBeth (1972)	5.76%	1935-1968
Fama and French (1992)[3]	7.32%	1941-1990
Litzenberger and Ramaswamy (1979)[4]	5.32%	1936-1977
Litzenberger, Ramaswamy and Sosin (1980)	1.63% to 3.91%	1926-1978
Pettengill, Sundaram and Mathur (1995)[5]	4.6%	1936-1990

* The figures reported in this table are for the longest estimation period available and, when applicable, use the authors' recommended estimation technique. Many of the articles cited also estimate alpha for sub-periods which may vary.

1 Black estimates alpha in a one step procedure rather than in an un-biased two-step procedure.
2 Estimate a negative alpha for the subperiod 1931-39 which contain the depression years 1931-33 and 1937-39.
3 Calculated using Ibbotson's data for the 30-day treasury yield.
4 Relies on Lizenberger and Ramaswamy's before-tax estimation results. Comparable after-tax alpha estimate is 4.4%.
5 Pettengill, Sundaram and Mathur rely on total returns for the period 1936 through 1990 and use 90-day treasuries. The 4.6% figure is calculated using auction averages 90-day treasuries back to 1941 as no other series were found this far back.

Sources:

Black, Fischer. 1993. Beta and Return. *The Journal of Portfolio Management* 20 (Fall): 8-18.

Black, F., Michael C. Jensen, and Myron Scholes. 1972. The Capital Asset Pricing Model: Some Empirical Tests, from Studies in the theory of Capital Markets. In *Studies in the Theory of Capital Markets*, edited by Michael C. Jensen, 79-121. New York: Praeger.

Fama, Eugene F. and James D. MacBeth. 1972. Risk, Returns and Equilibrium: Empirical Tests. *Journal of Political Economy* 81 (3): 607-636.

Fama, Eugene F. and Kenneth R. French. 1992. The Cross-Section of Expected Stock Returns. *Journal of Finance* 47 (June): 427-465.

Litzenberger, Robert H. and Krishna Ramaswamy. 1979. The Effect of Personal Taxes and Dividends on Capital Asset Prices, Theory and Empirical Evidence. *Journal of Financial Economics* XX (June): 163-195.

Litzenberger, Robert H. and Krishna Ramaswamy and Howard Sosin. 1980. On the CAPM Approach to Estimation of a Public Utility's Cost of Equity Capital. *The Journal of Finance* 35 (2): 369-387.

Pettengill, Glenn N., Sridhar Sundaram and Ike Mathur. 1995. The Conditional Relation between Beta and Returns. *Journal of Financial and Quantitative Analysis* 30 (1): 101-116.

Appendix D

DISCOUNTED CASH FLOW METHODOLOGY: DETAILED PRINCIPLES AND RESULTS

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Appendix D

DISCOUNTED CASH FLOW METHODOLOGY: DETAILED PRINCIPLES AND RESULTS

Q1. What is the purpose of this appendix?

A1. This appendix reviews the principles behind the discounted cash flow or "DCF" methodology and the details of the cost of capital estimates obtained from this methodology.

I. DISCOUNTED CASH FLOW METHODOLOGY PRINCIPLES

Q2. How is this section of the appendix organized?

A2. The first part discusses the general principles that underlie the DCF approach. The second portion describes the strengths and weaknesses of the DCF model and why it is generally less reliable for estimating the cost of capital for the sample companies at the present time than the risk positioning method discussed in Appendix C.

A. SIMPLE AND MULTI-STAGE DISCOUNTED CASH FLOW MODELS

Q3. Please summarize the DCF model.

A3. The DCF model takes the first approach to cost of capital estimation discussed with Figure 1 in Section II-A of my written evidence. That is, it attempts to measure the cost of equity in one step. The method assumes that the market price of a stock is equal to the present value of the dividends that its owners expect to receive. The method also assumes that this present value can be calculated by the standard formula for the present value of a cash flow stream:

$$P = \frac{D_1}{(1+k)} + \frac{D_2}{(1+k)^2} + \ldots + \frac{D_T}{(1+k)^T} \qquad \text{(D-1)}$$

where "P" is the market price of the stock; "D_i" is the dividend cash flow expected at the end of period i; "k" is the cost of capital; and "T" is the last period in which a dividend cash flow is to be received. The formula just says that the stock price is equal to the sum of the expected future dividends, each discounted for the time and risk between now and the time the dividend is expected to be received.

Most DCF applications go even further, and make very strong (*i.e.*, unrealistic) assumptions that yield a simplification of the standard formula, which then can be rearranged to estimate the cost of capital. Specifically, if investors expect a dividend stream that will grow forever at a steady rate, the market price of the stock will be given by a very simple formula,

$$P = \frac{D_1}{(k-g)} \qquad \text{(D-2)}$$

where "D_1" is the dividend expected at the end of the first period, "g" is the perpetual growth rate, and "P" and "k" are the market price and the cost of capital, as before. Equation D-2 is a simplified version of Equation D-1 that can be solved to yield the well known "DCF formula" for the cost of capital:

$$k = \frac{D_1}{P} + g = \frac{D_0 x (1+g)}{P} + g \qquad \text{(D-3)}$$

where "D_0" is the current dividend, which investors expect to increase at rate g by the end of the next period, and the other symbols are defined as before. Equation D-3 says that if Equation D-2 holds, the cost of capital equals the expected dividend yield plus the (perpetual) expected future growth rate of dividends. I refer to this as the simple DCF model. Of course, the "simple" model is simple because it relies on very strong (*i.e.*, very unrealistic) assumptions.

Q4. Are there other versions of the DCF models besides the "simple" one?

A4. Yes. If Equation D-2 does not hold, sometimes other variations of the general present value formula, Equation D-1, can be used to solve for k in ways that differ from Equation D-3. For example, if there is reason to believe that investors do *not* expect a steady growth rate forever, but rather have different growth rate forecasts in the near term (e.g., over the next five or ten years), these forecasts can be used to specify the early dividends in Equation D-1. Once the near-term dividends are specified, Equation D-2 can be used to specify the share price value at the end of the near-term (e.g., at the end of five or ten years), and the resulting cash flow stream can be solved for the cost of capital using Equation D-1.

More formally, the "multi-stage" DCF approach solves the following equation for k:

$$P = \frac{D_1}{(1+k)} + \frac{D_2}{(1+k)^2} + \ldots + \frac{D_T + P_{TERM}}{(1+k)^T} \quad . \tag{D-4}$$

The terminal price, P_{TERM} is estimated as

$$P_{TERM} = \frac{D_{T+1}}{(k - g_{LR})} \tag{D-5}$$

where T is the last of the periods in which a near term dividend forecast is made and g_{LR} is the long-run growth rate. Thus, Equation D-4 defers adoption of the very strong perpetual growth assumptions that underlie Equation D-2 — and hence the simple DCF formula, Equation D-3 — for as long as possible, and instead relies on near term knowledge to improve the estimate of k. I examine both simple and multistage DCF results below.

Q5. What are the merits of the DCF model?

A5. The DCF approach is conceptually sound if its assumptions are met but can run into difficulty in practice because those assumptions are so strong, and hence so unlikely to correspond to reality. Two conditions are well-known to be necessary for the DCF approach to yield a reliable estimate of the cost of capital: the variant of the present value formula, Equation D-1, that is used must actually match the variations in investor expectations for the dividend growth path; and the growth rate(s) used in that formula must match current investor expectations. Less frequently noted conditions may also create problems.

The DCF model assumes that investors expect the cost of capital to be the same in all future years. Investors may not expect the cost of capital to be the same, which can bias the DCF estimate of the cost of capital in either direction.

The DCF model only works for companies for which the standard present value formula works. The standard formula does *not* work for companies that operate in industries or markets that are unstable or for options (*e.g.*, puts and calls on common stocks), and so it will not work for companies whose stocks behave as options do. Option-pricing effects will be important for companies in financial distress, for example, which implies the DCF model will *understate* their cost of capital, all else equal.

In recent years even the most basic DCF assumption, that the market price of a stock in the absence of growth options is given by the standard present value formula (*i.e.*, by Equation D-1 above), has been called into question by a literature on market volatility.[1] In any case, it is still too early to throw out the standard formula, if for no other reasons than that the evidence is still controversial and no one has offered a good

[1] See for example, Robert J. Shiller (1981), "Do Stock Prices Move Too Much to be Justified by Subsequent Changes in Dividends?," *The American Economic Review*, Vol. 71, No. 3, pp. 421-436. John Y. Campbell and Robert J. Shiller (1988), " The Dividend-Price Ratio and Expectations of Future Dividends and Discount Factors," *The Review of Financial Studies*, Vol. 1, No. 3, pp. 195-228. Lucy F. Ackert and Brian F. Smith (1993), "Stock Price Volatility, Ordinary Dividends, and Other Cash Flows to Shareholders," *Journal of Finance*, Vol. 48, No. 1, pp. 1147-1160. Eugene F. Fama and Kenneth R. French (2001), "Disappearing Dividends: Changing Firm Characteristics or Lower Propensity to Pay?," *Journal of Financial Economics*, Vol. 60, pp. 3-43. Borja Larrain and Motohiro Yogo (2005), "Does Firm Value Move Too Much to be Justified by Subsequent Changes in Cash Flow?," Federal Reserve Bank of Boston, *Working Paper*, No. 05-18.

replacement. But the evidence suggests that it must be viewed with more caution than financial analysts have traditionally applied. Simple models of stock prices may not be consistent with the available evidence on stock market volatility.

Q6. Normally DCF debates center on the right growth rate. What principles underlie that choice?

A6. Finding the right growth rate(s) is indeed the usual "hard part" of a DCF application. The original approach to estimation of *g* relied on average historical growth rates in observable variables, such as dividends or earnings, or on the "sustainable growth" approach, which estimates *g* as the average book rate of return times the fraction of earnings retained within the firm. But it is highly unlikely that historical averages over periods with widely varying rates of inflation, interest rates and costs of capital, such as in the relatively recent past, will equal current growth rate expectations.

A better approach is to use the growth rates currently expected by investment analysts, if an adequate sample of such rates is available. If this approach is feasible and if the person estimating the cost of capital is able to select the appropriate version of the DCF formula, the DCF method should yield a reasonable estimate of the cost of capital for companies not in financial distress and without material option-pricing effects (always subject to recent concerns about the applicability of the basic present value formula to stock prices as well as issues of optimism bias). However, for the DCF approach to work, the basic stable-growth assumption must become reasonable and the underlying stable-growth rate must become determinable *within the period for which forecasts are available*.

Q7. What is the so called "optimism bias" in the earnings growth rate forecasts of security analysts and what is its effect on the DCF analysis?

A7. Optimism bias is related to the observed tendency for analysts to forecast earnings growth rates that are higher than are actually achieved. This tendency to over estimate growth

rates is perhaps related to incentives faced by analysts that provide rewards not strictly based upon the accuracy of the forecasts. To the extent optimism bias is present in the analysts' earnings forecasts, the cost of capital estimates from the DCF model would be too high.

Q8. Does optimism bias mean that the DCF estimates are completely unreliable?

A8. No. The effect of optimism bias is least likely to affect DCF estimates for large, rate regulated companies in relatively stable segments of an industry. Furthermore, the magnitude of the optimism bias (if any) for regulated companies is not clear. This issue is addressed in a paper by Chan, Karceski, and Lakonishok (2003) who sort companies on the basis of the size of the I/B/E/S forecasts to test the level of optimism bias. Utilities constitute 25 percent of the companies in lowest quintile, and by one measure the level of optimism bias is 4 percent. However, the 4 percent figure does not represent the complete characterization of the results in the paper. Table IX of the paper shows that the median I/B/E/S forecast for the first (lowest) quintile averages 6.0 percent. The realized "Income before Extraordinary Items" is 2.0 percent (implying a four percent upward bias in I/B/E/S forecasts), but the "Portfolio Income before Extraordinary Items" is 8.0 percent (implying a two percent downward bias in I/B/E/S forecasts).

The difference between the "Income before Extraordinary Items" and "Portfolio Income before Extraordinary Items" is whether individual firms or a portfolio are used in estimating the realized returns. The first is a simple average of all firms in the quintile while the second is a market value weighted-average. Although both measures of bias have their own drawbacks according to the authors,[2] the Portfolio Income measure gives more weight to the larger firms in the quintile such as regulated utilities. In addition, the paper demonstrates that "analysts' forecasts as well as investors' valuations reflect a wide-spread belief in the investment community that many firms can achieve streaks of

[2] Chan, Karceski, and Lakonishok, *op. cit.*, p. 675.

high growth in earnings."[3] Therefore, it is not clear how severe the problem of optimism bias may be for regulated utilities or even whether there is a problem at all.

Finally, the two-stage DCF model also adjusts for any over optimistic (or pessimistic) growth rate forecasts by substituting the long-term GDP growth rate for the 5-year growth rate forecasts of the analysts in the years after year 5.

B. CONCLUSIONS ABOUT THE DCF MODEL

Q9. Please sum up the implications of this part of the appendix.

A9. The unavoidable questions about the DCF model's strong assumptions — whether the basic present value formula works for stocks, whether option pricing effects are important for the company, whether the right variant of the basic formula has been found, and whether the true growth rate expectations have been identified — cause me to view the DCF method as *inherently* less reliable than the equity risk premium approach, the other approach I use. However, because the DCF method has been widely used in the past and in other forums when the industry's economic conditions were different from today's, I submit DCF evidence in this case. DCF estimates also serve as a check on the values provided by the risk positioning approach methods.

II. EMPIRICAL DCF RESULTS

Q10. How is this part of the appendix organized?

A10. This section presents the details of my DCF analyses, which are summarized in my written evidence. The first part describes some preliminary matters, such as data inputs. Then it turns to the details of the DCF estimates themselves.

In particular, implementation of the simple DCF models described above requires an estimate of the current price, the dividend, and near-term and long-run growth rate

[3] Chan, Karceski, and Lakonishok, *op. cit.*, p. 663.

forecasts. The simple DCF model relies only on a single growth rate forecast, while the multi-stage DCF model employs both near-term individual company forecasts and long-run GDP growth rate forecasts. The remaining parts of this section describe each of these inputs in turn.

A. PRELIMINARY MATTERS

Q11. In Appendix C you discuss estimating cost of capital and implied cost of equity using the Risk Positioning methodology. What, if anything, is different when you use the DCF method?

A11. The timing of the market value capital structure calculations is different in the DCF method and in the equity risk premium method. The equity risk premium method relies on the average capital structure over the period used to estimate beta while the DCF approach uses only current data, so the relevant market value capital structure measure is the most recent that can be calculated. This capital structure is reported in columns [1]-[3] of Tables No. MJV-4 for the Canadian Utilities sample and in Table No. MJV-15 for the Gas LDC sample. Note that I do not apply the DCF approach to the MLP Pipelines sample. Regrettably, the DCF model is difficult to apply reliably to the MLP Pipelines sample due to complexities in the way that distribution growth is divided between the limited partners and the general partner as distributions grow.[4] Because of these concerns, I do not provide DCF estimates for the MLP Pipelines sample.

[4] The FERC has begun to address this issue in the United States as part of ROE deliberations for natural gas pipelines. It had originally raised concerns with the fact that distributions are often in excess of earnings, fearing that this might call into question the standard application of its DCF method to MLP companies. More recently, this concern has expanded to concerns over the correct estimation of the growth component of the DCF model applied to MLPs. The issue is yet to be resolved.

B. GROWTH RATES

Q12. What growth rates do you use?

A12. For reasons discussed above, historical growth rates today are generally unreliable as forecasts of current investor expectations for the either the Canadian Utilities sample or the natural gas distribution industry. I therefore use rates forecasted by security analysts.

The ideal in a DCF application would be a detailed forecast of future dividends, year by year well into the future, based on a large sample of investment analysts' expectations. I know of no source of such data. Dividends are ultimately paid from earnings, however, and earnings forecasts are available for a few years. Investors do not expect dividends to grow in lockstep with earnings, but for companies for which the DCF approach can be used reliably (*i.e.*, for relatively stable companies whose prices do not include the option-like values described previously), they do expect dividends to track earnings over the long-run. Thus, use of earnings growth rates as a proxy for expectations of dividend growth rates is a common practice.

Accordingly, the first step in my DCF analysis is to examine a sample of investment analysts' forecasted earnings growth rates. For the Gas LDC sample, I utilize BEst forecasts as provided by Bloomberg and *Value Line's* forecasted earnings growth while for the Canadian Utilities sample I only utilize BEst forecasts.[5] The projected earnings growth rates for the companies in the Canadian Utilities sample are in Table No. MJV-5 and for the Gas LDC sample in Table No. MJV-16. Column [1] of Table No. MJV-5 reports analysts' forecasts of the long-term earnings growth for the Canadian Utilities companies while column [2] reports the number of analysts that provided a forecast. In Table No. MJV-16 columns [1] and [5] report the forecasted long-term growth rate using BEst and *Value Line*, respectively. Column [2] reports the number of analysts providing a BEst forecast, and column [6] reports the average of the BEst and *Value Line* five-year forecasts. (I treat the *Value Line* forecasts as though they overlap

[5] The growth rates for both samples were downloaded from Bloomberg.

exactly with the forecasts from BEst.) These growth rates underlie my simple and multi-stage DCF analyses.

In particular, the five-year average annual growth rate is the perpetual growth rate I employ in the simple DCF model.[6] In the multi-stage model, I rely on the company-specific growth rate until 2012 and on the long-term GDP forecast for year 2017 onwards. During the years from 2013 to 2016, I assume the growth rate converges linearly towards the long-term GDP forecast, which is reached in 2017.[7]

Q13. Do these growth rates correspond to the ideal you mentioned above?

A13. No, not completely. While forecasted growth rates are the quantity required in principle, the forecasts need to go far enough out into the future so that it is reasonable to believe that investors expect a stable growth path afterwards. As can be seen in Table No. MJV-5 for the Canadian Utilities sample and in Table No. MJV-16 for the Gas LDC sample, the growth rates estimates do not support the view that investors are expecting growth rates equal to the single perpetual growth rate assumed in the simple DCF model. However, the 5-year growth rate estimates for the Canadian Utilities companies are relatively homogeneous as can be seen by reference to Table No. MJV-5. The forecasts for the companies in the Canadian Utilities sample range from 6.3 to 8.1 percent which is a little higher than the long-term forecast of 4.1 percent for the Canadian GDP. Only Emera has one analyst providing a forecast. For the Gas LDC sample, all except one of the long-term growth rates is in the range from 4.1 to 6.5 percent. Only one company (Laclede) in the gas LDC sample has one analyst providing the growth rate estimate. (See Table No. MJV-16) The comparison between the average growth rate forecasts and the growth

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[6] This growth rate is in Table No. MJV-5 column [1] for the Canadian Utilities sample and in Table No. MJV-16 column [6] for the Gas LDC sample.

[7] For Canada, I use a long-term GDP growth estimate obtained from the Energy Information Administration, International Energy Outlook, May 2007. Because this growth estimate is in real terms, I combine the estimate with the publicly announced long-term inflation target of two percent from the Bank of Canada (see www.bankofcanada.ca). For companies in the Gas LDC sample, I use the long-term U.S. GDP growth estimate from *Blue Chip Economic Indicators* (March, 2007).

in GDP indicate that these growth rate forecasts are not overly optimistic for either sample.

Q14. How well are the conditions needed for DCF reliability met at present?

A14. The requisite conditions for the sample companies are not fully met at this time. Of particular concern for this proceeding is the uncertainty about what investors truly expect the long-run outlook for the sample companies to be. The longest time period available for growth rate forecasts of which I am aware is five years. The long-run growth rate (*i.e.*, the growth rate after the energy industry settles into a steady state, which is certainly *beyond* the next five years for this industry) drives the actual results one gets with the DCF model. Unfortunately, this implies that unless the company or industry in question is stable, so there is little doubt as to the growth rate investors expect, DCF results in practice can end up being driven by the subjective judgment of the analyst who performs the work.

This is a problem at present because it is hard to imagine that today's energy industry would accurately be described as stable. Inflation and interest rates have largely stabilized over the last 10 years, but oil and natural gas prices have increased dramatically recently. The prices of natural gas and petroleum have also exhibited a great deal of volatility recently, and the estimated total amount of recoverable natural gas in the Western Canada Sedimentary Basin is being revised downward. These factors plus the recent rapid increase in the price of natural gas makes demand more uncertain. Additionally, the electric industry as well as both the pipeline industry and the gas distribution sector are going through a series of mergers and acquisitions, which affects the companies' earnings growth rate estimates. This is one reason why companies involved in mergers and acquisitions are normally excluded from the sample. There has also been financial distress among companies specializing in trading natural gas and electricity products which affects both regulated and unregulated companies. Taken

together, these factors mean that it may be some time before the energy industry settles into anything investors will see as a stable equilibrium.

Such circumstances imply that a regulator may often be faced with a wide range of DCF numbers, none of which can be well grounded in objective data on true long-run growth expectations, *because no such objective data now exist.* DCF for firms or industries in flux is *inherently* subjective with regard to a parameter (the long-run growth rate) that drives the answer one gets.

It is clear that much longer detailed growth rate forecasts than currently available from BEst and *Value Line* would be needed to implement the DCF model in a completely reliable way for these two samples at this time; however, the general stability of the 5-year growth rate forecasts for both samples indicates a higher degree of reliability than in the relatively recent past.

C. DIVIDEND AND PRICE INPUTS

Q15. What values do you use for dividends and stock prices?

A15. Dividends are the last recorded dividend payments as reported by Bloomberg, the 3rd-quarter 2007 dividend. This dividend is grown at the estimated growth rate and divided by the price described below to estimate the dividend yield for the simple and multi-stage DCF models.

Stock prices are the average of the closing stock prices for the 15 trading days (approximately three weeks) ending August 28, 2007 for both the Canadian Utilities sample and for the Gas LDC sample. These time periods coincide with the dates I obtained the BEst growth forecasts. I do not use a longer period to measure the price because that would be inconsistent with the principles that underlie the DCF formula. The DCF approach assumes the stock price is the present value of future expected dividends. Stock prices six months or a year ago reflect expectations at that time, which are different from those that underlie the currently available growth forecasts. At the

same time, use of an average over a brief period helps guard against a company's price on a particular day price being unduly influenced by mistaken information, differences in trading frequency, and the like.

The closing stock price is used because it is at least as good as any other measure of the day's outcome, and may be better for DCF purposes. In particular, if there were any single price during the day that would affect investors' decisions to buy or sell a stock, I would suspect that it would be each day's closing price, not the high or low during the day. The daily price changes reported in the financial pages, for example, are from close to close, not from high to high or from low to low.

D. COMPANY-SPECIFIC DCF COST OF CAPITAL ESTIMATES

Q16. What DCF estimates do these data yield?

A16. The cost of equity results for the simple and multi-stage DCF models are shown in Table No. MJV-6 for the Canadian Utilities sample and in Table No. MJV-17 for the Gas LDC sample. Panel A reports the results for the simple DCF method, and Panel B reports the results for the multi-stage DCF method using the long-term GDP growth rate as the perpetual growth rate.

Q17. What overall cost of capital estimates result from the DCF cost of equity estimates?

A17. The capital structure, DCF cost of equity, and cost of debt estimates are combined to obtain the overall after-tax weighted-average cost of capital for each sample company. These results are presented in Table No. MJV-7 for the Canadian Utilities sample and Table No. MJV-18 for the Gas LDC sample. Panel A relies on the simple DCF cost of equity results, and Panel B relies on the multi-stage DCF cost of equity results.

For the Gas LDC sample, I also report the average for the sub-sample of companies that have had no significant merger activities during the last five years instead of three, and which have more than 80% of their assets devoted to regulated activities.[8]

Q18. What information do you report in Tables No. MJV-8 and MJV-19?

A18. These tables report the return on equity consistent with the samples' (and the sub-sample's) estimated overall after-tax weighted-average cost of capital and a deemed equity thickness of 40 percent for TQM. For both the simple DCF and multistage DCF methods, the sample's average ATWACC is reported in column [1] of Table No. MJV-8 and Table No. MJV-19. Column [8] reports the return on equity as if the sample companies' average market value capital structure had been one with 40 percent equity.

Q19. What are the implications of these results?

A19. The implication of these numbers is discussed in my written evidence, along with the findings of the equity risk premium approach.

[8] See Tables No. MJV-2 and MJV-13 for a summary of the Canadian Utilities and Gas LDC sample's regulated assets, respectively. See Tables 1 to 3 for a description of the three samples.

Table No. MJV-1

Index to Tables for the Written Evidence of Michael J. Vilbert

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Table No. MJV-4	Capital Structure Summary of the Canadian Utilities Sample
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Table No. MJV-2

Canadian Utilities Sample

Classification of Companies by Assets

Company	Company Category
Canadian Utilities	MR
Emera Inc.	R
Enbridge Inc.	MR
Fortis Inc.	R
TransCanada Corp.	MR

Sources and Notes:
R = Regulated (More than 80% of assets are regulated).
MR = Mostly Regulated (50% to 80% of assets are regulated).
Source: 2006 Annual Reports.

Table No. MJV-3

Market Values of the Canadian Utilities Sample

Panel A: Canadian Utilities

($MM)

	DCF Capital Structure	Year End, 2006	Year End, 2005	Year End, 2004	Year End, 2003	Year End, 2002	Notes
MARKET VALUE OF COMMON EQUITY							
Book Value, Common Shareholder's Equity	$2,456	$2,325	$2,224	$2,118	$1,949	$1,830	[a]
Shares Outstanding (in millions) - Common	125	125	127	127	127	127	[b]
Price per Share - Common	$46	$47	$43	$30	$29	$26	[c]
Market Value of Common Equity	$5,813	$5,942	$5,497	$3,817	$3,651	$3,359	[d] = [b] x [c].
Market to Book Value of Common Equity	2.37	2.56	2.47	1.80	1.87	1.84	[e] = [d] / [a].
MARKET VALUE OF PREFERRED EQUITY							
Book Value of Preferred Equity	$625	$637	$637	$637	$637	$487	[f]
Market Value of Preferred Equity	$625	$637	$637	$637	$637	$487	[g] = [f].
MARKET VALUE OF DEBT							
Current Assets	$1,235	$1,295	$1,303	$1,270	$1,103	$1,118	[h]
Current Liabilities	$418	$422	$435	$397	$538	$570	[i]
Current Portion of Long-Term Debt	$69	$59	$57	$56	$46	$46	[j]
Net Working Capital	$887	$932	$925	$929	$612	$593	[k] = [h] - ([i] - [j]).
Notes Payable (Short-Term Debt)	-	-	-	-	-	-	[l]
Adjusted Short-Term Debt	$0	$0	$0	$0	$0	$0	[m] = See Sources and Notes.
Long-Term Debt	$2,910	$3,038	$2,905	$2,932	$2,611	$2,738	[n]
Book Value of Long-Term Debt	$2,979	$3,098	$2,962	$2,988	$2,658	$2,784	[o] = [n] + [j] + [m].
Adjustment to Book Value of Long-Term Debt	$369	$369	$0	$0	$0	$0	[p] = See Sources and Notes.
Market Value of Long-Term Debt	$3,348	$3,466	$2,962	$2,988	$2,658	$2,784	[q] = [p] + [o].
Market Value of Debt	$3,348	$3,466	$2,962	$2,988	$2,658	$2,784	[r] = [q].
MARKET VALUE OF FIRM	$9,786	$10,044	$9,095	$7,442	$6,945	$6,630	[s] = [d] + [g] + [r].
DEBT AND EQUITY TO MARKET VALUE RATIOS							
Common Equity - Market Value Ratio	59.40%	59.15%	60.44%	51.30%	52.57%	50.67%	[t] = [d] / [s].
Preferred Equity - Market Value Ratio	6.39%	6.34%	7.00%	8.55%	9.16%	7.34%	[u] = [g] / [s].
Debt - Market Value Ratio	34.21%	34.51%	32.57%	40.15%	38.27%	41.99%	[v] = [r] / [s].

Sources and Notes:
Bloomberg as of August 28, 2007.
Capital structure from 2nd Quarter, 2007 calculated using respective balance sheet information and 15-day average prices ending at period end.
The DCF Capital structure is calculated using 2nd Quarter, 2007 balance sheet information and a 15-trading day average closing price ending on August 28, 2007.
Prices are reported in Workpaper #1 to Table No. MJV-6.
[m] =
(1): 0 if [k] > 0.
(2): The absolute value of [k] if [k] < 0 and |[k]| < [l].
(3): [l] if [k] < 0 and |[k]| > [l].
[p]: Difference between fair value of Long-Term debt and carrying amount of Long-Term debt per company 10-K. Data for adjustment is from 2006 10-K.

Table No. MJV-3

Market Values of the Canadian Utilities Sample

Panel B: Emera Inc.

($MM)

	DCF Capital Structure	Year End, 2006	Year End, 2005	Year End, 2004	Year End, 2003	Year End, 2002	Notes
MARKET VALUE OF COMMON EQUITY							
Book Value, Common Shareholder's Equity	$1,362	$1,408	$1,366	$1,337	$1,313	$1,332	[a]
Shares Outstanding (in millions) - Common	111	111	110	109	108	108	[b]
Price per Share - Common	$20	$23	$20	$19	$18	$16	[c]
Market Value of Common Equity	$2,196	$2,515	$2,257	$2,086	$1,922	$1,727	[d] = [b] x [c].
Market to Book Value of Common Equity	1.61	1.79	1.65	1.56	1.46	1.30	[e] = [d] / [a].
MARKET VALUE OF PREFERRED EQUITY							
Book Value of Preferred Equity	$0	$0	$0	$0	$0	$0	[f]
Market Value of Preferred Equity	$0	$0	$0	$0	$0	$0	[g] = [f].
MARKET VALUE OF DEBT							
Current Assets	$597	$502	$392	$332	$306	$332	[h]
Current Liabilities	$553	$502	$506	$494	$520	$698	[i]
Current Portion of Long-Term Debt	$3	$3	$153	$101	$166	$204	[j]
Net Working Capital	$47	$4	$38	($61)	($48)	($162)	[k] = [h] - ([i] - [j]).
Notes Payable (Short-Term Debt)	$259	$133	$88	$145	$129	$315	[l]
Adjusted Short-Term Debt	$0	$0	$0	$61	$48	$162	[m] = See Sources and Notes.
Long-Term Debt	$1,646	$1,657	$1,632	$1,627	$1,590	$1,418	[n]
Book Value of Long-Term Debt	$1,648	$1,661	$1,785	$1,788	$1,804	$1,784	[o] = [n] + [j] + [m].
Adjustment to Book Value of Long-Term Debt	$265	$265	$291	$243	$192	$175	[p] = See Sources and Notes.
Market Value of Long-Term Debt	$1,913	$1,926	$2,076	$2,031	$1,996	$1,959	[q] = [p] + [o].
Market Value of Debt	$1,913	$1,926	$2,076	$2,031	$1,996	$1,959	[r] = [q].
MARKET VALUE OF FIRM	$4,109	$4,440	$4,333	$4,116	$3,918	$3,686	[s] = [d] + [g] + [r].
DEBT AND EQUITY TO MARKET VALUE RATIOS							
Common Equity - Market Value Ratio	53.44%	56.64%	52.09%	50.67%	49.05%	46.85%	[t] = [d] / [s].
Preferred Equity - Market Value Ratio	-	-	-	-	-	-	[u] = [g] / [s].
Debt - Market Value Ratio	46.56%	43.36%	47.91%	49.33%	50.95%	53.15%	[v] = [r] / [s].

Sources and Notes:

Bloomberg as of August 28, 2007.

Capital structure from 2nd Quarter, 2007 calculated using respective balance sheet information and 15-day average prices ending at period end.

The DCF Capital structure is calculated using 2nd Quarter, 2007 balance sheet information and a 15-trading day average closing price ending on August 28, 2007.

Prices are reported in Workpaper #1 to Table No. MJV-6.

[m] =

(1): 0 if [k] > 0.

(2): The absolute value of [k] if [k] < 0 and |[k]| < [l].

(3): [l] if [k] < 0 and |[k]| > [l].

[p]: Difference between fair value of Long-Term debt and carrying amount of Long-Term debt per company 10-K. Data for adjustment is from 2006 10-K.

Table No. MJV-3

Market Values of the Canadian Utilities Sample

Panel C: Enbridge Inc.

($MM)

	DCF Capital Structure	Year End, 2006	Year End, 2005	Year End, 2004	Year End, 2003	Year End, 2002	Notes
MARKET VALUE OF COMMON EQUITY							
Book Value, Common Shareholder's Equity	$5,100	$4,486	$4,145	$3,853	$3,469	$3,174	[a]
Shares Outstanding (in millions) - Common	368	352	349	346	344	340	[b]
Price per Share - Common	$35	$40	$36	$29	$27	$21	[c]
Market Value of Common Equity	$13,009	$14,150	$12,620	$10,116	$9,176	$7,236	[d] = [b] x [c].
Market to Book Value of Common Equity	2.55	3.15	3.05	2.63	2.65	2.28	[e] = [d] / [a].
MARKET VALUE OF PREFERRED EQUITY							
Book Value of Preferred Equity	$125	$125	$125	$125	$125	$659	[f]
Market Value of Preferred Equity	$125	$125	$125	$125	$125	$659	[g] = [f].
MARKET VALUE OF DEBT							
Current Assets	$2,863	$3,054	$3,076	$2,349	$2,053	$1,442	[h]
Current Liabilities	$2,391	$3,224	$3,251	$2,744	$2,323	$1,717	[i]
Current Portion of Long-Term Debt	$259	$60	$68	$30	$670	$652	[j]
Net Working Capital	$731	($110)	($107)	($365)	$400	$378	[k] = [h] - ([i] - [j]).
Notes Payable (Short-Term Debt)	$162	$808	$1,075	$651	$650	$248	[l]
Adjusted Short-Term Debt	$0	$110	$107	$365	$0	$0	[m] = See Sources and Notes.
Long-Term Debt	$8,931	$8,676	$7,899	$6,719	$6,528	$6,040	[n]
Book Value of Long-Term Debt	$9,190	$8,846	$8,074	$7,114	$7,198	$6,693	[o] = [n] + [j] + [m].
Adjustment to Book Value of Long-Term Debt	$618	$618	$782	$725	$585	$462	[p] = See Sources and Notes.
Market Value of Long-Term Debt	$9,809	$9,464	$8,856	$7,839	$7,783	$7,155	[q] = [p] + [o].
Market Value of Debt	$9,809	$9,464	$8,856	$7,839	$7,783	$7,155	[r] = [q].
MARKET VALUE OF FIRM							
	$22,942	$23,739	$21,601	$18,080	$17,084	$15,050	[s] = [d] + [g] + [r].
DEBT AND EQUITY TO MARKET VALUE RATIOS							
Common Equity - Market Value Ratio	56.70%	59.61%	58.42%	55.95%	53.71%	48.08%	[t] = [d] / [s].
Preferred Equity - Market Value Ratio	0.54%	0.53%	0.58%	0.69%	0.73%	4.38%	[u] = [g] / [s].
Debt - Market Value Ratio	42.75%	39.87%	41.00%	43.36%	45.56%	47.54%	[v] = [r] / [s].

Sources and Notes:

Bloomberg as of August 28, 2007.

Capital structure from 2nd Quarter, 2007 calculated using respective balance sheet information and 15-day average prices ending at period end.

The DCF Capital structure is calculated using 2nd Quarter, 2007 balance sheet information and a 15-trading day average closing price ending on August 28, 2007.

Prices are reported in Workpaper #1 to Table No. MJV-6.

[m] =

(1): 0 if [k] > 0.

(2): The absolute value of [k] if [k] < 0 and |[k]| < [l].

(3): [l] if [k] < 0 and |[k]| > [l].

[p]: Difference between fair value of Long-Term debt and carrying amount of Long-Term debt per company 10-K. Data for adjustment is from 2006 10-K.

Table No. MJV-3

Market Values of the Canadian Utilities Sample

Panel D: Fortis Inc.

($MM)

	DCF Capital Structure	Year End, 2006	Year End, 2005	Year End, 2004	Year End, 2003	Year End, 2002	Notes
MARKET VALUE OF COMMON EQUITY							
Book Value, Common Shareholder's Equity	$2,541	$1,268	$1,212	$999	$613	$584	[a]
Shares Outstanding (in millions) - Common	154	104	103	96	70	69	[b]
Price per Share - Common	$25	$29	$24	$17	$15	$13	[c]
Market Value of Common Equity	$3,903	$3,025	$2,494	$1,649	$1,027	$890	[d] = [b] x [c].
Market to Book Value of Common Equity	1.54	2.39	2.06	1.65	1.68	1.52	[e] = [d] / [a].
MARKET VALUE OF PREFERRED EQUITY							
Book Value of Preferred Equity	$122	$122	$0	$0	$123	$0	[f]
Market Value of Preferred Equity	$122	$122	$0	$0	$123	$0	[g] = [f].
MARKET VALUE OF DEBT							
Current Assets	$895	$409	$299	$293	$193	$180	[h]
Current Liabilities	$1,621	$565	$412	$538	$296	$334	[i]
Current Portion of Long-Term Debt	$514	$85	$31	$36	$38	$24	[j]
Net Working Capital	($213)	($71)	($82)	($209)	($65)	($130)	[k] = [h] - ([i] - [j]).
Notes Payable (Short-Term Debt)	$306	$98	$49	$193	$104	$157	[l]
Adjusted Short-Term Debt	$213	$71	$49	$193	$65	$130	[m] = See Sources and Notes.
Long-Term Debt	$4,756	$2,885	$2,457	$2,226	$1,033	$942	[n]
Book Value of Long-Term Debt	$5,482	$3,041	$2,537	$2,455	$1,137	$1,097	[o] = [n] + [j] + [m].
Adjustment to Book Value of Long-Term Debt	$325	$325	$326	$217	$107	$48	[p] = See Sources and Notes.
Market Value of Long-Term Debt	$5,807	$3,367	$2,862	$2,672	$1,244	$1,145	[q] = [p] + [o].
Market Value of Debt	$5,807	$3,367	$2,862	$2,672	$1,244	$1,145	[r] = [q].
MARKET VALUE OF FIRM	$9,833	$6,514	$5,356	$4,320	$2,394	$2,035	[s] = [d] + [g] + [r].
DEBT AND EQUITY TO MARKET VALUE RATIOS							
Common Equity - Market Value Ratio	39.70%	46.44%	46.56%	38.16%	42.91%	43.74%	[t] = [d] / [s].
Preferred Equity - Market Value Ratio	1.24%	1.88%	-	-	5.14%	-	[u] = [g] / [s].
Debt - Market Value Ratio	59.06%	51.68%	53.44%	61.84%	51.95%	56.26%	[v] = [r] / [s].

Sources and Notes:
Bloomberg as of August 28, 2007.
Capital structure from 2nd Quarter, 2007 calculated using respective balance sheet information and 15-day average prices ending at period end.
The DCF Capital structure is calculated using 2nd Quarter, 2007 balance sheet information and a 15-trading day average closing price ending on August 28, 2007.
Prices are reported in Workpaper #1 to Table No. MJV-6.
[m] =
(1): 0 if [k] > 0.
(2): The absolute value of [k] if [k] < 0 and |[k]| < [l].
(3): [l] if [k] < 0 and |[k]| > [l].
[p]: Difference between fair value of Long-Term debt and carrying amount of Long-Term debt per company 10-K. Data for adjustment is from 2006 10-K.

Table No. MJV-3

Market Values of the Canadian Utilities Sample

Panel E: TransCanada Corp.

($MM)

	DCF Capital Structure	Year End, 2006	Year End, 2005	Year End, 2004	Year End, 2003	Year End, 2002	Notes
MARKET VALUE OF COMMON EQUITY							
Book Value, Common Shareholder's Equity	$9,340	$7,701	$7,206	$6,565	$6,091	$5,747	[a]
Shares Outstanding (in millions) - Common	536	489	487	485	483	480	[b]
Price per Share - Common	$36	$40	$37	$30	$28	$23	[c]
Market Value of Common Equity	$19,554	$19,668	$17,968	$14,401	$13,505	$10,919	[d] = [b] x [c].
Market to Book Value of Common Equity	2.09	2.55	2.49	2.19	2.22	1.90	[e] = [d] / [a].
MARKET VALUE OF PREFERRED EQUITY							
Book Value of Preferred Equity	$0	$0	$0	$0	$1,083	$1,063	[f]
Market Value of Preferred Equity	$0	$0	$0	$0	$1,083	$1,063	[g] = [f].
MARKET VALUE OF DEBT							
Current Assets	$1,976	$2,092	$1,566	$1,101	$1,196	$1,183	[h]
Current Liabilities	$3,400	$2,989	$3,112	$2,754	$2,231	$2,252	[i]
Current Portion of Long-Term Debt	$791	$758	$434	$859	$569	$592	[j]
Net Working Capital	($633)	($139)	($1,112)	($794)	($466)	($477)	[k] = [h] - ([i] - [j]).
Notes Payable (Short-Term Debt)	$728	$467	$962	$546	$367	$297	[l]
Adjusted Short-Term Debt	$633	$139	$962	$546	$367	$297	[m] = See Sources and Notes.
Long-Term Debt	$13,168	$12,559	$11,113	$11,111	$10,226	$10,275	[n]
Book Value of Long-Term Debt	$14,592	$13,456	$12,509	$12,516	$11,162	$11,164	[o] = [n] + [j] + [m].
Adjustment to Book Value of Long-Term Debt	$1,646	$1,646	$2,083	$1,737	$1,744	$1,470	[p] = See Sources and Notes.
Market Value of Long-Term Debt	$16,238	$15,102	$14,592	$14,253	$12,906	$12,634	[q] = [p] + [o].
Market Value of Debt	$16,238	$15,102	$14,592	$14,253	$12,906	$12,634	[r] = [q].
MARKET VALUE OF FIRM							
	$35,792	$34,770	$32,560	$28,654	$27,494	$24,616	[s] = [d] + [g] + [r].
DEBT AND EQUITY TO MARKET VALUE RATIOS							
Common Equity - Market Value Ratio	54.63%	56.57%	55.18%	50.26%	49.12%	44.36%	[t] = [d] / [s].
Preferred Equity - Market Value Ratio	-	-	-	-	3.94%	4.32%	[u] = [g] / [s].
Debt - Market Value Ratio	45.37%	43.43%	44.82%	49.74%	46.94%	51.33%	[v] = [r] / [s].

Sources and Notes:

Bloomberg as of August 28, 2007.

Capital structure from 2nd Quarter, 2007 calculated using respective balance sheet information and 15-day average prices ending at period end.

The DCF Capital structure is calculated using 2nd Quarter, 2007 balance sheet information and a 15-trading day average closing price ending on August 28, 2007.

Prices are reported in Workpaper #1 to Table No. MJV-6.

[m] =

(1): 0 if [k] > 0.

(2): The absolute value of [k] if [k] < 0 and |[k]| < [l].

(3): [l] if [k] < 0 and |[k]| > [l].

[p]: Difference between fair value of Long-Term debt and carrying amount of Long-Term debt per company 10-K. Data for adjustment is from 2006 10-K.

Table No. MJV-4

Canadian Utilities Sample

Capital Structure Summary

Company	DCF Capital Structure			5-Year Average Capital Structure		
	Common Equity - Value Ratio [1]	Preferred Equity - Value Ratio [2]	Debt - Value Ratio [3]	Common Equity - Value Ratio [4]	Preferred Equity - Value Ratio [5]	Debt - Value Ratio [6]
Canadian Utilities	0.59	0.06	0.34	0.55	0.08	0.37
Emera Inc.	0.53	-	0.47	0.51	-	0.49
Enbridge Inc.	0.57	0.01	0.43	0.55	0.01	0.43
Fortis Inc.	0.40	0.01	0.59	0.43	0.01	0.56
TransCanada Corp.	0.55	-	0.45	0.51	0.02	0.47
Average	0.53	0.02	0.46	0.51	0.02	0.46

Sources and Notes:
[1], [4]:Workpaper #1 to Table No. MJV-4.
[2], [5]:Workpaper #2 to Table No. MJV-4.
[3], [6]:Workpaper #3 to Table No. MJV-4.
Values in this table may not add up exactly to 1.0 because of rounding.

Workpaper #1 to Table No. MJV-4

Canadian Utilities Sample

Calculation of the Average Common Equity - Market Value Ratio

Company	DCF Capital Structure [1]	2006 [2]	2005 [3]	2004 [4]	2003 [5]	2002 [6]	5-Year Average [7]
Canadian Utilities	0.59	0.59	0.60	0.51	0.53	0.51	0.55
Emera Inc.	0.53	0.57	0.52	0.51	0.49	0.47	0.51
Enbridge Inc.	0.57	0.60	0.58	0.56	0.54	0.48	0.55
Fortis Inc.	0.40	0.46	0.47	0.38	0.43	0.44	0.43
TransCanada Corp.	0.55	0.57	0.55	0.50	0.49	0.44	0.51

Sources and Notes:
[1] - [6]: Table No. MJV-3; Panels A - E, [t].
7: {(1 x (6/12)) + (2 x (8/12)) + 3 + 4 + 5 + (6 x (10/12)) / 5

Workpaper #2 to Table No. MJV-4

Canadian Utilities Sample

Calculation of the Average Preferred Equity - Market Value Ratio

Company	DCF Capital Structure [1]	2006 [2]	2005 [3]	2004 [4]	2003 [5]	2002 [6]	5-Year Average [7]
Canadian Utilities	0.06	0.06	0.07	0.09	0.09	0.07	0.08
Emera Inc.	-	-	-	-	-	-	-
Enbridge Inc.	0.01	0.01	0.01	0.01	0.01	0.04	0.01
Fortis Inc.	0.01	0.02	-	-	0.05	-	0.01
TransCanada Corp.	-	-	-	-	0.04	0.04	0.02

Sources and Notes:
[1] - [6]: Table No. MJV-3; Panels A - E, [u].
7: {(1 x (6/12)) + (2 x (8/12)) + 3 + 4 + 5 + (6 x (10/12)) / 5

Workpaper #3 to Table No. MJV-4

Canadian Utilities Sample

Calculation of the Average Debt - Market Value Ratio

Company	DCF Capital Structure [1]	2006 [2]	2005 [3]	2004 [4]	2003 [5]	2002 [6]	5-Year Average [7]
Canadian Utilities	0.34	0.35	0.33	0.40	0.38	0.42	0.37
Emera Inc.	0.47	0.43	0.48	0.49	0.51	0.53	0.49
Enbridge Inc.	0.43	0.40	0.41	0.43	0.46	0.48	0.43
Fortis Inc.	0.59	0.52	0.53	0.62	0.52	0.56	0.56
TransCanada Corp.	0.45	0.43	0.45	0.50	0.47	0.51	0.47

Sources and Notes:
[1] - [6]: Table No. MJV-3; Panels A - E, [v].
7: {(1 x (6/12)) + (2 x (8/12)) + 3 + 4 + 5 + (6 x (10/12)) / 5

Table No. MJV-5

Canadian Utilities Sample

Bloomberg Estimated Growth Rates

Company	BEst Long-Term Growth Rate [1]	Number of Estimates [2]
Canadian Utilities	7.9%	3
Emera Inc.	6.3%	1
Enbridge Inc.	6.5%	3
Fortis Inc.	7.9%	4
TransCanada Corp.	8.1%	3

Sources and Notes:
[1] - [2]: Bloomberg as of August 28, 2007.

Table No. MJV-6

DCF Cost of Equity of the Canadian Utilities Sample

Panel A: Simple DCF Method (Quarterly)

Company	Stock Price [1]	Most Recent Dividend [2]	BEst Long-Term Growth Rate [3]	Quarterly Growth Rate [4]	DCF Cost of Equity [5]
Canadian Utilities	$46.34	$0.32	7.9%	1.9%	10.9%
Emera Inc.	$19.74	$0.23	6.3%	1.5%	11.3%
Enbridge Inc.	$35.37	$0.31	6.5%	1.6%	10.3%
Fortis Inc.	$25.34	$0.21	7.9%	1.9%	11.5%
TransCanada Corp.	$36.46	$0.34	8.1%	2.0%	12.2%

Sources and Notes:
[1]: Workpaper #1 to Table No. MJV-6.
[2]: Workpaper #2 to Table No. MJV-6.
[3]: Bloomberg as of August 28, 2007.
[4]: {(1 + [3]) ^ (1/4)} - 1.
[5]: {(([2] / [1]) x (1 + [4]) + [4] + 1) ^ 4} - 1.

Table No. MJV-6

DCF Cost of Equity of the Canadian Utilities Sample

Panel B: Multi-Stage DCF (Using EIA's 2007 International Energy Outlook GDP Growth Forecast and Canada's Targeted Inflation Rate)

Company	Stock Price [1]	Most Recent Dividend [2]	Best Long-Term Growth Rate [3]	Growth Rate: FY 2013 [4]	Growth Rate: FY 2014 [5]	Growth Rate: FY 2015 [6]	Growth Rate: FY 2016 [7]	Growth Rate: FY 2017 [8]	GDP Long-Term Growth Rate [9]	DCF Cost of Equity [10]
Canadian Utilities	$46.34	$0.32	7.9%	7.3%	6.6%	6.0%	5.4%	4.8%	4.1%	7.7%
Emera Inc.	$19.74	$0.23	6.3%	5.9%	5.6%	5.2%	4.9%	4.5%	4.1%	9.6%
Enbridge Inc.	$35.37	$0.31	6.5%	6.1%	5.7%	5.3%	4.9%	4.5%	4.1%	8.3%
Fortis Inc.	$25.34	$0.21	7.9%	7.3%	6.6%	6.0%	5.4%	4.8%	4.1%	8.5%
TransCanada Corp.	$36.46	$0.34	8.1%	7.4%	6.8%	6.1%	5.5%	4.8%	4.1%	9.1%

Sources and Notes:
[1]: Workpaper #1 to Table No. MJV-6.
[2]: Workpaper #2 to Table No. MJV-6.
[3]: Bloomberg as of August 28, 2007.
[4]: [3] - {([3] - [9])/ 6}.
[5]: [4] - {([3] - [9])/ 6}.
[6]: [5] - {([3] - [9])/ 6}.
[7]: [6] - {([3] - [9])/ 6}.
[8]: [7] - {([3] - [9])/ 6}.
[9]: EIA International Energy Outlook, May 2007 and Canada's Targeted Inflation Rate. This number is assumed to be the perpetual growth rate.
[10]: Workpaper #3 to Table No. MJV-6.

Workpaper #1 to Table No. MJV-6

Canadian Utilities Sample

Common Stock Prices from August 8, 2007 to August 28, 2007

Company	8/28/2007	8/27/2007	8/24/2007	8/23/2007	8/22/2007	8/21/2007	8/20/2007	8/17/2007	8/16/2007	8/15/2007	8/14/2007	8/13/2007	8/10/2007	8/9/2007	8/8/2007	Average
Canadian Utilities	$46.90	$46.86	$47.45	$47.70	$47.50	$47.95	$46.65	$44.75	$44.19	$45.79	$45.45	$45.20	$44.21	$47.06	$47.50	$46.34
Emera Inc.	$19.37	$19.61	$19.60	$19.78	$19.63	$19.60	$19.47	$19.20	$19.35	$19.70	$20.00	$20.23	$19.95	$20.04	$20.61	$19.74
Enbridge Inc.	$34.58	$34.85	$35.14	$35.04	$34.85	$34.79	$34.75	$34.72	$34.67	$35.33	$35.23	$36.06	$37.70	$37.02	$35.77	$35.37
Fortis Inc.	$25.24	$25.65	$25.11	$25.17	$24.83	$24.92	$24.99	$24.80	$25.18	$25.29	$25.56	$25.66	$26.00	$26.08	$25.59	$25.34
TransCanada Corp.	$36.25	$36.59	$36.60	$36.79	$36.13	$36.21	$35.81	$35.90	$36.09	$36.51	$36.42	$36.76	$36.87	$37.04	$36.93	$36.46

Sources and Notes:

Bloomberg as of August 28, 2007.

The prices chosen are the daily closing prices from Bloomberg starting from the most recent prices available in Bloomberg as of August 28, 2007 and ending fifteen trading days before.

Workpaper #2 to Table No. MJV-6

Canadian Utilities Sample

Most Recent Dividend Payments

Company	Most Recent Dividend	Quarter
Canadian Utilities	$0.32	3
Emera Inc.	$0.23	3
Enbridge Inc.	$0.31	3
Fortis Inc.	$0.21	3
TransCanada Corp.	$0.34	3

Sources and Notes:
Bloomberg as of August 28, 2007.

Workpaper #3 to Table No. MJV-6

DCF Cost of Equity of the Canadian Utilities Sample

Multi - Stage DCF (using EIA 2007 International Energy Outlook Long-Term GDP as the Perpetual Growth Rate)

Year	Company	Canadian Utilities	Emera Inc.	Enbridge Inc.	Fortis Inc.	TransCanada Corp.
	Current Stock Price	($46.34)	($19.74)	($35.37)	($25.34)	($36.46)
	Current Dividend	$0.32	$0.23	$0.31	$0.21	$0.34
YEAR 2007	Dividend Q4 Estimate	$0.32	$0.23	$0.31	$0.21	$0.35
YEAR 2008	Dividend Q1 Estimate	$0.33	$0.23	$0.32	$0.22	$0.35
YEAR 2008	Dividend Q2 Estimate	$0.33	$0.24	$0.32	$0.22	$0.36
YEAR 2008	Dividend Q3 Estimate	$0.34	$0.24	$0.33	$0.23	$0.37
YEAR 2008	Dividend Q4 Estimate	$0.35	$0.25	$0.33	$0.23	$0.37
YEAR 2009	Dividend Q1 Estimate	$0.35	$0.25	$0.34	$0.24	$0.38
YEAR 2009	Dividend Q2 Estimate	$0.36	$0.25	$0.34	$0.24	$0.39
YEAR 2009	Dividend Q3 Estimate	$0.37	$0.26	$0.35	$0.24	$0.40
YEAR 2009	Dividend Q4 Estimate	$0.37	$0.26	$0.35	$0.25	$0.40
YEAR 2010	Dividend Q1 Estimate	$0.38	$0.27	$0.36	$0.25	$0.41
YEAR 2010	Dividend Q2 Estimate	$0.39	$0.27	$0.37	$0.26	$0.42
YEAR 2010	Dividend Q3 Estimate	$0.40	$0.27	$0.37	$0.26	$0.43
YEAR 2010	Dividend Q4 Estimate	$0.40	$0.28	$0.38	$0.27	$0.44
YEAR 2011	Dividend Q1 Estimate	$0.41	$0.28	$0.38	$0.27	$0.45
YEAR 2011	Dividend Q2 Estimate	$0.42	$0.29	$0.39	$0.28	$0.45
YEAR 2011	Dividend Q3 Estimate	$0.43	$0.29	$0.40	$0.28	$0.46
YEAR 2011	Dividend Q4 Estimate	$0.44	$0.29	$0.40	$0.29	$0.47
YEAR 2012	Dividend Q1 Estimate	$0.44	$0.30	$0.41	$0.30	$0.48
YEAR 2012	Dividend Q2 Estimate	$0.45	$0.30	$0.42	$0.30	$0.49
YEAR 2012	Dividend Q3 Estimate	$0.46	$0.31	$0.42	$0.31	$0.50
YEAR 2012	Dividend Q4 Estimate	$0.47	$0.31	$0.43	$0.31	$0.51
YEAR 2013	Dividend Q1 Estimate	$0.48	$0.32	$0.44	$0.32	$0.52
YEAR 2013	Dividend Q2 Estimate	$0.49	$0.32	$0.44	$0.32	$0.53
YEAR 2013	Dividend Q3 Estimate	$0.49	$0.33	$0.45	$0.33	$0.54
YEAR 2013	Dividend Q4 Estimate	$0.50	$0.33	$0.45	$0.34	$0.55
YEAR 2014	Dividend Q1 Estimate	$0.51	$0.34	$0.46	$0.34	$0.56
YEAR 2014	Dividend Q2 Estimate	$0.52	$0.34	$0.47	$0.35	$0.57
YEAR 2014	Dividend Q3 Estimate	$0.53	$0.35	$0.47	$0.35	$0.58
YEAR 2014	Dividend Q4 Estimate	$0.54	$0.35	$0.48	$0.36	$0.59
YEAR 2015	Dividend Q1 Estimate	$0.55	$0.36	$0.49	$0.36	$0.59
YEAR 2015	Dividend Q2 Estimate	$0.55	$0.36	$0.49	$0.37	$0.60
YEAR 2015	Dividend Q3 Estimate	$0.56	$0.36	$0.50	$0.37	$0.61
YEAR 2015	Dividend Q4 Estimate	$0.57	$0.37	$0.51	$0.38	$0.62
YEAR 2016	Dividend Q1 Estimate	$0.58	$0.37	$0.51	$0.38	$0.63
YEAR 2016	Dividend Q2 Estimate	$0.58	$0.38	$0.52	$0.39	$0.64
YEAR 2016	Dividend Q3 Estimate	$0.59	$0.38	$0.53	$0.39	$0.65
YEAR 2016	Dividend Q4 Estimate	$0.60	$0.39	$0.53	$0.40	$0.66
YEAR 2017	Dividend Q1 Estimate	$0.61	$0.39	$0.54	$0.40	$0.66
YEAR 2017	Dividend Q2 Estimate	$0.61	$0.40	$0.54	$0.41	$0.67
YEAR 2017	Dividend Q3 Estimate	$0.62	$0.40	$0.55	$0.41	$0.68
YEAR 2017 Q4	Year 10 Stock Price	$73.78	$31.34	$55.89	$40.62	$58.86
	Trial COE: Quarterly Rate	1.9%	2.3%	2.0%	2.1%	2.2%
	Trial COE: Annual Rate	7.7%	9.6%	8.3%	8.5%	9.1%
	Cost of Equity	7.7%	9.6%	8.3%	8.5%	9.1%
	(Trial COE - COE) x 100	0.00	0.00	0.00	0.00	0.00

Sources and Notes:

All Growth Rate Estimates: Table No. MJV-6; Panel B.

Stock Prices and Dividends are from Bloomberg as of August 28, 2007.

1. See Workpaper #1 to Table No. MJV-6 for the average closing stock price obtained from Bloomberg.
2. See Workpaper #2 to Table No. MJV-6 for the for the quarterly dividend obtained from Bloomberg.
3. The EIA 2007 International Energy Outlook Long-Term GDP Growth Rate is used to calculate the Year 10 Stock Price.
   {(the Dividend Year 2017 Q3 Estimate) x ((1 + the Perpetual Growth Rate) ^ (1/2))} /
   {(Trial COE - Quarterly Rate) - ((1 + the Perpetual Growth Rate) ^ (1/4) -1)}.

Table No. MJV-7

Overall Cost of Capital of the Canadian Utilities Sample

Panel A: Simple DCF Method (Quarterly)

Company	2nd Quarter, 2007 Bond Rating [1]	2nd Quarter, 2007 Preferred Equity Rating [2]	DCF Cost of Equity [3]	DCF Common Equity to Market Value Ratio [4]	Cost of Preferred Equity [5]	DCF Preferred Equity to Market Value Ratio [6]	DCF Cost of Debt [7]	DCF Debt to Market Value Ratio [8]	TQM's Income Tax Rate [9]	Overall After- Tax Cost of Capital [10]
Canadian Utilities	A	A	10.9%	0.59	5.5%	0.06	5.5%	0.34	32.0%	8.1%
Emera Inc.	BBB	-	11.3%	0.53	-	-	5.9%	0.47	32.0%	7.9%
Enbridge Inc.	A	A	10.3%	0.57	5.5%	0.01	5.5%	0.43	32.0%	7.5%
Fortis Inc.	A	A	11.5%	0.40	5.5%	0.01	5.5%	0.59	32.0%	6.9%
TransCanada Corp.	A	-	12.2%	0.55	-	-	5.5%	0.45	32.0%	8.4%
Average			11.2%	0.53	5.5%	0.02	5.6%	0.46	32.0%	7.7%

Sources and Notes:

[1]: Bloomberg as of August 28, 2007.

[2]: Preferred ratings were assumed equal to debt ratings.

[3]: Table No. MJV-6; Panel A, [5].

[4]: Table No. MJV-4, [1].

[5]: Workpaper #2 to Table No. MJV-11, Panel B, [6].

[6]: Table No. MJV-4, [2].

[7]: Workpaper #2 toTable No. MJV-11, Panel A, [6].

[8]: Table No. MJV-4, [3].

[9]: Provided by TQM.

[10]: ([3] x [4]) + ([5] x [6]) + {[7] x [8] x (1 - [9])}.

Table No. MJV-7

Overall Cost of Capital of the Canadian Utilities Sample

Panel B: Multi-Stage DCF (Using EIA's 2007 International Energy Outlook GDP Growth Forecast and Canada's Targeted Inflation Rate)

Company	2nd Quarter, 2007 Bond Rating [1]	2nd Quarter, 2007 Preferred Equity Rating [2]	DCF Cost of Equity [3]	DCF Common Equity to Market Value Ratio [4]	Cost of Preferred Equity [5]	DCF Preferred Equity to Market Value Ratio [6]	DCF Cost of Debt [7]	DCF Debt to Market Value Ratio [8]	TQM's Income Tax Rate [9]	Overall After- Tax Cost of Capital [10]
Canadian Utilities	A	A	7.7%	0.59	5.5%	0.06	5.5%	0.34	32.0%	6.2%
Emera Inc.	BBB	-	9.6%	0.53	-	-	5.9%	0.47	32.0%	7.0%
Enbridge Inc.	A	A	8.3%	0.57	5.5%	0.01	5.5%	0.43	32.0%	6.4%
Fortis Inc.	A	A	8.5%	0.40	5.5%	0.01	5.5%	0.59	32.0%	5.7%
TransCanada Corp.	A	-	9.1%	0.55	-	-	5.5%	0.45	32.0%	6.7%
Average			8.7%	0.53	5.5%	0.02	5.6%	0.46	32.0%	6.4%

Sources and Notes:
[1]: Bloomberg as of August 28, 2007.
[2]: Preferred ratings were assumed equal to debt ratings.
[3]: Table No. MJV-6; Panel B, [10].
[4]: Table No. MJV-4, [1].
[5]: Workpaper #2 to Table No. MJV-11, Panel B, [6].
[6]: Table No. MJV-4, [2].
[7]: Workpaper #2 toTable No. MJV-11, Panel A, [6].
[8]: Table No. MJV-4, [3].
[9]: Provided by TQM.
[10]: ([3] x [4]) + ([5] x [6]) + {[7] x [8] x (1 - [9])}.

Table No. MJV-8

DCF Cost of Equity at TQM Capital Structure

Canadian Utilities Sample

Panel A: TQM's Implied Cost of Equity

	Overall Cost of Capital [1]	TQM's Deemed Debt % [2]	TQM's Cost of Debt [3]	TQM's Income Tax Rate [4]	TQM's Deemed Equity % [5]	Estimated Return on Equity [6]
Using All Companies with Bloomberg Forecast						
Simple DCF Quarterly	7.7%	0.60	5.5%	32.0%	0.40	13.7%
Multi-Stage DCF - Using the EIA 2007 International Energy Outlook Long-Term GDP as the Perpetual Growth Rate	6.4%	0.60	5.5%	32.0%	0.40	10.3%

Sources and Notes:
[1]: Table No. MJV-7; Panels A-B, [10].
[2]: Provided by TQM.
[3]: Based on an A rating, as provided by TQM. Yield from Bloomberg as of August 28, 2007.
[4]: Provided by TQM.
[5]: Provided by TQM.
[6]: {[1] - ([2] x [3] x (1 - [4]))} / [5].

Table No. MJV-8

DCF Cost of Equity at TQM Capital Structure

Canadian Utilities Sample

Panel B: Calculating TransCanada's Equity Thickness Assuming NEB Approved ROE of 8.46% for 2007

	Overall Cost of Capital [1]	TQM's Deemed Debt % [2]	TQM's Cost of Debt [3]	TQM's Income Tax Rate [4]	Estimated Return on Equity [5]	TQM's Deemed Equity % [6]
Using All Companies with Bloomberg Forecast						
Simple DCF Quarterly	7.7%	0.15	5.5%	32.0%	8.46%	**0.85**
Multi-Stage DCF - Using the EIA 2007 International Energy Outlook Long-Term GDP as the Perpetual Growth Rate	6.4%	0.44	5.5%	32.0%	8.46%	**0.56**

Sources and Notes:
[1]: Table No. MJV-7; Panels A-B, [10].
[2]: 1 - [6].
[3]: Based on an A rating, as provided by TQM. Yield from Bloomberg as of August 28, 2007.
[4]: Provided by TQM.
[5]: NEB Approved ROE.
[6]: ([1] - (1 - [4]) x [3]) / ([5] - (1 - [4]) x [3]).

Table No. MJV-9

Canadian Utilities Sample

Computation of Canadian Long-Term Risk-Free Rate

[1]	10-Year Consensus Risk-Free Rate Forecast	4.80%
[2]	Maturity Premium	0.20%
[3]	Long-Term Risk-Free Rate (rounded to the nearest 5 basis points)	5.00%

Sources and Notes:
[1]: Consensus Forecast as of August 2007.
[2]: See Workpaper #3 to Table No. MJV-9, Panel C.
[3]: [1] + [2].

Workpaper #1 to Table No. MJV-9

Canadian Utilities Sample

Panel A: Canadian Bond Yield Forecast

		End of November '07 Forecast	End of August '08 Forecast	Average of Nov '07/Aug '08		Canadian Utility Bond Yield
		[1]	[2]	[3]		[4]
3-Month T-Bill	[a]	4.70%	4.70%	4.70%	A Public Utilities	5.55%
10-Year Govt. Bond	[b]	4.70%	4.90%	4.80%	BBB Public Utilities	5.88%

Sources and Notes:

[1]-[2]: Consensus Forecast as of August 2007, pg. 17.

[3]: ([1] + [2]) / 2

[4]: Bloomberg as of August 28, 2007.

Workpaper #1 to Table No. MJV-9

Canadian Utilities Sample

Panel B: U.S. - Canada Interest Rate Adjustment

		End of November '07 Forecast	End of August '08 Forecast	Average
		[1]	[2]	[3]
U.S. 10-Year Treasury Bond Yield:	[a]	5.0%	5.1%	5.05%
Canada 10-Year Treasury Bond Yield:	[b]	4.7%	4.9%	4.80%
Difference Factor:				0.25%

Sources and Notes:
[1] & [2]: Consensus Forecast as of August 2007, pg. 5 and pg. 17.
[3]: ([2] + [1]) / 2.
Difference Factor: [3][a] - [3][b].

Workpaper #2 to Table No. MJV-9

Canadian Utilities Sample

Historical Market Risk Premiums

	Long-Term Return on Market [1]	Total Return on 91-Day T-Bills [2]	Total Return on 10-yr+ Gov. Bonds [3]	**Short-Term Risk Premium** [4]	**Long-Term Return on Market - Long-Term Total Return** [5]	**Ibbotson Long-Term Risk Premium** [6]
1951-2006	11.8%	6.3%	7.3%	5.6%	4.5%	4.6%
1948-2006	12.6%	6.0%	7.0%	6.7%	5.6%	5.7%
1936-2006	11.7%	5.1%	6.5%	6.6%	5.1%	5.4%
1934-2006	12.0%	4.9%	6.6%	7.1%	5.4%	-
1924-2006	11.9%	4.9%	6.5%	6.9%	5.4%	-

sources

[1] - [3]: Computed from Report on Canadian Economic Statistics, April 2007, Table 1A.

[4]: [1] - [2].

[5]: [1] - [3].

[6]: Ibbotson Associates, Canadian Risk Premia Over Time Report, 2007.

Workpaper #3 to Table No. MJV-9

Canadian Utilities Sample

Panel A: Canadian Bond Historical Averages (Annual Series Data)

	91-Day T-Bill Yield [1]	1-3 Year Bond Yields [2]	3-5 Year Bond Yields [3]	5-10 Year Bond Yields [4]	Long-Term Government Bond Yield [5]
1936	0.85%	-	-	-	2.97%
1937	0.72%	-	-	-	3.17%
1938	0.60%	-	-	-	3.09%
1939	0.71%	-	-	-	3.16%
1940	0.71%	-	-	-	3.28%
1941	0.58%	-	-	-	3.10%
1942	0.54%	-	-	-	3.06%
1943	0.48%	-	-	-	3.01%
1944	0.39%	-	-	-	3.00%
1945	0.36%	-	-	-	2.93%
1946	0.39%	-	-	-	2.61%
1947	0.41%	-	-	-	2.57%
1948	0.41%	-	-	-	2.93%
1949	0.49%	1.65%	-	-	2.87%
1950	0.55%	1.80%	-	-	2.86%
1951	0.79%	2.42%	2.61%	3.08%	3.23%
1952	1.07%	2.81%	3.24%	3.56%	3.56%
1953	1.72%	3.21%	3.45%	3.63%	3.71%
1954	1.43%	2.18%	2.67%	2.90%	3.18%
1955	1.63%	2.19%	2.79%	2.87%	3.14%
1956	2.96%	3.60%	3.76%	3.75%	3.63%
1957	3.81%	4.46%	4.57%	4.39%	4.11%
1958	2.28%	3.28%	3.47%	3.69%	4.15%
1959	4.90%	5.03%	4.94%	5.10%	5.08%
1960	3.24%	3.96%	4.52%	4.85%	5.19%
1961	2.84%	3.59%	4.38%	4.61%	5.05%
1962	4.12%	4.28%	4.60%	4.76%	5.11%
1963	3.61%	4.21%	4.48%	4.77%	5.09%
1964	3.80%	4.41%	4.72%	4.92%	5.18%
1965	4.04%	4.52%	4.90%	5.09%	5.21%
1966	5.09%	5.38%	5.55%	5.74%	5.69%
1967	4.72%	5.29%	5.64%	5.94%	5.94%
1968	6.42%	6.37%	6.68%	6.85%	6.75%
1969	7.39%	7.49%	7.66%	7.76%	7.58%
1970	6.13%	6.57%	7.11%	7.58%	7.91%
1971	3.61%	4.93%	5.56%	6.15%	6.95%
1972	3.61%	5.54%	6.26%	6.74%	7.23%
1973	5.59%	6.54%	6.98%	7.17%	7.56%
1974	8.06%	8.03%	8.12%	8.27%	8.90%
1975	7.61%	7.56%	7.72%	8.06%	9.04%
1976	9.17%	8.27%	8.35%	8.73%	9.18%
1977	7.54%	7.46%	7.90%	8.14%	8.70%
1978	8.97%	8.77%	9.00%	9.08%	9.27%
1979	12.23%	10.77%	10.42%	10.16%	10.21%
1980	13.45%	12.44%	12.37%	12.30%	12.48%
1981	18.99%	15.97%	15.68%	15.29%	15.22%
1982	14.41%	13.95%	14.00%	14.03%	14.26%
1983	9.65%	10.18%	10.61%	11.11%	11.79%
1984	11.54%	11.67%	11.91%	12.42%	12.75%
1985	9.78%	10.12%	10.39%	10.78%	11.04%
1986	9.29%	9.09%	9.21%	9.37%	9.52%
1987	8.40%	9.19%	9.42%	9.55%	9.95%
1988	9.83%	9.67%	9.77%	9.76%	10.22%
1989	12.62%	10.71%	10.20%	9.83%	9.92%
1990	13.45%	11.65%	11.19%	10.82%	10.85%
1991	9.02%	8.99%	9.16%	9.36%	9.76%
1992	6.76%	7.03%	7.43%	8.16%	8.77%
1993	4.94%	5.89%	6.46%	7.24%	7.85%
1994	5.66%	7.14%	7.79%	8.26%	8.63%
1995	7.08%	7.26%	7.64%	7.93%	8.28%
1996	4.28%	5.35%	6.21%	6.86%	7.50%
1997	3.30%	4.68%	5.33%	5.87%	6.42%
1998	4.82%	5.09%	5.16%	5.26%	5.47%
1999	4.80%	5.36%	5.50%	5.56%	5.69%
2000	5.61%	5.91%	5.99%	5.96%	5.89%
2001	3.83%	4.25%	4.88%	5.32%	5.78%
2002	2.61%	3.55%	4.44%	5.08%	5.66%
2003	2.90%	3.24%	3.88%	4.54%	5.28%
2004	2.24%	2.92%	3.67%	4.34%	5.08%
2005	2.75%	3.18%	3.50%	3.89%	4.39%
2006	4.10%	4.07%	4.10%	4.18%	4.30%

Sources and Notes:

[1] - [5]: Report on Canadian Economic Statistics 1924-2006, April 2007; Table 4 - A.

Workpaper #3 to Table No. MJV-9

Canadian Utilities Sample

Panel B: Calculation of Maturity Premia for Different Bond Series

	Annual Historical Average					Maturity Premium Calculation				
	91-Day T-Bill Total Return [1]	1-3 Year Bond Yields [2]	3-5 Year Bond Yields [3]	5-10 Year Bond Yields [4]	Long-Term Government Bond Yield [5]	91-Day T-Bill Total Return [6]	1-3 Year Bond Yields [7]	3-5 Year Bond Yields [8]	5-10 Year Bond Yields [9]	Long-Term Government Bond Yield [10]
1936 - 2006	4.97%				6.38%	0.00%				1.41%
1951 - 2006	6.15%	6.46%	6.75%	6.99%	7.29%	0.00%	0.31%	0.60%	0.84%	1.14%
1959 - 2006	6.85%	7.03%	7.32%	7.57%	7.91%	0.00%	0.18%	0.47%	0.72%	1.06%
1969 - 2006	7.53%	7.64%	7.92%	8.18%	8.56%	0.00%	0.12%	0.39%	0.65%	1.03%
1979 - 2006	7.80%	7.83%	8.08%	8.33%	8.68%	0.00%	0.04%	0.29%	0.53%	0.88%
1989 - 2006	5.60%	5.90%	6.25%	6.58%	6.97%	0.00%	0.31%	0.65%	0.98%	1.38%

Sources and Notes:

[1] - [5] : Workpaper #3 to Table No. MJV-9, Panel A.

The Average Historical Yields from 1936 - 2006 were not calculated for [2], [3] and [4] because a complete set of yields is not available.

The Maturity Premium is estimated as the Average Bond Yield (for different series) - 91-day T-Bill total return.

[6]: [1] - [1].

[7]: [2] - [1].

[8]: [3] - [1].

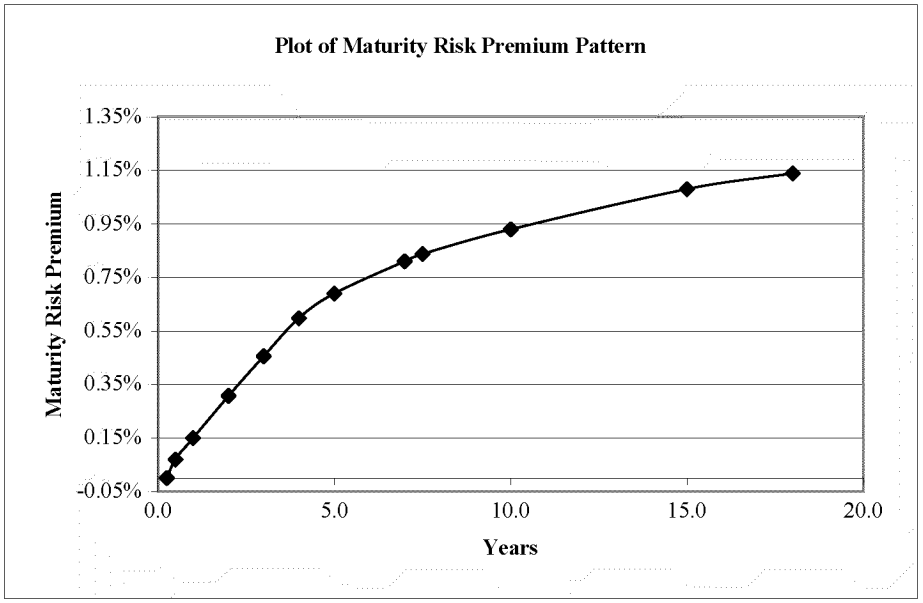
[9]: [4] - [1].

[10]: [5] - [1].

Workpaper #3 to Table No. MJV-9

Canadian Utilities Sample

Panel C: Maturity Premium Graph and Calculations (Using Annual Series Data)



Maturity of Bond (Years) [1]	Maturity Risk Premium [2]	Annualized Difference [3]
0.083		
0.25	0.00%	0.0000
0.5	0.07%	0.0028
1	0.15%	0.0016
2	0.31%	0.0016
3	0.46%	0.0015
4	0.60%	0.0014
5	0.69%	0.0009
7	0.81%	0.0006
7.5	0.84%	0.0005
10	0.93%	0.0004
15	1.08%	0.0003
18	1.14%	0.0003

Sources and Notes:

[1]: The maturity of a bond in years.

[2]: Workpaper #3 to Table No. MJV-9; Panel B; [6] - [10]. This is the Maturity Risk Premium in the graph.

[3]: The difference between the Maturity Risk Premium / The difference in the Maturity of the Bond.

Table No. MJV-10

Risk Positioning Cost of Equity of the Canadian Utilities Sample

Using the Long-Term Risk-Free Rate

Company	Canadian Long-Term Risk-Free Rate [1]	Bloomberg Betas [2]	Long-Term Market Risk Premium [3]	CAPM Cost of Equity [4]	ECAPM (1.0%) Cost of Equity [5]	ECAPM (2.0%) Cost of Equity [6]
Canadian Utilities	5.0%	0.64	5.75%	8.7%	9.0%	9.4%
Emera Inc.	5.0%	0.48	5.75%	7.7%	8.3%	8.8%
Enbridge Inc.	5.0%	0.69	5.75%	9.0%	9.3%	9.6%
Fortis Inc.	5.0%	0.58	5.75%	8.4%	8.8%	9.2%
TransCanada Corp.	5.0%	0.64	5.75%	8.7%	9.0%	9.4%

Sources and Notes:
[1]: Table No. MJV-9, Computation of Canadian Long-Term Risk-Free Rate, Row [3].
[2]: Workpaper # 1 to Table No. MJV-10, column [1].
[3]: Vilbert Written Evidence, Appendix B.
[4]: [1] + ([2] x [3]).
[5]: ([1] + 1.0%) + [2] x ([3] - 1.0%).
[6]: ([1] + 2.0%) + [2] x ([3] - 2.0%).

Workpaper # 1 to Table No. MJV-10

Canadian Utilities Sample

Bloomberg Betas

Company	Bloomberg Betas [1]
Canadian Utilities	0.64
Emera Inc.	0.48
Enbridge Inc.	0.69
Fortis Inc.	0.58
TransCanada Corp.	0.64
Average:	0.60

Sources and Notes:
[1]: Bloomberg as of August 28, 2007. Using 260-week adjusted betas.
Adjusted betas were calculated as: Raw Beta x (2/3) + (1/3).

Table No. MJV-11

Overall Cost of Capital of the Canadian Utilities Sample

Panel A: CAPM Cost of Equity

Company	CAPM Cost of Equity [1]	5-Year Average Common Equity to Market Value Ratio [2]	Weighted - Average Cost of Preferred Equity [3]	5-Year Average Preferred Equity to Market Value Ratio [4]	Weighted-Average Cost of Debt [5]	5-Year Average Debt to Market Value Ratio [6]	TQM's Income Tax Rate [7]	Overall After-Tax Cost of Capital [8]
Canadian Utilities	8.7%	0.55	5.5%	0.08	5.55%	0.37	32.0%	6.6%
Emera Inc.	7.7%	0.51	-	-	5.88%	0.49	32.0%	5.9%
Enbridge Inc.	9.0%	0.55	5.5%	0.01	5.55%	0.43	32.0%	6.7%
Fortis Inc.	8.4%	0.43	5.5%	0.01	5.55%	0.56	32.0%	5.8%
TransCanada Corp.	8.7%	0.51	5.5%	0.02	5.55%	0.47	32.0%	6.3%
Average	8.5%	0.51	5.5%	0.02	5.62%	0.46	32.0%	6.3%

Sources and Notes:
[1]: Table No. MJV-10, [4].
[2]: Table No. MJV-4, [4].
[3]: Workpaper #2 to Table No. MJV-11 ; Panel B, [1].
[4]: Table No. MJV-4, [5].
[5]: Workpaper #2 to Table No. MJV-11 ; Panel A, [1].
[6]: Table No. MJV-4, [6].
[7]: Provided by TQM.
[8]: ([1] x [2]) + ([3] x [4]) + {[5] x [6] x (1 - [7])}.

Table No. MJV-11

Overall Cost of Capital of the Canadian Utilities Sample

Panel B: ECAPM (1.0%) Cost of Equity

Company	ECAPM (1.0%) Cost of Equity [1]	5-Year Average Common Equity to Market Value Ratio [2]	Weighted - Average Cost of Preferred Equity [3]	5-Year Average Preferred Equity to Market Value Ratio [4]	Weighted-Average Cost of Debt [5]	5-Year Average Debt to Market Value Ratio [6]	TQM's Income Tax Rate [7]	Overall After-Tax Cost of Capital [8]
Canadian Utilities	9.0%	0.55	5.5%	0.08	5.55%	0.37	32.0%	6.8%
Emera Inc.	8.3%	0.51	-	-	5.88%	0.49	32.0%	6.2%
Enbridge Inc.	9.3%	0.55	5.5%	0.01	5.55%	0.43	32.0%	6.8%
Fortis Inc.	8.8%	0.43	5.5%	0.01	5.55%	0.56	32.0%	5.9%
TransCanada Corp.	9.0%	0.51	5.5%	0.02	5.55%	0.47	32.0%	6.5%
Average	8.9%	0.51	5.5%	0.02	5.62%	0.46	32.0%	6.5%

Sources and Notes:
[1]: Table No. MJV-10, [5].
[2]: Table No. MJV-4, [4].
[3]: Workpaper #2 to Table No. MJV-11 ; Panel B, [1].
[4]: Table No. MJV-4, [5].
[5]: Workpaper #2 to Table No. MJV-11 ; Panel A, [1].
[6]: Table No. MJV-4, [6].
[7]: Provided by TQM.
[8]: ([1] x [2]) + ([3] x [4]) + {[5] x [6] x (1 - [7])}.

Table No. MJV-11

Overall Cost of Capital of the Canadian Utilities Sample

Panel C: ECAPM (2.0%) Cost of Equity

Company	ECAPM (2.0%) Cost of Equity [1]	5-Year Average Common Equity to Market Value Ratio [2]	Weighted - Average Cost of Preferred Equity [3]	5-Year Average Preferred Equity to Market Value Ratio [4]	Weighted-Average Cost of Debt [5]	5-Year Average Debt to Market Value Ratio [6]	TQM's Income Tax Rate [7]	Overall After-Tax Cost of Capital [8]
Canadian Utilities	9.4%	0.55	5.5%	0.08	5.55%	0.37	32.0%	7.0%
Emera Inc.	8.8%	0.51	-	-	5.88%	0.49	32.0%	6.4%
Enbridge Inc.	9.6%	0.55	5.5%	0.01	5.55%	0.43	32.0%	7.0%
Fortis Inc.	9.2%	0.43	5.5%	0.01	5.55%	0.56	32.0%	6.1%
TransCanada Corp.	9.4%	0.51	5.5%	0.02	5.55%	0.47	32.0%	6.7%
Average	9.3%	0.51	5.5%	0.02	5.62%	0.46	32.0%	6.7%

Sources and Notes:
[1]: Table No. MJV-10, [6].
[2]: Table No. MJV-4, [4].
[3]: Workpaper #2 to Table No. MJV-11 ; Panel B, [1].
[4]: Table No. MJV-4, [5].
[5]: Workpaper #2 to Table No. MJV-11 ; Panel A, [1].
[6]: Table No. MJV-4, [6].
[7]: Provided by TQM.
[8]: ([1] x [2]) + ([3] x [4]) + {[5] x [6] x (1 - [7])}.

Workpaper #1 to Table No. MJV-11

Canadian Utilities Sample

Panel A: Rating to Yield Conversion

Rating	Canadian Bond Yield	Canadian Preferred Yield
A	5.55%	5.55%
BBB	5.88%	5.88%

Sources and Notes:
Bond Yields from Bloomberg as of August 28, 2007.
Preferred Yields are assumed equal to debt yields.

Workpaper #1 to Table No. MJV-11

Canadian Utilities Sample

Panel B: Bond Rating Summary

Company	2nd Quarter, 2007 [1]	2006 [2]	2005 [3]	2004 [4]	2003 [5]	2002 [6]
Canadian Utilities	A	A	A	A	A	A
Emera Inc.	BBB	BBB	BBB	BBB	BBB	BBB
Enbridge Inc.	A	A	A	A	A	A
Fortis Inc.	A	A	A	A	A	A
TransCanada Corp.	A	A	A	A	A	A

Sources and Notes:
[1] - [6]: Bloomberg as of August 28, 2007.

Workpaper #1 to Table No. MJV-11

Canadian Utilities Sample

Panel C: Preferred Equity Rating Summary

Company	2nd Quarter, 2007 [1]	2006 [2]	2005 [3]	2004 [4]	2003 [5]	2002 [6]
Canadian Utilities	A	A	A	A	A	A
Emera Inc.	-	-	-	-	-	-
Enbridge Inc.	A	A	A	A	A	A
Fortis Inc.	A	A	-	-	A	-
TransCanada Corp.	-	-	-	-	A	A

Sources and Notes:

[1] - [6]: Preferred equity ratings are assumed equal to the company's bond ratings reported in Workpaper #1 to Table No. MJV-11, Panels A and B.

Workpaper #2 to Table No. MJV-11

Canadian Utilities Sample

Panel A: 15 Day Average Canadian Utility Yield

Date	A Rated Utility [1]	BBB Rated Utility [2]	A Preferred [3]	BBB Preferred [4]
8/8/2007	5.54	5.90	-	-
8/9/2007	5.54	5.88	-	-
8/10/2007	5.55	5.89	-	-
8/13/2007	5.54	5.88	-	-
8/14/2007	5.51	5.86	-	-
8/15/2007	5.56	5.90	-	-
8/16/2007	5.56	5.91	-	-
8/17/2007	5.58	5.93	-	-
8/20/2007	5.57	5.89	-	-
8/21/2007	5.57	5.88	-	-
8/22/2007	5.60	5.91	-	-
8/23/2007	5.58	5.91	-	-
8/24/2007	5.54	5.87	-	-
8/27/2007	5.51	5.83	-	-
8/28/2007	5.48	5.81	-	-
Average	5.55	5.88	5.55	5.88

Sources and Notes:

[1] - [2]: Bloomberg as of August 28, 2007.

[3] - [4]: Preferred yield is assumed equal to debt yield.

Workpaper #2 to Table No. MJV-11

Canadian Utilities Sample

Panel B: Bond Yield Summary

Company	2nd Quarter, 2007 [1]	2006 [2]	2005 [3]	2004 [4]	2003 [5]	2002 [6]	5-Year Weighted Average [7]
Canadian Utilities	5.55%	5.55%	5.55%	5.55%	5.55%	5.55%	5.55%
Emera Inc.	5.88%	5.88%	5.88%	5.88%	5.88%	5.88%	5.88%
Enbridge Inc.	5.55%	5.55%	5.55%	5.55%	5.55%	5.55%	5.55%
Fortis Inc.	5.55%	5.55%	5.55%	5.55%	5.55%	5.55%	5.55%
TransCanada Corp.	5.55%	5.55%	5.55%	5.55%	5.55%	5.55%	5.55%

Sources and Notes:
[1] - [6]: Ratings based on Workpaper #1 to Table No. MJV-11, Panel A and bond yields from Bloomberg as of August 28, 2007.
[7]: {([1] x (6/12)) + ([2] x (8/12)) + [3] + [4] + [5] + ([6] x (10/12))} / 5.

Workpaper #2 to Table No. MJV-11

Canadian Utilities Sample

Panel C: Preferred Equity Yield Summary

Company	2nd Quarter, 2007 [1]	2006 [2]	2005 [3]	2004 [4]	2003 [5]	2002 [6]	5-Year Weighted Average [7]
Canadian Utilities	5.55%	5.55%	5.55%	5.55%	5.55%	5.55%	5.55%
Emera Inc.	-	-	-	-	-	-	-
Enbridge Inc.	5.55%	5.55%	5.55%	5.55%	5.55%	5.55%	5.55%
Fortis Inc.	5.55%	5.55%	-	-	5.55%	-	5.55%
TransCanada Corp.	-	-	-	-	5.55%	5.55%	5.55%

Sources and Notes:
[1] - [6]: Ratings based on Workpaper #1 to Table No. MJV-11, Panel A. Preferred equity yields are assumed equal to debt yields.
[7]: {([1] x (6/12)) + ([2] x (8/12)) + [3] + [4] + [5] + ([6] x (10/12))} / 5.

Table No. MJV-12

Risk Positioning Cost of Equity at TQM's Capital Structure

Canadian Utilities Sample

Panel A: TQM's Implied Cost of Equity

	Overall Cost of Capital [1]	TQM's Deemed Debt % [2]	TQM's Cost of Debt [3]	TQM's Income Tax Rate [4]	TQM's Deemed Equity % [5]	Estimated Return on Equity [6]
Using Long-Term Risk-Free Rates:						
CAPM using Bloomberg Betas	6.3%	0.60	5.5%	32.0%	0.40	10.0%
ECAPM (1.00%) using Bloomberg Betas	6.5%	0.60	5.5%	32.0%	0.40	10.5%
ECAPM (2.00) using Bloomberg Betas	6.7%	0.60	5.5%	32.0%	0.40	11.0%

Sources and Notes:
[1]: Table No. MJV-11; Panels A - C, [8].
[2]: Provided by TQM.
[3]: Based on an A rating, as provided by TQM. Yield from Bloomberg as of August 28, 2007.
[4]: Provided by TQM.
[5]: Provided by TQM.
[6]: {[1] - ([2] x [3] x (1 - [4]))} / [5].

Table No. MJV-12

Risk Positioning Cost of Equity at TQM's Capital Structure

Canadian Utilities Sample

Panel B: Calculating TransCanada's Equity Thickness Assuming NEB Formula ROE of 8.46% for 2007

	Overall Cost of Capital [1]	TQM's Deemed Debt % [2]	TQM's Cost of Debt [3]	TQM's Income Tax Rate [4]	Estimated Return on Equity [5]	TQM's Deemed Equity % [6]
Using Long-Term Risk-Free Rates:						
CAPM using Bloomberg Betas	6.3%	0.47	5.5%	32.0%	8.46%	**0.53**
ECAPM (1.00%) using Bloomberg Betas	6.5%	0.43	5.5%	32.0%	8.46%	**0.57**
ECAPM (2.00) using Bloomberg Betas	6.7%	0.39	5.5%	32.0%	8.46%	**0.61**

Sources and Notes:
[1]: Table No. MJV-11; Panels A - C, [8].
[2]: 1 - [6].
[3]: Based on an A rating, as provided by TransCanada Corp. Yield from Bloomberg as of August 28, 2007.
[4]: Provided by TransCanada Corp.
[5]: NEB Approved ROE.
[6]: ([1] - (1 - [4]) x [3]) / ([5] - (1 - [4]) x [3]).

Table No. MJV-13

Gas LDC Sample

Classification of Companies by Assets

Company		Company Category
Atmos Energy Corp		R
Laclede Group Inc/The	*	R
Northwest Natural Gas Co	*	R
South Jersey Industries Inc		MR
Southwest Gas Corp	*	R
WGL Holdings Inc	*	R
AGL Resources Inc		MR
Vectren Corp		R
New Jersey Resources Corp		MR

Sources and Notes:
Workpaper #1 to Table No. MJV-2, Panels A-J.
* Represents companies included in the subsample.
R = Regulated (greater than 80 percent of total assets are regulated).
MR = Mostly Regulated (50 to 80 percent of total assets are regulated).

Workpaper #1 to Table No. MJV-13

Gas LDC Sample: Percentage of Regulated Assets

Panel A: Atmos Energy Corp (thousands)

		2006
Assets Attributed to Utility	[1]	5,462,301
Total	[2]	5,719,547

Sources and Notes:
[1]-[2]: Atmos Energy Corp's 2006 Form 10-K.

Workpaper #1 to Table No. MJV-13

Gas LDC Sample: Percentage of Regulated Assets

Panel B: Laclede Group Inc/The (thousands)

		2006
Assets Attributed to Utility	[1]	763,827
Total	[2]	853,515

Sources and Notes:
[1]-[2]: Laclede Group Inc/The's 2006 Form 10-K.

Workpaper #1 to Table No. MJV-13

Gas LDC Sample: Percentage of Regulated Assets

Panel C: Northwest Natural Gas Co (thousands)

		2006
Assets Attributed to Utility	[1]	see footnote
Total	[2]	see footnote

Sources and Notes:
[1]-[2]: Northwest Natural Gas Co's 2006 Form 10-K, pg 3 explicitly states the percentage of regulated assets.

Workpaper #1 to Table No. MJV-13

Gas LDC Sample: Percentage of Regulated Assets

Panel D: Piedmont Natural Gas Co (thousands)

		2006
Assets Attributed to Utility	[1]	2,600,411
Total	[2]	2,676,288

Sources and Notes:
[1]-[2]: Piedmont Natural Gas Co's 2006 Form 10-K.

Workpaper #1 to Table No. MJV-13

Gas LDC Sample: Percentage of Regulated Assets

Panel E: South Jersey Industries Inc (thousands)

		2006
Assets Attributed to Utility	[1]	1,228,076
Total	[2]	1,573,032

Sources and Notes:
[1]-[2]: South Jersey Industries Inc's 2006 Form 10-K.

Workpaper #1 to Table No. MJV-13

Gas LDC Sample: Percentage of Regulated Assets

Panel F: Southwest Gas Corp (thousands)

		2006
Assets Attributed to Utility	[1]	3,352,074
Total	[2]	3,484,965

Sources and Notes:
[1]-[2]: Southwest Gas Corp's 2006 Form 10-K.

Workpaper #1 to Table No. MJV-13

Gas LDC Sample: Percentage of Regulated Assets

Panel G: WGL Holdings Inc (thousands)

		2006
Assets Attributed to Utility	[1]	2,944,100
Total	[2]	2,950,000

Sources and Notes:
[1]-[2]: WGL Holdings Inc's 2006 Form 10-K.

Workpaper #1 to Table No. MJV-13

Gas LDC Sample: Percentage of Regulated Assets

Panel H: AGL Resources Inc (thousands)

		2006
Assets Attributed to Utility	[1]	4,565,000
Total	[2]	6,147,000

Sources and Notes:
[1]-[2]: AGL Resources Inc's 2006 Form 10-K.

Workpaper #1 to Table No. MJV-13

Gas LDC Sample: Percentage of Regulated Assets

Panel I: Vectren Corp (thousands)

		2006
Assets Attributed to Utility	[1]	3,231,200
Total	[2]	3,440,800

Sources and Notes:
[1]-[2]: Vectren Corp's 2006 Form 10-K.

Workpaper #1 to Table No. MJV-13

Gas LDC Sample: Percentage of Regulated Assets

Panel J: New Jersey Resources Corp (thousands)

		2006
Assets Attributed to Utility	[1]	1,586,934
Total	[2]	2,398,928

Sources and Notes:

[1]-[2]: New Jersey Resources Corp's 2006 Form 10-K.

Table No. MJV-14

Market Values of the Gas LDC Sample

Panel A: Atmos Energy Corp

($MM)

	DCF Capital Structure	2nd Quarter, 2007	Year End, 2006	Year End, 2005	Year End, 2004	Year End, 2003	Year End, 2002	Notes
MARKET VALUE OF COMMON EQUITY								
Book Value, Common Shareholder's Equity	$1,988	$1,988	$1,648	$1,602	$1,133	$858	$573	[a]
Shares Outstanding (in millions) - Common	89	89	82	81	63	51	42	[b]
Price per Share - Common	$27	$30	$32	$26	$27	$25	$23	[c]
Market Value of Common Equity	$2,431	$2,683	$2,619	$2,122	$1,704	$1,263	$970	[d] = [b] x [c].
Market to Book Value of Common Equity	1.22	1.35	1.59	1.32	1.50	1.47	1.69	[e] = [d] / [a].
MARKET VALUE OF PREFERRED EQUITY								
Book Value of Preferred Equity	$0	$0	$0	$0	$0	$0	$0	[f]
Market Value of Preferred Equity	$0	$0	$0	$0	$0	$0	$0	[g] = [f].
MARKET VALUE OF DEBT								
Current Assets	$1,334	$1,334	$1,118	$1,264	$677	$458	$331	[h]
Current Liabilities	$1,094	$1,094	$1,119	$1,113	$414	$442	$464	[i]
Current Portion of Long-Term Debt	$304	$304	$3	$3	$6	$9	$22	[j]
Net Working Capital	$545	$545	$2	$155	$269	$26	($111)	[k] = [h] - ([i] - [j]).
Notes Payable (Short-Term Debt)	$0	$0	$382	$145	$0	$119	$146	[l]
Adjusted Short-Term Debt	$0	$0	$0	$0	$0	$0	$111	[m] = See Sources and Notes.
Long-Term Debt	$2,127	$2,127	$2,180	$2,183	$861	$863	$670	[n]
Book Value of Long-Term Debt	$2,431	$2,431	$2,184	$2,186	$867	$872	$804	[o] = [n] + [j] + [m].
Adjustment to Book Value of Long-Term Debt	($126)	($126)	($126)	($105)	$75	$141	$105	[p] = See Sources and Notes.
Market Value of Long-Term Debt	$2,304	$2,304	$2,057	$2,082	$943	$1,013	$909	[q] = [p] + [o].
Market Value of Debt	$2,304	$2,304	$2,057	$2,082	$943	$1,013	$909	[r] = [q].
MARKET VALUE OF FIRM	$4,735	$4,987	$4,676	$4,204	$2,646	$2,276	$1,879	[s] = [d] + [g] + [r].
DEBT AND EQUITY TO MARKET VALUE RATIOS								
Common Equity - Market Value Ratio	51.34%	53.80%	56.01%	50.48%	64.39%	55.49%	51.63%	[t] = [d] / [s].
Preferred Equity - Market Value Ratio	-	-	-	-	-	-	-	[u] = [g] / [s].
Debt - Market Value Ratio	48.66%	46.20%	43.99%	49.52%	35.61%	44.51%	48.37%	[v] = [r] / [s].

Sources and Notes:

Bloomberg as of August 28, 2007

Capital structure from 2nd Quarter, 2007 calculated using respective balance sheet information and 5-day average prices ending at period end.

The DCF Capital structure is calculated using 2nd Quarter, 2007 balance sheet information and a 15-trading day average closing price ending on August 28, 2007.

Prices are reported in Workpaper #1 to Table No. MJV-17.

[m] =

(1): 0 if [k] > 0.

(2): The absolute value of [k] if [k] < 0 and |[k]| < [l].

(3): [l] if [k] < 0 and |[k]| > [l].

[p]: Difference between fair value of Long-Term debt and carrying amount of Long-Term debt per company 10-K. Data for adjustment is from 2006 10-K.

Table No. MJV-14

Market Values of the Gas LDC Sample

Panel B: Laclede Group Inc/The

($MM)

	DCF Capital Structure	2nd Quarter, 2007	Year End, 2006	Year End, 2005	Year End, 2004	Year End, 2003	Year End, 2002	Notes
MARKET VALUE OF COMMON EQUITY								
Book Value, Common Shareholder's Equity	$435	$435	$403	$367	$356	$299	$286	[a]
Shares Outstanding (in millions) - Common	22	22	21	21	21	19	19	[b]
Price per Share - Common	$32	$32	$36	$29	$31	$29	$24	[c]
Market Value of Common Equity	$689	$685	$759	$624	$657	$553	$450	[d] = [b] x [c].
Market to Book Value of Common Equity	1.58	1.58	1.89	1.70	1.85	1.85	1.57	[e] = [d] / [a].
MARKET VALUE OF PREFERRED EQUITY								
Book Value of Preferred Equity	$0	$0	$1	$1	$1	$1	$1	[f]
Market Value of Preferred Equity	$0	$0	$1	$1	$1	$1	$1	[g] = [f].
MARKET VALUE OF DEBT								
Current Assets	$399	$399	$460	$424	$338	$288	$222	[h]
Current Liabilities	$365	$365	$431	$366	$263	$366	$337	[i]
Current Portion of Long-Term Debt	$40	$40	$0	$40	$25	$0	$25	[j]
Net Working Capital	$75	$75	$29	$99	$100	($78)	($89)	[k] = [h] - ([i] - [j]).
Notes Payable (Short-Term Debt)	$102	$102	$207	$71	$71	$218	$162	[l]
Adjusted Short-Term Debt	$0	$0	$0	$0	$0	$78	$89	[m] = See Sources and Notes.
Long-Term Debt	$356	$356	$395	$340	$380	$305	$260	[n]
Book Value of Long-Term Debt	$396	$396	$396	$380	$405	$383	$374	[o] = [n] + [j] + [m].
Adjustment to Book Value of Long-Term Debt	$18	$18	$18	$31	$35	$31	$31	[p] = See Sources and Notes.
Market Value of Long-Term Debt	$415	$415	$414	$412	$440	$414	$405	[q] = [p] + [o].
Market Value of Debt	$415	$415	$414	$412	$440	$414	$405	[r] = [q].
MARKET VALUE OF FIRM	$1,104	$1,100	$1,174	$1,036	$1,098	$969	$856	[s] = [d] + [g] + [r].
DEBT AND EQUITY TO MARKET VALUE RATIOS								
Common Equity - Market Value Ratio	62.43%	62.29%	64.66%	60.18%	59.81%	57.11%	52.57%	[t] = [d] / [s].
Preferred Equity - Market Value Ratio	-	-	0.07%	0.09%	0.10%	0.13%	0.15%	[u] = [g] / [s].
Debt - Market Value Ratio	37.57%	37.71%	35.27%	39.73%	40.09%	42.76%	47.28%	[v] = [r] / [s].

Sources and Notes:
Bloomberg as of August 28, 2007
Capital structure from 2nd Quarter, 2007 calculated using respective balance sheet information and 5-day average prices ending at period end.
The DCF Capital structure is calculated using 2nd Quarter, 2007 balance sheet information and a 15-trading day average closing price ending on August 28, 2007.
Prices are reported in Workpaper #1 to Table No. MJV-17.
[m] =
(1): 0 if [k] > 0.
(2): The absolute value of [k] if [k] < 0 and |[k]| < [l].
(3): [l] if [k] < 0 and |[k]| > [l].
[p]: Difference between fair value of Long-Term debt and carrying amount of Long-Term debt per company 10-K. Data for adjustment is from 2006 10-K.

Table No. MJV-14

Market Values of the Gas LDC Sample

Panel C: Northwest Natural Gas Co

($MM)

	DCF Capital Structure	2nd Quarter, 2007	Year End, 2006	Year End, 2005	Year End, 2004	Year End, 2003	Year End, 2002	Notes
MARKET VALUE OF COMMON EQUITY								
Book Value, Common Shareholder's Equity	$610	$610	$600	$587	$569	$506	$482	[a]
Shares Outstanding (in millions) - Common	27	27	27	28	27	26	26	[b]
Price per Share - Common	$46	$47	$42	$35	$33	$31	$27	[c]
Market Value of Common Equity	$1,237	$1,258	$1,151	$962	$901	$794	$695	[d] = [b] x [c].
Market to Book Value of Common Equity	2.03	2.06	1.92	1.64	1.59	1.57	1.44	[e] = [d] / [a].
MARKET VALUE OF PREFERRED EQUITY								
Book Value of Preferred Equity	$0	$0	$0	$0	$0	$0	$8	[f]
Market Value of Preferred Equity	$0	$0	$0	$0	$0	$0	$8	[g] = [f].
MARKET VALUE OF DEBT								
Current Assets	$161	$161	$309	$324	$237	$200	$193	[h]
Current Liabilities	$214	$214	$339	$327	$267	$214	$205	[i]
Current Portion of Long-Term Debt	$0	$0	$30	$8	$15	$0	$20	[j]
Net Working Capital	($52)	($52)	($1)	$5	($15)	($15)	$8	[k] = [h] - ([i] - [j]).
Notes Payable (Short-Term Debt)	$42	$42	$100	$127	$103	$85	$70	[l]
Adjusted Short-Term Debt	$42	$42	$1	$0	$15	$15	$0	[m] = See Sources and Notes.
Long-Term Debt	$517	$517	$517	$522	$484	$500	$446	[n]
Book Value of Long-Term Debt	$559	$559	$548	$530	$514	$515	$466	[o] = [n] + [j] + [m].
Adjustment to Book Value of Long-Term Debt	$49	$49	$49	$50	$69	$62	$53	[p] = See Sources and Notes.
Market Value of Long-Term Debt	$608	$608	$597	$579	$583	$578	$518	[q] = [p] + [o].
Market Value of Debt	$608	$608	$597	$579	$583	$578	$518	[r] = [q].
MARKET VALUE OF FIRM	$1,846	$1,866	$1,748	$1,542	$1,484	$1,371	$1,222	[s] = [d] + [g] + [r].
DEBT AND EQUITY TO MARKET VALUE RATIOS								
Common Equity - Market Value Ratio	67.05%	67.41%	65.86%	62.42%	60.72%	57.88%	56.89%	[t] = [d] / [s].
Preferred Equity - Market Value Ratio	-	-	-	-	-	-	0.68%	[u] = [g] / [s].
Debt - Market Value Ratio	32.95%	32.59%	34.14%	37.58%	39.28%	42.12%	42.43%	[v] = [r] / [s].

Sources and Notes:
Bloomberg as of August 28, 2007
Capital structure from 2nd Quarter, 2007 calculated using respective balance sheet information and 5-day average prices ending at period end.
The DCF Capital structure is calculated using 2nd Quarter, 2007 balance sheet information and a 15-trading day average closing price ending on August 28, 2007.
Prices are reported in Workpaper #1 to Table No. MJV-17.
[m] =
(1): 0 if [k] > 0.
(2): The absolute value of [k] if [k] < 0 and |[k]| < [l].
(3): [l] if [k] < 0 and |[k]| > [l].
[p]: Difference between fair value of Long-Term debt and carrying amount of Long-Term debt per company 10-K. Data for adjustment is from 2006 10-K.

Table No. MJV-14

Market Values of the Gas LDC Sample

Panel D: Piedmont Natural Gas Co

($MM)

	DCF Capital Structure	1st Quarter, 2007	Year End, 2006	Year End, 2005	Year End, 2004	Year End, 2003	Year End, 2002	Notes
MARKET VALUE OF COMMON EQUITY								
Book Value, Common Shareholder's Equity	$924	$924	$883	$884	$855	$630	$590	[a]
Shares Outstanding (in millions) - Common	74	74	75	77	77	67	66	[b]
Price per Share - Common	$26	$26	$27	$24	$23	$21	$18	[c]
Market Value of Common Equity	$1,934	$1,885	$2,049	$1,838	$1,797	$1,434	$1,193	[d] = [b] x [c].
Market to Book Value of Common Equity	2.09	2.04	2.32	2.08	2.10	2.28	2.02	[e] = [d] / [a].
MARKET VALUE OF PREFERRED EQUITY								
Book Value of Preferred Equity	$0	$0	$0	$0	$0	$0	$0	[f]
Market Value of Preferred Equity	$0	$0	$0	$0	$0	$0	$0	[g] = [f].
MARKET VALUE OF DEBT								
Current Assets	$385	$385	$476	$505	$391	$323	$176	[h]
Current Liabilities	$265	$265	$400	$529	$336	$740	$205	[i]
Current Portion of Long-Term Debt	$0	$0	$0	$35	$0	$2	$47	[j]
Net Working Capital	$120	$120	$76	$11	$55	($414)	$18	[k] = [h] - ([i] - [j]).
Notes Payable (Short-Term Debt)	$30	$30	$170	$159	$110	$555	$47	[l]
Adjusted Short-Term Debt	$0	$0	$0	$0	$0	$414	$0	[m] = See Sources and Notes.
Long-Term Debt	$825	$825	$825	$625	$660	$460	$462	[n]
Book Value of Long-Term Debt	$825	$825	$825	$660	$660	$876	$509	[o] = [n] + [j] + [m].
Adjustment to Book Value of Long-Term Debt	$89	$89	$89	$93	$115	$45	$81	[p] = See Sources and Notes.
Market Value of Long-Term Debt	$914	$914	$914	$753	$775	$921	$590	[q] = [p] + [o].
Market Value of Debt	$914	$914	$914	$753	$775	$921	$590	[r] = [q].
MARKET VALUE OF FIRM								
	$2,848	$2,799	$2,963	$2,592	$2,572	$2,355	$1,782	[s] = [d] + [g] + [r].
DEBT AND EQUITY TO MARKET VALUE RATIOS								
Common Equity - Market Value Ratio	67.91%	67.35%	69.16%	70.93%	69.86%	60.88%	66.92%	[t] = [d] / [s].
Preferred Equity - Market Value Ratio	-	-	-	-	-	-	-	[u] = [g] / [s].
Debt - Market Value Ratio	32.09%	32.65%	30.84%	29.07%	30.14%	39.12%	33.08%	[v] = [r] / [s].

Sources and Notes:

2nd Quarter, 2007 Information is not available, and thus 1st Quarter, 2007 was used instead.

Bloomberg as of August 28, 2007

The DCF Capital structure is calculated using 2nd Quarter, 2007 balance sheet information and a 15-trading day average closing price ending on August 28, 2007.

The DCF Capital structure is calculated using 2nd Quarter, 2007 balance sheet information and a 15-trading day average closing price ending on 8/28/2007.

Prices are reported in Workpaper #1 to Table No. MJV-17.

[m] =

(1): 0 if [k] > 0.

(2): The absolute value of [k] if [k] < 0 and |[k]| < [l].

(3): [l] if [k] < 0 and |[k]| > [l].

[p]: Difference between fair value of Long-Term debt and carrying amount of Long-Term debt per company 10-K. Data for adjustment is from 2006 10-K.

Table No. MJV-14

Market Values of the Gas LDC Sample

Panel E: South Jersey Industries Inc

($MM)

	DCF Capital Structure	2nd Quarter, 2007	Year End, 2006	Year End, 2005	Year End, 2004	Year End, 2003	Year End, 2002	Notes
MARKET VALUE OF COMMON EQUITY								
Book Value, Common Shareholder's Equity	$471	$471	$443	$394	$343	$298	$238	[a]
Shares Outstanding (in millions) - Common	29	29	29	29	28	26	24	[b]
Price per Share - Common	$34	$36	$33	$30	$26	$20	$16	[c]
Market Value of Common Equity	$997	$1,050	$974	$865	$716	$529	$400	[d] = [b] x [c].
Market to Book Value of Common Equity	2.12	2.23	2.20	2.20	2.09	1.78	1.68	[e] = [d] / [a].
MARKET VALUE OF PREFERRED EQUITY								
Book Value of Preferred Equity	$0	$0	$0	$0	$2	$2	$2	[f]
Market Value of Preferred Equity	$0	$0	$0	$0	$2	$2	$2	[g] = [f].
MARKET VALUE OF DEBT								
Current Assets	$298	$298	$372	$362	$284	$266	$212	[h]
Current Liabilities	$308	$308	$423	$406	$285	$268	$316	[i]
Current Portion of Long-Term Debt	$0	$0	$2	$2	$5	$5	$11	[j]
Net Working Capital	($11)	($11)	($49)	($42)	$4	$3	($93)	[k] = [h] - ([i] - [j]).
Notes Payable (Short-Term Debt)	$109	$109	$195	$147	$92	$113	$167	[l]
Adjusted Short-Term Debt	$11	$11	$49	$42	$0	$0	$93	[m] = See Sources and Notes.
Long-Term Debt	$358	$358	$358	$319	$329	$309	$274	[n]
Book Value of Long-Term Debt	$369	$369	$409	$363	$334	$314	$378	[o] = [n] + [j] + [m].
Adjustment to Book Value of Long-Term Debt	$21	$21	$21	$13	$16	$25	$43	[p] = See Sources and Notes.
Market Value of Long-Term Debt	$389	$389	$430	$376	$350	$339	$421	[q] = [p] + [o].
Market Value of Debt	$389	$389	$430	$376	$350	$339	$421	[r] = [q].
MARKET VALUE OF FIRM	$1,387	$1,439	$1,404	$1,241	$1,068	$870	$823	[s] = [d] + [g] + [r].
DEBT AND EQUITY TO MARKET VALUE RATIOS								
Common Equity - Market Value Ratio	71.92%	72.95%	69.38%	69.69%	67.05%	60.87%	48.65%	[t] = [d] / [s].
Preferred Equity - Market Value Ratio	-	-	-	-	0.16%	0.19%	0.21%	[u] = [g] / [s].
Debt - Market Value Ratio	28.08%	27.05%	30.62%	30.31%	32.79%	38.94%	51.14%	[v] = [r] / [s].

Sources and Notes:
Bloomberg as of August 28, 2007
Capital structure from 2nd Quarter, 2007 calculated using respective balance sheet information and 5-day average prices ending at period end.
The DCF Capital structure is calculated using 2nd Quarter, 2007 balance sheet information and a 15-trading day average closing price ending on August 28, 2007.
Prices are reported in Workpaper #1 to Table No. MJV-17.
[m] =
(1): 0 if [k] > 0.
(2): The absolute value of [k] if [k] < 0 and |[k]| < [l].
(3): [l] if [k] < 0 and |[k]| > [l].
[p]: Difference between fair value of Long-Term debt and carrying amount of Long-Term debt per company 10-K. Data for adjustment is from 2006 10-K.

Table No. MJV-14

Market Values of the Gas LDC Sample

Panel F: Southwest Gas Corp

($MM)

	DCF Capital Structure	2nd Quarter, 2007	Year End, 2006	Year End, 2005	Year End, 2004	Year End, 2003	Year End, 2002	Notes
MARKET VALUE OF COMMON EQUITY								
Book Value, Common Shareholder's Equity	$954	$954	$901	$751	$706	$630	$596	[a]
Shares Outstanding (in millions) - Common	42	42	42	39	37	34	33	[b]
Price per Share - Common	$29	$35	$38	$27	$25	$23	$23	[c]
Market Value of Common Equity	$1,239	$1,475	$1,601	$1,052	$938	$774	$770	[d] = [b] x [c].
Market to Book Value of Common Equity	1.30	1.55	1.78	1.40	1.33	1.23	1.29	[e] = [d] / [a].
MARKET VALUE OF PREFERRED EQUITY								
Book Value of Preferred Equity	$0	$0	$0	$0	$0	$0	$0	[f]
Market Value of Preferred Equity	$0	$0	$0	$0	$0	$0	$0	[g] = [f].
MARKET VALUE OF DEBT								
Current Assets	$308	$308	$502	$543	$432	$281	$262	[h]
Current Liabilities	$424	$424	$496	$621	$483	$310	$313	[i]
Current Portion of Long-Term Debt	$30	$30	$28	$83	$30	$6	$9	[j]
Net Working Capital	($87)	($87)	$33	$5	($21)	($23)	($43)	[k] = [h] - ([i] - [j]).
Notes Payable (Short-Term Debt)	$0	$0	$0	$24	$100	$52	$53	[l]
Adjusted Short-Term Debt	$0	$0	$0	$0	$21	$23	$43	[m] = See Sources and Notes.
Long-Term Debt	$1,304	$1,304	$1,386	$1,325	$1,263	$1,221	$1,152	[n]
Book Value of Long-Term Debt	$1,334	$1,334	$1,414	$1,408	$1,314	$1,250	$1,204	[o] = [n] + [j] + [m].
Adjustment to Book Value of Long-Term Debt	$80	$80	$80	$145	$154	$126	$66	[p] = See Sources and Notes.
Market Value of Long-Term Debt	$1,414	$1,414	$1,494	$1,553	$1,468	$1,377	$1,269	[q] = [p] + [o].
Market Value of Debt	$1,414	$1,414	$1,494	$1,553	$1,468	$1,377	$1,269	[r] = [q].
MARKET VALUE OF FIRM	$2,653	$2,889	$3,096	$2,605	$2,406	$2,151	$2,040	[s] = [d] + [g] + [r].
DEBT AND EQUITY TO MARKET VALUE RATIOS								
Common Equity - Market Value Ratio	46.69%	51.06%	51.73%	40.37%	38.98%	35.99%	37.77%	[t] = [d] / [s].
Preferred Equity - Market Value Ratio	-	-	-	-	-	-	-	[u] = [g] / [s].
Debt - Market Value Ratio	53.31%	48.94%	48.27%	59.63%	61.02%	64.01%	62.23%	[v] = [r] / [s].

Sources and Notes:

Bloomberg as of August 28, 2007

Capital structure from 2nd Quarter, 2007 calculated using respective balance sheet information and 5-day average prices ending at period end.

The DCF Capital structure is calculated using 2nd Quarter, 2007 balance sheet information and a 15-trading day average closing price ending on August 28, 2007.

Prices are reported in Workpaper #1 to Table No. MJV-17.

[m] =

(1): 0 if [k] > 0.

(2): The absolute value of [k] if [k] < 0 and |[k]| < [l].

(3): [l] if [k] < 0 and |[k]| > [l].

[p]: Difference between fair value of Long-Term debt and carrying amount of Long-Term debt per company 10-K. Data for adjustment is from 2006 10-K.

Table No. MJV-14

Market Values of the Gas LDC Sample

Panel G: WGL Holdings Inc

($MM)

	DCF Capital Structure	2nd Quarter, 2007	Year End, 2006	Year End, 2005	Year End, 2004	Year End, 2003	Year End, 2002	Notes
MARKET VALUE OF COMMON EQUITY								
Book Value, Common Shareholder's Equity	$1,009	$1,009	$922	$894	$853	$818	$766	[a]
Shares Outstanding (in millions) - Common	49	49	49	49	49	49	49	[b]
Price per Share - Common	$33	$33	$33	$30	$31	$28	$24	[c]
Market Value of Common Equity	$1,605	$1,626	$1,607	$1,481	$1,506	$1,345	$1,164	[d] = [b] x [c].
Market to Book Value of Common Equity	1.59	1.61	1.74	1.66	1.76	1.64	1.52	[e] = [d] / [a].
MARKET VALUE OF PREFERRED EQUITY								
Book Value of Preferred Equity	$28	$28	$28	$28	$28	$28	$28	[f]
Market Value of Preferred Equity	$28	$28	$28	$28	$28	$28	$28	[g] = [f].
MARKET VALUE OF DEBT								
Current Assets	$545	$545	$562	$481	$433	$409	$341	[h]
Current Liabilities	$472	$472	$561	$412	$413	$386	$338	[i]
Current Portion of Long-Term Debt	$31	$31	$61	$50	$61	$12	$42	[j]
Net Working Capital	$104	$104	$62	$120	$81	$35	$46	[k] = [h] - ([i] - [j]).
Notes Payable (Short-Term Debt)	$34	$34	$177	$41	$96	$167	$91	[l]
Adjusted Short-Term Debt	$0	$0	$0	$0	$0	$0	$0	[m] = See Sources and Notes.
Long-Term Debt	$605	$605	$576	$584	$590	$637	$668	[n]
Book Value of Long-Term Debt	$636	$636	$637	$634	$651	$649	$710	[o] = [n] + [j] + [m].
Adjustment to Book Value of Long-Term Debt	$17	$17	$17	$43	$56	$86	$58	[p] = See Sources and Notes.
Market Value of Long-Term Debt	$654	$654	$654	$677	$707	$735	$768	[q] = [p] + [o].
Market Value of Debt	$654	$654	$654	$677	$707	$735	$768	[r] = [q].
MARKET VALUE OF FIRM	$2,287	$2,307	$2,289	$2,186	$2,241	$2,108	$1,960	[s] = [d] + [g] + [r].
DEBT AND EQUITY TO MARKET VALUE RATIOS								
Common Equity - Market Value Ratio	70.19%	70.45%	70.19%	67.75%	67.19%	63.81%	59.40%	[t] = [d] / [s].
Preferred Equity - Market Value Ratio	1.23%	1.22%	1.23%	1.29%	1.26%	1.34%	1.44%	[u] = [g] / [s].
Debt - Market Value Ratio	28.58%	28.32%	28.58%	30.96%	31.55%	34.85%	39.17%	[v] = [r] / [s].

Sources and Notes:
Bloomberg as of August 28, 2007
Capital structure from 2nd Quarter, 2007 calculated using respective balance sheet information and 5-day average prices ending at period end.
The DCF Capital structure is calculated using 2nd Quarter, 2007 balance sheet information and a 15-trading day average closing price ending on August 28, 2007.
Prices are reported in Workpaper #1 to Table No. MJV-17.
[m] =
(1): 0 if [k] > 0.
(2): The absolute value of [k] if [k] < 0 and |[k]| < [l].
(3): [l] if [k] < 0 and |[k]| > [l].
[p]: Difference between fair value of Long-Term debt and carrying amount of Long-Term debt per company 10-K. Data for adjustment is from 2006 10-K.

Table No. MJV-14

Market Values of the Gas LDC Sample

Panel H: AGL Resources Inc

($MM)

	DCF Capital Structure	2nd Quarter, 2007	Year End, 2006	Year End, 2005	Year End, 2004	Year End, 2003	Year End, 2002	Notes
MARKET VALUE OF COMMON EQUITY								
Book Value, Common Shareholder's Equity	$1,672	$1,672	$1,609	$1,499	$1,385	$945	$710	[a]
Shares Outstanding (in millions) - Common	78	78	78	78	77	65	57	[b]
Price per Share - Common	$38	$40	$39	$35	$33	$29	$24	[c]
Market Value of Common Equity	$2,959	$3,125	$3,049	$2,703	$2,549	$1,867	$1,384	[d] = [b] x [c].
Market to Book Value of Common Equity	1.77	1.87	1.89	1.80	1.84	1.98	1.95	[e] = [d] / [a].
MARKET VALUE OF PREFERRED EQUITY								
Book Value of Preferred Equity	$0	$0	$0	$0	$0	$0	$227	[f]
Market Value of Preferred Equity	$0	$0	$0	$0	$0	$0	$227	[g] = [f].
MARKET VALUE OF DEBT								
Current Assets	$1,433	$1,433	$1,822	$2,041	$1,457	$742	$586	[h]
Current Liabilities	$1,321	$1,321	$1,627	$1,968	$1,477	$1,048	$1,016	[i]
Current Portion of Long-Term Debt	$0	$0	$0	$0	$0	$77	$30	[j]
Net Working Capital	$112	$112	$195	$73	($20)	($229)	($399)	[k] = [h] - ([i] - [j]).
Notes Payable (Short-Term Debt)	$339	$339	$539	$522	$334	$306	$389	[l]
Adjusted Short-Term Debt	$0	$0	$0	$0	$20	$229	$389	[m] = See Sources and Notes.
Long-Term Debt	$1,544	$1,544	$1,622	$1,615	$1,623	$956	$767	[n]
Book Value of Long-Term Debt	$1,544	$1,544	$1,622	$1,615	$1,643	$1,262	$1,186	[o] = [n] + [j] + [m].
Adjustment to Book Value of Long-Term Debt	$83	$83	$83	$169	$193	$133	$87	[p] = See Sources and Notes.
Market Value of Long-Term Debt	$1,627	$1,627	$1,705	$1,784	$1,836	$1,395	$1,273	[q] = [p] + [o].
Market Value of Debt	$1,627	$1,627	$1,705	$1,784	$1,836	$1,395	$1,273	[r] = [q].
MARKET VALUE OF FIRM	$4,586	$4,752	$4,754	$4,487	$4,385	$3,262	$2,884	[s] = [d] + [g] + [r].
DEBT AND EQUITY TO MARKET VALUE RATIOS								
Common Equity - Market Value Ratio	64.52%	65.76%	64.13%	60.24%	58.13%	57.23%	47.99%	[t] = [d] / [s].
Preferred Equity - Market Value Ratio	-	-	-	-	-	-	7.88%	[u] = [g] / [s].
Debt - Market Value Ratio	35.48%	34.24%	35.87%	39.76%	41.87%	42.77%	44.13%	[v] = [r] / [s].

Sources and Notes:
Bloomberg as of August 28, 2007
Capital structure from 2nd Quarter, 2007 calculated using respective balance sheet information and 5-day average prices ending at period end.
The DCF Capital structure is calculated using 2nd Quarter, 2007 balance sheet information and a 15-trading day average closing price ending on August 28, 2007.
Prices are reported in Workpaper #1 to Table No. MJV-17.
[m] =
(1): 0 if [k] > 0.
(2): The absolute value of [k] if [k] < 0 and |[k]| < [l].
(3): [l] if [k] < 0 and |[k]| > [l].
[p]: Difference between fair value of Long-Term debt and carrying amount of Long-Term debt per company 10-K. Data for adjustment is from 2006 10-K.

Table No. MJV-14

Market Values of the Gas LDC Sample

Panel I: Vectren Corp

($MM)

	DCF Capital Structure	2nd Quarter, 2007	Year End, 2006	Year End, 2005	Year End, 2004	Year End, 2003	Year End, 2002	Notes
MARKET VALUE OF COMMON EQUITY								
Book Value, Common Shareholder's Equity	$1,219	$1,219	$1,174	$1,143	$1,095	$1,072	$870	[a]
Shares Outstanding (in millions) - Common	77	77	76	76	76	76	68	[b]
Price per Share - Common	$27	$27	$29	$27	$27	$24	$23	[c]
Market Value of Common Equity	$2,083	$2,081	$2,170	$2,077	$2,024	$1,836	$1,534	[d] = [b] x [c].
Market to Book Value of Common Equity	1.71	1.71	1.85	1.82	1.85	1.71	1.76	[e] = [d] / [a].
MARKET VALUE OF PREFERRED EQUITY								
Book Value of Preferred Equity	$0	$0	$0	$0	$0	$0	$0	[f]
Market Value of Preferred Equity	$0	$0	$0	$0	$0	$0	$0	[g] = [f].
MARKET VALUE OF DEBT								
Current Assets	$447	$447	$716	$725	$586	$512	$465	[h]
Current Liabilities	$744	$744	$961	$840	$826	$584	$774	[i]
Current Portion of Long-Term Debt	$44	$44	$44	$54	$49	$29	$66	[j]
Net Working Capital	($253)	($253)	($201)	($60)	($191)	($44)	($242)	[k] = [h] - ([i] - [j]).
Notes Payable (Short-Term Debt)	$330	$330	$465	$300	$412	$275	$400	[l]
Adjusted Short-Term Debt	$253	$253	$201	$60	$191	$44	$242	[m] = See Sources and Notes.
Long-Term Debt	$1,208	$1,208	$1,208	$1,198	$1,017	$1,073	$954	[n]
Book Value of Long-Term Debt	$1,505	$1,505	$1,454	$1,312	$1,256	$1,145	$1,263	[o] = [n] + [j] + [m].
Adjustment to Book Value of Long-Term Debt	$20	$20	$20	$56	$76	$78	$70	[p] = See Sources and Notes.
Market Value of Long-Term Debt	$1,525	$1,525	$1,473	$1,368	$1,332	$1,223	$1,333	[q] = [p] + [o].
Market Value of Debt	$1,525	$1,525	$1,473	$1,368	$1,332	$1,223	$1,333	[r] = [q].
MARKET VALUE OF FIRM	$3,609	$3,606	$3,644	$3,445	$3,356	$3,060	$2,868	[s] = [d] + [g] + [r].
DEBT AND EQUITY TO MARKET VALUE RATIOS								
Common Equity - Market Value Ratio	57.73%	57.70%	59.56%	60.29%	60.30%	60.01%	53.50%	[t] = [d] / [s].
Preferred Equity - Market Value Ratio	-	-	-	-	0.00%	0.01%	0.01%	[u] = [g] / [s].
Debt - Market Value Ratio	42.27%	42.30%	40.44%	39.71%	39.70%	39.98%	46.49%	[v] = [r] / [s].

Sources and Notes:
Bloomberg as of August 28, 2007
Capital structure from 2nd Quarter, 2007 calculated using respective balance sheet information and 5-day average prices ending at period end.
The DCF Capital structure is calculated using 2nd Quarter, 2007 balance sheet information and a 15-trading day average closing price ending on August 28, 2007.
Prices are reported in Workpaper #1 to Table No. MJV-17.
[m] =
(1): 0 if [k] > 0.
(2): The absolute value of [k] if [k] < 0 and |[k]| < [l].
(3): [l] if [k] < 0 and |[k]| > [l].
[p]: Difference between fair value of Long-Term debt and carrying amount of Long-Term debt per company 10-K. Data for adjustment is from 2006 10-K.

Table No. MJV-14

Market Values of the Gas LDC Sample

Panel J: New Jersey Resources Corp

($MM)

	DCF Capital Structure	2nd Quarter, 2007	Year End, 2006	Year End, 2005	Year End, 2004	Year End, 2003	Year End, 2002	Notes
MARKET VALUE OF COMMON EQUITY								
Book Value, Common Shareholder's Equity	$672	$672	$622	$438	$468	$419	$361	[a]
Shares Outstanding (in millions) - Common	28	28	28	28	28	27	27	[b]
Price per Share - Common	$50	$52	$50	$43	$43	$38	$32	[c]
Market Value of Common Equity	$1,397	$1,449	$1,380	$1,214	$1,204	$1,048	$872	[d] = [b] x [c].
Market to Book Value of Common Equity	2.08	2.16	2.22	2.77	2.57	2.50	2.41	[e] = [d] / [a].
MARKET VALUE OF PREFERRED EQUITY								
Book Value of Preferred Equity	$0	$0	$0	$0	$0	$0	$0	[f]
Market Value of Preferred Equity	$0	$0	$0	$0	$0	$0	$0	[g] = [f].
MARKET VALUE OF DEBT								
Current Assets	$811	$811	$966	$1,073	$686	$450	$434	[h]
Current Liabilities	$757	$757	$897	$1,097	$688	$524	$436	[i]
Current Portion of Long-Term Debt	$4	$4	$4	$3	$28	$2	$27	[j]
Net Working Capital	$59	$59	$72	($20)	$26	($71)	$25	[k] = [h] - ([i] - [j]).
Notes Payable (Short-Term Debt)	$227	$227	$281	$174	$260	$186	$60	[l]
Adjusted Short-Term Debt	$0	$0	$0	$20	$0	$71	$0	[m] = See Sources and Notes.
Long-Term Debt	$334	$334	$332	$317	$316	$258	$371	[n]
Book Value of Long-Term Debt	$339	$339	$336	$341	$344	$332	$398	[o] = [n] + [j] + [m].
Adjustment to Book Value of Long-Term Debt	$2	$2	$2	$2	$6	$9	$10	[p] = See Sources and Notes.
Market Value of Long-Term Debt	$341	$341	$338	$343	$349	$341	$407	[q] = [p] + [o].
Market Value of Debt	$341	$341	$338	$343	$349	$341	$407	[r] = [q].
MARKET VALUE OF FIRM	$1,738	$1,790	$1,718	$1,557	$1,554	$1,389	$1,280	[s] = [d] + [g] + [r].
DEBT AND EQUITY TO MARKET VALUE RATIOS								
Common Equity - Market Value Ratio	80.40%	80.96%	80.32%	77.99%	77.52%	75.45%	68.15%	[t] = [d] / [s].
Preferred Equity - Market Value Ratio	-	-	-	-	-	-	0.02%	[u] = [g] / [s].
Debt - Market Value Ratio	19.60%	19.04%	19.68%	22.01%	22.48%	24.55%	31.83%	[v] = [r] / [s].

Sources and Notes:

Bloomberg as of August 28, 2007

Capital structure from 2nd Quarter, 2007 calculated using respective balance sheet information and 5-day average prices ending at period end.

The DCF Capital structure is calculated using 2nd Quarter, 2007 balance sheet information and a 15-trading day average closing price ending on August 28, 2007.

Prices are reported in Workpaper #1 to Table No. MJV-17.

[m] =

(1): 0 if [k] > 0.

(2): The absolute value of [k] if [k] < 0 and |[k]| < [l].

(3): [l] if [k] < 0 and |[k]| > [l].

[p]: Difference between fair value of Long-Term debt and carrying amount of Long-Term debt per company 10-K. Data for adjustment is from 2006 10-K.

Table No. MJV-15

Gas LDC Sample

Capital Structure Summary

Company		DCF Capital Structure			5-Year Average Capital Structure		
		Common Equity - Value Ratio [1]	Preferred Equity - Value Ratio [2]	Debt - Value Ratio [3]	Common Equity - Value Ratio [4]	Preferred Equity - Value Ratio [5]	Debt - Value Ratio [6]
Atmos Energy Corp		0.51	-	0.49	0.55	-	0.45
Laclede Group Inc/The	*	0.62	-	0.38	0.59	0.00	0.41
Northwest Natural Gas Co	*	0.67	-	0.33	0.61	0.00	0.39
Piedmont Natural Gas Co	*	0.68	-	0.32	0.67	-	0.33
South Jersey Industries Inc		0.72	-	0.28	0.63	0.00	0.36
Southwest Gas Corp	*	0.47	-	0.53	0.41	-	0.59
WGL Holdings Inc	*	0.70	0.01	0.29	0.66	0.01	0.33
AGL Resources Inc		0.65	-	0.35	0.58	0.02	0.41
Vectren Corp		0.58	-	0.42	0.59	0.00	0.41
New Jersey Resources Corp		0.80	-	0.20	0.76	0.00	0.24
Average		0.64	0.00	0.36	0.60	0.00	0.39

Sources and Notes:
[1], [4]:Workpaper #1 to Table No. MJV-15.
[2], [5]:Workpaper #2 to Table No. MJV-15.
[3], [6]:Workpaper #3 to Table No. MJV-15.
Values in this table may not add up exactly to 1.0 because of rounding.

*Subsample

Workpaper #1 to Table No. MJV-15

Gas LDC Sample

Calculation of the Average Common Equity - Market Value Ratio

Company	DCF Capital Structure [1]	2nd Quarter, 2007 [2]	2006 [3]	2005 [4]	2004 [5]	2003 [6]	2002 [7]	5-Year Average [8]
Atmos Energy Corp	0.51	0.54	0.56	0.50	0.64	0.55	0.52	0.55
Laclede Group Inc/The	0.62	0.62	0.65	0.60	0.60	0.57	0.53	0.59
Northwest Natural Gas Co	0.67	0.67	0.66	0.62	0.61	0.58	0.57	0.61
Piedmont Natural Gas Co	0.68	0.67	0.69	0.71	0.70	0.61	0.67	0.67
South Jersey Industries Inc	0.72	0.73	0.69	0.70	0.67	0.61	0.49	0.63
Southwest Gas Corp	0.47	0.51	0.52	0.40	0.39	0.36	0.38	0.41
WGL Holdings Inc	0.70	0.70	0.70	0.68	0.67	0.64	0.59	0.66
AGL Resources Inc	0.65	0.66	0.64	0.60	0.58	0.57	0.48	0.58
Vectren Corp	0.58	0.58	0.60	0.60	0.60	0.60	0.54	0.59
New Jersey Resources Corp	0.80	0.81	0.80	0.78	0.78	0.75	0.68	0.76

Sources and Notes:
[1] - [7]: Table No. MJV-14; Panels A - J, [t].
[8]: {([2] x 0.5) + ([3] x 0.5) + [4] + [5] + [6] + [7]} / 5.

Workpaper #2 to Table No. MJV-15

Gas LDC Sample

Calculation of the Average Preferred Equity - Market Value Ratio

Company	DCF Capital Structure [1]	2nd Quarter, 2007 [2]	2006 [3]	2005 [4]	2004 [5]	2003 [6]	2002 [7]	5-Year Average [8]
Atmos Energy Corp	-	-	-	-	-	-	-	-
Laclede Group Inc/The	-	-	0.00	0.00	0.00	0.00	0.00	0.00
Northwest Natural Gas Co	-	-	-	-	-	-	0.01	0.00
Piedmont Natural Gas Co	-	-	-	-	-	-	-	-
South Jersey Industries Inc	-	-	-	-	0.00	0.00	0.00	0.00
Southwest Gas Corp	-	-	-	-	-	-	-	-
WGL Holdings Inc	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
AGL Resources Inc	-	-	-	-	-	-	0.08	0.02
Vectren Corp	-	-	-	-	0.00	0.00	0.00	0.00
New Jersey Resources Corp	-	-	-	-	-	-	0.00	0.00

Sources and Notes:
[1] - [7]: Table No. MJV-14; Panels A - J, [u].
[8]: {([2] x 0.5) + ([3] x 0.5) + [4] + [5] + [6] + [7]} / 5.

Workpaper #3 to Table No. MJV-15

Gas LDC Sample

Calculation of the Average Debt - Market Value Ratio

Company	DCF Capital Structure [1]	2nd Quarter, 2007 [2]	2006 [3]	2005 [4]	2004 [5]	2003 [6]	2002 [7]	5-Year Average [8]
Atmos Energy Corp	0.49	0.46	0.44	0.50	0.36	0.45	0.48	0.45
Laclede Group Inc/The	0.38	0.38	0.35	0.40	0.40	0.43	0.47	0.41
Northwest Natural Gas Co	0.33	0.33	0.34	0.38	0.39	0.42	0.42	0.39
Piedmont Natural Gas Co	0.32	0.33	0.31	0.29	0.30	0.39	0.33	0.33
South Jersey Industries Inc	0.28	0.27	0.31	0.30	0.33	0.39	0.51	0.36
Southwest Gas Corp	0.53	0.49	0.48	0.60	0.61	0.64	0.62	0.59
WGL Holdings Inc	0.29	0.28	0.29	0.31	0.32	0.35	0.39	0.33
AGL Resources Inc	0.35	0.34	0.36	0.40	0.42	0.43	0.44	0.41
Vectren Corp	0.42	0.42	0.40	0.40	0.40	0.40	0.46	0.41
New Jersey Resources Corp	0.20	0.19	0.20	0.22	0.22	0.25	0.32	0.24

Sources and Notes:
[1] - [7]: Table No. MJV-14; Panels A - J, [v].
[8]: {([2] x 0.5) + ([3] x 0.5) + [4] + [5] + [6] + [7]} / 5.

Table No. MJV-16

Gas LDC Sample

Combined Bloomberg Estimated and Value Line Estimated Growth Rates

Company	Bloomberg Estimate		Value Line			Combined BEst and Value Line Growth Rate
	BEst Long-Term Growth Rate	Number of Estimates	EPS Year 2007 Estimate	EPS Year 2010 - 2012 Estimate	Annualized Growth Rate	
	[1]	[2]	[3]	[4]	[5]	[6]
Atmos Energy Corp	5.8%	4	$2.00	$2.50	5.7%	5.7%
Laclede Group Inc/The	3.0%	1	$1.90	$2.35	5.5%	4.2%
Northwest Natural Gas Co	5.5%	2	$2.60	$3.10	4.5%	5.2%
Piedmont Natural Gas Co	4.8%	4	$1.40	$1.60	3.4%	4.5%
South Jersey Industries Inc	6.3%	3	$2.30	$3.00	6.9%	6.5%
Southwest Gas Corp	5.3%	3	$2.15	$2.70	5.9%	5.5%
WGL Holdings Inc	4.0%	2	$1.98	$2.40	4.9%	4.3%
AGL Resources Inc	5.4%	4	$2.80	$3.10	2.6%	4.8%
Vectren Corp	3.8%	2	$1.80	$2.00	2.7%	3.4%
New Jersey Resources Corp	5.0%	3	$3.00	$3.15	1.2%	4.1%

Sources and Notes:
[1] - [2]: Bloomberg as of August 28, 2007.
[3] - [4]: Most recent Value Line Standard Edition dated as of June 15, 2007. Vectren is dated as of June 29, 2007.
[5]: ([4] / [3]) ^ (1/4) - 1.
[6]: ([1] x [2] + [5]) / ([2] + 1).

Table No. MJV-17

DCF Cost of Equity of the Gas LDC Sample

Panel A: Simple DCF Method (Quarterly)

Company	Stock Price [1]	Most Recent Dividend [2]	Combined BEst and Value Line Long-Term Growth Rate [3]	Quarterly Growth Rate [4]	DCF Cost of Equity [5]	Interest Rate Adjustment Factor [6]	Adjusted DCF Cost of Equity [7]
Atmos Energy Corp	$27.28	$0.32	5.7%	1.4%	10.8%	0.25%	10.55%
Laclede Group Inc/The	$31.90	$0.37	4.2%	1.0%	9.1%	0.25%	8.83%
Northwest Natural Gas Co	$46.15	$0.36	5.2%	1.3%	8.4%	0.25%	8.19%
Piedmont Natural Gas Co	$26.17	$0.25	4.5%	1.1%	8.5%	0.25%	8.28%
South Jersey Industries Inc	$33.82	$0.25	6.5%	1.6%	9.6%	0.25%	9.34%
Southwest Gas Corp	$29.23	$0.22	5.5%	1.3%	8.6%	0.25%	8.35%
WGL Holdings Inc	$32.55	$0.34	4.3%	1.1%	8.8%	0.25%	8.52%
AGL Resources Inc	$38.03	$0.41	4.8%	1.2%	9.4%	0.25%	9.16%
Vectren Corp	$27.23	$0.32	3.4%	0.8%	8.3%	0.25%	8.04%
New Jersey Resources Corp	$49.86	$0.38	4.1%	1.0%	7.3%	0.25%	7.02%

Sources and Notes:
[1]: Workpaper #1 to Table No. MJV-17.
[2]: Workpaper #2 to Table No. MJV-17.
[3]: Table No. MJV-16, [6].
[4]: {(1 + [3]) ^ (1/4)} - 1.
[5]: {(([2] / [1]) x (1 + [4]) + [4] + 1) ^ 4} - 1.
[6]: Workpaper #1 to Table No. MJV-9 Panel B.
[7]: [5] - [6].

Table No. MJV-17

DCF Cost of Equity of the Gas LDC Sample

Panel B: Multi-Stage DCF (Using EIA's 2007 International Energy Outlook GDP Growth Forecast and Canada's Targeted Inflation Rate)

Company	Stock Price [1]	Most Recent Dividend [2]	Combined BEst and *Value Line* Long-Term Growth Rate [3]	Growth Rate: FY 2013 [4]	Growth Rate: FY 2014 [5]	Growth Rate: FY 2015 [6]	Growth Rate: FY 2016 [7]	Growth Rate: FY 2017 [8]	GDP Long-Term Growth Rate [9]	DCF Cost of Equity [10]	Interest Rate Adjustment Factor [11]	Adjusted DCF Cost of Equity [12]
Atmos Energy Corp	$27.28	$0.32	5.7%	5.5%	5.2%	4.9%	4.7%	4.4%	4.1%	9.5%	0.25%	9.30%
Laclede Group Inc/The	$31.90	$0.37	4.2%	4.2%	4.2%	4.2%	4.2%	4.2%	4.1%	8.9%	0.25%	8.68%
Northwest Natural Gas Co	$46.15	$0.36	5.2%	5.0%	4.8%	4.7%	4.5%	4.3%	4.1%	7.6%	0.25%	7.31%
Piedmont Natural Gas Co	$26.17	$0.25	4.5%	4.4%	4.4%	4.3%	4.3%	4.2%	4.1%	8.2%	0.25%	7.95%
South Jersey Industries Inc	$33.82	$0.25	6.5%	6.1%	5.7%	5.3%	4.9%	4.5%	4.1%	7.6%	0.25%	7.40%
Southwest Gas Corp	$29.23	$0.22	5.5%	5.2%	5.0%	4.8%	4.6%	4.4%	4.1%	7.5%	0.25%	7.22%
WGL Holdings Inc	$32.55	$0.34	4.3%	4.3%	4.3%	4.2%	4.2%	4.2%	4.1%	8.6%	0.25%	8.32%
AGL Resources Inc	$38.03	$0.41	4.8%	4.7%	4.6%	4.5%	4.4%	4.3%	4.1%	8.8%	0.25%	8.58%
Vectren Corp	$27.23	$0.32	3.4%	3.5%	3.7%	3.8%	3.9%	4.0%	4.1%	8.7%	0.25%	8.49%
New Jersey Resources Corp	$49.86	$0.38	4.1%	4.1%	4.1%	4.1%	4.1%	4.1%	4.1%	7.3%	0.25%	7.04%

Sources and Notes:
[1]: Workpaper #1 to Table No. MJV-17.
[2]: Workpaper #2 to Table No. MJV-17.
[3]: Table No. MJV-16, [6].
[4]: [3] - {([3] - [9])/ 6}.
[5]: [4] - {([3] - [9])/ 6}.
[6]: [5] - {([3] - [9])/ 6}.
[7]: [6] - {([3] - [9])/ 6}.
[8]: [7] - {([3] - [9])/ 6}.
[9]: EIA International Energy Outlook, May 2007 and Canada's Targeted Inflation Rate. This number is assumed to be the perpetual growth rate. (See Appendix D).
[10]: Workpaper #3 to Table No. MJV-17.
[11]: Workpaper #1 to Table No. MJV-9 Panel B.
[12]: [10] - [11].

Workpaper #1 to Table No. MJV-17

Gas LDC Sample

Common Stock Prices from August 8, 2007 to August 28, 2007

Company	8/28/2007	8/27/2007	8/24/2007	8/23/2007	8/22/2007	8/21/2007	8/20/2007	8/17/2007	8/16/2007	8/15/2007	8/14/2007	8/13/2007	8/10/2007	8/9/2007	8/8/2007	Average
Atmos Energy Corp	$27.53	$27.85	$27.84	$27.35	$27.57	$27.48	$27.35	$27.23	$26.85	$26.69	$27.01	$27.42	$27.80	$26.47	$26.73	$27.28
Laclede Group Inc/The	$31.84	$32.65	$33.11	$32.71	$32.10	$32.49	$32.62	$33.34	$32.55	$30.49	$30.83	$31.47	$32.55	$29.85	$29.89	$31.90
Northwest Natural Gas Co	$45.37	$46.54	$47.41	$46.72	$47.42	$47.31	$47.59	$47.63	$47.18	$44.57	$43.00	$44.33	$48.00	$43.98	$45.15	$46.15
Piedmont Natural Gas Co	$25.62	$26.28	$26.91	$26.51	$26.67	$26.67	$26.97	$27.01	$26.33	$24.52	$24.75	$25.50	$26.54	$26.24	$26.08	$26.17
South Jersey Industries Inc	$33.25	$34.00	$34.65	$33.90	$33.95	$33.63	$33.23	$33.15	$33.17	$33.05	$33.14	$33.87	$35.03	$35.30	$34.02	$33.82
Southwest Gas Corp	$28.39	$29.26	$29.61	$29.48	$29.51	$29.52	$29.26	$29.16	$29.07	$28.95	$29.03	$29.39	$30.36	$28.56	$28.95	$29.23
WGL Holdings Inc	$31.85	$32.77	$33.64	$33.07	$33.06	$33.04	$33.24	$33.65	$33.02	$31.39	$31.57	$32.01	$33.09	$30.99	$31.89	$32.55
AGL Resources Inc	$38.30	$39.05	$39.58	$39.04	$38.81	$38.10	$37.79	$37.79	$37.95	$36.51	$37.55	$38.35	$38.35	$36.27	$37.07	$38.03
Vectren Corp	$26.95	$27.26	$27.81	$27.61	$27.61	$27.43	$27.38	$27.36	$27.00	$26.28	$26.53	$27.00	$28.40	$27.38	$26.52	$27.23
New Jersey Resources Corp	$49.00	$49.62	$50.89	$50.60	$50.79	$51.14	$51.57	$51.21	$50.18	$48.26	$48.14	$48.55	$50.90	$48.79	$48.22	$49.86

Sources and Notes:
Bloomberg as of August 28, 2007.
The prices chosen are the daily closing prices from Bloomberg starting from the most recent prices available in Bloomberg as of August 28, 2007 and ending fifteen trading days before.

Workpaper #2 to Table No. MJV-17

Gas LDC Sample

Most Recent Paid Dividend

Company	Most Recent Dividend	Quarter
Atmos Energy Corp	$0.32	3
Laclede Group Inc/The	$0.37	3
Northwest Natural Gas Co	$0.36	3
Piedmont Natural Gas Co	$0.25	3
South Jersey Industries Inc	$0.25	3
Southwest Gas Corp	$0.22	3
WGL Holdings Inc	$0.34	3
AGL Resources Inc	$0.41	3
Vectren Corp	$0.32	3
New Jersey Resources Corp	$0.38	3

Sources and Notes:
Bloomberg as of August 28, 2007.

Workpaper #3 to Table No. MJV-17

DCF Cost of Equity of the Gas LDC Sample

Multi-Stage DCF (Using EIA's 2007 International Energy Outlook GDP Growth Forecast and Canada's Targeted Inflation Rate

Year	Company	Atmos Energy Corp	Laclede Group Inc/The	Northwest Natural Gas Co	Piedmont Natural Gas Co	South Jersey Industries Inc	Southwest Gas Corp	WGL Holdings Inc	AGL Resources Inc	Vectren Corp	New Jersey Resources Corp
	Current Stock Price	($27.28)	($31.90)	($46.15)	($26.17)	($33.82)	($29.23)	($32.55)	($38.03)	($27.23)	($49.86)
	Current Dividend	$0.32	$0.37	$0.36	$0.25	$0.25	$0.22	$0.34	$0.41	$0.32	$0.38
YEAR 2007	Dividend Q3 Estimate	$0.32	$0.37	$0.36	$0.25	$0.25	$0.22	$0.35	$0.41	$0.32	$0.38
YEAR 2007	Dividend Q4 Estimate	$0.33	$0.37	$0.36	$0.26	$0.25	$0.22	$0.35	$0.42	$0.32	$0.39
YEAR 2008	Dividend Q1 Estimate	$0.33	$0.38	$0.37	$0.26	$0.26	$0.22	$0.35	$0.42	$0.32	$0.39
YEAR 2008	Dividend Q2 Estimate	$0.34	$0.38	$0.37	$0.26	$0.26	$0.23	$0.36	$0.43	$0.33	$0.40
YEAR 2008	Dividend Q3 Estimate	$0.34	$0.38	$0.38	$0.26	$0.26	$0.23	$0.36	$0.43	$0.33	$0.40
YEAR 2008	Dividend Q4 Estimate	$0.35	$0.39	$0.38	$0.27	$0.27	$0.23	$0.36	$0.44	$0.33	$0.40
YEAR 2009	Dividend Q1 Estimate	$0.35	$0.39	$0.39	$0.27	$0.27	$0.24	$0.37	$0.45	$0.33	$0.41
YEAR 2009	Dividend Q2 Estimate	$0.36	$0.40	$0.39	$0.27	$0.28	$0.24	$0.37	$0.45	$0.34	$0.41
YEAR 2009	Dividend Q3 Estimate	$0.36	$0.40	$0.40	$0.28	$0.28	$0.24	$0.38	$0.46	$0.34	$0.42
YEAR 2009	Dividend Q4 Estimate	$0.37	$0.40	$0.40	$0.28	$0.29	$0.25	$0.38	$0.46	$0.34	$0.42
YEAR 2010	Dividend Q1 Estimate	$0.37	$0.41	$0.41	$0.28	$0.29	$0.25	$0.38	$0.47	$0.35	$0.42
YEAR 2010	Dividend Q2 Estimate	$0.38	$0.41	$0.41	$0.29	$0.30	$0.25	$0.39	$0.47	$0.35	$0.43
YEAR 2010	Dividend Q3 Estimate	$0.38	$0.42	$0.42	$0.29	$0.30	$0.26	$0.39	$0.48	$0.35	$0.43
YEAR 2010	Dividend Q4 Estimate	$0.39	$0.42	$0.42	$0.29	$0.31	$0.26	$0.40	$0.48	$0.35	$0.44
YEAR 2011	Dividend Q1 Estimate	$0.39	$0.43	$0.43	$0.29	$0.31	$0.26	$0.40	$0.49	$0.36	$0.44
YEAR 2011	Dividend Q2 Estimate	$0.40	$0.43	$0.43	$0.30	$0.31	$0.27	$0.41	$0.49	$0.36	$0.45
YEAR 2011	Dividend Q3 Estimate	$0.41	$0.44	$0.44	$0.30	$0.32	$0.27	$0.41	$0.50	$0.36	$0.45
YEAR 2011	Dividend Q4 Estimate	$0.41	$0.44	$0.45	$0.30	$0.32	$0.27	$0.41	$0.51	$0.37	$0.45
YEAR 2012	Dividend Q1 Estimate	$0.42	$0.44	$0.45	$0.31	$0.33	$0.28	$0.42	$0.51	$0.37	$0.46
YEAR 2012	Dividend Q2 Estimate	$0.42	$0.45	$0.46	$0.31	$0.34	$0.28	$0.42	$0.52	$0.37	$0.46
YEAR 2012	Dividend Q3 Estimate	$0.43	$0.45	$0.46	$0.31	$0.34	$0.28	$0.43	$0.52	$0.38	$0.47
YEAR 2012	Dividend Q4 Estimate	$0.44	$0.46	$0.47	$0.32	$0.35	$0.29	$0.43	$0.53	$0.38	$0.47
YEAR 2013	Dividend Q1 Estimate	$0.44	$0.46	$0.47	$0.32	$0.35	$0.29	$0.44	$0.54	$0.38	$0.48
YEAR 2013	Dividend Q2 Estimate	$0.45	$0.47	$0.48	$0.33	$0.36	$0.30	$0.44	$0.54	$0.39	$0.48
YEAR 2013	Dividend Q3 Estimate	$0.45	$0.47	$0.49	$0.33	$0.36	$0.30	$0.45	$0.55	$0.39	$0.49
YEAR 2013	Dividend Q4 Estimate	$0.46	$0.48	$0.49	$0.33	$0.37	$0.30	$0.45	$0.56	$0.39	$0.49
YEAR 2014	Dividend Q1 Estimate	$0.46	$0.48	$0.50	$0.34	$0.37	$0.31	$0.46	$0.56	$0.40	$0.50
YEAR 2014	Dividend Q2 Estimate	$0.47	$0.49	$0.50	$0.34	$0.38	$0.31	$0.46	$0.57	$0.40	$0.50
YEAR 2014	Dividend Q3 Estimate	$0.48	$0.49	$0.51	$0.34	$0.38	$0.31	$0.46	$0.58	$0.40	$0.51
YEAR 2014	Dividend Q4 Estimate	$0.48	$0.50	$0.52	$0.35	$0.39	$0.32	$0.47	$0.58	$0.41	$0.51
YEAR 2015	Dividend Q1 Estimate	$0.49	$0.50	$0.52	$0.35	$0.39	$0.32	$0.47	$0.59	$0.41	$0.52
YEAR 2015	Dividend Q2 Estimate	$0.49	$0.51	$0.53	$0.35	$0.40	$0.33	$0.48	$0.59	$0.41	$0.52
YEAR 2015	Dividend Q3 Estimate	$0.50	$0.51	$0.53	$0.36	$0.40	$0.33	$0.48	$0.60	$0.42	$0.53
YEAR 2015	Dividend Q4 Estimate	$0.51	$0.52	$0.54	$0.36	$0.41	$0.33	$0.49	$0.61	$0.42	$0.53
YEAR 2016	Dividend Q1 Estimate	$0.51	$0.52	$0.55	$0.37	$0.41	$0.34	$0.49	$0.61	$0.43	$0.54
YEAR 2016	Dividend Q2 Estimate	$0.52	$0.53	$0.55	$0.37	$0.42	$0.34	$0.50	$0.62	$0.43	$0.54
YEAR 2016	Dividend Q3 Estimate	$0.52	$0.53	$0.56	$0.37	$0.42	$0.35	$0.50	$0.63	$0.43	$0.55
YEAR 2016	Dividend Q4 Estimate	$0.53	$0.54	$0.56	$0.38	$0.43	$0.35	$0.51	$0.63	$0.44	$0.56
YEAR 2017	Dividend Q1 Estimate	$0.54	$0.55	$0.57	$0.38	$0.43	$0.35	$0.52	$0.64	$0.44	$0.56
YEAR 2017	Dividend Q2 Estimate	$0.54	$0.55	$0.58	$0.38	$0.44	$0.36	$0.52	$0.65	$0.45	$0.57
YEAR 2017 Q3	Year 10 Stock Price	$43.03	$49.25	$71.76	$40.49	$53.23	$45.56	$50.29	$59.15	$41.61	$76.71
	Trial COE: Quarterly Rate	2.3%	2.2%	1.8%	2.0%	1.9%	1.8%	2.1%	2.1%	2.1%	1.8%
	Trial COE: Annual Rate	9.5%	8.9%	7.6%	8.2%	7.6%	7.5%	8.6%	8.8%	8.7%	7.3%
	Cost of Equity	9.5%	8.9%	7.6%	8.2%	7.6%	7.5%	8.6%	8.8%	8.7%	7.3%
	(Trial COE - COE) x 100	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Sources and Notes:

All Growth Rate Estimates: Table No. MJV-17; Panel B.

Stock Prices and Dividends are from Bloomberg as of August 28, 2007.

1. See Workpaper #1 to Table No. MJV-17 for the average closing stock price obtained from Bloomberg.
2. See Workpaper #2 to Table No. MJV-17 for the for the quarterly dividend obtained from Bloomberg.
3. The Blue Chip Economic Indicator Long-Term GDP Growth Rate is used to calculate the Year 10 Stock Price.
   {(the Dividend Year 2016 Q4 Estimate) x ((1 + the Perpetual Growth Rate) ^ (1/2))} /
   {(Trial COE - Quarterly Rate) - ((1 + the Perpetual Growth Rate) ^ (1/4) -1)}.

Table No. MJV-18

Overall Cost of Capital of the Gas LDC Sample

Panel A: Simple DCF Method (Quarterly)

Company		2nd Quarter, 2007 Bond Rating [1]	2nd Quarter, 2007 Preferred Equity Rating [2]	DCF Cost of Equity [3]	DCF Common Equity to Market Value Ratio [4]	Cost of Preferred Equity [5]	DCF Preferred Equity to Market Value Ratio [6]	DCF Cost of Debt [7]	DCF Debt to Market Value Ratio [8]	TQM's Income Tax Rate [9]	Overall After- Tax Cost of Capital [10]
Atmos Energy Corp		BBB	-	10.5%	0.51	-	-	5.9%	0.49	32.0%	7.4%
Laclede Group Inc/The	*	A	-	8.8%	0.62	-	-	5.5%	0.38	32.0%	6.9%
Northwest Natural Gas Co	*	AA	-	8.2%	0.67	-	-	5.4%	0.33	32.0%	6.7%
Piedmont Natural Gas Co	*	A	-	8.3%	0.68	-	-	5.5%	0.32	32.0%	6.8%
South Jersey Industries Inc		BBB	-	9.3%	0.72	-	-	5.9%	0.28	32.0%	7.8%
Southwest Gas Corp	*	BBB	-	8.4%	0.47	-	-	5.9%	0.53	32.0%	6.0%
WGL Holdings Inc	*	AA	AA	8.5%	0.70	5.4%	0.01	5.4%	0.29	32.0%	7.1%
AGL Resources Inc		A	-	9.2%	0.65	-	-	5.5%	0.35	32.0%	7.2%
Vectren Corp		A	-	8.0%	0.58	-	-	5.5%	0.42	32.0%	6.2%
New Jersey Resources Corp		A	-	7.0%	0.80	-	-	5.5%	0.20	32.0%	6.4%
Average				8.6%	0.64	5.4%	0.00	5.6%	0.36	32.0%	6.9%

Sources and Notes:

[1]: Bloomberg as of August 28, 2007.

[2]: Preferred ratings were assumed equal to debt ratings.

[3]: Table No. MJV-17; Panel A, [5].

[4]: Table No. MJV-15, [1].

[5]: Workpaper #2 to Table No. MJV-11, Panel B, [6].

[6]: Table No. MJV-15, [2].

[7]: Workpaper #2 toTable No. MJV-11, Panel A, [6].

[8]: Table No. MJV-15, [3].

[9]: Provided by TQM.

[10]: ([3] x [4]) + ([5] x [6]) + {[7] x [8] x (1 - [9])}.

*Subsample

Table No. MJV-18

Overall Cost of Capital of the Gas LDC Sample

Panel B: Multi-Stage DCF (Using EIA's 2007 International Energy Outlook GDP Growth Forecast and Canada's Targeted Inflation Rate)

Company		2nd Quarter, 2007 Bond Rating [1]	2nd Quarter, 2007 Preferred Equity Rating [2]	DCF Cost of Equity [3]	DCF Common Equity to Market Value Ratio [4]	Cost of Preferred Equity [5]	DCF Preferred Equity to Market Value Ratio [6]	DCF Cost of Debt [7]	DCF Debt to Market Value Ratio [8]	TQM's Income Tax Rate [9]	Overall After- Tax Cost of Capital [10]
Atmos Energy Corp		BBB	-	9.3%	0.51	-	-	5.9%	0.49	32.0%	6.7%
Laclede Group Inc/The	*	A	-	8.7%	0.62	-	-	5.5%	0.38	32.0%	6.8%
Northwest Natural Gas Co	*	AA	-	7.3%	0.67	-	-	5.4%	0.33	32.0%	6.1%
Piedmont Natural Gas Co	*	A	-	8.0%	0.68	-	-	5.5%	0.32	32.0%	6.6%
South Jersey Industries Inc		BBB	-	7.4%	0.72	-	-	5.9%	0.28	32.0%	6.4%
Southwest Gas Corp	*	BBB	-	7.2%	0.47	-	-	5.9%	0.53	32.0%	5.5%
WGL Holdings Inc	*	AA	AA	8.3%	0.70	5.4%	0.01	5.4%	0.29	32.0%	6.9%
AGL Resources Inc		A	-	8.6%	0.65	-	-	5.5%	0.35	32.0%	6.9%
Vectren Corp		A	-	8.5%	0.58	-	-	5.5%	0.42	32.0%	6.5%
New Jersey Resources Corp		A	-	7.0%	0.80	-	-	5.5%	0.20	32.0%	6.4%
Average				8.0%	0.64	5.4%	0.00	5.6%	0.36	32.0%	6.5%

Sources and Notes:

[1]: Bloomberg as of August 28, 2007.

[2]: Preferred ratings were assumed equal to debt ratings.

[3]: Table No. MJV-17; Panel B, [10].

[4]: Table No. MJV-15, [1].

[5]: Workpaper #2 to Table No. MJV-11, Panel B, [6].

[6]: Table No. MJV-15, [2].

[7]: Workpaper #2 toTable No. MJV-11, Panel A, [6].

[8]: Table No. MJV-15, [3].

[9]: Provided by TQM.

[10]: ([3] x [4]) + ([5] x [6]) + {[7] x [8] x (1 - [9])}.

*Subsample

Table No. MJV-19

DCF Cost of Equity at TQM Capital Structure

Gas LDC Sample

Panel A: TQM's Implied Cost of Equity

	Overall Cost of Capital [1]	TQM's Deemed Debt % [2]	TQM's Cost of Debt [3]	TQM's Income Tax Rate [4]	TQM's Deemed Equity % [5]	Estimated Return on Equity [6]
Using All Companies with Bloomberg Forecast						
Simple DCF Quarterly	6.9%	0.60	5.5%	32.0%	0.40	11.5%
Multi-Stage DCF (Using EIA's 2007 International Energy Outlook GDP Growth Forecast and Canada's Targeted Inflation Rate)	6.5%	0.60	5.5%	32.0%	0.40	10.6%

Sources and Notes:
[1]: Table No. MJV-18; Panels A-B, [10].
[2]: Provided by TQM.
[3]: Based on an A rating, as provided by TQM. Yield from Bloomberg as of August 28, 2007.
[4]: Provided by TQM.
[5]: Provided by TQM.
[6]: {[1] - ([2] x [3] x (1 - [4]))} / [5].

Table No. MJV-19

DCF Cost of Equity at TQM Capital Structure

Gas LDC Sample

Panel B: TQM's Deemed Equity Thickness Assuming NEB Formula ROE of 8.46%

	Overall Cost of Capital [1]	TQM's Deemed Debt % [2]	TQM's Cost of Debt [3]	TQM's Income Tax Rate [4]	Estimated Return on Equity [5]	TQM's Deemed Equity % [6]
Using All Companies with Bloomberg Forecast						
Simple DCF Quarterly	6.9%	0.34	5.5%	32.0%	8.46%	**0.66**
Multi-Stage DCF (Using EIA's 2007 International Energy Outlook GDP Growth Forecast and Canada's Targeted Inflation Rate)	6.5%	0.42	5.5%	32.0%	8.46%	**0.58**
Using Subsample with Bloomberg Forecast						
Simple DCF Quarterly	6.7%	0.37	5.5%	32.0%	8.46%	**0.63**
Multi-Stage DCF (Using EIA's 2007 International Energy Outlook GDP Growth Forecast and Canada's Targeted Inflation Rate)	6.4%	0.44	5.5%	32.0%	8.46%	**0.56**

Sources and Notes:
[1]: Table No. MJV-18; Panels A-B, [10].
[2]: 1 - [6].
[3]: Based on an A rating, as provided by TQM. Yield from Bloomberg as of August 28, 2007.
[4]: Provided by TQM.
[5]: NEB Approved ROE.
[6]: ([1] - (1 - [4]) x [3]) / ([5] - (1 - [4] x [3])

Table No. MJV-20

Risk Positioning Cost of Equity of the Gas LDC Sample

Using Unadjusted Value Line Betas

Company	Canadian Long-Term Risk-Free Rate [1]	Unadjusted Beta [2]	Long-Term Market Risk Premium [3]	CAPM Cost of Equity [4]	ECAPM (1.0%) Cost of Equity [5]	ECAPM (2.0%) Cost of Equity [6]
Atmos Energy Corp	5.0%	0.67	5.75%	8.9%	9.2%	9.5%
Laclede Group Inc/The	5.0%	0.82	5.75%	9.7%	9.9%	10.1%
Northwest Natural Gas Co	5.0%	0.60	5.75%	8.4%	8.8%	9.2%
Piedmont Natural Gas Co	5.0%	0.67	5.75%	8.9%	9.2%	9.5%
South Jersey Industries Inc	5.0%	0.52	5.75%	8.0%	8.5%	9.0%
Southwest Gas Corp	5.0%	0.75	5.75%	9.3%	9.5%	9.8%
WGL Holdings Inc	5.0%	0.75	5.75%	9.3%	9.5%	9.8%
AGL Resources Inc	5.0%	0.90	5.75%	10.1%	10.3%	10.4%
Vectren Corp	5.0%	0.90	5.75%	10.1%	10.3%	10.4%
New Jersey Resources Corp	5.0%	0.67	5.75%	8.9%	9.2%	9.5%

Sources and Notes:
[1]: Table No. MJV-9 - Interest Rate Forecasts, Panel A, Row [A].
[2]: Workpaper # 1 to Table No. MJV-20, Panel A, column [1].
[3]: Vilbert Written Evidence, Appendix C.
[4]: [1] + ([2] x [3]).
[5]: ([1] + 1.0%) + [2] x ([3] - 1.0%).
[6]: ([1] + 2.0%) + [2] x ([3] - 2.0%).

Workpaper # 1 to Table No. MJV-20

Gas LDC Sample

Beta Summary

Company		Unadjusted Beta [1]
Atmos Energy Corp		0.67
Laclede Group Inc/The	*	0.82
Northwest Natural Gas Co	*	0.60
Piedmont Natural Gas Co	*	0.67
South Jersey Industries Inc		0.52
Southwest Gas Corp	*	0.75
WGL Holdings Inc	*	0.75
AGL Resources Inc		0.90
Vectren Corp		0.90
New Jersey Resources Corp		0.67
Average:		0.72

Sources and Notes:
[1]: Most recent Value Line Standard Edition dated as of June 15, 2007. Vectren is dated as of June 29, 2007.

*Subsample

Table No. MJV-21

Overall Cost of Capital of the Gas LDC Sample

Panel A: CAPM Cost of Equity using Value Line Unadjusted Betas

Company		CAPM Cost of Equity [1]	5-Year Average Common Equity to Market Value Ratio [2]	Weighted - Average Cost of Preferred Equity [3]	5-Year Average Preferred Equity to Market Value Ratio [4]	Weighted-Average Cost of Debt [5]	5-Year Average Debt to Market Value Ratio [6]	TQM's Income Tax Rate [7]	Overall After-Tax Cost of Capital [8]
Atmos Energy Corp		8.9%	0.55	-	-	5.7%	0.45	32.0%	6.7%
Laclede Group Inc/The	*	9.7%	0.59	5.5%	0.00	5.5%	0.41	32.0%	7.3%
Northwest Natural Gas Co	*	8.4%	0.61	5.4%	0.00	5.5%	0.39	32.0%	6.6%
Piedmont Natural Gas Co	*	8.9%	0.67	-	-	5.5%	0.33	32.0%	7.2%
South Jersey Industries Inc		8.0%	0.63	5.9%	0.00	5.9%	0.36	32.0%	6.5%
Southwest Gas Corp	*	9.3%	0.41	-	-	5.9%	0.59	32.0%	6.2%
WGL Holdings Inc	*	9.3%	0.66	5.4%	0.01	5.4%	0.33	32.0%	7.4%
AGL Resources Inc		10.1%	0.58	5.5%	0.02	5.5%	0.41	32.0%	7.5%
Vectren Corp		10.1%	0.59	5.5%	0.00	5.5%	0.41	32.0%	7.5%
New Jersey Resources Corp		8.9%	0.76	5.5%	0.00	5.5%	0.24	32.0%	7.6%
Average		9.2%	0.60	5.5%	0.00	5.6%	0.39	32.0%	7.0%

Sources and Notes:
[1]: Table No. MJV-20; Panel A, [4].
[2]: Table No. MJV-15, [4].
[3]: Workpaper #2 to Table No. MJV-21 ; Panel C, [7].
[4]: Table No. MJV-15, [5].
[5]: Workpaper #2 to Table No. MJV-21 ; Panel B, [7].
[6]: Table No. MJV-15, [6].
[7]: Provided by TQM.
[8]: ([1] x [2]) + ([3] x [4]) + {[5] x [6] x (1 - [7])}.
*Subsample

Table No. MJV-21

Overall Cost of Capital of the Gas LDC Sample

Panel B: ECAPM (1.0%) Cost of Equity using Value Line Unadjusted Betas

Company		ECAPM (1.0%) Cost of Equity [1]	5-Year Average Common Equity to Market Value Ratio [2]	Weighted - Average Cost of Preferred Equity [3]	5-Year Average Preferred Equity to Market Value Ratio [4]	Weighted-Average Cost of Debt [5]	5-Year Average Debt to Market Value Ratio [6]	TQM's Income Tax Rate [7]	Overall After-Tax Cost of Capital [8]
Atmos Energy Corp		9.2%	0.55	-	-	5.7%	0.45	32.0%	6.8%
Laclede Group Inc/The	*	9.9%	0.59	5.5%	0.00	5.5%	0.41	32.0%	7.4%
Northwest Natural Gas Co	*	8.8%	0.61	5.4%	0.00	5.5%	0.39	32.0%	6.9%
Piedmont Natural Gas Co	*	9.2%	0.67	-	-	5.5%	0.33	32.0%	7.4%
South Jersey Industries Inc		8.5%	0.63	5.9%	0.00	5.9%	0.36	32.0%	6.8%
Southwest Gas Corp	*	9.5%	0.41	-	-	5.9%	0.59	32.0%	6.3%
WGL Holdings Inc	*	9.5%	0.66	5.4%	0.01	5.4%	0.33	32.0%	7.5%
AGL Resources Inc		10.3%	0.58	5.5%	0.02	5.5%	0.41	32.0%	7.5%
Vectren Corp		10.3%	0.59	5.5%	0.00	5.5%	0.41	32.0%	7.6%
New Jersey Resources Corp		9.2%	0.76	5.5%	0.00	5.5%	0.24	32.0%	7.9%
Average		9.4%	0.60	5.5%	0.00	5.6%	0.39	32.0%	7.2%

Sources and Notes:
[1]: Table No. MJV-20; Panel A, [5].
[2]: Table No. MJV-15, [4].
[3]: Workpaper #2 to Table No. MJV-21 ; Panel C, [7].
[4]: Table No. MJV-15, [5].
[5]: Workpaper #2 to Table No. MJV-21 ; Panel B, [7].
[6]: Table No. MJV-15, [6].
[7]: Provided by TQM.
[8]: ([1] x [2]) + ([3] x [4]) + {[5] x [6] x (1 - [7])}.
*Subsample

Table No. MJV-21

Overall Cost of Capital of the Gas LDC Sample

Panel C: ECAPM (2.0%) Cost of Equity using Value Line Unadjusted Betas

Company		ECAPM (2.0%) Cost of Equity [1]	5-Year Average Common Equity to Market Value Ratio [2]	Weighted - Average Cost of Preferred Equity [3]	5-Year Average Preferred Equity to Market Value Ratio [4]	Weighted-Average Cost of Debt [5]	5-Year Average Debt to Market Value Ratio [6]	TQM's Income Tax Rate [7]	Overall After-Tax Cost of Capital [8]
Atmos Energy Corp		9.5%	0.55	-	-	5.7%	0.45	32.0%	7.0%
Laclede Group Inc/The	*	10.1%	0.59	5.5%	0.00	5.5%	0.41	32.0%	7.5%
Northwest Natural Gas Co	*	9.2%	0.61	5.4%	0.00	5.5%	0.39	32.0%	7.1%
Piedmont Natural Gas Co	*	9.5%	0.67	-	-	5.5%	0.33	32.0%	7.6%
South Jersey Industries Inc		9.0%	0.63	5.9%	0.00	5.9%	0.36	32.0%	7.2%
Southwest Gas Corp	*	9.8%	0.41	-	-	5.9%	0.59	32.0%	6.4%
WGL Holdings Inc	*	9.8%	0.66	5.4%	0.01	5.4%	0.33	32.0%	7.7%
AGL Resources Inc		10.4%	0.58	5.5%	0.02	5.5%	0.41	32.0%	7.6%
Vectren Corp		10.4%	0.59	5.5%	0.00	5.5%	0.41	32.0%	7.6%
New Jersey Resources Corp		9.5%	0.76	5.5%	0.00	5.5%	0.24	32.0%	8.1%
Average		9.7%	0.60	5.5%	0.00	5.6%	0.39	32.0%	7.4%

Sources and Notes:
[1]: Table No. MJV-20; Panel A, [6].
[2]: Table No. MJV-15, [4].
[3]: Workpaper #2 to Table No. MJV-21 ; Panel C, [7].
[4]: Table No. MJV-15, [5].
[5]: Workpaper #2 to Table No. MJV-21 ; Panel B, [7].
[6]: Table No. MJV-15, [6].
[7]: Provided by TQM.
[8]: ([1] x [2]) + ([3] x [4]) + {[5] x [6] x (1 - [7])}.
*Subsample

Workpaper #1 to Table No. MJV-21

Gas LDC Sample

Panel A: Rating to Canadian Yield Conversion

Rating	Bond Yield	Preferred Yield
AA	5.38%	5.38%
A	5.55%	5.55%
BBB	5.88%	5.88%

Sources and Notes:
Bond Yields from Bloomberg as of August 28, 2007.
Preferred Yields from Bloomberg as of August 28, 2007. Assumed AA estimated as A - 0.5 * (BBB - A).

Workpaper #1 to Table No. MJV-21

Gas LDC Sample

Panel B: Bond Rating Summary

Company	2nd Quarter, 2007 [1]	2006 [2]	2005 [3]	2004 [4]	2003 [5]	2002 [6]
Atmos Energy Corp	BBB	BBB	BBB	BBB	A	A
Laclede Group Inc/The	A	A	A	A	A	A
Northwest Natural Gas Co	AA	AA	A	A	A	A
Piedmont Natural Gas Co	A	A	A	A	A	A
South Jersey Industries Inc	BBB	BBB	BBB	BBB	BBB	BBB
Southwest Gas Corp	BBB	BBB	BBB	BBB	BBB	BBB
WGL Holdings Inc	AA	AA	AA	AA	AA	AA
AGL Resources Inc	A	A	A	A	A	A
Vectren Corp	A	A	A	A	A	A
New Jersey Resources Corp	A	A	A	A	A	A

Sources and Notes:
[1] - [6]: Bloomberg as of August 28, 2007.

Workpaper #1 to Table No. MJV-21

Gas LDC Sample

Panel C: Preferred Equity Rating Summary

Company	2nd Quarter, 2007 [1]	2006 [2]	2005 [3]	2004 [4]	2003 [5]	2002 [6]
Atmos Energy Corp	-	-	-	-	-	-
Laclede Group Inc/The	-	A	A	A	A	A
Northwest Natural Gas Co	-	-	-	-	-	AA
Piedmont Natural Gas Co	-	-	-	-	-	-
South Jersey Industries Inc	-	-	-	BBB	BBB	BBB
Southwest Gas Corp	-	-	-	-	-	-
WGL Holdings Inc	AA	AA	AA	AA	AA	AA
AGL Resources Inc	-	-	-	-	-	A
Vectren Corp	-	-	-	A	A	A
New Jersey Resources Corp	-	-	-	-	-	A

Sources and Notes:

[1] - [6]: Preferred equity ratings are assumed equal to the company's bond ratings reported in Workpaper #1 to Table No. MJV-21, Panels A and B.

Workpaper #2 to Table No. MJV-21

US Gas LDC Sample

Panel A: 15 Day Average Canadian Utility Yield

Date	A Rated Utility [1]	BBB Rated Utility [2]	A Preferred [3]	BBB Preferred [4]
8/8/2007	5.54	5.90	-	-
8/9/2007	5.54	5.88	-	-
8/10/2007	5.55	5.89	-	-
8/13/2007	5.54	5.88	-	-
8/14/2007	5.51	5.86	-	-
8/15/2007	5.56	5.90	-	-
8/16/2007	5.56	5.91	-	-
8/17/2007	5.58	5.93	-	-
8/20/2007	5.57	5.89	-	-
8/21/2007	5.57	5.88	-	-
8/22/2007	5.60	5.91	-	-
8/23/2007	5.58	5.91	-	-
8/24/2007	5.54	5.87	-	-
8/27/2007	5.51	5.83	-	-
8/28/2007	5.48	5.81	-	-
Average	0.055	0.059	0.055	0.059

Sources and Notes:

[1] - [2]: Bloomberg as of August 28, 2007.

[3] - [4]: Preferred yield is assumed equal to debt yield.

Workpaper #2 to Table No. MJV-21

Gas LDC Sample

Panel B: Bond Yield Summary

Company	2nd Quarter, 2007 [1]	2006 [2]	2005 [3]	2004 [4]	2003 [5]	2002 [6]	5-Year Weighted Average [7]
Atmos Energy Corp	5.88%	5.88%	5.88%	5.88%	5.55%	5.55%	5.75%
Laclede Group Inc/The	5.55%	5.55%	5.55%	5.55%	5.55%	5.55%	5.55%
Northwest Natural Gas Co	5.38%	5.38%	5.55%	5.55%	5.55%	5.55%	5.52%
Piedmont Natural Gas Co	5.55%	5.55%	5.55%	5.55%	5.55%	5.55%	5.55%
South Jersey Industries Inc	5.88%	5.88%	5.88%	5.88%	5.88%	5.88%	5.88%
Southwest Gas Corp	5.88%	5.88%	5.88%	5.88%	5.88%	5.88%	5.88%
WGL Holdings Inc	5.38%	5.38%	5.38%	5.38%	5.38%	5.38%	5.38%
AGL Resources Inc	5.55%	5.55%	5.55%	5.55%	5.55%	5.55%	5.55%
Vectren Corp	5.55%	5.55%	5.55%	5.55%	5.55%	5.55%	5.55%
New Jersey Resources Corp	5.55%	5.55%	5.55%	5.55%	5.55%	5.55%	5.55%

Sources and Notes:

[1] - [6]: Ratings based on Workpaper #1 to Table No. MJV-21, Panel A and bond yields from Bloomberg as of August 28, 2007.

[7]: {([1] x 0.5) + ([2] x 0.5) + [3] + [4] + [5] + [6]} / 5.

Workpaper #2 to Table No. MJV-21

Gas LDC Sample

Panel C: Preferred Equity Yield Summary

Company	2nd Quarter, 2007 [1]	2006 [2]	2005 [3]	2004 [4]	2003 [5]	2002 [6]	5-Year Weighted Average [7]
Atmos Energy Corp	-	-	-	-	-	-	-
Laclede Group Inc/The	-	5.55%	5.55%	5.55%	5.55%	5.55%	5.55%
Northwest Natural Gas Co	-	-	-	-	-	5.38%	5.38%
Piedmont Natural Gas Co	-	-	-	-	-	-	-
South Jersey Industries Inc	-	-	-	5.88%	5.88%	5.88%	5.88%
Southwest Gas Corp	-	-	-	-	-	-	-
WGL Holdings Inc	5.38%	5.38%	5.38%	5.38%	5.38%	5.38%	5.38%
AGL Resources Inc	-	-	-	-	-	5.55%	5.55%
Vectren Corp	-	-	-	5.55%	5.55%	5.55%	5.55%
New Jersey Resources Corp	-	-	-	-	-	5.55%	5.55%

Sources and Notes:

[1] - [6]: Ratings based on Workpaper #1 to Table No. MJV-21, Panel A are assumed to equal preferred ratings. Preferred equity yields are from Bloomberg as of August 28, 2007. Assumed preferred yield is equal to debt yield.
[7]: {([1] x 0.5) + ([2] x 0.5) + [3] + [4] + [5] + [6]} / 5.

The report does not publish yield data for AA-rated preferred equity. Therefore, when there is a AA we assumed:
Yield on AA-rated preferred equity = Yield on A-rated bond - {(1/2) x (Yield on BBB-rated bond - Yield on A-rated bond)}.

Table No. MJV-22

Risk Positioning Cost of Equity at TQM's Capital Structure

Gas LDC Sample

Panel A: Full Sample using Value Line Unadjusted Betas

	Overall Cost of Capital [1]	TQM's Regulatory % Debt [2]	TQM's Cost of Debt [3]	TQM's Income Tax Rate [4]	TQM's Regulatory % Equity [5]	Estimated Return on Equity [6]
Using Long-Term Risk-Free Rates:						
CAPM using Unadjusted Beta	7.0%	0.60	5.5%	32.0%	0.40	11.9%
ECAPM (1.0%) using Unadjusted Beta	7.2%	0.60	5.5%	32.0%	0.40	12.4%
ECAPM (2.0%) using Unadjusted Beta	7.4%	0.60	5.5%	32.0%	0.40	12.8%

Sources and Notes:
[1]: Table No. MJV-21; Panels A - F, [8].
[2]: Provided by TQM.
[3]: Based on an A rating, as provided by TQM. Yield from Bloomberg as of August 28, 2007.
[4]: Provided by TQM.
[5]: Provided by TQM.
[6]: {[1] - ([2] x [3] x (1 - [4]))} / [5].

Table No. MJV-22

Risk Positioning Cost of Equity at TQM's Capital Structure

Gas LDC Sample

Panel B: Subsample using Value Line Unadjusted Betas

	Overall Cost of Capital [1]	TQM's Deemed Debt % [2]	TQM's Cost of Debt [3]	TQM's Income Tax Rate [4]	TQM's Deemed Equity % [5]	Estimated Return on Equity [6]
Using Long-Term Risk-Free Rate:						
CAPM using Unadjusted Beta	6.9%	0.60	5.5%	32.0%	0.40	11.6%
ECAPM (1.0%) using Unadjusted Beta	7.1%	0.60	5.5%	32.0%	0.40	12.1%
ECAPM (2.0%) using Unadjusted Beta	7.3%	0.60	5.5%	32.0%	0.40	12.5%

Sources and Notes:
[1]: Table No. MJV-21; Panels A - F, [8].
[2]: Provided by TQM.
[3]: Based on an A rating, as provided by TQM. Yield from Bloomberg as of August 28, 2007.
[4]: Provided by TQM.
[5]: Provided by TQM.
[6]: {[1] - ([2] x [3] x (1 - [4]))} / [5].

Table No. MJV-22

Risk Positioning Cost of Equity at TransCanada Corp's Capital Structure

Gas LDC Sample

Panel C: TQM's Deemed Equity Thickness Assuming NEB Formula ROE of 8.46%

(Full Sample using Value Line Unadjusted Betas)

	Overall Cost of Capital [1]	TQM's Deemed Debt % [2]	TQM's Cost of Debt [3]	TQM's Income Tax Rate [4]	Estimated Return on Equity [5]	TQM's Deemed Equity % [6]
Using Long-Term Risk-Free Rate:						
CAPM using Bloomberg Betas	7.0%	0.30	5.5%	32.0%	8.46%	**0.70**
ECAPM (1.0%) using Unadjusted Beta	7.2%	0.27	5.5%	32.0%	8.46%	**0.73**
ECAPM (2.0%) using Unadjusted Beta	7.4%	0.23	5.5%	32.0%	8.46%	**0.77**

Sources and Notes:
[1]: Table No. MJV-21; Panels A - F, [8].
[2]: 1 - [6].
[3]: Based on an A rating, as provided by TQM. Yield from Bloomberg as of August 28, 2007.
[4]: Provided by TQM.
[5]: NEB Approved ROE.
[6]: ([1] - (1 - [4]) x [3]) / ([5] - (1 - [4] x [3])

Table No. MJV-22

Risk Positioning Cost of Equity at TransCanada Corp's Capital Structure

Gas LDC Sample

Panel D: TQM's Deemed Equity Thickness Assuming NEB Formula ROE of 8.46%

(Subsample using Value Line Unadjusted Betas)

	Overall Cost of Capital [1]	TQM's Deemed Debt % [2]	TQM's Cost of Debt [3]	TQM's Income Tax Rate [4]	Estimated Return on Equity [5]	TQM's Deemed Equity % [6]
Using Long-Term Risk-Free Rate:						
CAPM using Bloomberg Betas	6.9%	0.33	5.5%	32.0%	8.46%	**0.67**
ECAPM (1.0%) using Unadjusted Beta	7.1%	0.29	5.5%	32.0%	8.46%	**0.71**
ECAPM (2.0%) using Unadjusted Beta	7.3%	0.26	5.5%	32.0%	8.46%	**0.74**

Sources and Notes:
[1]: Table No. MJV-21; Panels A - F, [8].
[2]: 1 - [6].
[3]: Based on an A rating, as provided by TQM. Yield from Bloomberg as of August 28, 2007.
[4]: Provided by TQM.
[5]: NEB Approved ROE.
[6]: ([1] - (1 - [4]) x [3]) / ([5] - (1 - [4] x [3])

Table No. MJV-23

MLP Pipelines

Regulated Property, Plant and Equipment

Company	Overall Category	Natural Gas Category
Boardwalk Pipeline Partners LP	R	R
Kinder Morgan Energy Partners LP	NR	NR
TC Pipelines LP	R	R
ONEOK Partners LP	NR	NR
Enbridge Energy Partners LP	MR	MR
Enterprise Products Partners LP	MR	MR

Sources and Notes:
2006 Company 10-Ks.
Key: R – Regulated (More than 80% of Property, Plant & Equipment regulated)
MR – Mostly Regulated (50% to 80% of PP&E regulated)
NR – Non Regulated (less than 50% of PP&E regulated)

Table No. MJV-24

Market Value of the MLP Pipelines

Panel A: Boardwalk Pipeline Partners LP

($MM)

	2nd Quarter, 2007	Year End, 2006	Year End, 2005	Notes
MARKET VALUE OF COMMON EQUITY				
Book Value, Common Shareholder's Equity	$1,581	$1,273	$989	[a]
Shares Outstanding (in millions) - Common	116	108	68	[b]
Price per Share - Common	$35	$31	$19	[c]
Market Value of LP Equity	$4,064	$3,320	$1,267	[d] = [b] x [c].
Market Value of GP Equity	$121	$99	$38	[e]= See Sources and Notes.
Total Market Value of Equity	$4,185	$3,419	$1,305	[f]= [d] + [e].
Market to Book Value of Common Equity	2.65	2.69	1.32	[g] = [f] / [a].
MARKET VALUE OF PREFERRED EQUITY				
Book Value of Preferred Equity	$0	$0	$0	[h]
Market Value of Preferred Equity	$0	$0	$0	[i] = [h].
MARKET VALUE OF DEBT				
Current Assets	$499	$548	$206	[j]
Current Liabilities	$216	$228	$202	[k]
Current Portion of Long-Term Debt	$0	$0	$42	[l]
Net Working Capital	$283	$320	$46	[m] = [j] - ([k] - [l]).
Notes Payable (Short-Term Debt)	$0	$0	$0	[n]
Adjusted Short-Term Debt	$0	$0	$0	[o] = See Sources and Notes.
Long-Term Debt	$1,351	$1,351	$1,101	[p]
Book Value of Long-Term Debt	$1,351	$1,351	$1,143	[q] = [l] + [o] + [p].
Adjustment to Book Value of Long-Term Debt	$14	$14	$12	[r] = See Sources and Notes.
Market Value of Long-Term Debt	$1,365	$1,365	$1,156	[s] = [q] + [r].
Market Value of Debt	$1,365	$1,365	$1,156	[t] = [s].
MARKET VALUE OF FIRM				
	$5,550	$4,784	$2,460	[u] = [f] + [i] + [t].
DEBT AND EQUITY TO MARKET VALUE RATIOS				
Common Equity - Market Value Ratio	75.40%	71.47%	53.03%	[v] = [f] / [u].
Preferred Equity - Market Value Ratio	-	-	-	[w] = [i] / [u].
Debt - Market Value Ratio	24.60%	28.53%	46.97%	[x] = [t] / [u].

Sources and Notes:
Bloomberg as of August 28, 2007.
Capital structure from 2nd Quarter, 2007 calculated using respective balance sheet information and 15-day average prices ending at period end.
The DCF Capital structure is calculated using 2nd Quarter, 2007 balance sheet information and a 15-trading day average closing price ending on August 28, 2007.
[e] = ((1/ % of LP) x [d]) - [d]. See Workpaper #2 to Table No. MJV-24 for more details.
[o] =
(1): 0 if [m] > 0.
(2): The absolute value of [m] if [m] < 0 and |[m]| < [n].
(3): [n] if [m] < 0 and |[m]| > [n].
[r]: See Workpaper #1 to Table No. MJV-24.

Table No. MJV-24

Market Value of the MLP Pipelines

Panel B: Kinder Morgan Energy Partners LP

($MM)

	2nd Quarter, 2007	Year End, 2006	Year End, 2005	Year End, 2004	Year End, 2003	Year End, 2002	Notes
MARKET VALUE OF COMMON EQUITY							
Book Value, Common Shareholder's Equity	$4,590	$4,022	$3,614	$3,897	$3,511	$3,416	[a]
Shares Outstanding (in millions) - Common	163	230	220	207	189	181	[b]
Price per Share - Common	$55	$48	$49	$45	$47	$35	[c]
Market Value of LP Equity	$8,908	$11,066	$10,749	$9,298	$8,808	$6,246	[d] = [b] x [c].
Market Value of GP Equity	$6,681	$8,300	$8,062	$6,974	$6,606	$4,684	[e]= See Sources and Notes.
Total Market Value of Equity	$15,589	$19,366	$18,811	$16,272	$15,415	$10,930	[f]= [d] + [e]
Market to Book Value of Common Equity	3.40	4.82	5.21	4.18	4.39	3.20	[g] = [f] / [a].
MARKET VALUE OF PREFERRED EQUITY							
Book Value of Preferred Equity	$0	$0	$0	$0	$0	$0	[h]
Market Value of Preferred Equity	$0	$0	$0	$0	$0	$0	[i] = [h].
MARKET VALUE OF DEBT							
Current Assets	$1,141	$1,037	$1,215	$853	$706	$669	[j]
Current Liabilities	$2,217	$2,886	$1,809	$1,181	$804	$813	[k]
Current Portion of Long-Term Debt	$666	$1,359	$0	$0	$2	$0	[l]
Net Working Capital	($410)	($490)	($594)	($328)	($97)	($144)	[m] = [j] - ([k] - [l]).
Notes Payable (Short-Term Debt)	$0	$0	$0	$0	$0	$0	[n]
Adjusted Short-Term Debt	$0	$0	$0	$0	$0	$0	[o] = See Sources and Notes.
Long-Term Debt	$5,923	$4,427	$5,319	$4,853	$4,438	$3,826	[p]
Book Value of Long-Term Debt	$6,589	$5,786	$5,319	$4,853	$4,440	$3,826	[q] = [l] + [o] + [p].
Adjustment to Book Value of Long-Term Debt	$69	$60	$57	$53	$49	$42	[r] = See Sources and Notes.
Market Value of Long-Term Debt	$6,658	$5,846	$5,376	$4,906	$4,489	$3,868	[s] = [q] + [r].
Market Value of Debt	$6,658	$5,846	$5,376	$4,906	$4,489	$3,868	[t] = [s].
MARKET VALUE OF FIRM	$22,247	$25,212	$24,187	$21,178	$19,904	$14,798	[u] = [f] + [i] + [t].
DEBT AND EQUITY TO MARKET VALUE RATIOS							
Common Equity - Market Value Ratio	70.07%	76.81%	77.77%	76.84%	77.45%	73.86%	[v] = [f] / [u].
Preferred Equity - Market Value Ratio	-	-	-	-	-	-	[w] = [i] / [u].
Debt - Market Value Ratio	29.93%	23.19%	22.23%	23.16%	22.55%	26.14%	[x] = [t] / [u].

Sources and Notes:
Bloomberg as of August 28, 2007.
Capital structure from 2nd Quarter, 2007 calculated using respective balance sheet information and 15-day average prices ending at period end.
The DCF Capital structure is calculated using 2nd Quarter, 2007 balance sheet information and a 15-trading day average closing price ending on August 28, 2007.
[e] = ((1/ % of LP) x [d]) - [d]. See Workpaper #2 to Table No. MJV-24 for more details.
[o] =
(1): 0 if [m] > 0.
(2): The absolute value of [m] if [m] < 0 and |[m]| < [n].
(3): [n] if [m] < 0 and |[m]| > [n].
[r]: See Workpaper #1 to Table No. MJV-24.

Table No. MJV-24

Market Value of the MLP Pipelines

Panel C: TC Pipelines LP

($MM)

	2nd Quarter, 2007	Year End, 2006	Year End, 2005	Year End, 2004	Year End, 2003	Year End, 2002	Notes
MARKET VALUE OF COMMON EQUITY							
Book Value, Common Shareholder's Equity	$917	$304	$302	$295	$282	$274	[a]
Shares Outstanding (in millions) - Common	35	18	18	18	18	18	[b]
Price per Share - Common	$40	$33	$33	$38	$33	$26	[c]
Market Value of LP Equity	$1,380	$585	$573	$661	$575	$456	[d] = [b] x [c].
Market Value of GP Equity	$135	$57	$56	$65	$56	$45	[e]= See Sources and Notes.
Total Market Value of Equity	$1,516	$642	$629	$725	$632	$501	[f]= [d] + [e]
Market to Book Value of Common Equity	1.65	2.11	2.09	2.46	2.24	1.83	[g] = [f] / [a].
MARKET VALUE OF PREFERRED EQUITY							
Book Value of Preferred Equity	$0	$0	$0	$0	$0	$0	[h]
Market Value of Preferred Equity	$0	$0	$0	$0	$0	$0	[i] = [h].
MARKET VALUE OF DEBT							
Current Assets	$11	$7	$2	$3	$8	$6	[j]
Current Liabilities	$10	$9	$14	$7	$6	$1	[k]
Current Portion of Long-Term Debt	$5	$5	$14	$7	$6	$0	[l]
Net Working Capital	$5	$2	$2	$2	$7	$6	[m] = [j] - ([k] - [l]).
Notes Payable (Short-Term Debt)	$0	$0	$0	$0	$0	$0	[n]
Adjusted Short-Term Debt	$0	$0	$0	$0	$0	$0	[o] = See Sources and Notes.
Long-Term Debt	$900	$723	$224	$248	$286	$289	[p]
Book Value of Long-Term Debt	$905	$728	$237	$255	$292	$289	[q] = [l] + [o] + [p].
Adjustment to Book Value of Long-Term Debt	$9	$8	$3	$3	$3	$3	[r] = See Sources and Notes.
Market Value of Long-Term Debt	$914	$735	$240	$258	$295	$292	[s] = [q] + [r].
Market Value of Debt	$914	$735	$240	$258	$295	$292	[t] = [s].
MARKET VALUE OF FIRM	$2,430	$1,378	$869	$983	$926	$792	[u] = [f] + [i] + [t].
DEBT AND EQUITY TO MARKET VALUE RATIOS							
Common Equity - Market Value Ratio	62.37%	46.62%	72.43%	73.79%	68.19%	63.20%	[v] = [f] / [u].
Preferred Equity - Market Value Ratio	-	-	-	-	-	-	[w] = [i] / [u].
Debt - Market Value Ratio	37.63%	53.38%	27.57%	26.21%	31.81%	36.80%	[x] = [t] / [u].

Sources and Notes:

Bloomberg as of August 28, 2007.

Capital structure from 2nd Quarter, 2007 calculated using respective balance sheet information and 15-day average prices ending at period end.

The DCF Capital structure is calculated using 2nd Quarter, 2007 balance sheet information and a 15-trading day average closing price ending on August 28, 2007.

[e] = ((1/ % of LP) x [d]) - [d]. See Workpaper #2 to Table No. MJV-24 for more details.

[o] =

(1): 0 if [m] > 0.

(2): The absolute value of [m] if [m] < 0 and |[m]| < [n].

(3): [n] if [m] < 0 and |[m]| > [n].

[r]: See Workpaper #1 to Table No. MJV-24.

TC Pipelines has uncosolidated long-term debt obligations, which are recognized in row [p]. See Workpaper #3 to Table No. MJV-24, Panel B for more details.

Table No. MJV-24

Market Value of the MLP Pipelines

Panel D: ONEOK Partners LP

($MM)

	2nd Quarter, 2007	Year End, 2006	Year End, 2005	Year End, 2004	Year End, 2003	Year End, 2002	Notes
MARKET VALUE OF COMMON EQUITY							
Book Value, Common Shareholder's Equity	$2,183	$2,189	$766	$789	$801	$944	[a]
Shares Outstanding (in millions) - Common	83	83	46	46	46	44	[b]
Price per Share - Common	$68	$64	$42	$48	$39	$37	[c]
Market Value of LP Equity	$5,653	$5,344	$1,954	$2,210	$1,791	$1,629	[d] = [b] x [c].
Market Value of GP Equity	$914	$864	$316	$357	$290	$263	[e]= See Sources and Notes.
Total Market Value of Equity	$6,567	$6,208	$2,270	$2,567	$2,081	$1,893	[f]= [d] + [e]
Market to Book Value of Common Equity	3.01	2.84	2.96	3.25	2.60	2.01	[g] = [f] / [a].
MARKET VALUE OF PREFERRED EQUITY							
Book Value of Preferred Equity	$0	$0	$0	$0	$0	$0	[h]
Market Value of Preferred Equity	$0	$0	$0	$0	$0	$0	[i] = [h].
MARKET VALUE OF DEBT							
Current Assets	$768	$807	$138	$117	$114	$100	[j]
Current Liabilities	$894	$785	$111	$91	$107	$176	[k]
Current Portion of Long-Term Debt	$12	$12	$2	$5	$8	$68	[l]
Net Working Capital	($113)	$34	$30	$31	$15	($8)	[m] = [j] - ([k] - [l]).
Notes Payable (Short-Term Debt)	$0	$0	$0	$0	$0	$0	[n]
Adjusted Short-Term Debt	$0	$0	$0	$0	$0	$0	[o] = See Sources and Notes.
Long-Term Debt	$2,013	$2,245	$1,353	$1,325	$1,408	$1,336	[p]
Book Value of Long-Term Debt	$2,025	$2,256	$1,355	$1,330	$1,416	$1,404	[q] = [l] + [o] + [p].
Adjustment to Book Value of Long-Term Debt	$21	$23	$14	$15	$15	$15	[r] = See Sources and Notes.
Market Value of Long-Term Debt	$2,046	$2,280	$1,369	$1,345	$1,431	$1,419	[s] = [q] + [r].
Market Value of Debt	$2,046	$2,280	$1,369	$1,345	$1,431	$1,419	[t] = [s].
MARKET VALUE OF FIRM	$8,613	$8,488	$3,639	$3,912	$3,513	$3,312	[u] = [f] + [i] + [t].
DEBT AND EQUITY TO MARKET VALUE RATIOS							
Common Equity - Market Value Ratio	76.25%	73.14%	62.37%	65.62%	59.25%	57.15%	[v] = [f] / [u].
Preferred Equity - Market Value Ratio	-	-	-	-	-	-	[w] = [i] / [u].
Debt - Market Value Ratio	23.75%	26.86%	37.63%	34.38%	40.75%	42.85%	[x] = [t] / [u].

Sources and Notes:

Bloomberg as of August 28, 2007.

Capital structure from 2nd Quarter, 2007 calculated using respective balance sheet information and 15-day average prices ending at period end.

The DCF Capital structure is calculated using 2nd Quarter, 2007 balance sheet information and a 15-trading day average closing price ending on August 28, 2007.

[e] = ((1/ % of LP) x [d]) - [d]. See Workpaper #2 to Table No. MJV-24 for more details.

[o] =

(1): 0 if [m] > 0.

(2): The absolute value of [m] if [m] < 0 and |[m]| < [n].

(3): [n] if [m] < 0 and |[m]| > [n].

[r]: See Workpaper #1 to Table No. MJV-24.

Oneok Partners has uncosolidated long-term debt obligations, which are recognized in row [p]. See Workpaper #3 to Table No. MJV-24, Panel A for more details.

Table No. MJV-24

Market Value of the MLP Pipelines

Panel E: Enbridge Energy Partners LP

($MM)

	2nd Quarter, 2007	Year End, 2006	Year End, 2005	Year End, 2004	Year End, 2003	Year End, 2002	Notes
MARKET VALUE OF COMMON EQUITY							
Book Value, Common Shareholder's Equity	$2,629	$2,043	$1,364	$1,398	$1,313	$992	[a]
Shares Outstanding (in millions) - Common	90	78	66	59	54	44	[b]
Price per Share - Common	$55	$50	$44	$50	$50	$41	[c]
Market Value of LP Equity	$4,927	$3,862	$2,874	$2,977	$2,691	$1,844	[d] = [b] x [c].
Market Value of GP Equity	$567	$444	$331	$343	$310	$212	[e]= See Sources and Notes.
Total Market Value of Equity	$5,494	$4,307	$3,204	$3,320	$3,001	$2,056	[f]= [d] + [e]
Market to Book Value of Common Equity	2.09	2.11	2.35	2.38	2.29	2.07	[g] = [f] / [a].
MARKET VALUE OF PREFERRED EQUITY							
Book Value of Preferred Equity	$0	$0	$0	$0	$0	$0	[h]
Market Value of Preferred Equity	$0	$0	$0	$0	$0	$0	[i] = [h].
MARKET VALUE OF DEBT							
Current Assets	$835	$1,009	$985	$634	$409	$298	[j]
Current Liabilities	$911	$962	$971	$564	$589	$359	[k]
Current Portion of Long-Term Debt	$31	$31	$31	$31	$31	$31	[l]
Net Working Capital	($45)	$79	$45	$101	($149)	($30)	[m] = [j] - ([k] - [l]).
Notes Payable (Short-Term Debt)	$0	$0	$0	$0	$0	$0	[n]
Adjusted Short-Term Debt	$0	$0	$0	$0	$0	$0	[o] = See Sources and Notes.
Long-Term Debt	$2,016	$2,066	$1,835	$1,702	$1,289	$1,456	[p]
Book Value of Long-Term Debt	$2,047	$2,097	$1,866	$1,733	$1,320	$1,487	[q] = [l] + [o] + [p].
Adjustment to Book Value of Long-Term Debt	$21	$22	$20	$19	$14	$16	[r] = See Sources and Notes.
Market Value of Long-Term Debt	$2,068	$2,119	$1,886	$1,751	$1,334	$1,503	[s] = [q] + [r].
Market Value of Debt	$2,068	$2,119	$1,886	$1,751	$1,334	$1,503	[t] = [s].
MARKET VALUE OF FIRM	$7,562	$6,426	$5,090	$5,072	$4,335	$3,559	[u] = [f] + [i] + [t].
DEBT AND EQUITY TO MARKET VALUE RATIOS							
Common Equity - Market Value Ratio	72.65%	67.02%	62.96%	65.47%	69.22%	57.78%	[v] = [f] / [u].
Preferred Equity - Market Value Ratio	-	-	-	-	-	-	[w] = [i] / [u].
Debt - Market Value Ratio	27.35%	32.98%	37.04%	34.53%	30.78%	42.22%	[x] = [t] / [u].

Sources and Notes:
Bloomberg as of August 28, 2007.
Capital structure from 2nd Quarter, 2007 calculated using respective balance sheet information and 15-day average prices ending at period end.
The DCF Capital structure is calculated using 2nd Quarter, 2007 balance sheet information and a 15-trading day average closing price ending on August 28, 2007.
[e] = ((1/ % of LP) x [d]) - [d]. See Workpaper #2 to Table No. MJV-24 for more details.
[o] =
(1): 0 if [m] > 0.
(2): The absolute value of [m] if [m] < 0 and |[m]| < [n].
(3): [n] if [m] < 0 and |[m]| > [n].
[r]: See Workpaper #1 to Table No. MJV-24.

Table No. MJV-24

Market Value of the MLP Pipelines

Panel F: Enterprise Products Partners LP

($MM)

	2nd Quarter, 2007	Year End, 2006	Year End, 2005	Year End, 2004	Year End, 2003	Year End, 2002	Notes
MARKET VALUE OF COMMON EQUITY							
Book Value, Common Shareholder's Equity	$6,345	$6,480	$5,679	$5,329	$1,706	$1,201	[a]
Shares Outstanding (in millions) - Common	432	432	390	365	218	184	[b]
Price per Share - Common	$31	$29	$24	$25	$24	$19	[c]
Market Value of LP Equity	$13,477	$12,601	$9,432	$9,117	$5,201	$3,456	[d] = [b] x [c].
Market Value of GP Equity	$1,999	$1,869	$1,399	$1,352	$772	$513	[e]= See Sources and Notes.
Total Market Value of Equity	$15,477	$14,470	$10,831	$10,470	$5,973	$3,968	[f]= [d] + [e]
Market to Book Value of Common Equity	2.44	2.23	1.91	1.96	3.50	3.30	[g] = [f] / [a].
MARKET VALUE OF PREFERRED EQUITY							
Book Value of Preferred Equity	$0	$0	$0	$0	$0	$0	[h]
Market Value of Preferred Equity	$0	$0	$0	$0	$0	$0	[i] = [h].
MARKET VALUE OF DEBT							
Current Assets	$2,179	$1,922	$1,971	$1,441	$687	$638	[j]
Current Liabilities	$2,205	$1,985	$1,890	$1,586	$1,097	$721	[k]
Current Portion of Long-Term Debt	$0	$0	$0	$15	$240	$15	[l]
Net Working Capital	($26)	($63)	$81	($130)	($170)	($69)	[m] = [j] - ([k] - [l]).
Notes Payable (Short-Term Debt)	$0	$0	$0	$0	$0	$0	[n]
Adjusted Short-Term Debt	$0	$0	$0	$0	$0	$0	[o] = See Sources and Notes.
Long-Term Debt	$6,260	$5,296	$4,834	$4,266	$1,900	$2,231	[p]
Book Value of Long-Term Debt	$6,260	$5,296	$4,834	$4,281	$2,140	$2,246	[q] = [l] + [o] + [p].
Adjustment to Book Value of Long-Term Debt	$65	$55	$51	$47	$23	$24	[r] = See Sources and Notes.
Market Value of Long-Term Debt	$6,325	$5,351	$4,885	$4,328	$2,163	$2,271	[s] = [q] + [r].
Market Value of Debt	$6,325	$5,351	$4,885	$4,328	$2,163	$2,271	[t] = [s].
MARKET VALUE OF FIRM	$21,801	$19,821	$15,716	$14,798	$8,136	$6,239	[u] = [f] + [i] + [t].
DEBT AND EQUITY TO MARKET VALUE RATIOS							
Common Equity - Market Value Ratio	70.99%	73.01%	68.92%	70.75%	73.41%	63.60%	[v] = [f] / [u].
Preferred Equity - Market Value Ratio	-	-	-	-	-	-	[w] = [i] / [u].
Debt - Market Value Ratio	29.01%	26.99%	31.08%	29.25%	26.59%	36.40%	[x] = [t] / [u].

Sources and Notes:
Bloomberg as of August 28, 2007.
Capital structure from 2nd Quarter, 2007 calculated using respective balance sheet information and 15-day average prices ending at period end.
The DCF Capital structure is calculated using 2nd Quarter, 2007 balance sheet information and a 15-trading day average closing price ending on August 28, 2007.
[e] = ((1/ % of LP) x [d]) - [d]. See Workpaper #2 to Table No. MJV-24 for more details.
[o] =
(1): 0 if [m] > 0.
(2): The absolute value of [m] if [m] < 0 and |[m]| < [n].
(3): [n] if [m] < 0 and |[m]| > [n].
[r]: See Workpaper #1 to Table No. MJV-24.

Workpaper #1 to Table No. MJV-24

MLP Pipelines

Calculation of the Market Value of Debt Adjustment

Company	DCF Capital Structure [1]	2nd Quarter, 2007 [2]	2006 [3]	2005 [4]	2004 [5]	2003 [6]	2002 [7]
Atmos Energy Corp	0.95	0.95	0.94	0.95	1.09	1.16	1.13
Laclede Group Inc/The	1.05	1.05	1.05	1.08	1.09	1.08	1.08
Northwest Natural Gas Co	1.09	1.09	1.09	1.09	1.13	1.12	1.11
Piedmont Natural Gas Co	1.11	1.11	1.11	1.14	1.17	1.05	1.16
South Jersey Industries Inc	1.06	1.06	1.05	1.04	1.05	1.08	1.11
Southwest Gas Corp	1.06	1.06	1.06	1.10	1.12	1.10	1.05
WGL Holdings Inc	1.03	1.03	1.03	1.07	1.09	1.13	1.08
AGL Resources Inc	1.05	1.05	1.05	1.10	1.12	1.11	1.07
Vectren Corp	1.01	1.01	1.01	1.04	1.06	1.07	1.06
New Jersey Resources Corp	1.01	1.01	1.01	1.01	1.02	1.03	1.02
Average	1.04	1.04	1.04	1.06	1.09	1.09	1.09

Sources and Notes:
[1] - [7]: [r] / [o] in Table No. MJV-14; Panels A - J.

Workpaper #2 to Table No. MJV-24

MLP Pipelines

Custom Market Value Equity Adjustment

Company	General Partner	Limited Partner	Total
Boardwalk Pipeline Partners LP	0.03	0.97	100%
Kinder Morgan Energy Partners LP	0.43	0.57	100%
TC Pipelines LP	0.09	0.91	100%
ONEOK Partners LP	0.14	0.86	100%
Enbridge Energy Partners LP	0.10	0.90	100%
Enterprise Products Partners LP	0.13	0.87	100%

Sources and Notes: 2006 Annual Reports.

Workpaper #3 to Table No. MJV-24

MLP Sample

Panel A: Oneok Partners Long Term Debt Adjustment

Year		2002	2003	2004	2005	2006
Subsidiary:						
Sub 1:	Northern Border Pipeline					
	[1] Percentage of Ownership	70%	70%	70%	70%	50%
	[2] Long Term Debt	783.9	821.5	603.9	628.9	449.8
	Oneok Partners					
	[3] Long Term Debt	1,336.0	1,408.2	1,325.2	1,352.8	2,019.6
	[4] Total LT Debt					2,244.5

Notes and Sources:

[1] - [3]: Data for both Oneok Partners and Northern Border Pipeline collected from Oneok annual reports 2002-2006.

[4]: ([1] x [2]) + [3]

Workpaper #3 to Table No. MJV-24

MLP Sample

Panel B: TC Pipelines, LP Long Term Debt Adjustment

		2002	2003	2004	2005	2006	Q1, 2007
Subsidiary:							
Sub 1:	Northern Border Pipeline						
	[1] Percentage of Ownership	30%	30%	30%	30%	50%	50%
	[2] Long Term Debt	783.9	821.5	603.9	628.9	449.8	449.8
Sub 2:	Tuscarora						
	[3] Percentage of Ownership	49%	49%	49%	49%	49%	99%
	[4] Long Term Debt	85.3	80.8	75.9	71.1	71.1	
Sub 3:	Great Lakes Gas Transmission						
	[5] Percentage of Ownership	0%	0%	0%	0%	0%	46%
	[6] Long Term Debt						212
	TC Pipelines, LP						
	[7] Long Term Debt	11.5	0.0	30.0	0.0	463.4	463.4
	[8] Total LT Debt	288.5	286.0	248.3	223.5	723.2	900.3

Notes and Sources:

[1] - [7]: Data for TC Pipelines, Northern Border Pipeline, and Tuscarora collected from TC Pipelines annual reports 2002-2006.

[8]: ([1] x [2]) + ([3] x [4]) + ([5] x [6]) + [7]

Table No. MJV-25

MLP Pipelines

Capital Structure Summary

Company		5-Year Average Capital Structure		
		Common Equity - Value Ratio [1]	Preferred Equity - Value Ratio [2]	Debt - Value Ratio [3]
Boardwalk Pipeline Partners LP	**	0.65	-	0.35
Kinder Morgan Energy Partners LP		0.76	-	0.24
TC Pipelines LP	**	0.66	-	0.34
ONEOK Partners LP	**	0.64	-	0.36
Enbridge Energy Partners LP		0.65	-	0.35
Enterprise Products Partners LP		0.70	-	0.30
All Pipelines		0.68	0.00	0.32
Natural Gas Pipelines**		0.65	0.00	0.35

Sources and Notes:
[1]: Workpaper #1 to Table No. MJV-25.
[2]: Workpaper #2 to Table No. MJV-25.
[3]: Workpaper #3 to Table No. MJV-25.
Values in this table may not add up exactly to 1.0 because of rounding.

Workpaper #1 to Table No. MJV-25

MLP Pipelines

Calculation of the Average Common Equity - Market Value Ratio

Company	2nd Quarter, 2007 [1]	2006 [2]	2005 [3]	2004 [4]	2003 [5]	2002 [6]	5-Year Average [7]
Boardwalk Pipeline Partners LP	0.75	0.71	0.53				0.65
Kinder Morgan Energy Partners LP	0.70	0.77	0.78	0.77	0.77	0.74	0.76
TC Pipelines LP	0.62	0.47	0.72	0.74	0.68	0.63	0.66
ONEOK Partners LP	0.76	0.73	0.62	0.66	0.59	0.57	0.64
Enbridge Energy Partners LP	0.73	0.67	0.63	0.65	0.69	0.58	0.65
Enterprise Products Partners LP	0.71	0.73	0.69	0.71	0.73	0.64	0.70

Sources and Notes:
[1] - [[6]]: Table No. MJV-24; Panels A - J, [v].
[7]: {([1] x (5/12)) + ([2] x (9/12)) + [3] + [4] + [5]+ ([6] x (10/12))} / 5.
Boardwalk Pipeline Partners only has two years of data. It's weighted average is calculated as: {([1] x (5/12)) + ([2] x (9/12)) + ([3] x (10/12))} / 2.

Workpaper #2 to Table No. MJV-25

MLP Pipelines

Calculation of the Average Preferred Equity - Market Value Ratio

Company	2nd Quarter, 2007 [1]	2006 [2]	2005 [3]	2004 [4]	2003 [5]	2002 [6]	5-Year Average [7]
Boardwalk Pipeline Partners LP	-	-	-				-
Kinder Morgan Energy Partners LP	-	-	-	-	-	-	-
TC Pipelines LP	-	-	-	-	-	-	-
ONEOK Partners LP	-	-	-	-	-	-	-
Enbridge Energy Partners LP	-	-	-	-	-	-	-
Enterprise Products Partners LP	-	-	-	-	-	-	-

Sources and Notes:
[1] - [6]: Table No. MJV-24; Panels A - J, [w].
[7]: {([1] x (5/12)) + ([2] x (9/12)) + [3] + [4] + [5]+ ([6] x (10/12))} / 5.
Boardwalk Pipeline Partners only has two years of data. It's weighted average is calculated as: {([1] x (5/12)) + ([2] x (9/12)) + ([3] x (10/12))} / 2.

Workpaper #3 to Table No. MJV-25

MLP Pipelines

Calculation of the Average Debt - Market Value Ratio

Company	2nd Quarter, 2007 [1]	2006 [2]	2005 [3]	2004 [4]	2003 [5]	2002 [6]	5-Year Average [7]
Boardwalk Pipeline Partners LP	0.25	0.29	0.47				0.35
Kinder Morgan Energy Partners LP	0.30	0.23	0.22	0.23	0.23	0.26	0.24
TC Pipelines LP	0.38	0.53	0.28	0.26	0.32	0.37	0.34
ONEOK Partners LP	0.24	0.27	0.38	0.34	0.41	0.43	0.36
Enbridge Energy Partners LP	0.27	0.33	0.37	0.35	0.31	0.42	0.35
Enterprise Products Partners LP	0.29	0.27	0.31	0.29	0.27	0.36	0.30

Sources and Notes:

[1] - [6]: Table No. MJV-24; Panels A - J, [x].

[7]: {([1] x (5/12)) + ([2] x (9/12)) + [3] + [4] + [5]+ ([6] x (10/12))} / 5.

Boardwalk Pipeline Partners only has two years of data. It's weighted average is calculated as: {([1] x (5/12)) + ([2] x (9/12)) + ([3] x (10/12))} / 2.

Table No. MJV-26

Risk Positioning Cost of Equity of the MLP Pipelines

Using Value Line Unadjusted Betas

Company	Canadian Long-Term Risk-Free Rate [1]	Value Line Unadjusted Betas [2]	Long-Term Market Risk Premium [3]	CAPM Cost of Equity [4]	ECAPM (1.0%) Cost of Equity [5]	ECAPM (2.0%) Cost of Equity [6]
Boardwalk Pipeline Partners LP	5.0%	0.62	5.75%	8.6%	8.9%	9.3%
Kinder Morgan Energy Partners LP	5.0%	0.45	5.75%	7.6%	8.1%	8.7%
TC Pipelines LP	5.0%	0.30	5.75%	6.7%	7.4%	8.1%
ONEOK Partners LP	5.0%	0.37	5.75%	7.1%	7.8%	8.4%
Enbridge Energy Partners LP	5.0%	0.37	5.75%	7.1%	7.8%	8.4%
Enterprise Products Partners LP	5.0%	0.37	5.75%	7.1%	7.8%	8.4%

Sources and Notes:
[1]: Table No. MJV-9, Computation of Risk-Free Rates, Row [3].
[2]: Workpaper # 1 to Table No. MJV-26, column [1].
[3]: Vilbert Written Evidence, Appendix B.
[4]: [1] + ([2] x [3]).
[5]: ([1] + 1.0%) + [2] x ([3] - 1.0%).
[6]: ([1] + 2.0%) + [2] x ([3] - 2.0%).

Workpaper # 1 to Table No. MJV-26

MLP Pipelines

Beta Summary

Company		Value Line Unadjusted Betas [1]
Boardwalk Pipeline Partners LP	**	0.62
Kinder Morgan Energy Partners LP		0.45
TC Pipelines LP	**	0.30
ONEOK Partners LP	**	0.37
Enbridge Energy Partners LP		0.37
Enterprise Products Partners LP		0.37
All Pipelines		0.41
Natural Gas Pipelines**		0.43

Sources and Notes:
[1]: Most recent Value Line Plus Edition dated as of August 3, 2007, August 17, 2007, and September 14, 2007.
[2]: Bloomberg as of August 24, 2007.

Value Line sheets are not available for both Boardwalk Pipeline Partners and Sunoco Logistics Partners. Bloomberg 260-week raw betas regressed against the NYSE are used instead. Boardwalk Pipeline Partners only has 93-weeks available.

Table No. MJV-27

Overall Cost of Capital of the MLP Pipelines

Panel A: CAPM Cost of Equity Using Value Line Unadjusted Betas

Company		CAPM Cost of Equity [1]	5-Year Average Common Equity to Market Value Ratio [2]	Weighted-Average Cost of Debt [3]	5-Year Average Debt to Market Value Ratio [4]	TQM's Income Tax Rate [5]	Overall After-Tax Cost of Capital [6]
Boardwalk Pipeline Partners LP	**	8.6%	0.65	5.9%	0.35	31.9%	6.9%
Kinder Morgan Energy Partners LP		7.6%	0.76	5.9%	0.24	31.9%	6.7%
TC Pipelines LP	**	6.7%	0.66	5.5%	0.34	31.9%	5.7%
ONEOK Partners LP	**	7.1%	0.64	5.9%	0.36	31.9%	6.0%
Enbridge Energy Partners LP		7.1%	0.65	5.9%	0.35	31.9%	6.1%
Enterprise Products Partners LP		7.1%	0.70	5.9%	0.30	31.9%	6.2%
All Pipelines		7.4%	0.68	5.8%	0.32	31.9%	6.3%
Natural Gas Pipelines**		7.5%	0.65	5.8%	0.35	31.9%	6.2%

Sources and Notes:
[1]: Table No. MJV-26, Panel A, [4].
[2]: Table No. MJV-25, [1].
[3]: Workpaper #2 to Table No. MJV-27 ; Panel A.
[4]: Table No. MJV-25, [3].
[5]: Provided by TQM.
[6]: ([1] x [2]) + ([3] x [4]) x (1 - [5])}.

Table No. MJV-27

Overall Cost of Capital of the MLP Pipelines

Panel B: ECAPM (1.0%) Cost of Equity Using Value Line Unadjusted Betas

Company		ECAPM (1.0%) Cost of Equity [1]	5-Year Average Common Equity to Market Value Ratio [2]	Weighted-Average Cost of Debt [3]	5-Year Average Debt to Market Value Ratio [4]	TQM's Income Tax Rate [5]	Overall After-Tax Cost of Capital [6]
Boardwalk Pipeline Partners LP	**	8.9%	0.65	5.9%	0.35	31.9%	7.2%
Kinder Morgan Energy Partners LP		8.1%	0.76	5.9%	0.24	31.9%	7.1%
TC Pipelines LP	**	7.4%	0.66	5.5%	0.34	31.9%	6.2%
ONEOK Partners LP	**	7.8%	0.64	5.9%	0.36	31.9%	6.4%
Enbridge Energy Partners LP		7.8%	0.65	5.9%	0.35	31.9%	6.5%
Enterprise Products Partners LP		7.8%	0.70	5.9%	0.30	31.9%	6.6%
All Pipelines		8.0%	0.68	5.8%	0.32	31.9%	6.7%
Natural Gas Pipelines**		8.0%	0.65	5.8%	0.35	31.9%	6.6%

Sources and Notes:
[1]: Table No. MJV-26, Panel A, [5].
[2]: Table No. MJV-25, [1].
[3]: Workpaper #2 to Table No. MJV-27 ; Panel A.
[4]: Table No. MJV-25, [3].
[5]: Provided by TQM.
[6]: ([1] x [2]) + ([3] x [4]) x (1 - [5])}.

Table No. MJV-27

Overall Cost of Capital of the MLP Pipelines

Panel C: ECAPM (2.0%) Cost of Equity Using Value Line Unadjusted Betas

Company		ECAPM (2.0%) Cost of Equity [1]	5-Year Average Common Equity to Market Value Ratio [2]	Weighted-Average Cost of Debt [3]	5-Year Average Debt to Market Value Ratio [4]	TQM's Income Tax Rate [5]	Overall After-Tax Cost of Capital [6]
Boardwalk Pipeline Partners LP	**	9.3%	0.65	5.9%	0.35	31.9%	7.4%
Kinder Morgan Energy Partners LP		8.7%	0.76	5.9%	0.24	31.9%	7.6%
TC Pipelines LP	**	8.1%	0.66	5.5%	0.34	31.9%	6.6%
ONEOK Partners LP	**	8.4%	0.64	5.9%	0.36	31.9%	6.8%
Enbridge Energy Partners LP		8.4%	0.65	5.9%	0.35	31.9%	6.9%
Enterprise Products Partners LP		8.4%	0.70	5.9%	0.30	31.9%	7.1%
All Pipelines		8.6%	0.68	5.8%	0.32	31.9%	7.1%
Natural Gas Pipelines**		8.6%	0.65	5.8%	0.35	31.9%	7.0%

Sources and Notes:
[1]: Table No. MJV-26, Panel A, [6].
[2]: Table No. MJV-25, [1].
[3]: Workpaper #2 to Table No. MJV-27 ; Panel A.
[4]: Table No. MJV-25, [3].
[5]: Provided by TQM.
[6]: ([1] x [2]) + ([3] x [4]) x (1 - [5])}.

Workpaper #1 to Table No. MJV-27

MLP Pipelines

Panel A: Rating to Yield Conversion

Rating	Canadian Bond Yield	Canadian Preferred Yield
AA	5.38%	5.38%
A	5.55%	5.55%
BBB	5.88%	5.88%

Sources and Notes:
Bond Yields from Bloomberg as of August 28, 2007.
Preferred Yields are assumed equal to debt yields.
AA estimated as A - 0.5 * (BBB - A).

Workpaper #1 to Table No. MJV-27

MLP Pipelines

Panel B: Bond Rating Summary

Company	2nd Quarter, 2007 [1]	2006 [2]	2005 [3]	2004 [4]	2003 [5]	2002 [6]
Boardwalk Pipeline Partners LP	BBB	BBB	BBB			
Kinder Morgan Energy Partners LP	BBB	BBB	BBB	BBB	BBB	BBB
TC Pipelines LP	A	A	A	A	A	A
ONEOK Partners LP	BBB	BBB	BBB	BBB	BBB	BBB
Enbridge Energy Partners LP	BBB	BBB	BBB	BBB	BBB	BBB
Enterprise Products Partners LP	BBB	BBB	BBB	BBB	BBB	BBB

Sources and Notes:
[1] - [6]: Bloomberg as of August 28, 2007.

Workpaper #2 to Table No. MJV-27

MLP Pipelines

Panel A: 15 Day Average Canadian Utility Yields

Date	A Rated Utility [1]	BBB Rated Utility [2]	A Preferred [3]	BBB Preferred [4]
8/8/2007	5.54	5.90	-	-
8/9/2007	5.54	5.88	-	-
8/10/2007	5.55	5.89	-	-
8/13/2007	5.54	5.88	-	-
8/14/2007	5.51	5.86	-	-
8/15/2007	5.56	5.90	-	-
8/16/2007	5.56	5.91	-	-
8/17/2007	5.58	5.93	-	-
8/20/2007	5.57	5.89	-	-
8/21/2007	5.57	5.88	-	-
8/22/2007	5.60	5.91	-	-
8/23/2007	5.58	5.91	-	-
8/24/2007	5.54	5.87	-	-
8/27/2007	5.51	5.83	-	-
8/28/2007	5.48	5.81	-	-
Average	5.55	5.88	5.55	5.88

Sources and Notes:

[1] - [2]: Bloomberg as of August 28, 2007.

[3] - [4]: Preferred bond yields are assumed equal to debt yields.

Workpaper #2 to Table No. MJV-27

MLP Pipelines

Panel B: Bond Yield Summary

Company	2nd Quarter, 2007 [1]	2006 [2]	2005 [3]	2004 [4]	2003 [5]	2002 [6]	5-Year Weighted Average [7]
Boardwalk Pipeline Partners LP	5.88%	5.88%	5.88%	-	-	-	5.88%
Kinder Morgan Energy Partners LP	5.88%	5.88%	5.88%	5.88%	5.88%	5.88%	5.88%
TC Pipelines LP	5.55%	5.55%	5.55%	5.55%	5.55%	5.55%	5.55%
ONEOK Partners LP	5.88%	5.88%	5.88%	5.88%	5.88%	5.88%	5.88%
Enbridge Energy Partners LP	5.88%	5.88%	5.88%	5.88%	5.88%	5.88%	5.88%
Enterprise Products Partners LP	5.88%	5.88%	5.88%	5.88%	5.88%	5.88%	5.88%

Sources and Notes:

[1] - [6]: Ratings based on Workpaper #1 to Table No. MJV-27, Panel A and bond yields from Bloomberg as of August 28, 2007.

[7]: {([1] x (5/12)) + ([2] x (9/12)) + [3] + [4] + [5]+ ([6] x (10/12))} / 5.

Boardwalk Pipeline Partners only has two years of data. It's weighted average is calculated as: {([1] x (5/12)) + ([2] x (9/12)) + ([3] x (10/12))} / 2.

Table No. MJV-28

Risk Positioning Cost of Equity at TQM's Capital Structure

MLP Pipelines

Panel A: All Pipelines Using Value Line Unadjusted Betas

	Overall Cost of Capital [1]	TQM's Deemed Debt % [2]	TQM's Cost of Debt [3]	TQM's Income Tax Rate [4]	TQM's Deemed Equity % [5]	Estimated Return on Equity [6]
Using Long-Term Risk-Free Rates:						
CAPM using Value Line Unadjusted Betas	6.3%	0.60	5.5%	31.9%	0.40	10.0%
ECAPM (1.0%) using Value Line Unadjusted Betas	6.7%	0.60	5.5%	31.9%	0.40	11.0%
ECAPM (2.0%) using Value Line Unadjusted Betas	7.1%	0.60	5.5%	31.9%	0.40	12.0%

Sources and Notes:
[1]: Table No. MJV-27; Panels A - F, [6].
[2]: Provided by TransCanada Corp.
[3]: Based on an A rating, as provided by TransCanada Corp. Yield from Bloomberg as of August 28, 2007.
[4]: Provided by TransCanada Corp.
[5]: Provided by TransCanada Corp.
[6]: {[1] - ([2] x [3] x (1 - [4])} / [5].

Table No. MJV-28

Risk Positioning Cost of Equity at TQM's Capital Structure

MLP Pipelines

Panel B: Natural Gas Pipelines Using Value Line Unadjusted Betas

	Overall Cost of Capital [1]	TQM's Deemed Debt % [2]	TQM's Cost of Debt [3]	TQM's Income Tax Rate [4]	TQM's Deemed Equity % [5]	Estimated Return on Equity [6]
Using Long-Term Risk-Free Rates:						
CAPM using Value Line Unadjusted Betas	6.2%	0.60	5.5%	31.9%	0.40	9.9%
ECAPM (1.0%) using Value Line Unadjusted Betas	6.6%	0.60	5.5%	31.9%	0.40	10.8%
ECAPM (2.0%) using Value Line Unadjusted Betas	7.0%	0.60	5.5%	31.9%	0.40	11.7%

Sources and Notes:

[1]: Table No. MJV-27; Panels A - F, [6].

[2]: Provided by TransCanada Corp.

[3]: Based on an A rating, as provided by TransCanada Corp. Yield from Bloomberg as of August 28, 2007.

[4]: Provided by TransCanada Corp.

[5]: Provided by TransCanada Corp.

[6]: {[1] - ([2] x [3] x (1 - [4])} / [5].

Table No. MJV-28

Risk Positioning Cost of Equity at TQM's Capital Structure

MLP Pipelines

Panel C: Calculating TransCanada's Equity Thickness Assuming NEB Approved ROE of 8.46% for 2007

(All Pipelines Using Value Line Unadjusted Betas)

	Overall Cost of Capital [1]	TQM's Deemed Debt % [2]	TQM's Cost of Debt [3]	TQM's Income Tax Rate [4]	Estimated Return on Equity [5]	TQM's Deemed Equity % [6]
Using Long-Term Risk-Free Rates:						
CAPM using Value Line Unadjusted Betas	6.3%	0.47	5.5%	31.9%	8.46%	**0.53**
ECAPM (1.0%) using Value Line Unadjusted Betas	6.7%	0.38	5.5%	31.9%	8.46%	**0.62**
ECAPM (2.0%) using Value Line Unadjusted Betas	7.1%	0.30	5.5%	31.9%	8.46%	**0.70**

Sources and Notes:

[1]: Table No. MJV-27; Panels A - F, [6].

[2]: 1 - [6].

[3]: Based on an A rating, as provided by TransCanada Corp. Yield from Bloomberg as of August 28, 2007.

[4]: Provided by TransCanada Corp.

[5]: NEB Approved ROE.

[6]: ([1] - (1 - [4]) x [3]) / ([5] - (1 - [4]) x [3]).

Table No. MJV-28

Risk Positioning Cost of Equity at TQM's Capital Structure

MLP Pipelines

Panel D: Calculating TransCanada's Equity Thickness Assuming NEB Approved ROE of 8.46% for 2007

(Natural Gas Pipelines Using Value Line Unadjusted Betas)

	Overall Cost of Capital [1]	TQM's Deemed Debt % [2]	TQM's Cost of Debt [3]	TQM's Income Tax Rate [4]	Estimated Return on Equity [5]	TQM's Deemed Equity % [6]
Using Long-Term Risk-Free Rates:						
CAPM using Value Line Unadjusted Betas	6.2%	0.48	5.5%	31.9%	8.46%	**0.52**
ECAPM (1.0%) using Value Line Unadjusted Betas	6.6%	0.40	5.5%	31.9%	8.46%	**0.60**
ECAPM (2.0%) using Value Line Unadjusted Betas	7.0%	0.32	5.5%	31.9%	8.46%	**0.68**

Sources and Notes:

[1]: Table No. MJV-27; Panels A - F, [6].

[2]: 1 - [6].

[3]: Based on an A rating, as provided by TransCanada Corp. Yield from Bloomberg as of August 28, 2007.

[4]: Provided by TransCanada Corp.

[5]: NEB Approved ROE.

[6]: ([1] - (1 - [4]) x [3]) / ([5] - (1 - [4]) x [3]).

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

Composition of Proxy Companies	)	
For Determining Gas and Oil	)	Docket No. PL07-2-000
Pipeline Return on Equity	)	

ADDITIONAL INITIAL COMMENTS OF THE INTERSTATE NATURAL GAS ASSOCIATION OF AMERICA ON PROPOSED POLICY STATEMENT

In response to the Commission's "Notice of Technical Conference and Request for Additional Comments,"[1] issued on November 15, 2007, the Interstate Natural Gas Association of America ("INGAA") hereby submits the following additional comments.

BACKGROUND

In its July 19, 2007 Proposed Policy Statement, the Commission proposed to permit inclusion of Master Limited Partnerships ("MLPs") in the proxy group used to determine pipeline rates of return under a discounted cash flow ("DCF") analysis. However, the Commission also proposed to cap the distribution used in the DCF analysis of any MLP at the level of the pipeline's earnings. The cap was proposed to address a concern that allowing distributions in excess of earnings to be used in the DCF calculation would allow a pipeline to double recover depreciation expense by basing its return on equity, in part, on distributions that include a return of capital to unit holders. Proposed Policy Statement at PP 18-19.

In its comments, INGAA demonstrated that the Commission's concerns about a distribution including a return of capital or a depreciation component are misplaced, and that an earnings cap on MLP distributions would be inconsistent with the market-based

[1] *Composition of Proxy Groups for Determining Gas and Oil Pipeline Return on Equity,* 121 FERC ¶ 61,165 (2007).

theory underlying the DCF methodology. In particular, INGAA noted that the Commission itself recognized the inverse relationship between MLP distributions and short-term IBES growth rates, and that the market adjusts to take into account all variables in the DCF formula. *See* Proposed Policy Statement at P 21.

In the November 15 Notice (at P 5), the Commission stated that the existing record is not sufficient for it to determine (1) whether its current method of projecting growth adequately reflects the lower growth potential of MLPs, particularly over the long term, and (2) if not, what alternative method should be used to project the growth of MLPs.

COMMENTS

In its initial comments, INGAA noted that while MLPs generally pay out more in distributions than corporations, the IBES short-term growth rates of MLPs were correspondingly lower than corporations. In its latest Request for Additional Comments, the Commission has questioned whether this same inverse relationship exists with respect to long-term growth rates. Specifically, the Commission seeks comments on whether projections of long-term growth rates for MLPs in the DCF formula should be lower than Gross Domestic Product ("GDP"), which the Commission currently utilizes as the measure of long-term growth.

As a threshold matter, INGAA would note the absence of any empirical evidence that would suggest that MLPs are not able to achieve the same growth over the long term as corporations. INGAA would also note that GDP is itself an imprecise estimate of long-term growth. *See Northwest Pipeline Co.,* Opinion No. 396-B, 79 FERC ¶ 61,309 at 62,382 (1997); *Transcontinental Gas Pipe Line Corp.,* Opinion No. 414-A, 84 FERC ¶

61,084 at 61,423 (1998). The rationale for using GDP as the measure of long-term growth is an expectation that a regulated firm will ultimately grow at the rate of the average firm in the economy. *Northwest Pipeline Co.*, Opinion No. 396-C, 81 FERC ¶ 61,036 at 61,192 (1997).

Therefore, INGAA submits that it is reasonable to conclude that in the long-term MLPs will grow at the same rate as corporations, and that the use of GDP as the measure of long-term growth for both MLPs and corporations is appropriate. To the extent that a limited partner's ("LP") units could be expected, as a theoretical matter, to grow at a lower rate than corporate common shares (see discussion below), it would not necessarily follow that the long-term growth rate for LP units in the DCF model should be lower than GDP. Rather, it could just as easily be concluded that the use of GDP in the DCF model understates the long-term growth rates for corporate shares, and the correct way to adjust for the difference in growth rates between LP units and corporate shares, is to utilize GDP for LP units and increase the growth rate for corporate shares. Given the inability to determine whether GDP understates the growth rate of corporate shares, or overstates the growth rates of LP units in the DCF model, INGAA submits that a reasonable approach would be to continue to utilize GDP in the DCF model as the measure of long-term growth for both types of investor.

In the alternative, INGAA would propose a slight modification to the Commission's current DCF methodology which produces reasonable results in the current economic environment. As explained below, the proposal represents a pragmatic approach that assumes for the sake of argument that GDP is the correct measure of the long-term growth rate for corporate shares, and proposes a slight reduction in the measure

of LP units' long-term growth. As discussed in more detail below, this proposal is based on a purely theoretical analysis. As empirical evidence accumulates over time, the proposal may need to be revisited.

Attached is an analysis prepared by Michael J. Vilbert of the Brattle Group. Mr. Vilbert has a Ph.D. in Financial Economics from the Wharton School of the University of Pennsylvania and is an expert in, among other things, estimating cost of capital. Mr. Vilbert recognizes that predicting long-term growth for use in the DCF model is a matter of estimation and judgment, not precision. In addition, he notes that the choice of model involves a tradeoff between accuracy and simplicity. Because the Commission's current model examines an MLP's distribution yield and projected growth from the perspective of the limited partner, as opposed to the MLP as a whole, Mr. Vilbert proposes one modification to the existing methodology to address the Commission's concern about the long-term growth prospects of MLPs as compared to corporations. Specifically, Mr. Vilbert proposes a long-term growth rate for LPs equal to the average of GDP and the Federal Reserve Bank's target long-term Consumer Price Index rate of inflation. By proposing a long-term growth rate for LPs lower than GDP, Mr. Vilbert's proposal directly addresses the Commission's concern that limited partners' long-term growth rates can be expected to be lower than corporations.

To test the reasonableness of the results of his proposal, Mr. Vilbert also sets forth a Benchmark Model that attempts to reflect more accurately financial theory. This model focuses on the MLP as a whole, and therefore includes the impact of the general partner's Incentive Distribution Rights ("IDRs") in the DCF formula. In addition to incorporating the general partner's share of the MLP's equity, this model assumes a gradual step-down

from short-term growth rates to long-term growth rates, as opposed to the Commission's simpler methodology. Finally, because the long-term growth rates of MLPs, when viewed from the perspective of the MLP as a whole, can be expected to be similar to that of corporations, the Benchmark Model uses GDP as the measure of long-term growth for both types of entities.

As Mr. Vilbert explains, there should be no difference in the overall cost of capital based on organizational structure, assuming that both entities face a similar degree of risk. Thus, when viewed at the entity level, growth rates of MLPs and corporations can be expected to be similar. As a result, the Benchmark Model applies GDP as the measure of the long-term growth rate for both types of entities. In contrast, Mr. Vilbert believes that LP units may not be expected to grow as fast as the MLP itself primarily because MLPs pay out some of their cash flow to general partners. If MLPs and corporations are *assumed* to grow commensurate with GDP, and LP units can be expected to grow at a lower rate than the MLP as a whole, it would follow as a theoretical matter that the growth rate for LP units may be slightly less than GDP. For this reason, Mr. Vilbert has proposed the simple solution of reducing the LP's long-term growth rates to a level that results in a return on equity ("ROE") that is reasonably close to the results of his Benchmark Model.

As shown in Mr. Vilbert's analysis, the proposed simple modification to the Commission's existing model of reducing the long-term growth rate for MLPs to the average of GDP and the rate of inflation, results in an average ROE of 12.44% for a proxy group of six pipeline MLPs. In contrast, Mr. Vilbert's Benchmark Model results in an average ROE of 12.79% for this same proxy group. While the proposed methodology

results in an ROE that is slightly lower than the results of the theoretically more accurate Benchmark Model, INGAA believes that the results are close enough to substantiate the validity of the simpler proposal, at least at the present time.

INGAA would caution, however, that it is proposing this simple solution in an effort to minimize changes to the Commission's current DCF model, and in light of the fact that the results of Mr. Vilbert's Benchmark Model confirm the reasonableness of this approach at this time. However, factors in this analysis, such as inflation rates, could change in a way that results in a divergence of INGAA's proposed solution from actual growth rates of LP units. As more empirical evidence is developed over time regarding the actual growth rates of MLPs and the LP units,[2] adjustments may be required. In other words, INGAA's proposal is a pragmatic approach that is designed to directly address the Commission's concerns with a minimum level of change to the existing methodology. INGAA believes, however, that, as Mr. Vilbert demonstrates in his analysis, the issue is more complex. Should the results of INGAA's proposed expedient modification ever produce unreasonable results, INGAA reserves the right to seek modifications to this approach either pursuant to an industry-wide initiative, or in individual Section 4 rate proceedings.

Finally, INGAA requests that the Commission hear Mr. Vilbert's testimony on behalf of INGAA at the Commission's technical conference on January 23, 2008.

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[2] Although Mr. Vilbert's Benchmark Model assumes that the growth rates of LP units will have a tendency to be less than those of corporations due to dilution caused by the issuance of new equity to support growth projects, it is very possible that assumption will not be borne out by experience. Whether the issuance of new equity results in dilution is dependent on the nature of the new growth projects being pursued by the MLP *(i.e.*, whether the particular growth transactions are accretive or dilutive by their nature).

Respectfully submitted,

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December 21, 2007

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

REPORT ON THE TERMINAL GROWTH RATE FOR MLPS FOR USE IN THE DCF MODEL

BY
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OF
THE BRATTLE GROUP

ON BEHALF OF
THE INTERSTATE NATURAL GAS ASSOCIATION OF AMERICA

December 21, 2007

I. EXECUTIVE SUMMARY

This report is a response to the FERC's request for comments on the sustainability of the long-term gross domestic product ("GDP") growth forecast as the terminal growth rate of distributions for Master Limited Partnerships ("MLPs") for use in the Discounted Cash Flow model ("DCF model") as specified by the FERC.

MLP distributions to their limited partner units ("LP units") typically exceed comparable distributions by C-corporations. In general, this would seem to make it more difficult for the MLP to grow as rapidly as a C-corporation because the C-corporation retains more earnings for reinvestment. Consistent with that notion, the Commission observes that commenters generally believe that MLPs will have lower growth potential than corporations, because of their high payout of distributable cash flow. Accordingly, the Commission seeks comments on whether its current method of projecting growth adequately reflects the lower growth potential of MLPs, particularly over the long term and, if not, what it should use as an alternative to project MLP distribution growth.

This report addresses these concerns. In evaluating the growth rate for purposes of the DCF model, it is important to remember that the model is attempting to replicate what investors expect the growth rate of dividends or distributions to be. However, in the absence of evidence regarding investors' expectations, experts are asked to fill the void. This report shows that the Commission's premise -- that MLPs have lower growth potential than C-corporations – may be correct only insofar as it focuses on the publicly-traded LP shares, but it is not accurate as applied to the MLP entity as a whole. In fact, MLPs and C-corporations can be expected to grow at the same long-term ("LT") terminal rate, because the high payout ratios do not restrict the growth of the MLP as a whole. This point is discussed in more detail below.

In the event the FERC determines to use a different LT rate for MLPs, this report proposes a very simple modification to the current FERC DCF model for application to the LP units. The current results produced by that simple model are comparable to results produced by a more theoretically complex application of the DCF model to the MLP as a whole (the "Benchmark Model") and can reasonably be relied upon by the Commission in applying its DCF analysis to

the publicly traded LP units of an MLP. It should be emphasized that no change is proposed for application of the FERC DCF model for C-corporations. In addition, it is also worth noting that alternatives to utilizing the DCF methodology remain available, and the Commission should remain open to utilizing these alternatives.

Note: throughout this report the entity as a whole will be referred to as the MLP. The term LP units will be used when referring to the publicly traded LP units.

A. Simple Modification to the FERC DCF Model for MLPs

The alternative to the current DCF model proposed is to change the "terminal growth rate," which is intended to mean the LT equilibrium growth rate (also referred to as the "steady state" or "constant growth rate") employed in the DCF model. In the current FERC DCF model, the terminal growth rate for C-corporations is assumed to be equal to the forecast of the LT nominal growth rate of GDP and given a weight of one-third. The modification is to change the terminal growth rate to the average of the forecast LT GDP growth rate and the Federal Reserve Bank's ("Fed's") presumed target LT Consumer Price Index ("CPI") inflation rate of about two percent. Currently, the proposed terminal value for the MLP sample companies would be about 3.5 percent.

This proposal preserves as much of the current FERC DCF model as possible while providing reasonably comparable estimates of the cost of equity when compared to the results from the Benchmark Model. At this time, the existing FERC DCF model, using GDP as the long-term growth rate, applied to a sample of MLPs results in a sample average estimated cost of equity slightly greater than the results from the Benchmark Model. In contrast, the results from the modification of the FERC DCF model, using the average of GDP and the Fed's target CPI rate, are slightly lower than the results from the Benchmark Model. Currently, the difference in the two estimates is about 50 bps with the results of the Benchmark model roughly in the middle.

B. Outline of Justification for the Proposed Modification

The FERC has most recently focused on the sustainability of the LT earnings growth rate forecasts for the LP units. As discussed in more detail in Section II below, the concern is plausible for the LP units' growth rate but not for the MLP as a whole. If the DCF model is

applied to the LP units, an adjustment to the LT growth rate is arguably appropriate. The justification for selection of the average of forecast LT GDP growth rate and the target inflation rate as the terminal growth rate for use with LP units is provided below, but it should be recognized that the terminal growth rate for use in the model is an assumption, whether for an MLP or a C-corporation.[1]

The second part, and the most important part, of the justification for the proposed modification is that the results from applying the modification to a sample of LP units are comparable to the results from a more complex and more theoretically accurate Benchmark DCF Model applied to the MLPs as a whole. The more complex model serves as a benchmark against which to measure the results of the proposed modification. The Benchmark Model is designed to capture as many aspects of applying the DCF model to a sample of MLPs as possible, which makes it more complicated and more theoretically accurate. Because the results are currently comparable between the two models, the Commission has some assurance that the simplified model is providing reasonable estimates at this time.

CAVEAT: The fact that results of the two models are currently very similar does not mean that they would always be so. If the simplified model were adopted, it would be important to reaffirm periodically that the results remain comparable.

II. MLP GROWTH RATES

A. WHAT GROWTH RATE?

To discuss MLP earnings growth rates for use in a DCF model, it is important to recognize that two different growth rates are potentially relevant, depending on whether one wishes to estimate the cost of the publicly traded LP equity only or one wishes to estimate the entire MLP's cost of equity. In order to obtain an accurate picture of the cost of capital for an enterprise, it is, of course, necessary to consider all sources of capital. When estimating the cost of LP equity alone,

[1] The determination of a terminal growth rate is necessarily uncertain because it is inherently so difficult to predict investors' expectations the farther out one goes in time. There is no completely satisfying LT growth rate assumption for either C-corporations or MLPs. By contrast, although the ST growth rates in the model are also "forecasts," they are the result of careful analysis by security analysts based upon the best available current information spanning a much short period, generally five years. They are therefore the most reliable data available, and moreover, other than the available short term ("ST") growth rates forecasts, it is not clear what other growth rate forecasts investors may rely on, if any.

growth in earnings per LP share is relevant. Earnings growth for the MLP as a whole is needed to estimate the MLP's entire cost of equity.[2] In general, these two measures of growth will differ 1) because an increasing proportion of earnings accrues to the General Partner ("GP") due to its equity ownership interest (about two percent) and the Incentive Distribution Rights ("IDRs"), which appear to be a feature of all MLPs; and 2) because MLPs may be presumed to issue new equity in order to sustain growth in the long run. As a result, terminal growth in earnings per share (used to estimate the cost of LP equity) will probably be lower than the terminal growth of the MLP's earnings as a whole (used for the MLP's entire cost of equity).

Because there is, in general, only one type of common equity in a C-corporation, there is no need to distinguish between the entire entity and the individual common stock when applying the DCF model to a C-corporation.

B. MLP INCENTIVES FOR GROWTH

At present, MLPs in general distribute a relatively high portion of their available cash flow. This policy has raised the question of how rapidly the distributions can grow compared to a C-corporation, particularly in the long term. IDRs provide the GP a very powerful incentive to grow earnings and distributions for the benefit of the MLP because the GP's share of distributions will grow only as the distributions to the LP units increase and move into different tiers. For C-corporations, the management does not have IDRs so the incentive to grow rapidly may not be as strong.

Incentive Distribution Rights

IDRs are set up to encourage the GP to find ways to benefit LP owners by increasing distributions to the LP units. As distributions increase, the GP's share of the total increases as the level of distributions reaches the "tiers" specified in the MLP's charter. As each tier is reached, a higher percentage of the incremental distributions is paid to the GP. At current rates of growth of distributions, it will take anywhere from 15 to 25 years for the typical MLP's distributions to reach the point at which both the GP distributions and the LP distributions are

[2] The DCF model focuses on cash dividends (C-corporations) or cash distributions (MLPs), but cash flow comes primarily from earnings growth. The growth of dividends or distributions can vary from the growth of earnings in the short-term, but in the long-term, the average growth of earnings and dividends/distributions must be the same.

growing at the same rate in the highest distribution tier. The distributions of most MLPs will enter the highest tier sooner than that but the total distributions will not be divided in approximately equal proportions until much later.

The earnings growth rates reported by security analysts are for the LP units. In general, growth rate estimates for the MLP are not reported, but they can be calculated relatively easily by determining how much of the distribution is owed to the GP. The forecast earnings growth for the MLP as a whole can be determined by calculating how fast the MLP must grow its earnings in order to meet the analysts' forecast of expected distribution growth for the LP units. Please see the attached Technical Appendix for a numerical demonstration of this calculation.

Note that, in general, a C-corporation does not have this issue because there is only one class of equity interest (common stock) and earnings are shared equally among the one class of common stock holders.[3]

Consider the following example. Initially the GP's two percent equity ownership receives two percent of the distributions, but in the top tier, the GP can receive as much as 50 percent of any increase in distributions even though the GP still owns only 2 percent of the equity. The graph below shows the rate of growth of GP distributions as the distributions to the LP units increase and shows how powerful the incentive to grow distributions for the benefit of both the LP units and the GP is likely to be. The GP's share of the total distributions approaches 50 percent as the size of the LP units' distribution increases to high levels.[4]

[3] Some C-corporations have more than one type of common stock, but the payment rules for different categories are not generally similar to IDRs.

[4] This assumes the highest tier allocates 50% of the incremental distributions to the GP.

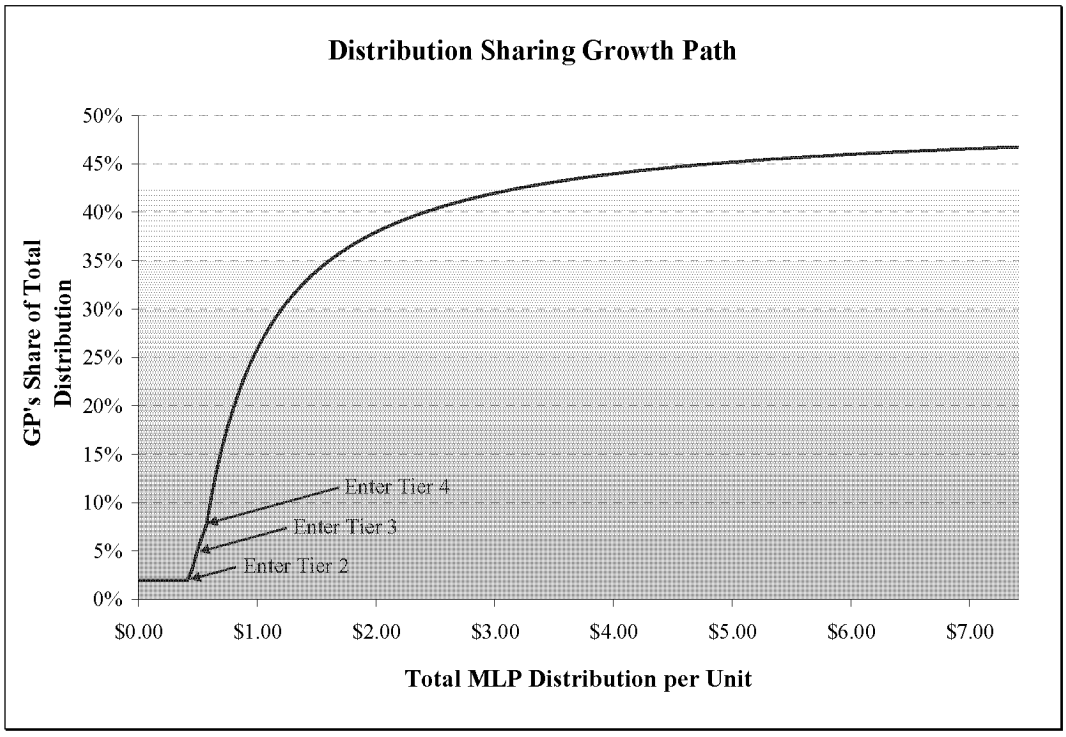

Figure 1: Share of total MLP distributions flowing to the GP as total distributions grow.

Because of the incentive provided by the IDRs, it is likely that an MLP will maintain a high growth rate for an extended period. Estimating how long that period may be will require a number of assumptions, but certainly 10 to 20 years is possible, if not likely.[5] In the Benchmark Model, I have used an estimate of 15 years.[6] In other words, the Benchmark Model assumes that it takes a total of 15 years for the distribution growth rate to reach the terminal GDP growth rate.

C. How is Growth Achieved?

Evaluating the sustainability of a terminal growth rate to apply to a sample of MLPs requires understanding how growth in earnings and distributions per share can be achieved for an MLP or C-corporation. One way is to invest in additional (regulated) assets which earn a higher return than the cost of capital used to purchase the assets. Another way to grow earnings is to increase efficiency so that expenses are reduced. Both MLPs and C-corporations can also grow earnings per share by increasing the financial leverage of the company. By using debt to purchase new

[5] Note that the years that distribution growth may exceed GDP growth (10-20 years) is different from the time it would take for the distributions to the GP to reach about 50% of the total distributions (15-25 years).

[6] See the Technical Appendix for how this assumption enters the model.

assets, earnings per share will increase, but this is achieved by increasing the financial risk of the company's equity. The increased earnings per share are compensation for the increased financial risk inherent in a more leveraged capital structure. Increasing leverage is not likely to increase the market value of equity because the increased risk of the equity is likely to offset the increased earnings per share. There are likely to be other ways to grow as well, but these are the primary ways.

Investing in additional assets financed with a mix of debt and equity can increase earnings per share particularly if the MLP or the C-corporation can issue new equity at a market-to-book ratio greater than 1.0. This is because the book value (i.e., rate base) of the new assets will increase the average rate base of all of the equity of the MLP or the C-corporation. Earnings per share also increase if the new assets earn a greater rate of return than the old assets. A regulated company cannot generally expect to earn a higher rate of return on new regulated assets than on current regulated rate base so growth can depend critically on the market-to-book ratio. Note that simply purchasing pipeline assets may not increase earnings per share if the price paid is greater than the rate base value of the assets because paying greater than book value dilutes the advantage of having a market-to-book ratio greater than 1.

D. SUSTAINABLE LONG-TERM GROWTH

Currently, the FERC has asserted that MLPs will have lower growth potential than that of C-corporations, but the forecast ST growth rates for MLPs are generally higher than GDP growth. Predicting how long an MLP can maintain a high payout rate and continue to grow as fast or faster than GDP is difficult, but it is certain that relatively high growth rates cannot be maintained indefinitely for MLPs (or for C-corporations). That observation raises two additional questions directly relevant to DCF estimation:

1) What is a sustainable LT growth rate for an MLP?

2) What is the path of growth rates as the ST growth rate trends to the (generally) lower LT (sustainable) growth rate? In other words, how long does it take for the ST growth rate to reach the LT growth rate for an MLP?

First, note that these questions are not unique to MLPs -- they are equally applicable to C-corporations. The FERC DCF method answers the first question for C-corporations using the

forecast of LT GDP growth. The second question is addressed by weighting the ST growth rate by two-thirds and the LT growth rate by one-third.[7] It is important to realize that the current FERC DCF method is a compromise because there are no definitive answers to the two questions above for C-corporations or for MLPs.

For the LP units, it is likely that the LT growth rate will be lower than the LT growth rate for a C-corporation given the payout policies of MLPs. The partnership agreement establishes a distribution policy for the MLP which generally encourages paying out a substantial portion of its annual cash flow. Both C-corporations and MLPs generally retain enough cash flow to maintain their property, plant and equipment ("PP&E") to offset annual depreciation; a C-corporation, however, retains more of its cash flow than a similar MLP. This means that the MLP must issue more LP shares than an otherwise identical C-corporation to finance investment in additional assets, all other factors being equal. Put differently, with the same rate base and allowed return on equity, the earnings growth rate for the individual LP units will be lower because the MLP will have more LP shares outstanding as a consequence of a higher payout ratio and because of the portion of distributions paid to the GP.

E. CAN AN MLP GROW AS FAST AS A C-CORPORATION?

Does a generally high payout policy that results in the distribution of substantially all of an MLP's cash flow mean that an MLP simply cannot achieve the same terminal growth at the entity level as a C-corporation? The answer is no. There is no reason or barrier in principle preventing an MLP as a whole from growing as rapidly as a C-corporation; both have an equal opportunity and ability to grow earnings and distributions, and both can achieve growth in very similar ways. There are, however, factors that can affect the relative growth rates of the two business organizations.

Like a C-Corporation issuing stock, MLPs can issue new LP units to raise equity to finance investment in additional assets. If the MLP has been successful in the past with regard to increasing distributions, it is highly likely that new equity can be raised. There will be some issuance costs but these costs are generally fairly small. Moreover, as noted above, the IDRs

[7] This roughly captures the impact of the decreasing growth rate with a single lower number that can be used in the constant growth DCF framework.

provide the GP an incentive to grow that on balance may result in the growth rate of LP distributions matching or even exceeding the growth rate for some C-corporations for an extended period of time.

In contrast, because C-corporations in general retain more of their net income, they do not need to issue as many additional shares to finance growth. Thus, achieving similar growth rates requires the MLP to issue more shares of equity than a C-corporation would need to issue. The consequence is that even though the overall growth rate for a C-corporation and an MLP may be identical, the growth rate of the publicly traded LP units will be lower than for the common equity shares of a similar C-corporation.

F. Terminal Growth Rates for the MLP and the LP Units

As distributions grow, at some point, approximately 15-25 years or more in the future,[8] the LP distributions will be in the highest tier, and the GP and the LP units as a group will each receive 50 percent of the distributions.[9] If the terminal growth rate for the MLP is equal to the LT GDP growth, the GP's distributions and the LP units' distributions in aggregate will grow at the GDP rate. However, it must be remembered that the MLP's growth is financed in part by issuing additional LP units. In theory, therefore, the terminal growth in an LP's earnings per share may be lower than the terminal growth rate of C-Corporations that fund growth more through retained earnings. Both C-corporations and MLPs issue equity in the expectation of investing in assets that provide accretive earnings growth per share including through building Greenfield projects or purchasing additional assets. While one could question how long MLPs as a group can continue to find projects that are accretive to earnings, the evidence to date is that MLPs have been able to maintain growth for an extended period. Nonetheless, for purposes of my theoretical analysis, I assume that LP growth (as opposed to MLP growth) will be lower than C-Corporation growth due to MLPs' issuance of more LP units to fund growth. In other words, when the MLP is growing at the GDP rate, the distributions must be growing at a much slower rate for the individual LP units because the growth is being shared by more LP units and the GP.

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[8] This estimate depends upon the current tier and the forecast growth rate for each MLP. Some MLPs are already in or near the highest tier.

[9] This assumes that the highest tier provides a 50 percent incentive distribution to the GP. If the highest tier were lower, the GP's share of total distributions would approach that percentage, leaving the remainder for the LP units.

If the terminal growth rate for an MLP is LT GDP growth, the next question is "what is the terminal growth rate for the LP units?" As noted above, it must be acknowledged that there is no definitive answer to this question. Just as for the MLPs and C-corporations which have an assumed growth rate equal to LT GDP growth, it is necessary to assume a terminal growth rate for LP units. However, we do have some available information that we can use to improve the expected accuracy of the assumed level of growth.

Based upon the assumption that the terminal growth rate for the MLP as a whole is equal to the forecast LT GDP growth rate and that investment in additional assets by an MLP requires the issuance of additional LP shares as well as debt, the terminal growth rate of distributions for the individual LP units will be lower than for the MLP as a whole. How much lower? Again, this requires an assumption, but it seems reasonable that the higher the GDP growth, the higher the growth of rate of earnings for MLPs, C-corporations and LP units, so the growth rate for LP units should also be tied to GDP growth. It is also desirable that the assumed value of the terminal growth rate should be observable so that once the approach is agreed upon, determining the value to use in the model should not be a source of additional debate.[10]

The proposed value for the terminal growth rate for the LP units is the average of the forecast LT GDP growth rate and the Fed's target rate of inflation. It is a value that is observable and tied to but less than the forecast LT GDP growth rate. Growth for LP units, although less than the growth rate for the MLP as whole, is likely to be greater than inflation because growth at the rate of inflation would imply little to no real growth in earnings for the MLP. Recall that nominal GDP growth will exceed the rate of inflation if there is a real (i.e., inflation adjusted) increase in GDP. Therefore, a terminal growth rate for LP units equal to the average of the forecast of inflation and GDP growth is a reasonable compromise benchmark for the terminal growth rate of the LP units in the DCF model at this time.

Finally, the proposed terminal growth rate for LP units is not recommended for C-corporations or for MLPs as a whole. The FERC should maintain its current assumption of a terminal growth rate equal to GDP growth because one of the attractive aspects of a growth forecast equal to GDP is that the company or industry remains a constant portion of GDP. If a rate less that GDP

[10] The presumed Fed target inflation rate is derived from various speeches of the Fed's Board of Governors. It is not a published estimate because the Fed does not purport to set a target, but the speeches indicate that a reasonable target would be about 2 percent.

were used for either MLPs or C-corporations, it would mean that the analyst believed that the industry or company would become an increasingly smaller part of the economy. In addition, the forecast nominal GDP growth rate will always exceed the inflation rate as long as there is real, (i.e., inflation adjusted) growth in the economy. Setting the terminal growth rate in the model at the rate of inflation for C-corporations or MLPs would mean that neither would have any real growth in earnings or distributions. Therefore, maintaining the assumption of a terminal growth rate of GDP for both the C-corporations and MLPs is likely to be the best available estimate.

G. SUMMARY

Applying the DCF model to a sample of MLPs requires careful consideration of the parameters of the model. Specifically, analyst forecasts of earnings and distributions growth are for the LP units. Because of the IDRs, the earnings for the MLP as a whole will be higher than for the LP units. In other words, there are two different growth rates, one for the MLP and one for the LP units. The IDRs provide an incentive to the GP to grow distributions for the benefit of the LP units as well as for itself. As a result, the current relatively high payout ratios and ST growth rates, generally greater than GDP growth, are likely to persist for many years. Even when growth slows, there is no reason that the terminal growth rate for the MLP will not be the same as for a C-corporation. If the terminal growth rate for MLPs (and for C-corporations) is equal to the LT GDP growth rate, it is likely that the terminal growth rate for the LP units will be lower because of the increase in the number of LP units outstanding.

III. IMPLEMENTING THE DCF MODEL FOR AN MLP SAMPLE

Section II outlined some of the differences between an MLP and a C-corporation that should be considered when using the DCF model to estimate the cost of equity. The remainder of this report focuses on estimating the cost of equity for a sample of MLPs by application of the DCF method.

It is important to note that there are alternative costs of equity estimation models such as the risk positioning model (e.g., the Capital Asset Pricing Model (CAPM), the Empirical CAPM or the risk premium model) or the Fama-French model. These models may actually be preferable to the

DCF model to estimate the cost of equity for an MLP sample because some of the complications of the DCF model with regard to an MLP can be avoided. In addition, there has been no discussion of the effect of financial risk on the cost of equity in this report. This is an important topic, but neither the alternative models nor adjusting for financial risk are addressed in this report. The purpose here is to answer the question of how best to apply the DCF model to MLPs.

A. What Constitutes an Acceptable Model?

The first issue is to determine or specify the conditions necessary for an acceptable model. For any model, there is a tradeoff between accuracy and simplicity. Ultimately, we would like a model that is as accurate as possible but that is also as simple as possible. Of course, because we do not know the "true" cost of equity, we must estimate it. This means that there is no definitive way to determine whether any estimation method is the "most accurate". However, some methods will be more in accord with financial theory, model more of the characteristics of an MLP and will provide more consistent estimates than other possible methods.

For example, the FERC DCF model for natural gas pipelines is quite simple and until recently has provided estimates of the cost of equity that seemed reasonable, but the number of available C-corporations to include in the sample has declined. The sample of C-corporations is now so small that it calls into question the reliability of the cost of equity estimates. Because many FERC-regulated natural gas pipelines are owned by MLPs, it is logical to add MLPs to the list of companies from which to choose a sample.

B. Capital Structure Issues to Consider for Applying the DCF Model to MLPs

One difficulty with estimating the cost of equity for a sample of MLP companies is that the GP's portion of the equity ownership is not traded in the market.[11] To understand why this is a problem requires an understanding of the distribution of an asset's risk to investors. In corporations, the risk of the assets is generally split among three types of investors: common

[11] Although a number of MLPs have issued traded shares that capture the GP equity value, none of the MLPs that are primarily natural gas pipelines currently do so. The closest is Enterprise Product Partners, LP, which owns a mix of oil and natural gas pipelines.

shareholders, preferred shareholders, and debt holders.[12] Market information on prices and returns are available for all three types of investors.

For an MLP, the risk of the assets is split among a GP, the limited partners, and debt holders. As with a corporation, the risks are divided into three parts, but the risk characteristics of the parts differ from those of a corporation. The presence of the GP does not add additional risk to the underlying business operations of the MLP – the overall risk of the assets should be the same regardless of whether they are organized in an MLP or a C-corporation, and so should their cost of capital. The GP does, however, affect how that risk is divided.

Professors Franco Modigliani and Merton Miller provided the initial analysis showing that capital structure shouldn't affect the value of the firm. In other words, in an efficient market the value of a firm is unaffected by how that firm is financed. The table below illustrates the point, showing that the total cost of capital for the assets (r_A) is unchanged no matter how the equity is proportioned.

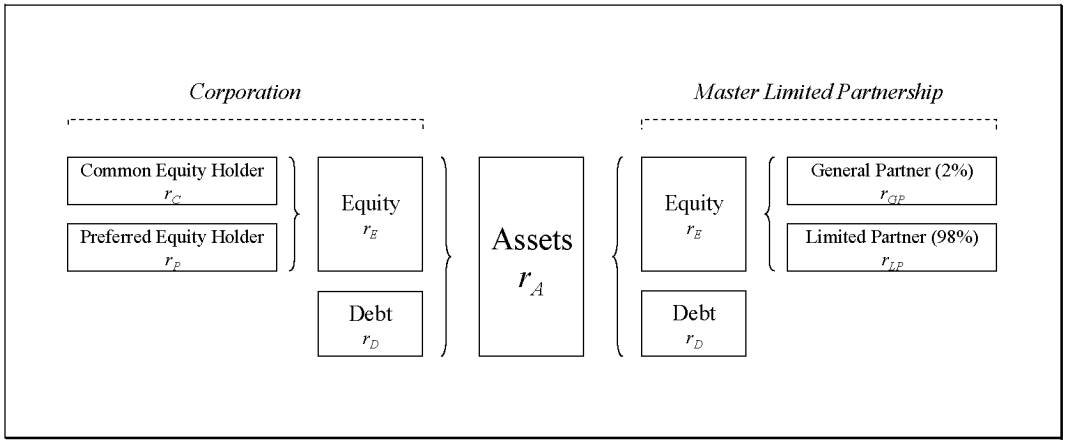

Figure 2: Division of business risks for a corporation and an MLP.

C. Cost of Equity Capital

As highlighted in the figure above, the GP and LP unit holders together share the risk after debt holders have been paid, and each requires a rate of return for bearing that risk. Regulators compensate for these risks by allowing investors to earn a fair and reasonable return on their investments. The rate of return expected by investors should be equal to the cost of capital of the

[12] Preferred equity is more like debt in terms of its required rate of return and scheduled payments. In general, preferred dividends are specified in terms of amount and timing, but failing to pay preferred dividends does not force bankruptcy unlike missing a debt payment.

firm's assets (r_A). That is, the assets of the firm must earn a rate of return that appropriately compensates investors for bearing the risk of the assets. A regulated rate of return that lies below the cost of capital will deter investors from investing much needed capital to maintain infrastructure, while a rate that is too high makes consumers pay too much for the service that is provided. Estimating the appropriate cost of capital that balances between the two is one of the main objectives for regulators.

To estimate r_A for an MLP, we would need to estimate r_{GP}, r_{LP}, and their relative market values.[13] There is, however, little or no market data available for the GP units, which make it more difficult to estimate the GP's cost of capital. Information is available to estimate r_{LP}, but the LP units represent only a portion of the firm's total market value of equity. This means that even if we estimate the cost of equity for the LP units perfectly, we will not have an estimate of the total risk of the assets because we have limited data for the GP's share of the equity.

In applying the DCF model to MLPs, the FERC has expressed a number of concerns that INGAA addressed in earlier comments. In its November 15th Notice, the Commission focused on the terminal growth rate. The Commission asks

- "Whether its current method of projecting growth adequately reflects the lower growth potential of MLPs, *particularly over the long term[.]*"[14] Relatively high payout policies in conjunction with growth rate forecasts that are greater than GDP growth may not be sustainable in the long-term. The implication is that the terminal growth rate is likely to be lower than the forecast of GDP growth.

The correct growth rate to use in the DCF model is always the controversial part of the model whether for C-corporations or for MLPs. A high current dividend yield may simply reflect low

[13] This report is based on the assumption that the underlying business risks of a pipeline organized as an MLP are the same as a pipeline organized as a C-corporation. In other words, the organizational structure does not affect the overall cost of capital for the assets.

[14] In this context, the Commission refers to a newsletter published by an investment banker that uses a projected MLP long-term annual growth rate of 2.5 percent (as compared to a currently projected GDP growth rate of approximately 4.5 percent). Notice at P 5 note 2, citing *MLPs: Safe to Come Back into the Water*, Wachovia Capital Markets, LLC, Equity Research Department, at 9-10 (August 20, 2007). Based on conversations with the authors, the LT growth rates employed there (which actually range between 1.5 and 3 percent), were based on their analysis of the characteristics of the individual MLPs. Importantly, and consistent with the principal finding of this report, those estimates were of LT growth of the publicly-traded LP shares alone, not for the MLPs as a whole.

growth prospects in the future, but the key questions are when and how quickly the ST growth rate may taper off to a lower terminal growth rate, and if so, what is the lower growth rate likely to be. Of course, the accuracy of the DCF model depends upon using a correct growth rate.

D. DCF MODELS

Because the MLP corporate structure is different from that of a C-corporation, the differences must first be understood before attempting to determine whether any modifications to the DCF model or its parameters are necessary to estimate the cost of equity accurately.

First, recall that a portion of the equity of an MLP is owned by the GP, but the lack of price data on the GP claims makes it impossible to estimate directly the MLP's overall cost of equity. It is important to note that the GP's earnings will be derived from the allowed return on equity on the rate base so it is important that the allowed return on equity be high enough to provide the required return on equity for all of the MLP's equity, the LP and GP shares alike.

Second, MLPs have an additional complication with regard to growth rates. Analyst earnings growth forecasts are for the LP units. (See note 14.) This means that the earnings growth of the MLP as a whole must be *higher* than the forecast growth rate for the LP units because the GP claims a higher portion of the earnings as the distributions to LP units increase. LP distribution growth will always be less than or equal to the MLP growth rate because of the IDRs. The distributions to the LP shares over the long term will be less than the earnings growth for the MLP because the GP receives an increasing portion of the distributions as an incentive. In other words, the incremental cash flow owed to the GP increases rapidly as the distributions grow to higher tiers. For many MLPs, when the distribution level reaches the top tier, the GP receives 50 percent of all incremental distributions. Of course, this is not an issue for C-corporations which do not have IDRs.

Finally, LT growth rate estimates (i.e., growth rates for periods longer than five years) are generally not available for either MLPs or for C-corporations. Applying the DCF model to either MLPs or C-corporations requires estimating earnings growth rates after year five, including estimating the terminal growth rate and the path to the terminal growth. Whether a terminal growth rate of forecast LT GDP is sustainable for MLPs is the essence of the FERC's stated concern with regard to growth rates for the MLP sample companies.

E. DCF GROWTH RATES

As noted above, estimating the growth rate in the DCF model is always controversial because a one percentage point difference in the growth rate estimate results in more than a one percentage point difference in the estimated cost of equity. Most DCF applications make very strong (i.e., unrealistic) assumptions that yield a simplification on the cost of capital. The simple DCF model, for instance, assumes that a company's earnings (and dividends, prices, and book value) grow at a constant rate forever. In addition, the model assumes that investors expect the cost of capital to be the same in all future years. Violations of these expectations can bias (in either direction) the DCF estimate of the cost of capital.

Estimating the cost of capital with a constant growth DCF approach for a sample of either MLPs or C-corporations is therefore likely to be unreliable. A simple DCF model, as in any DCF model, requires a distribution yield and a growth rate. The higher the distribution yield or growth rate, or a combination of both, will yield a higher return on equity. MLPs tend to have slightly higher distribution yields than corporations, because they pay out a larger percentage of their earnings to unit holders. In an efficient market, the stock price of an MLP should reflect the higher expected distributions and value the stock in recognition of such distributions. If the stock price diverges, arbitrage should bring it back into line.[15]

Finding the right growth rate(s) is usually the "hard part" of a DCF application whether for an MLP or a C-corporation. The original approach to estimate *g* relied on average historical growth rates in observable variables, such as dividends or earnings, or on the "sustainable growth" approach, which estimates *g* as the average book rate of return times the fraction of earnings retained within the firm. But it is highly unlikely that historical averages over periods with widely varying rates of inflation, interest rates and costs of capital, such as in the relatively recent past, will equal current growth rate expectations.

A better approach is to use the growth rates currently expected by investment analysts, if an adequate sample of such rates is available. If this approach is feasible and if the person estimating the cost of capital is able to select the appropriate version of the DCF formula, the DCF method should yield a reasonable estimate of the cost of capital. However, for the DCF

[15] In this case, arbitrage refers to the actions by investors to buy investments with higher expected returns relative to their risk and to sell investments with lower expected returns relative to their risk.

approach to work the basic stable-growth assumption must become reasonable and the underlying stable-growth rate must become determinable *within the period for which forecasts are available*. Because growth rates are likely to vary in the short run before settling down into a terminal growth rate, it is better to rely on a multi-stage DCF rather than the simple DCF. The Multi-Stage model takes the analyst growth rates, and adjusts them over time to a steady state (usually a long-term GDP forecast). A two-stage model compensates for the unrealistic assumption that growth rates should be constant and allows growth rates to vary before settling down in the sustainable LT growth rate.

F. POSSIBLE DCF MODELS FOR MLPS

This report proposes a simple adjustment to the current FERC DCF model as a compromise to address the problems that are of concern to the Commission. Specifically, it is proposed that the Commission apply the current FERC DCF model to the LP units, but use a terminal growth rate equal to the average of the LT GDP growth rate and the Fed's target LT CPI inflation rate instead of simply GDP growth. This is a very simple solution and retains as much as possible of the current FERC DCF model applied to C-corporations, but it is only recommended here because the current results from the modified FERC model are comparable to a more complex and more theoretically accurate Benchmark DCF model. The second, more complex model, attempts to capture the differences between MLPs and C-corporations that are likely to affect the estimated cost of equity.

To reiterate, the proposed compromise model simply treats the LP units the same as a C-corporation and applies the standard FERC DCF model with one modification. It substitutes the average of forecast LT GDP growth and LT target CPI inflation for the forecast of LT GDP growth as the terminal growth rate in the model. In other words, the distribution yield is calculated in the standard way for the LP using the full distribution and the growth rate is the weighted average of the ST (i.e., 5-year) analysts' growth forecast (two-thirds weight) and the average of the LT GDP and the LT inflation target (one-third weight). This option is based on a sense of "rough justice" in that the LP units are less risky than the MLP equity as a whole because of the GP share, but the terminal growth rate for the LP is likely to be lower than the terminal growth rate for the C-corporations or for the MLP as a whole. No change is proposed

for the C-corporations. Specifically, the forecast of the terminal growth rate would continue to be the forecast LT GDP growth rate.

1. Details on the Benchmark Model

The Benchmark Model applies the DCF model to the MLP as a whole. Because it attempts to model the differences between an MLP and a C-corporation, it is expected to provide more accurate estimates of the cost of equity for the MLP. It attempts to capture the effect of the GP on the risk of the MLP and the differences in growth rates between the LP units and the MLP. The Benchmark Model is discussed in detail in the Technical Appendix. The Technical Appendix lays out the calculations and assumptions involved in the model so that anyone wishing to evaluate the approach has access to all of the information necessary to reproduce the results.

The current FERC DCF method is very simple and straightforward, but it does not take advantage of the computing ease and power available in current computer programs. More complicated models can easily be handled by current programs which would make the task of estimating the cost of capital accurately easier. The Benchmark Model is a true two-stage DCF model which means that the forecast dividend growth rate differs over time. Specifically, the growth rate is constant for the first five years and then trends linearly to the presumed LT sustainable growth rate by year 16 (a linear trend to forecast GDP growth over a 10 year period). The growth rate in the first five years is the growth rate for the MLP as whole which is derived from knowing the growth rate of the LP share, the tier structure of the MLP and where in the tier the MLP's most recent distribution lies. The LP stock price is also increased by an amount that recognizes that the value of the GP share and the LP units is greater than the value of the LP units alone. The calculation of the increase in the LP price necessary to recognize the GP portion of equity is described in detail in the Technical Appendix. The terminal growth rate is assumed to be the same as for the C-corporations, i.e., the forecast of LT GDP growth.

2. Comments on the Benchmark Model

As noted above, the motivation for the more complex model is to provide a benchmark against which to compare the results from other, simpler models. It is expected that the Benchmark Model will provide a "better" estimate of the cost of equity for a sample of MLPs, because it

attempts to recognize the role of the GP in determining the required return on equity. It does this by recognizing that the growth rate of the MLP must be greater than the forecast growth rate of the LP units and recognizing that the GP equity is both riskier and likely to have a higher market value than the LP equity relative to the current value of the distributions it receives. The GP equity is riskier because the cash flows to the GP are more variable. As MLP earnings increase or decrease, the GP's share of distributions increases or decreases more rapidly than the LPs' share.

Of course, it is an assumption that the Benchmark Model provides a better estimate of the cost of equity because no one knows the *true* cost of equity. It must be estimated, but some models incorporate more of the underlying features of the investment than others at the expense of more complexity. The Benchmark Model adds complexity to replicate more precisely the cash flows and other aspects of an MLP.

Specific comments:

First, no step in the application of the Benchmark Model requires judgment once the parameters of the model are agreed upon.

Second, the Benchmark Model considers both the GP's and the LP's equity shares.

Third, the Benchmark Model could be applied equally to MLPs or C-corporations.

Fourth, the LT growth rate is assumed to be equal to forecast GDP growth, but the path to get to the terminal growth rate requires an assumption on how fast the transition is likely to take.

Fifth, the Benchmark Model increases the price of the GP equity share by more than the GP's current share of distributions, because the expected growth rate of distributions to the GP is higher than for the LP units. This adjustment has the effect of reducing the estimated cost of equity slightly when the Benchmark Model is applied to MLPs. Therefore, the GP adjustments made in the Benchmark Model include elements that can both increase and decrease the estimated cost of equity when applied to MLPs.

It is important to recognize that the LP unit owners take into account the distribution rights of the GPs when making their investment decisions. Therefore the market price of the LP units fully reflects the IDR structure of the MLP.

3. Comparison of the Results

The table below shows the results of the Benchmark Model applied to a representative sample of MLPs compared to the proposed modified version of the FERC DCF model for pipelines.[16] As can be seen, the proposed modification to the FERC DCF model actually produces results that are slightly less than the Benchmark analysis. However, the two models currently provide average cost of equity estimates for the sample that are relatively close, although estimates for the individual companies vary. This result is a function of financial data used at the time of the preparation of this report and should not be interpreted to mean that the results will always be this close. However, looking at the individual company results suggests that the two models will produce numbers which are "close" to one another. This is the concept of rough justice that is the motivation to change the terminal growth rate for applying the FERC DCF method to the LP units, as slightly modified, in order to preserve the simplicity of the current FERC DCF model. Note that had the current FERC DCF method been applied to the MLP sample, the result would have been 12.94 percent, about 50 basis points higher, reflecting the higher terminal growth rate in the model. Although the results of both the modified and current FERC DCF model when applied to the LP units is within the range of estimation error for the Benchmark Model, the modification to the FERC's current DCF model is proposed primarily in recognition that the terminal growth rate for the LP units is likely to be lower than for the MLP as a whole.

[16] I have not examined, nor have I expressed an opinion on, the issue of the composition of the proxy group.

Table 1: Comparison of DCF Results by Model.

	Benchmark DCF Model on the MLPs (Multi-Stage) [1]	Proposed Modified FERC DCF on LP Units [2]
Boardwalk Pipeline Partners, L.P.	12.16%	12.08%
Growth Rate	*(12.53%)*	*(6.69%)*
Oneok Partners, L.P.	12.55%	11.82%
Growth Rate	*(10.11%)*	*(5.37%)*
TC Pipelines, L.P.	11.30%	10.91%
Growth Rate	*(6.30%)*	*(3.82%)*
Enbridge Energy Partners, L.P.	12.62%	12.17%
Growth Rate	*(8.37%)*	*(4.74%)*
Enterprise Products Partners, L.P.	13.93%	13.77%
Growth Rate	*(10.49%)*	*(7.31%)*
Kinder Morgan Energy Partners, L.P.	14.17%	13.89%
Growth Rate	*(9.91%)*	*(7.06%)*
Average	12.79%	12.44%

Sources and Notes:

[1]: Growth rates are 5-year forecasts for the entire MLP based on forecasts for the LP units (see text). Terminal growth rate is assumed to be the forecast GDP growth rate of 4.92%. This is reached after five years of short-term growth and ten years of detrending.

[2]: Growth rate calculated as: ((2/3) x Analysts' Forecasts) + ((1/3) x Terminal Growth Rate). Terminal growth rate per share is estimated at 3.46%. It is computed as the average of forecast GDP growth and a presumed 2% targeted inflation rate by the Federal Reserve.

IV. SUMMARY OF CONCLUSIONS ON MLP GROWTH AND THE DCF MODEL

The MLP structure generates a number of issues for the application of the DCF model. The growth rate is of critical importance in the DCF model, but there is no forecast for earnings growth rates for longer than five years. In addition, the equity in an MLP is divided between the LP units and the GP, but market information on prices and growth rates are generally only available for the LP units. Because of the IDRs, the GP has a powerful incentive to work to ensure that the MLP's earnings grow as rapidly as possible which benefits both the LP unit holders and the GP. As a result, it is likely that the LP units will have high distribution yields as well as 5-year earnings growth forecasts that exceed GDP growth. It is also likely that the relatively high 5-year earnings growth rates cannot be sustained indefinitely, although the

incentive provided by the IDRs make it probable that the MLP will maintain high growth rates for an extended period.

The proposed option to apply a slight modification to the current FERC DCF model to the LP units is admittedly a simplification, but the results from the simplified model currently track the results of the more complex and more theoretically accurate Benchmark Model closely. Although that outcome may not always be true, the availability of the Benchmark Model or other alternative theoretical models can serve periodically as a check on the reasonableness of the simplified model.

APPENDIX A

RESUME

MICHAEL J. VILBERT **PRINCIPAL**

Michael Vilbert is an expert in cost of capital, financial planning and valuation who has advised clients on these matters in the context of a wide variety of investment and regulatory decisions. He received his Ph.D. in Financial Economics from the Wharton School of the University of Pennsylvania, an MBA from the University of Utah, an M.S. from the Fletcher School of Law and Diplomacy, Tufts University, and a B.S. degree from the United States Air Force Academy. He joined The Brattle Group in 1994 after a career as an Air Force officer, where he served as a fighter pilot, intelligence officer, and professor of finance at the Air Force Academy.

REPRESENTATIVE CONSULTING EXPERIENCE

- In a securities fraud case, Dr. Vilbert designed and created a model to value the private placement stock of a drug store chain as if there had been full disclosure of the actual financial condition of the firm. He analyzed key financial data and security analysts' reports regarding the future of the industry in order to recreate pro forma balance sheet and income statements under a variety of scenarios designed to establish the value of the firm.

- For pharmaceutical companies rebutting price-fixing claims in antitrust litigation, Dr. Vilbert was a member of a team that prepared a comprehensive analysis of industry profitability. The analysis replicated, tested and critiqued the major recent analyses of drug costs, risks and returns. The analyses helped develop expert witness testimony to rebut allegations of excess profits.

- For an independent electric power producer, Dr. Vilbert created a model that analyzed the reasonableness of rates and costs filed by a natural gas pipeline. The model not only duplicated the pipeline's rates, but it also allowed simulation of a variety of "what if" scenarios associated with cost recovery under alternative time patterns and joint cost allocations. Results of the analysis were adopted by the intervenor group for negotiation with the pipeline.

- For the CFO of an electric utility, Dr. Vilbert developed the valuation model used to support a stranded cost estimation filing. The case involved a conflict between two utilities over the responsibility for out-of-market costs associated with a power purchase contract between them. In addition, he advised and analyzed cost recovery mechanisms

that would allow full recovery of the stranded costs while providing a rate reduction for the company's rate payers.

- Dr. Vilbert has testified as well as assisted in the preparation of testimony and the development of estimation models in numerous cost of capital cases for natural gas pipeline, water utility and electric utility clients before the Federal Energy Regulatory Commission ("FERC") and state regulatory commissions. These have spanned standard estimation techniques (e.g., Discounted Cash Flow and Risk Positioning models). He has also developed and applied more advanced models specific to the industries or lines of business in question, e.g., based on the structure and risk characteristics of cash flows, or based on multi-factor models that better characterize regulated industries.

- Dr. Vilbert has valued several large, residual oil-fired generating stations to evaluate the possible conversion to natural gas or other fuels. In these analyses, the expected pre- and post-conversion station values were computed using a range of market electricity and fuel cost conditions.

- For a major western electric utility, Dr. Vilbert helped prepare testimony that analyzed the prudence of QF contract enforcement. The testimony demonstrated that the utility had not been compensated in its allowed cost of capital for major disallowances stemming from QF contract management.

- Dr. Vilbert analyzed the economic need for a major natural gas pipeline expansion to the Midwest. This involved evaluating forecasts of natural gas use in various regions of the United States and the effect of additional supplies on the pattern of natural gas pipeline use. The analysis was used to justify the expansion before the FERC and the National Energy Board of Canada.

- For a Public Utility Commission in the Northeast, Dr. Vilbert analyzed the auction of an electric utility's purchase power agreements to determine whether the outcome of the auction was in the ratepayers' interest. The work involved the analysis of the auction procedures as well as the benefits to ratepayers of transferring risk of the PPA payments to the buyer.

- Dr. Vilbert led a team tasked to determine whether bridge tolls were "just and reasonable" for a non-profit port authority. Determination of the cost of service for the authority required estimation of the value of the authority's assets using the trended original cost methodology as well as evaluation of the operations and maintenance budgets. Investment costs, bridge traffic information and inflation indices covering a 75 year period were utilized to estimate the value of four bridges and a passenger transit line valued in excess of $1 billion.

- Dr. Vilbert helped a recently privatized railroad in Brazil develop an estimate of its revenue requirements, including a determination of the railroad's cost of capital. He also helped evaluate alternative rate structures designed to provide economic incentives to shippers as well as to the railroad for improved service. This involved the explanation

and analysis of the contribution margin of numerous shipper products, improved cost analysis and evaluation of bottlenecks in the system.

- For a utility in the Southeast, Dr. Vilbert quantified the company's stranded costs under several legislative electric restructuring scenarios. This involved the evaluation of all of the company's fossil and nuclear generating units, its contracts with Qualifying Facilities and the prudence of those QF contracts. He provided analysis concerning the impact of securitizing the company's stranded costs as a means of reducing the cost to the ratepayers and several alternative designs for recovering stranded costs.

- For a recently privatized electric utility in Australia, Dr. Vilbert evaluated the proposed regulatory scheme of the Australian Competition and Consumer Commission for the company's electric transmission system. The evaluation highlighted the elements of the proposed regulation which would impose uncompensated asymmetric risks on the company and the need to either eliminate the asymmetry in risk or provide additional compensation so that the company could expect to earn its cost of capital.

- For an electric utility in the Southwest, Dr. Vilbert helped design and create a model to estimate the stranded costs of the company's portfolio of Qualifying Facilities and Power Purchase contracts. This exercise was complicated by the many variations in the provisions of the contracts that required modeling in order to capture the effect of changes in either the performance of the plants or in the estimated market price of electricity.

- Dr. Vilbert helped prepare the testimony responding to a FERC request for further comments on the appropriate return on equity for electric transmission facilities. In addition, Dr. Vilbert was a member of the team that made a presentation to the FERC staff on the expected risks of the unbundled electric transmission line of business.

- Dr. Vilbert and Mr. Frank C. Graves, also of The Brattle Group, prepared testimony evaluating an innovative Canadian stranded cost recovery procedure involving the auctioning of the output of the province's electric generation plants instead of the plants themselves. The evaluation required the analysis of the terms and conditions of the long-term contracts specifying the revenue requirements of the plants for their entire forecasted remaining economic life and required an estimate of the cost of capital for the plant owners under this new stranded cost recovery concept.

- Dr. Vilbert served as the neutral arbitrator for the valuation of a petroleum products tanker. The valuation required analysis of the Jones Act tanker market and the supply and demand balance of the available U.S. constructed tanker fleet.

PRESENTATIONS

"Utility Distribution Cost of Capital," *EEI Electric Rates Advanced Course*, Bloomington, IN, 2002, 2003.

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"Not Your Father's Rate of Return Methodology," *Utility Commissioners/Wall Street Dialogue*, NY, May 2004.

"Current Issues in Cost of Capital," *EEI Electric Rates Advanced Course*, Madison, WI, July 2004.

"Cost of Capital Estimation: Issues and Answers," *MidAmerican Regulatory Finance Conference*, Des Moines, IA, April 7, 2005.

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"Revisiting the Development of Proxy Groups and Relative Risk Analysis," Society of Utility and Regulatory Financial Analysts: 39th Financial Forum, April 2007.

ARTICLES

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"Measuring Return on Equity Correctly: Why current estimation models set allowed ROE too low," by A. Lawrence Kolbe, Michael J. Vilbert and Bente Villadsen, *Public Utilities Fortnightly*, August 2005.

"Understanding Debt Imputation Issues," by Michael J. Vilbert, Bente Villadsen and Joseph B. Wharton, *Edison Electric Institute*, August 2007.

TESTIMONY

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Direct testimony before the Alberta Energy and Utilities Board on behalf of TransAlta Utilities Corporation for approval of its 2001 transmission tariff, May 2000.

Direct testimony before the Federal Energy Regulatory Commission on behalf of Mississippi River Transmission Corporation in Docket No. RP01-292-000, March 2001.

Written evidence, rebuttal, reply and further reply before the National Energy Board in the matter of an application by TransCanada PipeLines Limited for orders pursuant to Part I and Part IV of the *National Energy Board Act*, Order AO-1-RH-4-2001, May 2001, Nov. 2001, Feb. 2002.

Written evidence before the Public Utility Board on behalf of Newfoundland & Labrador Hydro - Rate Hearings, October 2001.

Direct testimony (with William Lindsay) before the Federal Energy Regulatory Commission on behalf of DTE East China, LLC in Docket No. ER02-1599-000, April 2002.

Direct and rebuttal reports before the Arbitration Panel in the arbitration of stranded costs for the City of Casselberry, FL, Case No. 00-CA-1107-16-L, July 2002.

Direct reports before the Arbitration Board for Petroleum products trade in the Arbitration of the Military Sealift Command vs. Household Commercial Financial Services, fair value of sale of the Darnell, October 2002.

Direct testimony and hearing before the Arbitration Panel in the arbitration of stranded costs for the City of Winter Park, FL, In the Circuit Court of the Ninth Judicial Circuit in and for Orange County, FL, Case No. C1-01-4558-39, December 2002.

Direct testimony before the Federal Energy Regulatory Commission on behalf of Florida Power Corporation, dba Progress Energy Florida, Inc. in Docket No. SC03-1-000, March 2003.

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TECHNICAL APPENDIX

APPLYING THE DCF MODEL TO MLPS AT THE ENTITY LEVEL

I. INTRODUCTION

This Technical Appendix provides the details of the development of the Benchmark Model, which is used to estimate the cost of equity for the MLP as a whole. This model is intended to provide a measuring stick against which alternative models can be compared. By its design, the Benchmark model captures more carefully the nuances of the MLP's financial structure and its potential growth path. In this sense, it is expected to provide cost of equity estimates that are more reliable and consistent than many simpler models. It does so, however, at the expense of additional complexity. Of course, all models are estimates and subject to measurement error. The Benchmark Model incorporates as many aspects as is reasonably possible at present when applying DCF to a sample of MLPs.

II. MODELING ASSUMPTIONS

All models are simplifications of reality. They are so because they are designed to capture only a certain fundamental relationship underlying a phenomenon of interest. As such, assumptions must be made. The assumptions made throughout this appendix are no different than those commonly made when applying an asset pricing model – the FERC DCF model included. Specifically, the assumptions are

Assumption 1: Financial markets are reasonably efficient.

This assumption means that market prices reflect and quickly adjust to publicly available information.

Assumption 2: Financial asset prices are such that they do not allow arbitrage opportunities.

This is often described as the "no free-lunch" assumption. Prices should not allow someone to make a risk free profit through some combination of trades.

III. DECOMPOSING A MLP'S COST OF EQUITY

When assumptions 1 and 2 are met, the entire cost of equity (residual return after accounting for debt) of a MLP will satisfy:

$$k_{MLP} = \frac{V_{LP}}{V_{LP} + V_{GP}} k_{LP} + \frac{V_{GP}}{V_{LP} + V_{GP}} k_{GP} \quad (1)$$

Where k_{MLP}, k_{LP}, and k_{GP} represent the total cost of equity of the MLP, the cost of LP equity, and the cost of GP equity respectively, and similarly, V_{LP} and V_{GP} represent the market value of all LP equity and all GP equity.

Equation (1) quantifies the statement made in the main body of the report that a MLP's total cost of equity is composed of the cost of LP equity and GP equity, and that these costs should be weighted according to their relative value in the total market value of equity. It is important to recognize that this is a mathematical equality once the assumptions above have been made – there is no wiggle room for interpretation. One can argue about the assumptions, but if we are not willing to accept the basic assumptions above, then we cannot accept any DCF model – indeed, any standard pricing model – as valid. So the assumptions will be taken as given throughout the remainder of this appendix.

Equation (1) also provides a roadmap to estimating the cost of equity for a MLP – compute the total market value of each type of equity and estimate each type's cost of equity using some pricing methodology. The problem with doing this for a MLP, however, is that there is typically no direct price or analyst growth data available for the GP equity component. As such, direct estimation of the MLP's total cost of equity requires additional assumptions. However, reasonable estimates can be obtained using the fact that GP distributions are related to LP distributions by a well-defined function. The value and growth of GP equity is a derivative of LP equity for which there is market data. Assuming no arbitrage and market efficiency, one can therefore produce market-based estimates of the cost of equity for the MLP as a whole.

IV. WHY IS THE TOTAL COST OF EQUITY RELEVANT?

In computing the return on equity ("ROE") on operations by the underlying assets, the fact that a GP or LP exists is not relevant so long as the underlying operating business risk is the same. That is, if you have an otherwise identical C-corporation and a MLP, both with the same amount of debt in their capital structures, each should be given the opportunity to earn the same expected return on the same residual risk after paying the cost of debt. In an efficient market under the above assumptions, this would certainly be the case. The *Hope* and *Bluefield* standard therefore demands that the same apply to a regulated company.[1] If the cost of LP equity is lower than the overall cost of MLP equity, applying the lower cost of LP equity to the entire equity base would result in an entity organized as a MLP earning less than another entity organized as a C-corporation. This is despite the fact that both allocate identical residual risk to equity holders. In other words, the manner in which equity owners have agreed to divide the residual risk and its associated return is not relevant to determining how much expected return is fair

[1] U.S. Supreme Court's opinions in Bluefield Waterworks & Improvement Co. v. Public Service Commission, 262 U.S. 678 (1923), and Federal Power Commission v. Hope Natural Gas, 320 U.S. 591 (1944).

compensation for that same residual risk being held.[2] All companies should be given the same opportunity to earn the same return on equivalent investments whether organized as a MLP or as a C-corporation.

As discussed below, GP equity is generally riskier than LP equity. This means that the cost of GP equity is generally going to be higher than the cost of LP equity, and that the cost of LP equity will generally underestimate the true weighted-average cost of equity for the MLP as a whole. Understanding why the risk of GP is likely to exceed the risk of the LP equity requires an understanding of incentive distribution rights ("IDRs") which are characteristic of MLPs.

V. MLP INCENTIVE DISTRIBUTION RIGHTS, RISK SHARING, AND GROWTH

The relationship between LP distributions and GP distributions is governed over time by the IDR schedule of a MLP. By understanding how IDRs impact growth and the risk allocations to the GP and LP over time, one can establish a market-based estimate of the GP's equity value

A. IDRs and the Relationship Between GP and LP Distributions

The IDR schedule of a MLP sets up a series of tiers and distribution sharing arrangements for any given LP distribution level ($ per unit). Specifically, each tier is defined by a range of distributions per LP unit ranges. The IDR schedule then dictates a marginal sharing rule of how additional distributions within each tier flow to the LP (and therefore to the GP). For each tier, the sharing rate dictates how much each additional dollar to the LP unit represents of the additional total MLP cash distribution per share. Although this may appear complicated, it is easier to understand through an example. Consider the following tier structure for a hypothetical master limited partnership called "MLP XYZ, L.P."

Table 1: Incentive Distribution Rights for "MLP XYZ, L.P."

		Marginal Percentage Interest in Total MLP Distributions	
	LP Quarterly Distribution	LP Unitholders	General Partner
Tier 1	up to $0.4025	98%	2%
Tier 2	above $0.4025 up to $0.4375	85%	15%
Tier 3	above $0.4375 up to $0.5250	75%	25%
Tier 4	above $0.5250	50%	50%

[2] This is also why financial leverage matters in computing a fair return on equity as defined by the Supreme Court precedents. The role of leverage is not just a theoretical notion – it is a mathematical reality of how risk and returns are divided. This is why adjustment for financial risk is warranted when trying to apply results from one group of companies to another.

Suppose the current quarterly LP distribution per unit is 43¢, so that MLP XYZ is operating in the upper end of its second tier. To calculate the total MLP distribution paid per LP unit, the amount can be broken up by tiers. First, compute the total distribution coming out of tier 1 – up to its range cap. In MLP XYZ's case, the tier 1 cap is 40.25¢, which represents 98% of the total distribution coming from this tier. Since the current LP distribution is greater than the tier 1 cap, the total distribution from tier 1 is computed at the cap:

$$\begin{aligned} 0.98 \times D_{MLP} &= D_{LP} \\ \text{or } D_{MLP} &= \frac{D_{LP}}{0.98} \\ &= \frac{40.25}{0.98} \\ &= 41.07 \end{aligned}$$

Since the additional LP distribution (43¢ – 40.25¢ = 2.75¢) flows entirely from tier 2, it therefore demands that the MLP distribute a total additional amount of:

$$\frac{2.75 \text{ cents}}{0.85} = 3.24 \text{ cents per LP unit}$$

That is, the additional LP distribution of 2.75¢ into tier 2 represents 85% of the total MLP distribution from that tier. Together, this tells us that when MLP XYZ distributes 43¢ per LP unit, it actually distributes a total of 44.31¢ (= 41.07¢ + 3.24¢). The additional 1.31¢ per unit is the amount flowing to the GP. Note that if the LP distribution had been in the third tier instead, then the contribution from tier 2 would have been computed at the tier 2 cap (as was done for tier 1 in this example) instead, and the residual amount grossed up using the tier 3 marginal sharing rate of 75 percent.

Another way to look at how the MLP distributes cash is to look directly at the implied share of distributions flowing to each of the LP and GP holders for any given LP distribution. For example, the calculation above shows that when MLP XYZ distributes 43¢ to each LP unit, 97.04 percent of the MLP's total cash distribution (= 43¢ / 44.31¢) goes to LP equity, while 2.96 percent goes to GP equity. More generally, each MLP's IDR schedule defines an entire sharing relationship between GP and LP equity. This is conveniently quantified by the function $s(D_{LP})$, which represents the share of total distributions that flow to the GP when the LP unit distribution is D_{LP}. Total MLP distributions can then always be written as

$$D_{MLP} = \frac{D_{LP}}{1 - s(D_{LP})} \tag{2}$$

The sharing function $s(D_{LP})$ for MLP XYZ is given in Figure 1 below.

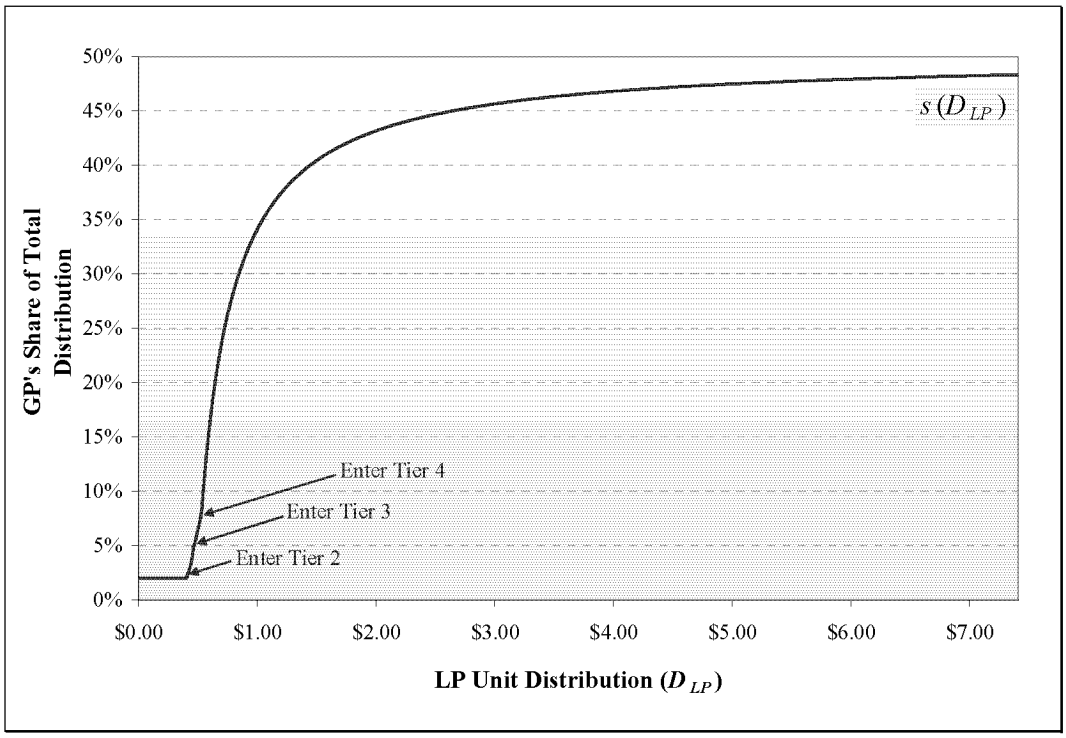


Figure 1: The sharing function $s(D_{LP})$ for MLP XYZ which graphs the proportion of total distributions going to the GP at every LP distribution level.

B. GROWTH PATHS OF LP AND GP DISTRIBUTIONS

IDRs complicate the growth paths of LP and GP distributions. For example, consider a MLP currently in its second distribution tier out of four possible tiers. Even in the situation where the overall MLP is expected to have constant, steady state growth of total distributions into the relevant future, neither the GP nor the LP will have constant distribution growth. In fact, the growth path of each is a rather complicated function for many years (see Figure 2).

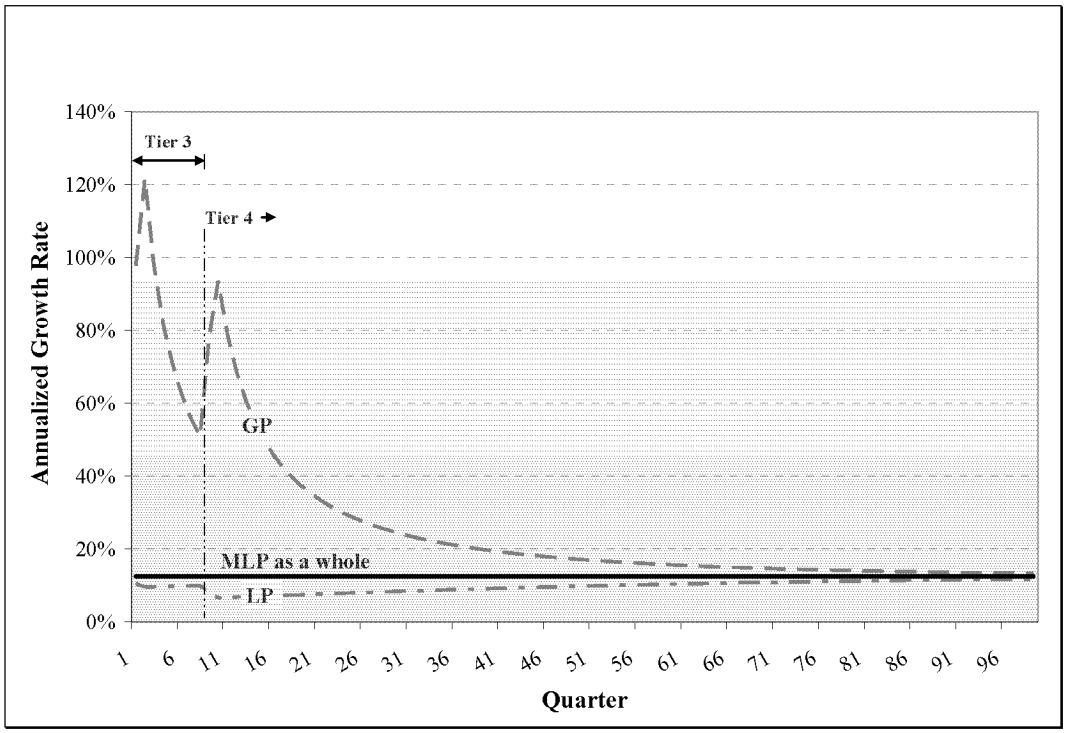


Figure 2: LP and GP Distributions Growth with Constant Entity Growth

The complications are driven by the tier structure and how it allocates much of the MLP's initial growth to the GP. As the MLP moves through the tiers, the way that growth and risks are shared between the LP and GP changes. It is interesting to note that when distributions are well into the final tier, the growth and risk allocated to the LP and GP converge. This suggests that the cost of LP and GP equity also converges over time.

VI. DCF ESTIMATION OF THE OVERALL COST OF MLP EQUITY

A. THE STANDARD DCF MODEL

The fundamental DCF model assumes that the market price of an asset equals the present value of the cash flow it generates over time, where discounting is done at a rate which reflects the cash flow's risk. This model also assumes that the present value can be calculated by the formula:[3]

$$P = \frac{D_1}{(1+k)} + \frac{D_2}{(1+k)^2} + \frac{D_3}{(1+k)^3} + \cdots \tag{3}$$

where "P" is the market price of the asset; "D_t" is the distribution expected at the end of period t (i.e., subscript period 1, 2, 3, … in the equation); and "k" is the cost of capital. In words, the formula says that

[3] Sometimes referred to as the internal rate of return (IRR) formulation.

an asset's current price is equal to the sum of its expected future cash distributions, each discounted to reflect their risk and time until received.

It is often useful to re-write this formula in terms of a series of expected growth rates instead:

$$P = \frac{D_0(1+g_1)}{(1+k)} + \frac{D_1(1+g_2)}{(1+k)^2} + \frac{D_2(1+g_3)}{(1+k)^3} + \cdots \tag{4}$$

where g_t is the expected distribution growth in time t. This equation reinforces that when growth paths are complicated, applying DCF to estimate the cost of equity can also be complicated. If one believes that a firm is in some "steady state" for the foreseeable future, so that expected growth can reasonably be modeled as constant over time, then equation (4) reduces to a much simpler form:

$$P = \frac{D_1}{(k-g)} \tag{5}$$

where "D_1" is the dividend expected at the end of the first period, "g" is the perpetual growth rate, and "P" and "k" are the market price and the cost of capital, as before. Equation (5) is a simplified DCF model that can be solved to yield the well known "DCF formula" for the cost of capital:

$$\begin{aligned} k &= \frac{D_1}{P} + g \\ &= \frac{D_0 \times (1+g)}{P} + g \end{aligned} \tag{6}$$

where "D_0" is the current distribution, which investors expect to increase at rate g by the end of the next period, and the other symbols are defined as before. Equation (6) says that if equation (5) holds, the cost of capital equals the expected dividend yield plus the (perpetual) expected future (forever constant) growth rate of dividends. I often refer to this as the simple DCF model – both because it is simple to implement and because it relies on very strong assumptions.

Figure 2 above demonstrated that even a simple growth path at the MLP level as a whole is transformed into complex growth paths for distributions at the LP and GP level. In terms of DCF estimation, these complicated initial growth paths mean that estimating the costs of equity for the individual LP and GP components will be difficult for MLPs in their lower tiers. However, since growth assumptions are easier to make and compare at the entity level, a potentially simpler approach in this situation is to apply the DCF model to the MLP as a whole.[4] For example, given constant steady state growth, the cost of capital of the MLP could be estimated as in equation (6):

[4] This also allows for a common treatment across MLPs and Corporations, which makes comparisons easier.

$$k_{MLP} = \frac{D_1^{MLP}}{P_{MLP}} + g_{MLP}$$
$$= \frac{D_0^{MLP} \times (1 + g_{MLP})}{P_{MLP}} + g_{MLP} \quad (7)$$

This gives the identical result as applying the DCF model to each equity component and recognizing each component's more complex expected growth path. The rest of this appendix focuses exclusively on how the DCF model can be applied to the MLP as a whole. Specifically, the model in mind is that from equation (4) where prices and distributions are replaced by their MLP level counterparts:

$$P_{MLP} = \frac{D_0^{MLP}\left(1 + g_1^{MLP}\right)}{(1 + k_{MLP})} + \frac{D_1^{MLP}\left(1 + g_2^{MLP}\right)}{(1 + k_{MLP})^2} + \frac{D_2^{MLP}\left(1 + g_3^{MLP}\right)}{(1 + k_{MLP})^3} + \cdots \quad (8)$$

Since growth forecasts are made at the LP unit level, we will need to derive the implied growth at the MLP level. Similarly, prices are not generally observable for GP equity, and must too be derived based on the market-based LP unit price. The following sections describe this process and the reasoning behind each step.

B. DCF Growth Path at the Entity Level

1. Terminal Growth

It is always difficult to estimate the terminal growth rate needed to implement correctly the DCF model – this is not unique to MLPs. Terminal growth assumptions are difficult to make for any organizational form, including corporations. As noted in the text of the report, for the MLP as a whole this terminal growth rate is not likely to differ from that of an otherwise identical corporation – that is, organizational structure is not likely to affect the terminal growth rate possible at the entity level. On the other hand, terminal growth in LP distributions per unit is likely to fall short of the terminal growth rate for the entity as a whole because of the way in which MLPs (and C-corporations) finance their operations. If an industry is expected to remain a constant proportion of the overall economy, the terminal growth of the entity would equal the growth rate of GDP. As noted in the report, this is a common and reasonable assumption by the FERC for natural gas pipelines organized as a C-corporation. This assumption is preserved here as well for the MLP as a whole.

2. Path of Expected Growth Until Steady State

Even after agreeing upon a terminal growth rate for use in the DCF model, the path of growth over time is an equally important component in DCF pricing and cost of equity estimation. Distributions obtained

earlier are, on a dollar for dollar basis, more valuable than those obtained later. This is a simple consequence of the time-value of money. As a result, the path of distribution growth before reaching the terminal rate can substantially affect the results of the model. A common approach taken by practitioners at the entity level is to assume that the current forecast growth rate is maintained in the short-run (five years), and then gradually trends to its terminal growth rate. It also makes more sense than suggesting that growth suddenly drops abruptly to its terminal value at some point.

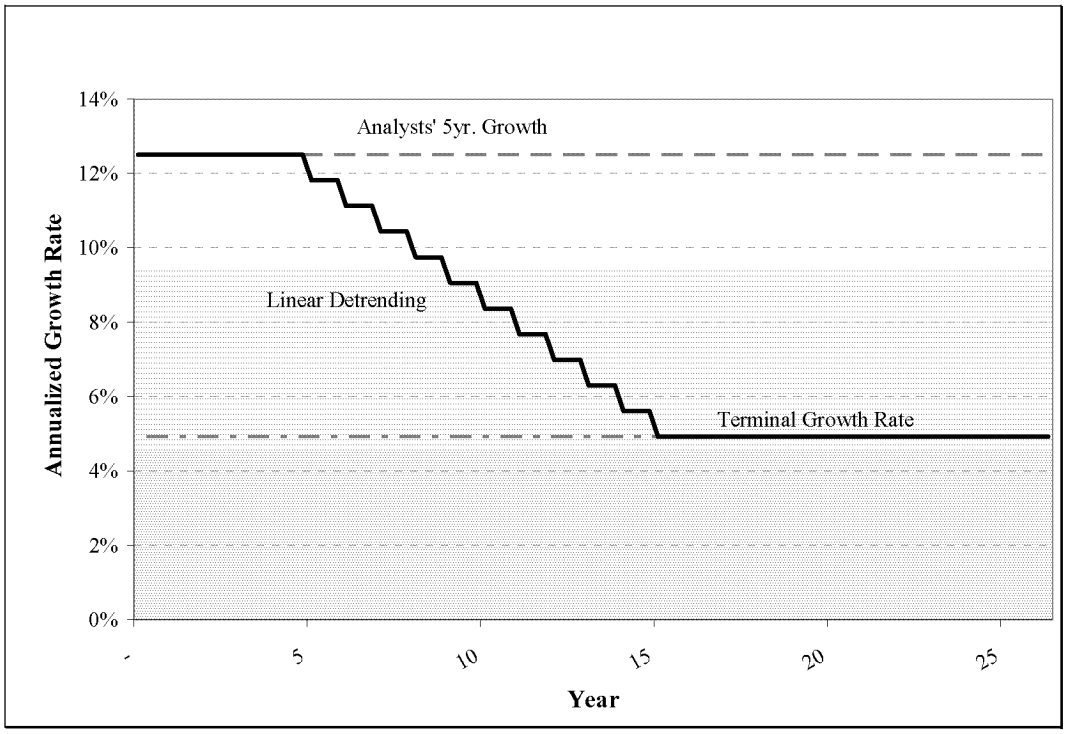


Figure 3: Linear Detrending of Multi-Stage DCF Model

In terms of specific numbers, a reasonable approach is to apply the current long-term annual forecast growth rate for the first five years, then de-trend this in a linear way to the terminal growth rate by the beginning of year sixteen. This is the approach that will be taken for the Benchmark DCF Model. The only difficulty for MLPs is that analyst growth rates are not provided at the entity level, but are forecasts for the LP units instead. As such, growth rates forecast for LP units must first be converted into growth rates for the MLP as a whole.

3. Transforming the LP Analyst Growth Forecasts into total MLP growth forecasts

A simple way to transform the LP distribution growth forecast into an entity level forecast is to back-out the total distribution growth needed to support the forecasted LP growth. Specifically, one: 1) first

computes the current total MLP distribution based on the current LP unit distribution; 2) computes the expected LP unit distribution at the end of the forecast period by applying the forecast growth rate to the current LP distribution per unit; 3) computes the future total distributions per unit implied by this forecasted LP distribution level; and 4) computes the implied growth at the entity level using these supporting MLP distributions. Annualizing this factor gives an estimate of the average annual entity level growth required to sustain the forecasted LP distribution growth. The procedure is illustrated below for MLP XYZ.

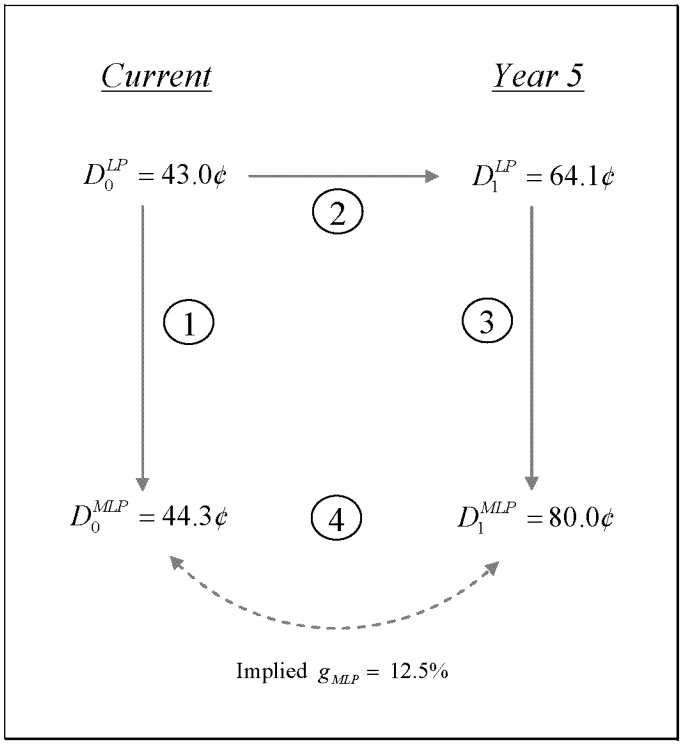


Figure 4: Transforming LP unit distribution growth forecasts into MLP growth forecasts.

Step 1. Compute the current total MLP distribution using D_{LP} and $s(D_{LP})$:

It was shown earlier that the current 43¢ LP distribution corresponds to a 44.31¢ total distribution.

$$D_0^{MLP} = \frac{D_0^{LP}}{1 - s(D_0^{LP})} = \frac{43¢}{1 - 2.96\%} = 44.31¢$$

Step 2. Derive the Forecasted LP unit distribution in five years using Analysts' five year forecasts:

In this example, MLP XYZ is forecast to have an average annual growth of 8.3 percent over the next five years. If realized, this would place LP distributions at 64.1¢ per unit by the end of year five.

$$\begin{aligned} D_1^{LP} &= (1+g_{LP})^5 \cdot D_0^{LP} \\ &= (1+8.3\%)^5 \cdot 43¢ \\ &= 64.1¢ \end{aligned}$$

Step 3. Compute the total MLP distribution in year 5 based on the year 5 LP distribution forecast:

To support this 64.1¢ LP distribution per unit, the MLP must flow a total of 80¢ per unit. This follows since at 64.1¢ per LP unit, the GP receives 19.9 percent of the total cash flow (based on the $s(D_{LP})$ function). Grossing up by 1/(1 - 19.9%) then gives the 80¢ amount.

$$\begin{aligned} D_1^{MLP} &= \frac{D_1^{LP}}{1-s(D_1^{LP})} \\ &= \frac{64.1¢}{1-19.9\%} \\ &= 80.0¢ \end{aligned}$$

Step 4. Compute the implied total MLP growth rate required to support the forecasted LP distribution growth:

In order for LP distributions to climb from 43¢ to 64.1¢ over five years, total distributions per unit must climb from 44.31¢ to 80¢. This represents an average annual MLP entity level growth of 12.5 percent over the five years.

$$\begin{aligned} g_{MLP} &= \left(\frac{D_1^{MLP}}{D_0^{MLP}}\right)^{1/5} - 1 \\ &= \left(\frac{80¢}{44.31¢}\right)^{1/5} - 1 \\ &= 12.5\% \end{aligned}$$

The 12.5 percent implied growth rate for MLP distributions is therefore a reasonable estimate of total entity level growth in the short-run.

C. THE TOTAL MARKET VALUE OF MLP EQUITY

The final component needed for the DCF model is the market value of MLP equity. While this is readily observed for LP equity using market data, it must be estimated for GP equity in general. Again, assumptions 1 and 2, together with the fact that the distributions flowing to the GP are a known function of LP distributions, provide a means to value GP equity as a function of the observable market value of LP equity. Specifically, if growth were ignored (for the moment), the relative value of LP and GP equity would be roughly the proportion of total distributions flowing to each:

$$D_{LP} = [1 - s(D_{LP})] \cdot D_{MLP}$$

$$\text{which implies} \quad V_{LP} \approx [1 - s(d_{LP})] \cdot V_{MLP}$$

$$\text{or} \qquad V_{MLP} = \frac{V_{LP}}{[1 - s(d_{LP})]} \tag{9}$$

where d_{LP} is the current LP distribution per unit. The fact that the GP is allocated proportionally more of the returns from growth, however, must be incorporated into its equity value. While IDRs allocate more growth risk to the GP, the increased expected growth makes the GP equity more valuable on net than LP equity (on a dollar for dollar basis).

Intuitively, GP equity begins as riskier than LP equity because of the fact that the distributions it receives are based upon the distribution tiers. As the MLP crosses each tier threshold, the GP receives a jump in its marginal share of total distributions, and some risk is transferred from the GP to the LP (see Figure 5 below). In other words, as the GP's share of distributions increases, the variability of its distributions decrease, reducing its risk.

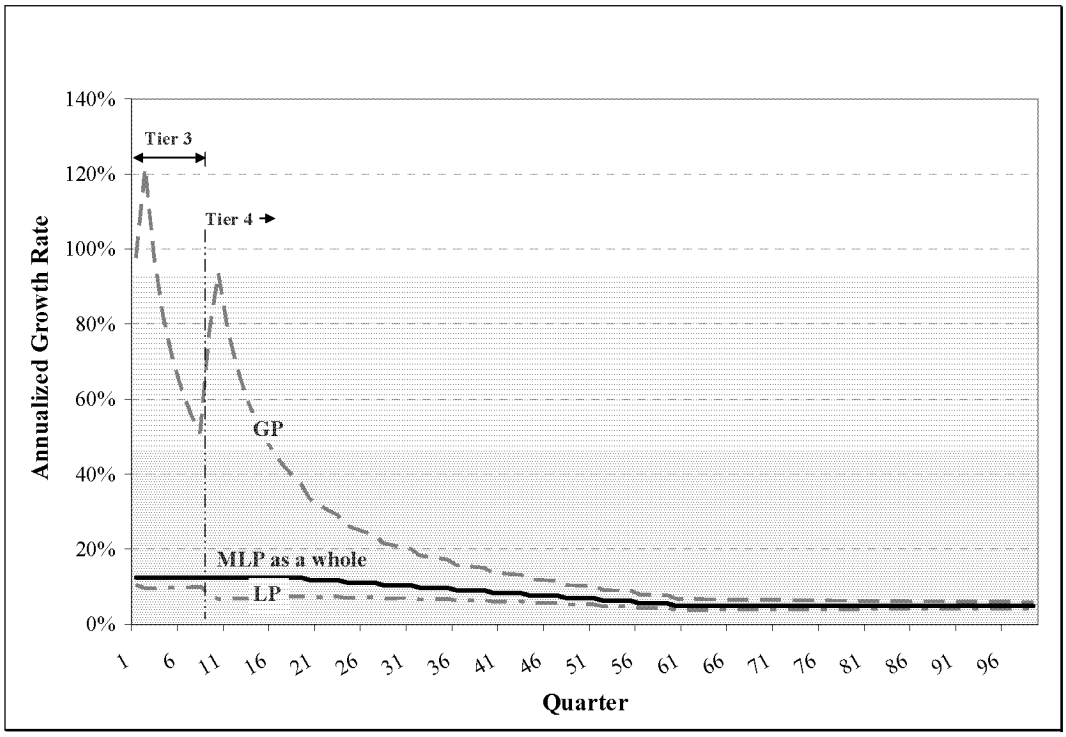


Figure 5: Multi-Stage DCF Growth Paths for GP and LP Distributions

At the same time, GP equity experiences much faster growth in distributions than LP equity because of the IDRs. These two effects (i.e., increased growth in distributions and increased risk) work against each other in terms of the market value of GP equity, but on net, the value of expected growth outweighs its added risk. As such, the proportionate market value of GP equity will be greater than its proportionate share of book equity (i.e., $(V_{GP} / V_{MLP}) > 2\%$).

How much more is a complex problem which requires advanced mathematical modeling to answer. As noted earlier, while the estimation problem is more manageable at the MLP level, one cannot escape the challenge of having to compute the market value of GP equity. What is certainly true is that the GP equity's proportionate value is no more than the upper limit of $s(D_{LP})$, which is 50 percent for MLP XYZ (see Figure 1).[5] At the same time, it is not generally going to be set by a sharing ratio less than the current sharing of $s(d_{LP})$ – that is, GP equity is generally worth at least its proportion of the current cash flow.[6] The true relative market value of GP to LP equity will typically be found at a sharing ratio somewhere in-

[5] The supremum is typically the marginal sharing rate of the top IDR tier.

[6] The exception could be if there is negative growth forecast – which would have a larger proportionate impact on GP value than LP value.

between. Although it can be pinned down precisely, a simple rule-of-thumb approach is to gross up the LP price by the midpoint of these two sharing extremes at $\bar{s}$.[7]

$$\bar{s}(d_{LP}) = \frac{s(d_{LP}) + \lim_{x \to \infty} s(x)}{2}$$

This is illustrated for MLP XYZ in the following figure.

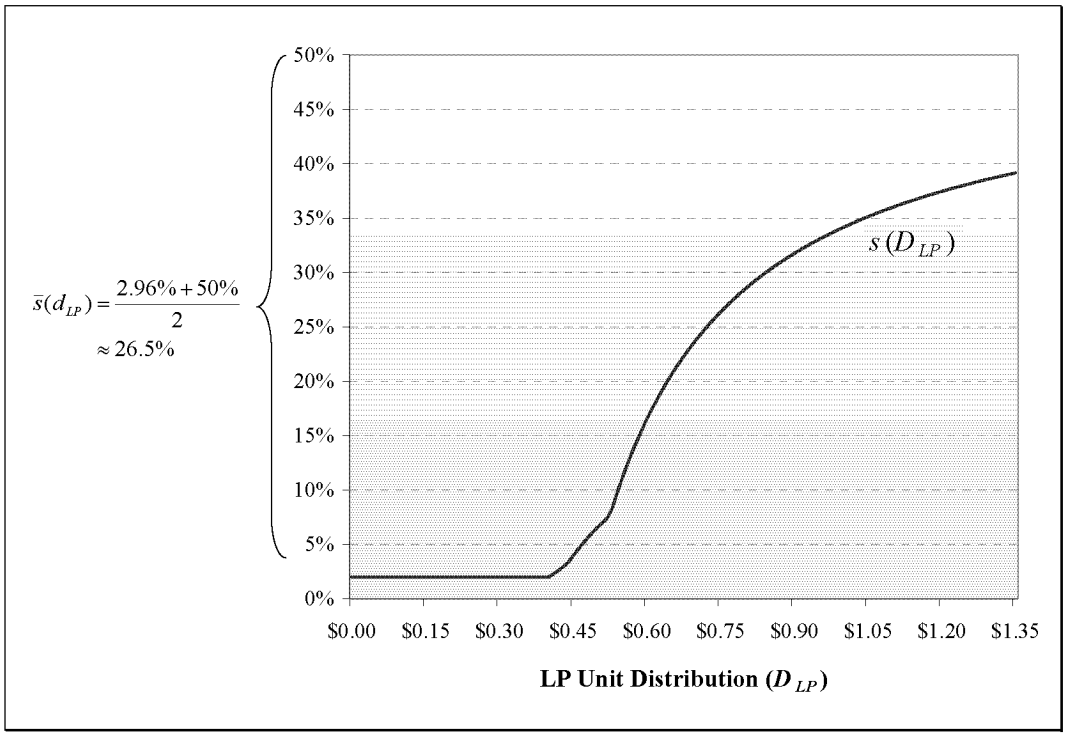


Figure 6: The rule-of-thumb adjustment used to gross up LP unit price in deriving MLP price.

If the current price of MLP XYZ's LP units is $32.95, the rule of thumb would estimate the market-based MLP price per share at:

$$\begin{aligned} P_{MLP} &= \frac{\$32.95}{1 - \bar{s}(43¢)} \\ &\approx \frac{\$32.95}{1 - 26.5\%} \\ &= \$44.83 \end{aligned}$$

The rule-of-thumb has several desirable characteristics, not the least of which is simplicity. It also generally provides for a more conservative cost of capital estimate since it has a tendency to overstate MLP entity value by a small amount. More interestingly, the rule is also self-adjusting as distributions

[7] This rule will generally overestimate MLP value, which means it generally errs by a small amount on the side of caution – overestimating MLP value will, all else equal, result in lower cost of capital estimates. An examination of market traded GP equity suggests that this is the case in general.

grow into the IDR tiers – the price gross up relative to current sharing becomes proportionately smaller as sharing approaches 50 percent. This makes sense since the benefits of additional growth become more evenly shared and reduces the additional value premium attached to GP equity. Stated another way, as sharing approaches 50 percent, the relative contribution of current distributions to the value of GP equity becomes more like that of LP equity.

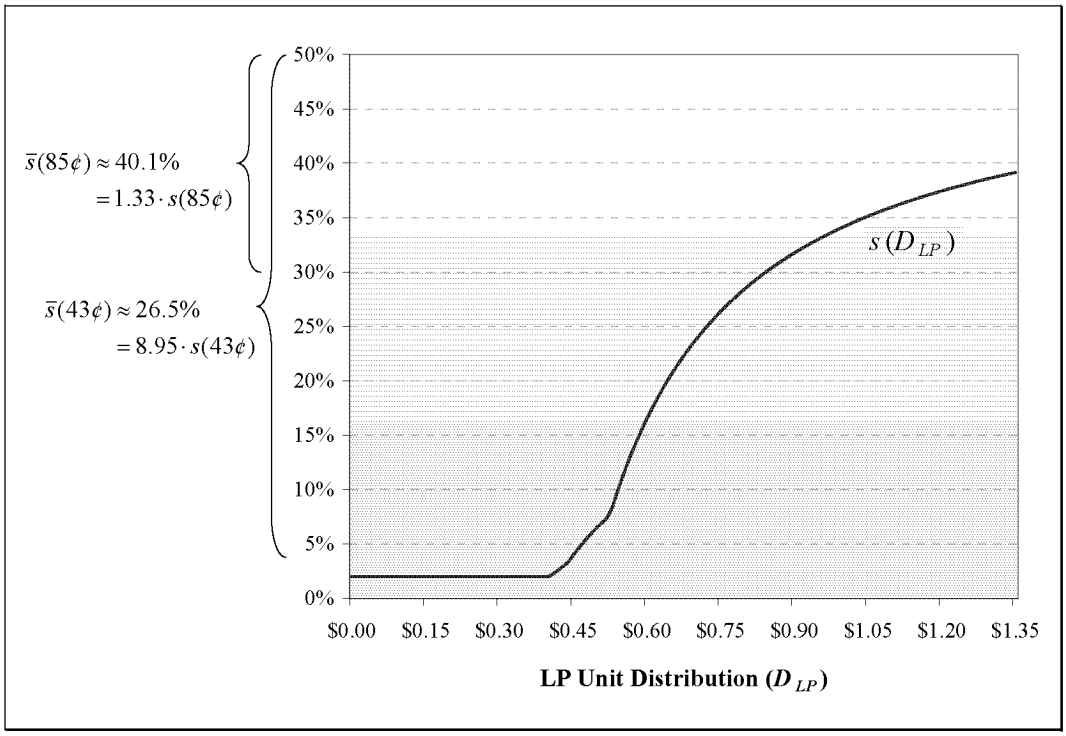


Figure 7: Self-adjustment by the rule-of-thumb.

Any reliable GP valuation must have the property that as sharing approaches 50 percent, the value of GP equity and LP equity converges to the same value – that is, GP and LP equity are valued at 50 percent of total MLP value in the limit. When $s(D_{LP})$ approaches close to 50 percent, the future cash flow per unit to the GP and LP are almost exactly the same in every state of the world.[8] As such, risk and growth become virtually the same and, by extension, value must also. Failure to do so in the limit would violate the "no free lunch" assumption.[9] The rule of thumb approximation becomes increasingly accurate as the distributions move up the tiers, and is likely to be a very good approximation once a MLP is operating within its highest tier.

[8] More precisely, the probability that they differ by a large amount becomes insignificantly small.

[9] This is a loosely stated comment that could be made rigorous in a more rigorous framework.

VII. PUTTING IT ALL TOGETHER

The DCF model estimated here is:

$$P_{MLP} = \frac{D_0^{MLP}\left(1+g_1^{MLP}\right)}{(1+k_{MLP})} + \frac{D_1^{MLP}\left(1+g_2^{MLP}\right)}{(1+k_{MLP})^2} + \frac{D_2^{MLP}\left(1+g_3^{MLP}\right)}{(1+k_{MLP})^3} + \cdots + \frac{D_{T-1}^{MLP}\left(1+g_T^{MLP}\right)+P_T^{MLP}}{(1+k_{MLP})^T} \quad (10)$$

where P_T^{MLP} is the terminal price reflecting the value, in time T dollars, of the entire future of distributions growing at the terminal rate:

$$P_T^{MLP} = \frac{D_{T+1}^{MLP}}{\left(k - g_{Terminal}^{MLP}\right)} \quad (11)$$

Below is a summary of the steps taken to estimate the Benchmark DCF Model using MLP XYZ as an example.

A. PATH OF DISTRIBUTIONS

1. Current total MLP Distribution

The current total MLP Distribution was derived from the current LP Distribution in Section V, part B-3:

$$D_0^{MLP} = 44.31¢ \quad (12)$$

2. Combining growth path with initial total Distribution

The expected total MLP Distributions for future periods are calculated by combining the current total MLP Distribution in (12) with the corresponding MLP distribution growth rates discussed in Section VI.B. Specifically, the five year growth forecast at the entity level was derived from LP distribution growth forecasts in Section VI.B.3 as:

$$g_{MLP} = 12.5\% \quad (13)$$

These are detrended as discussed earlier and Table 2 below demonstrates the resulting path of annualized growth rates for MLP XYZ distributions, along with the actual distributions themselves. The table shows the annualized growth rates from Quarter 1 to Quarter 20 remain unchanged. From Quarter 21 these rates start varying as the linear trend to the terminal GDP growth rate period begins. From Quarter 60 onward, the rate is constant as MLP XYZ reaches steady state.

Table 2: Excel snapshot of calculations used to derive the implied total distribution path and to solve for the implied cost of equity.

Distribution Stream for "MLP XYZ"

Quarter		Total Distribution	Annualized Growth Rate of MLP Distributions	
Current Price / unit	*$*	*44.83*		
Current Total MLP Distribution	*$*	*0.4431*		
1	$	0.46	12.5%	LT Analyst Forecast
2	$	0.47	12.5%	
3	$	0.48	12.5%	
.		.	.	
.		.	.	
.		.	.	
20	$	0.80	12.5%	
21	$	0.82	11.8%	Linear Detrending Period
22	$	0.85	11.8%	
23	$	0.87	11.8%	
24	$	0.89	11.8%	
25	$	0.92	11.1%	
26	$	0.94	11.1%	
27	$	0.97	11.1%	
28	$	0.99	11.1%	
29	$	1.02	10.5%	
30	$	1.04	10.5%	
.		.	.	
.		.	.	
.		.	.	
59	$	1.82	5.6%	
60	$	1.84	4.9%	Terminal Growth
61	$	1.87	4.9%	
62	$	1.89	4.9%	
63	$	1.91	4.9%	
64	$	1.93	4.9%	
65	$	1.96	4.9%	

Year 60 Price / unit	$112.28	
Trial COE: Quarterly Rate*	2.91%	[a]
Annualized COE: Annual Rate	12.16%	[b]
Cost of Equity	12.16%	[c]
(Annualized COE - COE) x 100	0.00	[d]

Notes:
[a]: Quarterly rate of return.
[b]: ((1 + [a]) ^ 4) - 1.
[c]: ((1 + IRR) ^ 4) - 1.
[d]: [b] - [c].
* Solved using Goal Seek function.
- Set [d] equal to zero by changing [a].

The paths of LP, GP, and total distributions are graphed in Figure 8 below.

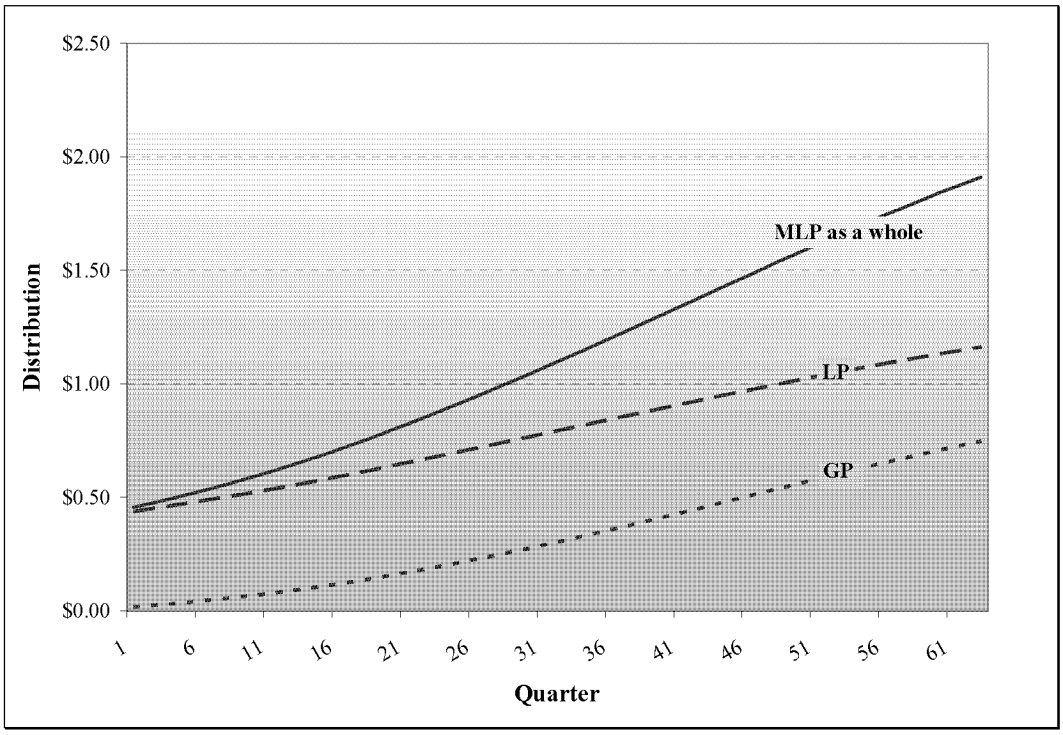


Figure 8: Paths of distributions implied by the forecasted growth paths for MLP XYZ.

3. Entity Level MLP Price

The current entity level MLP price is derived from the current LP price in Section VI.C above:

$$P_{MLP} = \$44.83 \tag{14}$$

4. Computing the Implied Cost of Equity

The implied cost of equity in equation (8) is estimated using the Goal Seek function in Excel:

$$\hat{k}_{MLP} = 12.16\% \tag{15}$$

VIII. FINAL COMMENTS

The model developed in this appendix is a simplification of reality, but one which attempts to provide a balance between ease of implementation and additional complexity in the DCF framework. As was stated at the outset, it captures many aspects of the MLP structure which make it a more accurate representation of the MLP's financial and growth characteristics. Notwithstanding its apparent complexity, there are elements which could be modeled more precisely and which, with further research, might yield even

better approximations. As mentioned above, a more precise modeling of the way risk is divided between the LP and GP over time would provide a more precise mapping of LP to MLP value. Moreover, additional research and precise modeling of how MLP's finance growth could lead to more accurate terminal growth rate forecasts and the time path of the growth estimates. These components of the DCF model continue to be difficult to estimate for both MLPs and C-corporations. Given our current understanding, however, I believe this model to be the most reasonable way of applying DCF to a sample of MLP companies.

Errata to the Appendix A of the Direct Testimony of
Michael J. Vilbert
On Behalf of Tennessee-American Water
Concerning Cost of Capital

In Appendix A, at page A-4, the fourth entry under "Presentations" was incorrectly listed as "**Current Issues in** Cost of Capital," *EEI Electric Rates Advanced Course*, Madison, WI, July 2004. The entry should read "**Utility Distribution** Cost of Capital," *EEI Electric Rates Advanced Course*, Madison, WI, July 2004.

In Appendix A, at page A-4, the last entry under "Articles" was incorrectly listed as "Understanding Debt Imputation Issues," by Michael J. Vilbert, Bente Villadsen and Joseph B. Wharton, *Edison Electric Institute*, forthcoming **Feb** 2008. The entry should read "Understanding Debt Imputation Issues," by Michael J. Vilbert, Bente Villadsen and Joseph B. Wharton, *Edison Electric Institute*, forthcoming **August** 2008.

In Appendix A, at page A-7, the third entry was incorrectly listed as Direct **and rebuttal** testimony before the Public Utilities Commission of the State of South Dakota, Docket No. NG-07-013, on behalf of NorthWestern Corporation, on the Cost of Capital for NorthWestern Energy Company's natural gas operations in South Dakota, June 2007 **and November 2007**. The entry should read Direct testimony before the Public Utilities Commission of the State of South Dakota, Docket No. NG-07-013, on behalf of NorthWestern Corporation, on the Cost of Capital for NorthWestern Energy Company's natural gas operations in South Dakota, June 2007.

AMER. STATES WATER NYSE-AWR

RECENT PRICE 37.23 | P/E RATIO 21.6 (Trailing: 25.3 Median: 18.0) | RELATIVE P/E RATIO 1.36 | DIV'D YLD 2.7% | VALUE LINE

TIMELINESS 3 Raised 8/17/07
SAFETY 3 New 2/4/00
TECHNICAL 1 Raised 1/25/08
BETA 1.00 (1.00 = Market)

2010-12 PROJECTIONS

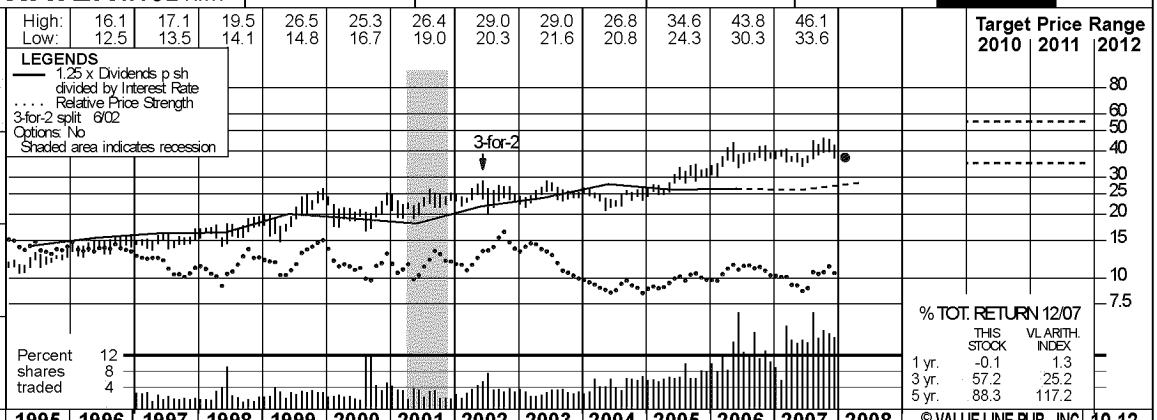
	Price	Gain	Ann'l Total Return
High	55	(+50%)	13%
Low	35	(-5%)	2%

Insider Decisions

	M	A	M	J	J	A	S	O	N
to Buy	0	0	0	0	0	1	1	0	0
Options	0	0	2	1	0	2	2	0	4
to Sell	0	0	2	1	0	2	2	0	4

Institutional Decisions

	1Q2007	2Q2007	3Q2007
to Buy	57	65	63
to Sell	47	44	53
Hld's(000)	9282	9778	10424



1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	© VALUE LINE PUB., INC.	10-12
9.15	10.10	9.27	10.43	11.03	11.37	11.44	11.02	12.91	12.17	13.06	13.78	13.98	13.61	14.06	15.75	*17.40*	*18.00*	Revenues per sh	*20.55*
1.78	1.81	1.67	1.68	1.75	1.75	1.85	2.04	2.26	2.20	2.53	2.54	2.08	2.23	2.64	2.90	*3.30*	*3.55*	"Cash Flow" per sh	*3.90*
1.19	1.15	1.11	.95	1.03	1.13	1.04	1.08	1.19	1.28	1.35	1.34	.78	1.05	1.32	1.33	*1.63*	*1.80*	Earnings per sh [A]	*2.20*
.73	.77	.79	.80	.81	.82	.83	.84	.85	.86	.87	.87	.88	.89	.90	.91	.96	*1.02*	Div'd Decl'd per sh [B]	*1.16*
2.77	2.31	1.90	2.43	2.19	2.40	2.58	3.11	4.30	3.03	3.18	2.68	3.76	5.03	4.24	3.91	*3.00*	*3.00*	Cap'l Spending per sh	*3.25*
8.39	8.85	9.95	10.07	10.29	11.01	11.24	11.48	11.82	12.74	13.22	14.05	13.97	15.01	15.72	16.64	*17.70*	*18.00*	Book Value per sh	*19.10*
9.91	9.96	11.71	11.77	11.77	13.33	13.44	13.44	13.44	15.12	15.12	15.18	15.21	16.75	16.80	17.05	*17.25*	*17.50*	Common Shs Outst'g [C]	*19.00*
8.8	10.6	13.4	12.8	11.6	12.6	14.5	15.5	17.1	15.9	16.7	18.3	31.9	23.2	21.9	27.7	*23.9*		Avg Ann'l P/E Ratio	*21.0*
.56	.64	.79	.84	.78	.79	.84	.81	.97	1.03	.86	1.00	1.82	1.23	1.17	1.47	*1.27*		Relative P/E Ratio	*1.40*
7.0%	6.3%	5.3%	6.6%	6.7%	5.8%	5.5%	5.0%	4.2%	4.2%	3.9%	3.6%	3.5%	3.6%	3.1%	2.4%	2.5%		Avg Ann'l Div'd Yield	*2.6%*
						153.8	148.1	173.4	184.0	197.5	209.2	212.7	228.0	236.2	268.6	*300*	*315*	Revenues ($mill)	*390*
						14.1	14.6	16.1	18.0	20.4	20.3	11.9	16.5	22.5	23.1	*29.0*	*33.0*	Net Profit ($mill)	*43.0*
						41.1%	40.9%	46.0%	45.7%	43.0%	38.9%	43.5%	37.4%	47.0%	40.5%	*40.5%*	*41.0%*	Income Tax Rate	*42.0%*
						--	--	--	--	--	--	--	--	--	--	*Nil*	*Nil*	AFUDC % to Net Profit	*Nil*
						43.0%	43.6%	51.0%	47.5%	54.9%	52.0%	52.0%	47.7%	50.4%	48.6%	*47.0%*	*48.0%*	Long-Term Debt Ratio	*50.0%*
						56.3%	55.7%	48.4%	51.9%	44.7%	48.0%	48.0%	52.3%	49.6%	51.4%	*53.0%*	*52.0%*	Common Equity Ratio	*50.0%*
						268.4	277.1	328.2	371.1	447.6	444.4	442.3	480.4	532.5	551.6	*575*	*605*	Total Capital ($mill)	*725*
						383.6	414.8	449.6	509.1	539.8	563.3	602.3	664.2	713.2	750.6	*770*	*800*	Net Plant ($mill)	*900*
						6.9%	7.0%	6.6%	6.4%	6.1%	6.5%	4.6%	5.2%	5.4%	6.0%	*7.0%*	*7.5%*	Return on Total Cap'l	*8.0%*
						9.2%	9.4%	10.0%	9.2%	10.1%	9.5%	5.6%	6.6%	8.5%	8.1%	*9.5%*	*10.5%*	Return on Shr. Equity	*12.0%*
						9.2%	9.4%	10.1%	9.3%	10.1%	9.5%	5.6%	6.6%	8.5%	8.1%	*9.5%*	*10.5%*	Return on Com Equity	*12.0%*
						1.8%	2.1%	2.9%	3.0%	3.6%	3.3%	NMF	1.0%	2.8%	2.7%	*5.5%*	*5.0%*	Retained to Com Eq	*6.0%*
						80%	78%	72%	68%	65%	65%	113%	84%	67%	67%	*57%*	*54%*	All Div'ds to Net Prof	*51%*

CAPITAL STRUCTURE as of 9/30/07
Total Debt $297.2 mill. **Due in 5 Yrs** $20.0 mill.
LT Debt $267.6 mill. **LT Interest** $24.0 mill.
(LT interest earned: 3.5x; total interest coverage: 3.4x) (47% of Cap'l)

Leases, Uncapitalized: None
Pension Assets-12/06 $64.3 mill.
Oblig. $86.1 mill.
Pfd Stock None. **Pfd Div'd** None.

Common Stock 17,197,055 shs.
MARKET CAP: $650 million (Small Cap)

CURRENT POSITION ($MILL.)	2005	2006	9/30/07
Cash Assets	13.0	3.2	3.6
Receivables	13.3	14.8	19.6
Inventory (Avg Cst)	1.4	1.6	1.8
Other	41.2	44.8	44.2
Current Assets	68.9	64.4	69.2
Accts Payable	19.7	24.0	25.3
Debt Due	27.6	32.6	29.6
Other	30.3	29.3	34.1
Current Liab.	77.6	85.9	89.0
Fix. Chg. Cov.	413%	268%	*330%*

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '04-'06 to '10-'12
Revenues	3.0%	2.5%	*6.0%*
"Cash Flow"	4.0%	2.0%	*7.0%*
Earnings	1.5%	-0.5%	*10.0%*
Dividends	1.0%	1.0%	*4.5%*
Book Value	4.0%	4.5%	*3.0%*

Calendar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun. 30	Sep. 30	Dec. 31	Full Year
2004	46.7	59.3	69.0	53.0	228.0
2005	49.8	60.5	68.1	57.8	236.2
2006	64.3	63.0	75.0	66.3	268.6
2007	72.3	79.2	75.8	*72.7*	*300*
2008	*77.0*	*82.0*	*81.0*	*75.0*	*315*

Calendar	EARNINGS PER SHARE [A] Mar.31	Jun. 30	Sep. 30	Dec. 31	Full Year
2004	.08	.30	.52	.15	1.05
2005	.22	.34	.47	.29	1.32
2006	.35	.36	.32	.30	1.33
2007	.31	.42	.44	*.46*	*1.63*
2008	*.37*	*.45*	*.57*	*.41*	*1.80*

Calendar	QUARTERLY DIVIDENDS PAID [B] Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2004	.221	.221	.221	.225	.89
2005	.225	.225	.225	.225	.90
2006	.225	.225	.225	.235	.91
2007	.235	.235	.235	.250	.96
2008					

BUSINESS: American States Water Co. operates as a holding company. Through its principal subsidiary, Golden State Water Company, it supplies water to more than 250,000 customers in 75 communities in 10 counties. Service areas include the greater metropolitan areas of Los Angeles and Orange Counties. The company also provides electric utility services to nearly 23,250 customers in the city of Big Bear Lake and in areas of San Bernardino County. Acquired Chaparral City Water of Arizona (10/00). Has roughly 555 employees. Officers & directors own 3.1% of common stock (4/07 Proxy). Chairman: Lloyd Ross. President & CEO: Floyd Wicks. Inc: CA. Addr.: 630 East Foothill Boulevard, San Dimas, CA 91773. Tele.: 909-394-3600. Internet: www.aswater.com.

We've raised our near-term expectations for American States Water. The California Public Utilities Commission (CPUC) recently announced that it approved the company's general rate case appeal for its Region II service area as well as the request to recover general office expenses. The decision, which is retroactive to January 1, 2007, and will be recorded in the company's fourth-quarter 2007 results (set to be released as we headed to press), ought to increase revenue by roughly $6.4 million and add more than a dime to share earnings for the quarter. We now look for the company to earn $0.46 a share in the final quarter of 2007. Note that our estimate would have been higher if not for the unfavorable weather conditions that have limited usage rates in recent months. There may be additional regulatory backing on the horizon. Although the regulatory climate is much improved from years ago, the CPUC is mulling over the idea of instituting a few of the proposals included in the Water Action Plan of 2005. Doing so would likely further streamline the decision making process, while removing some earnings volatility through the adoption of a weather normalization clause.

Even still, we advise investors to look elsewhere at this time. The aforementioned changes at the CPUC are still speculation and are not being factored into our estimates just yet. That said, earnings growth will probably slow considerably in 2008. Even if adopted, we suspect that a fair portion of the benefits coming from these changes would likely be offset by capital constraints. Indeed, American is highly leveraged and had only $3.6 million in cash on hand at the end of the most recent quarter. Infrastructure costs are expected to remain high, given aging systems and tighter EPA regulations, forcing management to look to outside financiers for help. The higher interest costs associated with taking on more debt and/or additional shares will likely limit shareholder gains, as well. Meanwhile, the once robust dividend yield pales in comparison to years past, despite the recent 6% hike. These shares offer limited 3- to 5-year total-return appeal, despite the 10% drop in price since our October review.

Andre J. Costanza January 25, 2008

(A) Primary earnings. Excludes nonrecurring gains: '91, 73¢; '92, 13¢; '04, 14¢; '05, 25¢; '06, 6¢. Next earnings report due early February.

(B) Dividends historically paid in early March, June, September, and December. · Div'd reinvestment plan available.
(C) In millions, adjusted for splits.

Company's Financial Strength	B++
Stock's Price Stability	75
Price Growth Persistence	75
Earnings Predictability	60

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CALIFORNIA WATER NYSE-CWT

RECENT PRICE 36.23 | P/E RATIO 24.2 (Trailing: 25.5 Median: 20.0) | RELATIVE P/E RATIO 1.52 | DIV'D YLD 3.2% | VALUE LINE

TIMELINESS 4 Lowered 11/9/07
SAFETY 3 Lowered 7/27/07
TECHNICAL 1 Raised 1/25/08
BETA 1.15 (1.00 = Market)

2010-12 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	55	(+50%)	13%
Low	35	(-5%)	3%

Insider Decisions

	M	A	M	J	J	A	S	O	N
to Buy	0	0	0	0	0	1	0	0	0
Options	0	0	0	0	0	0	0	0	0
to Sell	0	0	0	0	0	0	0	0	0

Institutional Decisions

	1Q2007	2Q2007	3Q2007
to Buy	51	54	45
to Sell	39	43	46
Hld's(000)	8626	9544	9581

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	© VALUE LINE PUB., INC.	10-12
High:	21.9	29.6	33.8	32.0	31.4	28.6	26.9	31.4	37.9	42.1	45.8	45.4								
Low:	16.3	18.6	20.8	22.6	21.5	22.9	20.5	23.7	26.1	31.2	32.8	34.2								
	11.18	12.29	13.34	12.59	13.17	14.48	15.48	14.76	15.96	16.16	16.26	17.33	16.37	17.18	17.44	16.20	*17.40*	*18.15*	Revenues per sh	*21.80*
	1.98	1.92	2.25	2.02	2.07	2.50	2.92	2.60	2.75	2.52	2.20	2.65	2.51	2.83	3.03	2.71	*3.10*	*3.30*	"Cash Flow" per sh	*3.95*
	1.21	1.09	1.35	1.22	1.17	1.51	1.83	1.45	1.53	1.31	.94	1.25	1.21	1.46	1.47	1.34	*1.43*	*1.65*	Earnings per sh [A]	*2.20*
	.90	.93	.96	.99	1.02	1.04	1.06	1.07	1.09	1.10	1.12	1.12	1.12	1.13	1.14	1.15	1.16	*1.17*	Div'd Decl'd per sh [B] ·	*1.20*
	3.03	3.09	2.53	2.26	2.17	2.83	2.61	2.74	3.44	2.45	4.09	5.82	4.39	3.73	5.14	5.05	*4.05*	*3.85*	Cap'l Spending per sh	*4.00*
	10.35	10.51	10.90	11.56	11.72	12.22	13.00	13.38	13.43	12.90	12.95	13.12	14.44	15.66	15.79	18.15	*19.05*	*19.05*	Book Value per sh [C]	*20.50*
	11.38	11.38	11.38	12.49	12.54	12.62	12.62	12.62	12.94	15.15	15.18	15.18	16.93	18.37	18.39	20.66	*21.00*	*21.50*	Common Shs Outst'g [D]	*22.50*
	11.2	14.1	13.6	14.1	13.7	11.9	12.6	17.8	17.8	19.6	27.1	19.8	22.1	20.1	24.9	29.2	*27.3*		Avg Ann'l P/E Ratio	*21.0*
	.72	.86	.80	.92	.92	.75	.73	.93	1.01	1.27	1.39	1.08	1.26	1.06	1.33	1.58	*1.44*		Relative P/E Ratio	*1.40*
	6.6%	6.1%	5.2%	5.8%	6.4%	5.8%	4.6%	4.2%	4.0%	4.3%	4.4%	4.5%	4.2%	3.9%	3.1%	2.9%	3.0%		Avg Ann'l Div'd Yield	*2.7%*
							195.3	186.3	206.4	244.8	246.8	263.2	277.1	315.6	320.7	334.7	*365*	*390*	Revenues ($mill)	*490*
							23.3	18.4	19.9	20.0	14.4	19.1	19.4	26.0	27.2	25.6	*30.0*	*35.0*	Net Profit ($mill)	*50.0*
							37.4%	36.4%	37.9%	42.3%	39.4%	39.7%	39.9%	39.6%	42.4%	37.4%	*40.0%*	*41.0%*	Income Tax Rate	*41.0%*
							--	--	--	--	--	--	10.3%	3.2%	3.3%	10.6%	*5.0%*	*5.0%*	AFUDC % to Net Profit	*5.0%*
							45.4%	44.2%	46.9%	48.9%	50.3%	55.3%	50.2%	48.6%	48.3%	43.5%	*44.5%*	*46.0%*	Long-Term Debt Ratio	*48.5%*
							53.5%	54.7%	52.0%	50.2%	48.8%	44.0%	49.1%	50.8%	51.1%	55.9%	*55.5%*	*53.5%*	Common Equity Ratio	*51.0%*
							306.7	308.6	333.8	388.8	402.7	453.1	498.4	565.9	568.1	670.1	*720*	*765*	Total Capital ($mill)	*900*
							460.4	478.3	515.4	582.0	624.3	697.0	759.5	800.3	862.7	941.5	*995*	*1050*	Net Plant ($mill)	*1175*
							9.4%	7.8%	7.8%	6.8%	5.3%	5.9%	5.6%	6.1%	6.3%	5.2%	*5.5%*	*6.0%*	Return on Total Cap'l	*7.5%*
							13.9%	10.7%	11.2%	10.0%	7.2%	9.4%	7.8%	8.9%	9.3%	6.8%	*7.5%*	*8.5%*	Return on Shr. Equity	*11.0%*
							14.1%	10.8%	11.4%	10.1%	7.2%	9.5%	7.9%	9.0%	9.3%	6.8%	*7.5%*	*8.5%*	Return on Com Equity	*11.0%*
							6.0%	2.8%	3.5%	1.8%	NMF	1.0%	.7%	2.1%	2.1%	1.0%	*1.5%*	*2.5%*	Retained to Com Eq	*5.0%*
							58%	74%	70%	82%	119%	90%	91%	77%	78%	86%	*81%*	*72%*	All Div'ds to Net Prof	*54%*

LEGENDS
1.33 x Dividends p sh divided by Interest Rate
.... Relative Price Strength
2-for-1 split 1/98
Options: No
Shaded area indicates recession

Target Price Range 2010 | 2011 | 2012

% TOT. RETURN 12/07

	THIS STOCK	VL ARITH. INDEX
1 yr.	-6.3	1.3
3 yr.	6.9	25.2
5 yr.	84.6	117.2

CAPITAL STRUCTURE as of 9/30/07
Total Debt $292.9 mill. **Due in 5 Yrs** $12.0 mill.
LT Debt $291.1 mill. **LT Interest** $21.5 mill.

(LT interest earned: 3.3x; total int. cov.: 3.2x)

Pension Assets-12/06 $78.4 mill.
Oblig. $109.1 mill.
Pfd Stock $3.5 mill. **Pfd Div'd** $.15 mill.
139,000 shares, 4.4% cumulative ($25 par).

Common Stock 20,666,869 shs.
as of 11/1/07
MARKET CAP: $750 million (Small Cap)

CURRENT POSITION ($MILL.)	2005	2006	9/30/07
Cash Assets	9.5	60.3	26.5
Other	42.7	49.3	61.9
Current Assets	52.2	109.6	88.4
Accts Payable	36.1	33.1	39.1
Debt Due	1.1	1.8	1.8
Other	39.6	35.3	40.8
Current Liab.	76.8	70.2	81.7
Fix. Chg. Cov.	361%	317%	*380%*

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '04-'06 to '10-'12
Revenues	2.5%	1.0%	*4.5%*
"Cash Flow"	2.5%	3.0%	*5.5%*
Earnings	1.0%	2.5%	*7.5%*
Dividends	1.0%	.5%	*1.0%*
Book Value	3.5%	5.0%	*3.5%*

Calendar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2004	60.2	88.9	97.1	69.4	315.6
2005	60.3	81.5	101.1	77.8	320.7
2006	65.2	81.1	107.8	80.6	334.7
2007	71.6	95.8	113.9	*83.7*	*365*
2008	*76.0*	*102*	*120*	*92.0*	*390*

Calendar	EARNINGS PER SHARE [A] Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2004	.08	.59	.59	.20	1.46
2005	.03	.41	.71	.32	1.47
2006	.04	.31	.68	.31	1.34
2007	.07	.37	.67	*.32*	*1.43*
2008	*.09*	*.42*	*.77*	*.37*	*1.65*

Calendar	QUARTERLY DIVIDENDS PAID [B] · Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2004	.283	.283	.283	.283	1.13
2005	.285	.285	.285	.285	1.14
2006	.2875	.2875	.2875	.2875	1.15
2007	.290	.290	.290	.290	1.16
2008					

BUSINESS: California Water Service Group provides regulated and nonregulated water service to over 2 million people (483,900 customers) in 83 communities in California, Washington, New Mexico, and Hawaii. Main service areas: San Francisco Bay area, Sacramento Valley, Salinas Valley, San Joaquin Valley & parts of Los Angeles. Acquired National Utility Company (5/04); Rio Grande Corp. (11/00). Revenue breakdown, '06: residential, 70%; business, 18%; public authorities, 5%; industrial, 5%; other, 2%. '06 reported deprec. rate: 3.3%. Has roughly 870 employees. Chairman: Robert W. Foy. President & CEO: Peter C. Nelson. Inc.: Delaware. Address: 1720 North First Street, San Jose, California 95112-4598. Telephone: 408-367-8200. Internet: www.calwatergroup.com.

We've softened our outlook for California Water Service Group a bit since our October report. The water utility provider ran into some unforeseen problems in the third quarter 2007, when unfavorable weather conditions, and lower usage rates, caused it to post earnings of $0.67 a share, a penny off the prior year's mark. Meanwhile, there has been an unexpected holdup on the regulatory front. The California Public Utilities Commission, which appeared to have turned over a new leaf and had been handing out more timely and favorable rulings in recent memory, has yet to rule on the company's 2006 general rate case. Also, approval of parts of the Water Action Plan, namely of a Water Revenue Adjustment Mechanism (WRAM) and modified cost-balancing accounting was postponed. As a result, we've reduced our fourth-quarter 2007 share-net estimate by a few pennies to $0.32 and our full-year 2008 figure by a dime to $1.65. Note, that our 2008 figure would receive a boost if any of the WRAM amendments are implemented before the third quarter.

The stock has given back most of the gains it enjoyed last year . . . Indeed, it has fallen from its $45-plus perch, trading down more than 10% since our October report. The issue is now ranked 4 (Below Average) for Timeliness based on our momentum-driven system.

. . . however, we still think it is richly valued according to current market conditions. The stock is currently trading at nearly 25 times 12-month earnings (through June), a premium compared to our 2010-2012 projections. Although we suspect that recent regulatory lag is just a hiccup, and that an improving landscape paints a favorable backdrop for the industry as a whole, we think that the current share price accounts for these potential changes. Meanwhile, capital constraints continue to concern us. Infrastructure costs are likely to continue rising as systems and pipelines age and EPA requirements grow tougher. However, California does not have the cash to fund these endeavors and will probably have to issue more shares and/or debt, thereby limiting shareholders' gains. Although the dividend provides some downside risk, income-minded investors have better options.

Andre J. Costanza January 25, 2008

(A) Basic EPS. Excl. nonrecurring gain (loss): '00, (7¢); '01, 4¢; 02, 8¢. Next earnings report due early February.

(B) Dividends historically paid in mid-Feb., May, Aug., and Nov. · Div'd reinvestment plan available.

(C) Incl. deferred charges. In '06: $69.5 mill., $3.36/sh.

(D) In millions, adjusted for split.

Company's Financial Strength	B++
Stock's Price Stability	65
Price Growth Persistence	75
Earnings Predictability	70

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AQUA AMERICA NYSE-WTR

RECENT PRICE **20.42** | P/E RATIO **23.2** (Trailing: 28.4, Median: 24.0) | RELATIVE P/E RATIO **1.46** | DIV'D YLD **2.5%** | **VALUE LINE**

TIMELINESS 4 Raised 3/9/07
SAFETY 3 Lowered 8/1/03
TECHNICAL 2 Raised 1/11/08
BETA .90 (1.00 = Market)

2010-12 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	30	(+45%)	13%
Low	20	(Nil)	3%

Insider Decisions

	M	A	M	J	J	A	S	O	N
to Buy	0	0	0	0	0	0	0	0	0
Options	0	0	2	0	2	3	2	1	1
to Sell	0	0	2	0	2	2	3	1	1

Institutional Decisions

	1Q2007	2Q2007	3Q2007
to Buy	108	109	84
to Sell	95	109	114
Hld's(000)	56295	64821	55922

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	© VALUE LINE PUB., INC.	10-12
High:	5.7	8.5	11.5	11.5	12.0	14.8	15.0	16.8	18.5	29.2	29.8	26.6								
Low:	3.9	4.4	7.2	7.6	6.3	9.4	9.6	11.8	14.2	17.5	20.1	18.9								
	2.14	1.82	1.70	1.82	1.84	1.86	2.02	2.09	2.41	2.46	2.70	2.85	2.97	3.48	3.85	4.03	*4.55*	*4.80*	Revenues per sh	*5.35*
	.45	.39	.42	.42	.47	.50	.56	.61	.72	.76	.86	.94	.96	1.09	1.21	1.26	*1.45*	*1.55*	"Cash Flow" per sh	*1.80*
	.25	.24	.24	.26	.29	.30	.34	.40	.42	.47	.51	.54	.57	.64	.71	.70	*.75*	*.90*	Earnings per sh [A]	*1.05*
	.19	.20	.21	.21	.22	.23	.24	.26	.27	.28	.30	.32	.35	.37	.40	.44	*.48*	*.55*	Div'd Decl'd per sh [B]	*.70*
	.54	.60	.47	.46	.52	.48	.58	.82	.90	1.16	1.09	1.20	1.32	1.54	1.84	2.05	*2.10*	*2.15*	Cap'l Spending per sh	*2.30*
	2.07	2.09	2.29	2.41	2.46	2.69	2.84	3.21	3.42	3.85	4.15	4.36	5.34	5.89	6.30	6.96	*7.15*	*7.45*	Book Value per sh	*9.30*
	41.42	51.20	59.40	59.77	63.74	65.75	67.47	72.20	106.80	111.82	113.97	113.19	123.45	127.18	128.97	132.33	*134.00*	*136.00*	Common Shs Outst'g [C]	*140.00*
	10.8	12.5	14.4	13.5	12.0	15.6	17.8	22.5	21.2	18.2	23.6	23.6	24.5	25.1	31.8	34.7	*30.3*		Avg Ann'l P/E Ratio	*25.0*
	.69	.76	.85	.89	.80	.98	1.03	1.17	1.21	1.18	1.21	1.29	1.40	1.33	1.69	1.87	*1.60*		Relative P/E Ratio	*1.65*
	7.2%	6.8%	5.9%	6.0%	6.2%	4.9%	3.9%	2.9%	3.0%	3.3%	2.5%	2.5%	2.5%	2.3%	1.8%	1.8%	2.1%		Avg Ann'l Div'd Yield	*2.7%*
	136.2	151.0	257.3	275.5	307.3	322.0	367.2	442.0	496.8	533.5	*610*	*650*	Revenues ($mill)	*750*
	23.2	28.8	45.0	50.7	58.5	62.7	67.3	80.0	91.2	92.0	*100*	*115*	Net Profit ($mill)	*150*
	40.6%	40.5%	38.4%	38.9%	39.3%	38.5%	39.3%	39.4%	38.4%	39.6%	*39.5%*	*39.0%*	Income Tax Rate	*39.0%*
	--	--	--	--	--	--	--	--	2.9%	2.0%	*2.0%*	*2.0%*	AFUDC % to Net Profit	*2.0%*
	54.4%	52.7%	52.9%	52.0%	52.2%	54.2%	51.4%	50.0%	52.0%	51.6%	*52.0%*	*52.0%*	Long-Term Debt Ratio	*51.0%*
	44.8%	46.6%	46.7%	47.8%	47.7%	45.8%	48.6%	50.0%	48.0%	48.4%	*48.0%*	*48.0%*	Common Equity Ratio	*49.0%*
	427.2	496.6	782.7	901.1	990.4	1076.2	1355.7	1497.3	1690.4	1904.4	*2000*	*2110*	Total Capital ($mill)	*2550*
	534.5	609.8	1135.4	1251.4	1368.1	1490.8	1824.3	2069.8	2280.0	2506.0	*2750*	*2900*	Net Plant ($mill)	*3500*
	7.4%	7.6%	7.6%	7.4%	7.8%	7.6%	6.4%	6.7%	6.9%	6.4%	*6.5%*	*7.0%*	Return on Total Cap'l	*7.5%*
	11.9%	12.3%	12.2%	11.7%	12.3%	12.7%	10.2%	10.7%	11.2%	10.0%	*10.5%*	*11.0%*	Return on Shr. Equity	*11.5%*
	12.0%	12.4%	12.3%	11.7%	12.4%	12.7%	10.2%	10.7%	11.2%	10.0%	*10.5%*	*11.0%*	Return on Com Equity	*11.5%*
	3.6%	4.5%	4.3%	4.7%	5.1%	5.2%	4.2%	4.6%	4.9%	3.7%	*3.5%*	*3.5%*	Retained to Com Eq	*4.0%*
	70%	64%	65%	60%	59%	59%	59%	57%	56%	63%	*64%*	*61%*	All Div'ds to Net Prof	*67%*

CAPITAL STRUCTURE as of 9/30/07
Total Debt $1062.3 mill. **Due in 5 Yrs** $150.0 mill.
LT Debt $1038.0 mill. **LT Interest** $66.5 mill.
(LT interest earned: 3.6x; total interest coverage: 3.4x) (52% of Cap'l)

Pension Assets-12/06 $126.5 mill. **Oblig.** $178.3 mill.

Pfd Stock None
Common Stock 133,249,378 shares as of 10/23/07

MARKET CAP: $2.7 billion (Mid Cap)

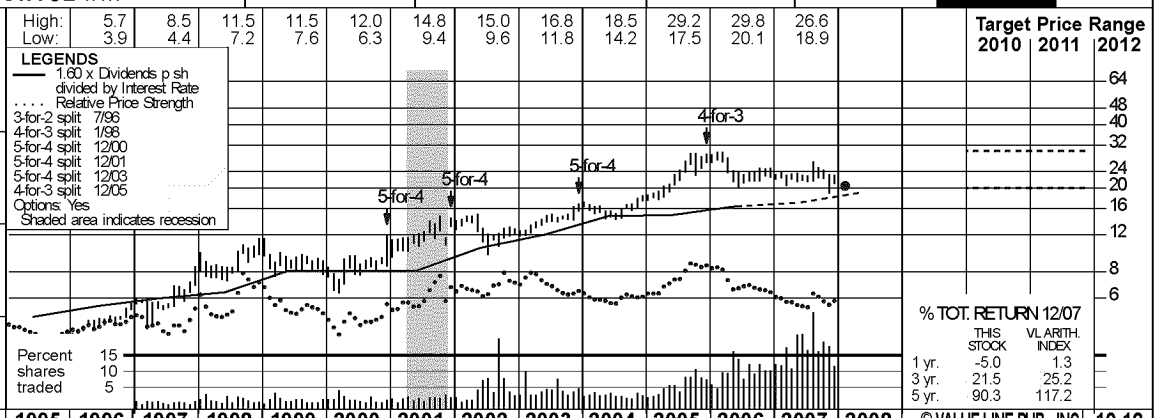
CURRENT POSITION ($MILL.)	2005	2006	9/30/07
Cash Assets	11.9	44.0	15.6
Receivables	62.7	72.1	94.4
Inventory (AvgCst)	7.8	10.2	9.6
Other	7.6	8.4	9.1
Current Assets	90.0	134.7	128.7
Accts Payable	55.5	49.4	27.4
Debt Due	163.1	150.4	24.3
Other	44.7	55.8	263.7
Current Liab.	263.3	255.6	315.4
Fix. Chg. Cov.	377%	360%	360%

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '04-'06 to '10-'12
Revenues	7.5%	8.5%	*6.0%*
"Cash Flow"	10.0%	9.0%	*7.0%*
Earnings	9.0%	8.0%	*7.5%*
Dividends	6.5%	7.0%	*9.5%*
Book Value	9.5%	11.0%	*6.5%*

Calendar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2004	99.8	106.5	120.3	115.4	442.0
2005	114.0	123.1	136.8	122.9	496.8
2006	118.0	131.7	147.0	136.8	533.5
2007	137.3	150.6	165.5	*156.6*	*610*
2008	*145*	*165*	*185*	*155*	*650*

Calendar	EARNINGS PER SHARE [A] Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2004	.13	.14	.20	.17	.64
2005	.15	.17	.22	.17	.71
2006	.13	.17	.21	.19	.70
2007	.13	.18	.22	*.22*	*.75*
2008	*.20*	*.24*	*.24*	*.22*	*.90*

Calendar	QUARTERLY DIVIDENDS PAID [B] Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2004	.09	.09	.09	.098	.37
2005	.098	.098	.098	.107	.40
2006	.107	.107	.115	.115	.44
2007	.115	.115	.125	.125	.48
2008					



BUSINESS: Aqua America, Inc. is the holding company for water and wastewater utilities that serve approximately 2.8 million residents in Pennsylvania, Ohio, North Carolina, Illinois, Texas, New Jersey, Florida, Indiana, and five other states. Divested three of four non-water businesses in '91; telemarketing group in '93; and others. Acquired AquaSource, 7/03; Consumers Water, 4/99; and others. Water supply revenues '06: residential, 60%; commercial, 14%; industrial & other, 26%. Officers and directors own 1.2% of the common stock (4/07 Proxy). Chairman & Chief Executive Officer: Nicholas DeBenedictis. Incorporated: Pennsylvania. Address: 762 West Lancaster Avenue, Bryn Mawr, Pennsylvania 19010. Telephone: 610-525-1400. Internet: www.aquaamerica.com.

We have lowered our share-net estimate for Aqua America's recently completed fourth quarter. Due to the struggling housing market and the inability of the company to raise its rates in a few markets, we now believe that the company earned $0.22 a share during the December period, down from our previous estimate of $0.24 (WTR will release its fourth-quarter financial results within the next few weeks). On the bright side,

We expect a healthy share-net advance this year. Aqua's profits will likely be fueled by its recent acquisition activities. Over the last several months, it has purchased a number of water companies that have expanded its market reach to new areas in Florida, New Jersey, Indiana, Pennsylvania, and Texas. Moreover, management continues to implement rate hikes throughout the nation, which will help advance the operating margin and profits this year. In sum, Aqua will likely post share earnings of $0.90 this year, 20% better than our estimate for 2007.

The company's balance sheet should be able to support a few more purchases. Although Aqua does not have a huge stash of cash (only $15 million), and already possesses an ample amount of debt, it probably generates enough funds to complete a few more acquisitions this year. Aqua will likely seek opportunities to bolster its water utility businesses in Texas, Pennsylvania, and Virginia.

These shares are not particularly appealing at this time. Although recent acquisitions should help Aqua America register a solid share-earnings advance in 2008, our Timeliness Ranking System suggests that this issue will lag the year-ahead market. Furthermore, looking long term, this stock already trades at the low end of our projected Target Price Range for 2010–2012, limiting appreciation potential out to that time frame. That said, our share-net estimates would likely be raised if Aqua can complete a few additional acquisitions over the next few years. Lastly, Income-oriented accounts can probably find better options elsewhere. Although Aqua has raised its quarterly dividend every year over the past decade, its current yield of 2.5% is probably not a good enough reason to look here.

Ian Gendler January 25, 2008

(A) Primary shares outstanding through '96; diluted thereafter. Excl. nonrec. gains (losses): '91, (34¢); '92, (38¢); '99, (11¢); '00, 2¢; '01, 2¢; '02, 5¢; '03, 4¢. Excl. gain from disc. operations: '96, 2¢. Next earnings report due early Feb.
(B) Dividends historically paid in early March, June, Sept. & Dec. · Div'd. reinvestment plan available (5% discount).
(C) In millions, adjusted for stock splits.

Company's Financial Strength	B+
Stock's Price Stability	90
Price Growth Persistence	80
Earnings Predictability	100

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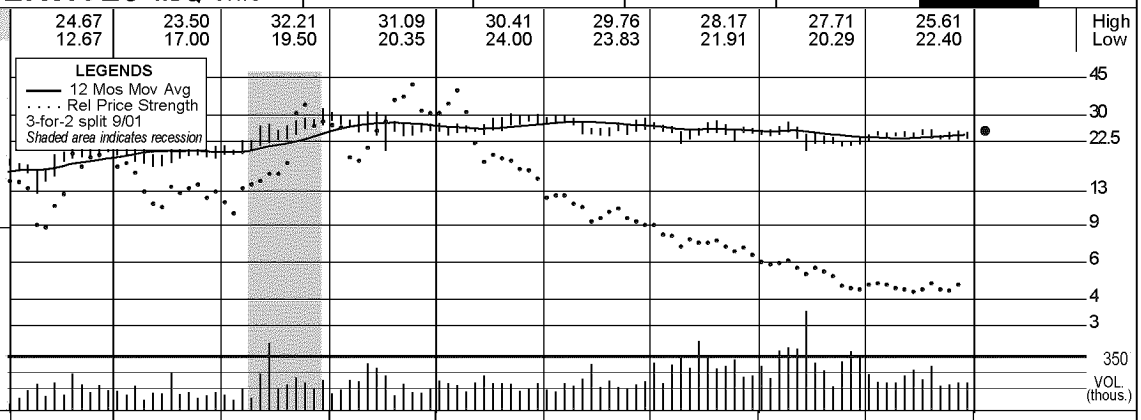
CONN. WATER SERVICES NDQ--CTWS

RECENT PRICE 25.21 | TRAILING P/E RATIO 28.0 | RELATIVE P/E RATIO 1.67 | DIV'D YLD 3.5% | VALUE LINE

RANKS

PERFORMANCE 3 Average
Technical 3 Average
SAFETY 3 Average
BETA .85 (1.00 = Market)

Financial Strength B+
Price Stability 85
Price Growth Persistence 40
Earnings Predictability 85



© VALUE LINE PUBLISHING, INC.	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008/2009
SALES PER SH	5.87	5.70	5.93	5.77	5.91	6.04	5.81	5.68	--	
"CASH FLOW" PER SH	1.65	1.73	1.78	1.78	1.89	1.91	1.62	1.52	--	
EARNINGS PER SH	1.03	1.09	1.13	1.12	1.15	1.16	.88	.81	*1.10* [A,B]	*1.17* [C]*/NA*
DIV'DS DECL'D PER SH	.79	.79	.80	.81	.83	.84	.85	.86	--	
CAP'L SPENDING PER SH	1.42	1.43	1.86	1.98	1.49	1.58	1.96	1.96	--	
BOOK VALUE PER SH	8.61	8.92	9.25	10.06	10.46	10.94	11.52	11.60	--	
COMMON SHS OUTST'G (MILL)	7.26	7.28	7.65	7.94	7.97	8.04	8.17	8.27	--	
AVG ANN'L P/E RATIO	18.2	18.2	21.5	24.3	23.5	22.9	28.6	29.0	*22.9*	*21.5/NA*
RELATIVE P/E RATIO	1.04	1.18	1.10	1.33	1.34	1.21	1.51	1.57	--	
AVG ANN'L DIV'D YIELD	4.2%	4.0%	3.3%	3.0%	3.0%	3.1%	3.4%	3.6%	--	
SALES ($MILL)	42.6	41.5	45.4	45.8	47.1	48.5	47.5	46.9	--	
OPERATING MARGIN	48.7%	48.8%	56.1%	57.7%	52.1%	51.0%	48.3%	43.7%	--	
DEPRECIATION ($MILL)	4.5	4.7	5.0	5.4	5.9	6.0	6.1	5.9	--	
NET PROFIT ($MILL)	7.5	8.0	8.7	8.8	9.2	9.4	7.2	6.7	--	
INCOME TAX RATE	40.1%	35.7%	36.1%	33.8%	17.9%	22.9%	--	23.5%	--	
NET PROFIT MARGIN	17.6%	19.2%	19.1%	19.2%	19.5%	19.4%	15.1%	14.3%	--	
WORKING CAP'L ($MILL)	d3.8	.3	d3.3	d5.1	d3.9	d.7	13.0	1.2	--	
LONG-TERM DEBT ($MILL)	65.4	64.7	64.0	64.8	64.8	66.4	77.4	77.3	--	
SHR. EQUITY ($MILL)	63.3	65.7	71.6	80.7	84.2	88.7	94.9	96.7	--	
RETURN ON TOTAL CAP'L	7.4%	7.6%	7.9%	7.4%	7.5%	7.0%	5.0%	4.9%	--	
RETURN ON SHR. EQUITY	11.8%	12.1%	12.1%	10.9%	10.9%	10.6%	7.5%	6.9%	--	
RETAINED TO COM EQ	3.1%	3.2%	3.6%	3.1%	3.2%	3.1%	.3%	NMF	--	
ALL DIV'DS TO NET PROF	74%	74%	71%	72%	71%	71%	95%	105%	--	

Bold figures are consensus earnings estimates and, using the recent prices, P/E ratios.

[A] *No. of analysts changing earn. est. in last 12 days: 0 up, 0 down, consensus 5-year earnings growth not available.* [B] *Based upon 2 analysts' estimates.* [C] *Based upon 2 analysts' estimates.*

ANNUAL RATES

of change (per share)	5 Yrs.	1 Yr.
Sales	--	-2.5%
"Cash Flow"	-0.5%	-6.0%
Earnings	-2.5%	-8.0%
Dividends	1.0%	1.0%
Book Value	5.0%	0.5%

QUARTERLY SALES ($mill.)

Fiscal Year	1Q	2Q	3Q	4Q	Full Year
12/31/05	10.9	11.0	14.1	11.5	47.5
12/31/06	10.5	11.4	13.3	11.7	46.9
12/31/07	13.2	14.4	17.0		
12/31/08					

EARNINGS PER SHARE

Fiscal Year	1Q	2Q	3Q	4Q	Full Year
12/31/04	.24	.26	.47	.19	1.16
12/31/05	.24	.15	.41	.08	.88
12/31/06	.21	.12	.45	.03	.81
12/31/07	.18	.22	.47	*.23*	
12/31/08	*.20*	*.27*			

QUARTERLY DIVIDENDS PAID

Cal-endar	1Q	2Q	3Q	4Q	Full Year
2005	.21	.21	.213	.213	.85
2006	.213	.213	.215	.215	.86
2007	.215	.215	.218	.218	.87
2008					

INSTITUTIONAL DECISIONS

	1Q'07	2Q'07	3Q'07
to Buy	18	17	20
to Sell	11	12	9
Hld's(000)	1461	1717	1828

ASSETS ($mill.)	2005	2006	9/30/07
Cash Assets	4.4	1.4	.3
Receivables	5.9	9.5	13.2
Inventory (Avg cost)	.9	.9	1.1
Other	14.9	2.4	4.0
Current Assets	26.1	14.2	18.6
Property, Plant & Equip, at cost	345.0	370.5	- -
Accum Depreciation	97.3	102.4	- -
Net Property	247.7	268.1	276.0
Other	32.2	32.9	35.3
Total Assets	306.0	315.2	329.9
LIABILITIES ($mill.)			
Accts Payable	4.8	6.0	7.1
Debt Due	7.1	5.3	11.5
Other	1.3	1.7	2.4
Current Liab	13.2	13.0	21.0

LONG-TERM DEBT AND EQUITY as of 9/30/07

Total Debt $88.8 mill. **Due in 5 Yrs.** NA
LT Debt $77.3 mill.
Including Cap. Leases NA (43% of Cap'l)

Leases, Uncapitalized Annual rentals NA

Pension Liability None in '06 vs. None in '05

Pfd Stock $.8 mill. **Pfd Div'd Paid** NMF

Common Stock 8,358,436 shares (57% of Cap'l)

INDUSTRY: Water Utility

BUSINESS: Connecticut Water Service, Inc. primarily operates as a water utility company in Connecticut. It operates through three segments: Water Activities, Real Estate Transactions, and Services and Rentals. The Water Activities segment supplies public drinking water to its customers. The Real Estate Transactions segment involves in the sale of its limited excess real estate holdings. The Services and Rentals segment provides contracted services to water and wastewater utilities and other clients, as well as leases certain of its properties to third parties. This segment's services include contract operations of water and wastewater facilities; Linebacker, its service line protection plan for public drinking water customers; and provision of bulk deliveries of emergency drinking water to businesses and residences via tanker truck. As of November 7, 2007, Connecticut Water provided water to approximately 83,000 or 286,000 customers in 41 towns in Connecticut. Has about 200 employees. Chairman, C.E.O. & President: Eric W. Thornburg. Inc.: CT. Address: 93 West Main Street, Clinton, CT 06413. Tel.: (860) 669-8630. Internet: http://www.ctwater.com. *L.Y.*

January 25, 2008

TOTAL SHAREHOLDER RETURN

Dividends plus appreciation as of 12/31/2007

3 Mos.	6 Mos.	1 Yr.	3 Yrs.	5 Yrs.
2.10%	-1.46%	7.36%	-1.17%	10.40%

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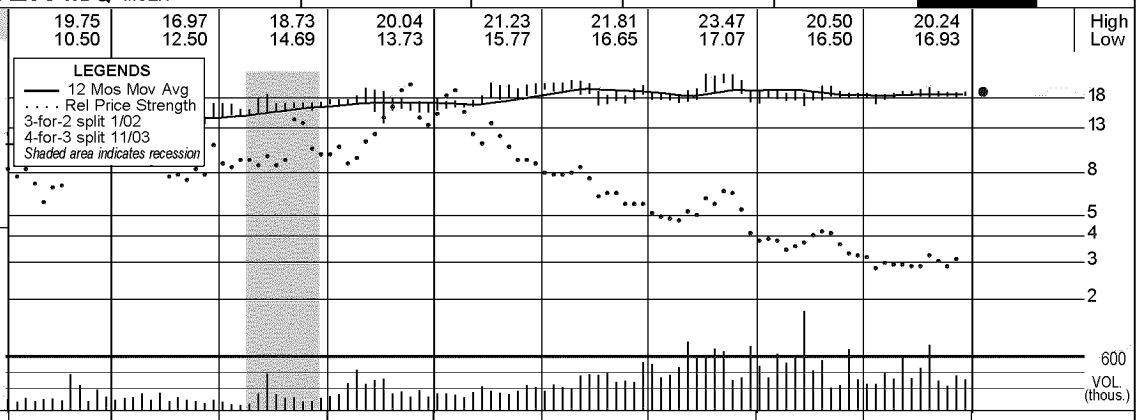
MIDDLESEX WATER NDQ-MSEX

RECENT PRICE	TRAILING P/E RATIO	RELATIVE P/E RATIO	DIV'D YLD	VALUE LINE
19.30	23.5	1.40	3.6%	

RANKS

PERFORMANCE 2 Above Average
Technical 2 Above Average
SAFETY 3 Average
BETA .90 (1.00 = Market)

Financial Strength B+
Price Stability 80
Price Growth Persistence 45
Earnings Predictability 80



© VALUE LINE PUBLISHING, INC.	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008/2009
SALES PER SH	5.35	5.39	5.87	5.98	6.12	6.25	6.44	6.16	--	
"CASH FLOW" PER SH	1.19	.99	1.18	1.20	1.15	1.28	1.33	1.33	--	
EARNINGS PER SH	.76	.51	.66	.73	.61	.73	.71	.82	*.84* [A,B]	*.91* [C]*/NA*
DIV'DS DECL'D PER SH	.60	.61	.62	.63	.65	.66	.67	.68	--	
CAP'L SPENDING PER SH	2.33	1.32	1.25	1.59	1.87	2.54	2.18	2.31	--	
BOOK VALUE PER SH	6.95	6.98	7.11	7.39	7.60	8.38	8.60	9.82	--	
COMMON SHS OUTST'G (MILL)	10.00	10.11	10.17	10.36	10.48	11.36	11.58	13.17	--	
AVG ANN'L P/E RATIO	17.6	28.7	24.6	23.5	30.0	26.4	27.4	22.7	*23.0*	*21.2/NA*
RELATIVE P/E RATIO	1.00	1.87	1.26	1.28	1.71	1.39	1.45	1.23	--	
AVG ANN'L DIV'D YIELD	4.4%	4.2%	3.8%	3.7%	3.5%	3.4%	3.5%	3.7%	--	
SALES ($MILL)	53.5	54.5	59.6	61.9	64.1	71.0	74.6	81.1	--	
OPERATING MARGIN	33.9%	32.2%	47.2%	47.1%	44.0%	44.4%	44.4%	47.4%	--	
DEPRECIATION ($MILL)	4.3	4.9	5.3	5.0	5.6	6.4	7.2	7.8	--	
NET PROFIT ($MILL)	7.9	5.3	7.0	7.8	6.6	8.4	8.5	10.0	--	
INCOME TAX RATE	28.8%	33.1%	34.8%	33.3%	32.8%	31.1%	27.6%	33.4%	--	
NET PROFIT MARGIN	14.7%	9.7%	11.7%	12.5%	10.3%	11.9%	11.4%	12.4%	--	
WORKING CAP'L ($MILL)	6.8	d2.7	d.9	d9.3	d13.3	d11.8	d4.5	2.8	--	
LONG-TERM DEBT ($MILL)	82.3	81.1	88.1	87.5	97.4	115.3	128.2	130.7	--	
SHR. EQUITY ($MILL)	74.6	74.7	76.4	80.6	83.7	99.2	103.6	133.3	--	
RETURN ON TOTAL CAP'L	6.4%	4.9%	5.6%	6.0%	5.0%	5.1%	5.0%	5.1%	--	
RETURN ON SHR. EQUITY	10.6%	7.1%	9.1%	9.6%	7.9%	8.5%	8.2%	7.5%	--	
RETAINED TO COM EQ	2.5%	NMF	.5%	1.3%	NMF	.9%	.5%	1.2%	--	
ALL DIV'DS TO NET PROF	78%	121%	94%	87%	106%	90%	94%	84%	--	

Bold figures are consensus earnings estimates and, using the recent prices, P/E ratios.

[A] *No. of analysts changing earn. est. in last 12 days: 0 up, 0 down, consensus 5-year earnings growth 8.0% per year.* [B] *Based upon 2 analysts' estimates.* [C] *Based upon 2 analysts' estimates.*

ANNUAL RATES

of change (per share)	5 Yrs.	1 Yr.
Sales	2.5%	-4.5%
"Cash Flow"	3.5%	0.5%
Earnings	3.5%	15.5%
Dividends	2.0%	1.5%
Book Value	5.0%	14.5%

QUARTERLY SALES ($mill.)

Fiscal Year	1Q	2Q	3Q	4Q	Full Year
12/31/05	16.7	18.4	20.8	18.7	74.6
12/31/06	18.2	21.0	22.6	19.3	81.1
12/31/07	19.0	21.8	24.1		
12/31/08					

EARNINGS PER SHARE

Fiscal Year	1Q	2Q	3Q	4Q	Full Year
12/31/04	.09	.16	.29	.19	.73
12/31/05	.12	.16	.26	.17	.71
12/31/06	.15	.25	.28	.14	.82
12/31/07	.13	.24	.31	*.16*	
12/31/08	*.14*	*.27*			

QUARTERLY DIVIDENDS PAID

Cal-endar	1Q	2Q	3Q	4Q	Full Year
2005	.168	.168	.168	.17	.67
2006	.17	.17	.17	.173	.68
2007	.173	.173	.173	.175	.69
2008					

INSTITUTIONAL DECISIONS

	1Q'07	2Q'07	3Q'07
to Buy	19	26	19
to Sell	14	13	15
Hld's(000)	3085	3289	3334

ASSETS ($mill.)	2005	2006	9/30/07
Cash Assets	3.0	5.8	2.7
Receivables	11.8	12.6	17.5
Inventory (Avg cost)	1.3	1.3	1.3
Other	.9	1.2	1.6
Current Assets	17.0	20.9	23.1
Property, Plant & Equip, at cost	343.0	376.8	- -
Accum Depreciation	55.0	59.7	- -
Net Property	288.0	317.1	331.8
Other	19.4	32.3	33.4
Total Assets	324.4	370.3	388.3
LIABILITIES ($mill.)			
Accts Payable	6.0	5.5	6.7
Debt Due	5.9	2.5	9.2
Other	9.6	10.1	11.0
Current Liab	21.5	18.1	26.9

LONG-TERM DEBT AND EQUITY as of 9/30/07

Total Debt $137.7 mill. **Due in 5 Yrs.** NA
LT Debt $128.4 mill.
Including Cap. Leases NA (48% of Cap'l)
Leases, Uncapitalized Annual rentals NA

Pension Liability $16.4 mill. in '06 vs. $6.7 mill. in '05

Pfd Stock $4.0 mill. **Pfd Div'd Paid** $.2 mill. (1% of Cap'l)

Common Stock 13,214,000 shares (51% of Cap'l)

INDUSTRY: Water Utility

BUSINESS: Middlesex Water Company engages in the ownership and operation of regulated water utility systems in New Jersey and Delaware, as well as a regulated wastewater utility in New Jersey. It offers contract operations services and a service line maintenance program through its nonregulated subsidiary, Utility Service Affiliates, Inc. The company's water utility system treats, stores, and distributes water for residential, commercial, industrial, and fire prevention purposes. Under a special contract, it also provides water treatment and pumping services to the Township of East Brunswick. Middlesex Water's other New Jersey subsidiaries offer water and wastewater services to residents in Southampton Township. The company's Delaware subsidiaries, Tidewater Utilities, Inc., Southern Shores Water Company, LLC, and Tidewater Environmental Services, Inc., offer water services to retail customers in New Castle, Kent, and Sussex counties. Has 243 employees. Chairman: J. Richard Tompkins. Inc.: NJ. Address: 1500 Ronson Road, P.O. BOX 1500, Iselin, NJ 08830. Tel.: (732) 634-1500. Internet: http://www.middlesexwater.com.

L.Y.

January 25, 2008

TOTAL SHAREHOLDER RETURN

Dividends plus appreciation as of 12/31/2007

3 Mos.	6 Mos.	1 Yr.	3 Yrs.	5 Yrs.
1.19%	0.47%	3.98%	10.39%	41.99%

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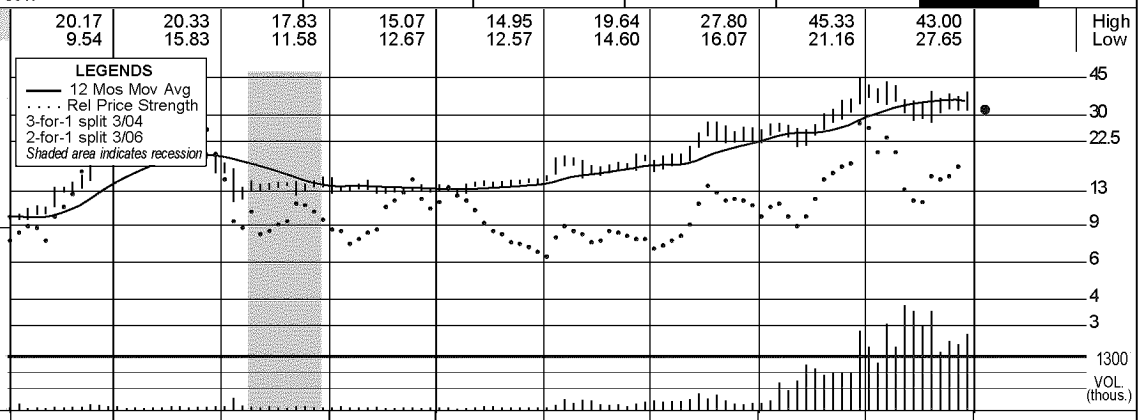
SJW CORP. NYSE--SJW

RECENT PRICE	TRAILING P/E RATIO	RELATIVE P/E RATIO	DIV'D YLD	VALUE LINE
31.79	30.3	1.81	1.9%	

RANKS

PERFORMANCE 2 Above Average
Technical 2 Above Average
SAFETY 3 Average
BETA 1.10 (1.00 = Market)

Financial Strength B+
Price Stability 55
Price Growth Persistence 80
Earnings Predictability 85



© VALUE LINE PUBLISHING, INC.	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008/2009
SALES PER SH	6.40	6.74	7.45	7.97	8.20	9.14	9.86	10.35	--	
"CASH FLOW" PER SH	1.43	1.23	1.49	1.55	1.75	1.89	2.21	2.38	--	
EARNINGS PER SH	.87	.58	.77	.78	.91	.87	1.12	1.19	*1.09* [A,B]	*1.48* [C]/NA
DIV'DS DECL'D PER SH	.40	.41	.43	.46	.49	.51	.53	.57	--	
CAP'L SPENDING PER SH	1.77	1.89	2.63	2.06	3.41	2.31	2.83	3.87	--	
BOOK VALUE PER SH	7.88	7.90	8.17	8.40	9.11	10.11	10.72	12.48	--	
COMMON SHS OUTST'G (MILL)	18.27	18.27	18.27	18.27	18.27	18.27	18.27	18.28	--	
AVG ANN'L P/E RATIO	15.5	33.1	18.5	17.3	15.4	19.6	19.7	23.5	*29.2*	*21.5/NA*
RELATIVE P/E RATIO	.88	2.15	.95	.94	.88	1.04	1.04	1.27	--	
AVG ANN'L DIV'D YIELD	3.0%	2.1%	3.0%	3.4%	3.5%	3.0%	2.4%	2.0%	--	
SALES ($MILL)	117.0	123.2	136.1	145.7	149.7	166.9	180.1	189.2	--	
OPERATING MARGIN	33.2%	30.2%	64.4%	63.7%	56.0%	56.4%	55.9%	57.0%	--	
DEPRECIATION ($MILL)	10.2	11.9	13.2	14.0	15.2	18.5	19.7	21.3	--	
NET PROFIT ($MILL)	15.9	10.7	14.0	14.2	16.7	16.0	20.7	22.2	--	
INCOME TAX RATE	35.9%	41.0%	34.5%	40.4%	36.2%	42.1%	41.6%	40.8%	--	
NET PROFIT MARGIN	13.6%	8.7%	10.3%	9.8%	11.2%	9.6%	11.5%	11.7%	--	
WORKING CAP'L ($MILL)	d3.0	d11.4	d3.8	d4.9	12.0	13.0	10.8	22.2	--	
LONG-TERM DEBT ($MILL)	90.0	90.0	110.0	110.0	139.6	143.6	145.3	163.6	--	
SHR. EQUITY ($MILL)	143.9	144.3	149.4	153.5	166.4	184.7	195.9	228.2	--	
RETURN ON TOTAL CAP'L	8.2%	5.9%	6.7%	6.9%	6.9%	6.5%	7.6%	7.0%	--	
RETURN ON SHR. EQUITY	11.0%	7.4%	9.4%	9.3%	10.0%	8.7%	10.6%	9.7%	--	
RETAINED TO COM EQ	5.9%	2.2%	4.1%	3.8%	4.7%	3.6%	5.6%	5.2%	--	
ALL DIV'DS TO NET PROF	46%	70%	56%	59%	53%	58%	47%	46%	--	

Bold figures are consensus earnings estimates and, using the recent prices, P/E ratios.

[A] *No. of analysts changing earn. est. in last 12 days: 0 up, 0 down, consensus 5-year earnings growth 10.0% per year.* [B] *Based upon one analyst's estimate.* [C] *Based upon one analyst's estimate.*

ANNUAL RATES

of change (per share)	5 Yrs.	1 Yr.
Sales	7.5%	5.0%
"Cash Flow"	9.5%	7.5%
Earnings	7.5%	6.0%
Dividends	5.5%	6.5%
Book Value	7.0%	16.5%

Fiscal Year	QUARTERLY SALES ($mill.) 1Q	2Q	3Q	4Q	Full Year
12/31/05	33.3	44.8	58.5	43.5	180.1
12/31/06	33.7	47.9	63.1	44.5	189.2
12/31/07	39.0	55.1	64.8		
12/31/08					

Fiscal Year	EARNINGS PER SHARE 1Q	2Q	3Q	4Q	Full Year
12/31/04	.09	.27	.30	.21	.87
12/31/05	.15	.31	.53	.13	1.12
12/31/06	.14	.35	.48	.22	1.19
12/31/07	.11	.29	.43	*.25*	
12/31/08	*.21*	*.42*			

Cal-endar	QUARTERLY DIVIDENDS PAID 1Q	2Q	3Q	4Q	Full Year
2005	.134	.134	.134	.134	.54
2006	.141	.141	.141	.141	.56
2007	.151	.151	.151	.151	.60
2008					

INSTITUTIONAL DECISIONS

	1Q'07	2Q'07	3Q'07
to Buy	35	40	32
to Sell	23	27	28
Hld's(000)	7905	8906	8664

ASSETS ($mill.)	2005	2006	9/30/07
Cash Assets	9.4	3.8	2.2
Receivables	18.4	20.9	32.6
Inventory	.6	.9	.9
Other	3.3	33.9	2.9
Current Assets	31.7	59.5	38.6
Property, Plant & Equip, at cost	695.0	776.2	- -
Accum Depreciation	210.2	234.5	- -
Net Property	484.8	541.7	625.6
Other	71.2	104.7	97.4
Total Assets	587.7	705.9	761.6
LIABILITIES ($mill.)			
Accts Payable	5.1	7.3	8.0
Debt Due	.3	16.0	8.2
Other	15.5	13.9	24.9
Current Liab	20.9	37.2	41.1

LONG-TERM DEBT AND EQUITY as of 9/30/07

Total Debt $204.6 mill. **Due in 5 Yrs.** NA
LT Debt $196.5 mill.
Including Cap. Leases NA (45% of Cap'l)
Leases, Uncapitalized Annual rentals NA

Pension Liability $26.3 mill. in '06 vs. $13.2 mill. in '05

Pfd Stock None **Pfd Div'd Paid** None

Common Stock 18,360,952 shares (55% of Cap'l)

INDUSTRY: Water Utility

BUSINESS: SJW Corp. engages in the production, purchase, storage, purification, distribution, and retail sale of water. It provides water service to customers in Cupertino, San Jose, Campbell, Monte Sereno, Saratoga, and the Town of Los Gatos, as well as in the county of Santa Clara, CA. The company also offers nonregulated water related services, including water system operations, billings, and cash remittance services. SJW owns commercial buildings and other undeveloped land in the San Jose and California; some properties in the states of Florida, Texas, and Connecticut; and a 70% limited partnership interest in 444 West Santa Clara Street, L.P. As of September 30, 2007, SJW provided water service to a population of approximately one million people in the metropolitan San Jose, California area; and to approximately 7,800 connections that served approximately 22,000 residents in the region between San Antonio and Austin, Texas. Has 357 employees. Chairman: Charles J. Toeniskoetter. Inc.: CA. Address: 374 West Santa Clara Street, San Jose, CA 95113. Tel.: (408) 279-7800. Internet: http://www.sjwater.com.

L.Y.

January 25, 2008

TOTAL SHAREHOLDER RETURN

Dividends plus appreciation as of 12/31/2007

3 Mos.	6 Mos.	1 Yr.	3 Yrs.	5 Yrs.
2.02%	5.15%	-8.89%	103.21%	203.66%

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SOUTHWEST WATER NDQ-SWWC

RECENT PRICE 12.11 | P/E RATIO 31.1 (Trailing: 36.7 Median: 21.0) | RELATIVE P/E RATIO 1.96 | DIV'D YLD 2.0% | VALUE LINE

TIMELINESS 4 Lowered 11/23/07
SAFETY 3 New 10/28/05
TECHNICAL 2 Raised 12/28/07
BETA 1.00 (1.00 = Market)

2010-12 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	20	(+65%)	15%
Low	14	(+15%)	6%

Insider Decisions

	M	A	M	J	J	A	S	O	N
to Buy	1	0	1	0	0	0	1	0	0
Options	2	1	2	0	0	1	0	0	0
to Sell	1	1	2	1	1	2	1	1	1

Institutional Decisions

	1Q2007	2Q2007	3Q2007
to Buy	34	33	34
to Sell	26	29	27
Hld's(000)	11936	12590	10913

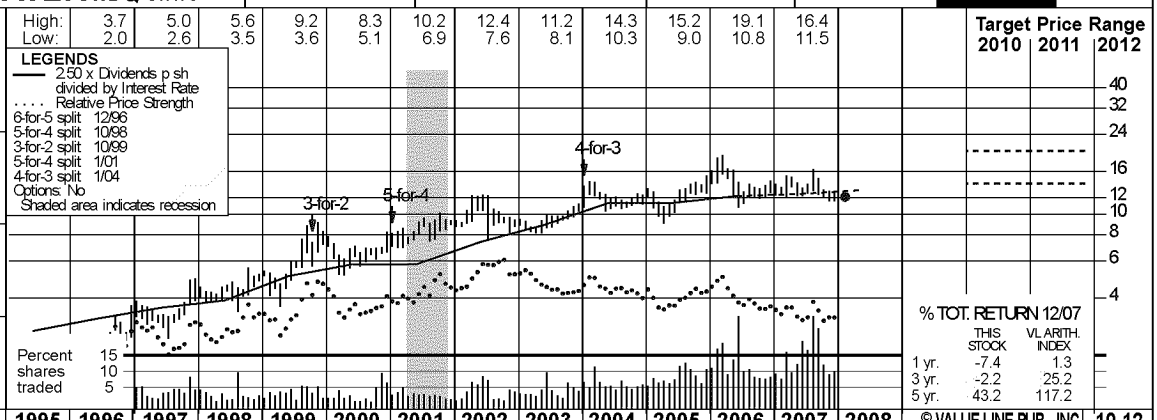
	2005	2006	9/30/07
CURRENT POSITION ($MILL.)			
Cash Assets	3.0	4.3	2.4
Receivables	26.5	27.5	27.4
Inventory (Avg Cst)	--	--	--
Other	18.2	16.5	11.9
Current Assets	47.7	48.3	41.7
Accts Payable	10.0	12.7	9.7
Debt Due	9.5	1.4	1.5
Other	21.1	21.7	22.6
Current Liab.	40.6	35.8	33.8

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '04-'06 to '10-'12
Revenues	7.0%	5.0%	3.0%
"Cash Flow"	6.0%	0.5%	10.5%
Earnings	10.5%	-2.5%	14.0%
Dividends	9.0%	9.0%	7.5%
Book Value	10.5%	13.5%	8.0%

Calendar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun. 30	Sep. 30	Dec. 31	Full Year
2004	39.8	45.7	55.0	47.5	188.0
2005	45.2	51.3	54.7	52.0	203.2
2006	50.8	55.4	60.1	57.9	224.2
2007	48.1	55.0	57.4	59.5	220
2008	55.0	58.0	60.0	62.0	235

Calendar	EARNINGS PER SHARE A Mar.31	Jun. 30	Sep. 30	Dec. 31	Full Year
2004	--	.13	.11	d.01	.23
2005	d.01	.15	.14	.06	.34
2006	.03	.08	.16	.13	.40
2007	.03	.09	.08	.10	.30
2008	.06	.15	.18	.11	.50

Calendar	QUARTERLY DIVIDENDS PAID B Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2004	.044	.044	.044	.048	.18
2005	.048	.048	.048	.052	.20
2006	.052	.052	.052	.058	.21
2007	.058	.058	.058	.058	.23
2008	.06				



1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	© VALUE LINE PUB., INC.	10-12
3.34	3.77	4.03	4.20	4.84	5.31	5.61	5.63	6.16	7.49	8.15	9.12	10.70	9.23	9.10	9.42	9.00	9.05	Revenues per sh	11.00
.28	.44	.38	.38	.44	.46	.53	.59	.65	.76	.87	.86	.91	.67	.78	.85	.90	1.10	"Cash Flow" per sh	1.40
.02	.19	.08	.09	.12	.15	.21	.25	.31	.38	.42	.39	.44	.23	.34	.40	.30	.50	Earnings per sh A	.70
.18	.18	.14	.08	.08	.09	.09	.10	.11	.13	.14	.15	.16	.18	.20	.21	.23	.24	Div'd Decl'd per sh B	.30
.39	.42	.60	.72	.84	.95	.74	.79	.53	.55	1.06	1.78	1.14	1.26	1.66	1.87	1.90	1.95	Cap'l Spending per sh	2.05
2.41	2.42	2.31	2.31	2.45	2.40	2.52	2.70	3.05	3.44	3.84	4.27	4.90	6.17	6.49	6.98	7.15	8.45	Book Value per sh D	10.50
11.60	11.80	11.97	12.13	11.74	12.45	12.65	12.83	13.12	13.99	14.17	14.35	16.17	20.36	22.33	23.80	24.50	26.00	Common Shs Outst'g C	30.00
NMF	14.5	35.8	22.3	14.6	16.5	16.9	17.2	19.6	17.0	19.8	24.8	21.2	51.6	35.5	34.8	43.5		Avg Ann'l P/E Ratio	25.0
NMF	.88	2.11	1.46	.98	1.03	.97	.89	1.12	1.11	1.01	1.35	1.21	2.73	1.89	1.88	2.30		Relative P/E Ratio	1.65
5.5%	6.6%	4.7%	4.2%	4.7%	3.4%	2.7%	2.3%	1.8%	2.0%	1.7%	1.5%	1.7%	1.5%	1.6%	1.5%	2.3%		Avg Ann'l Div'd Yield	1.7%
						71.0	72.2	80.9	104.7	115.5	130.8	173.0	188.0	203.2	224.2	220	235	Revenues ($mill)	330
						2.6	3.4	4.2	5.4	6.2	6.0	7.2	4.5	7.3	9.3	8.0	14.0	Net Profit ($mill)	22.0
						41.6%	39.5%	39.0%	37.0%	36.0%	34.9%	35.9%	36.1%	36.0%	35.0%	36.0%	36.0%	Income Tax Rate	35.5%
						--	--	--	--	14.4%	3.2%	--	11.0%	9.5%	12.5%	11.5%	12.0%	AFUDC % to Net Profit	12.5%
						47.9%	48.7%	45.2%	48.8%	51.4%	56.7%	47.9%	47.9%	44.7%	43.6%	44.5%	44.0%	Long-Term Debt Ratio	43.5%
						51.3%	50.5%	54.1%	50.7%	48.2%	42.9%	51.8%	52.0%	55.1%	56.3%	55.5%	56.0%	Common Equity Ratio	56.5%
						62.2	68.5	73.9	95.0	113.0	142.8	152.8	242.0	262.9	295.2	315	380	Total Capital ($mill)	560
						102.1	109.2	113.7	157.8	171.1	203.9	219.5	302.6	344.8	389.6	430	510	Net Plant ($mill)	750
						6.8%	7.1%	7.6%	7.6%	7.6%	5.8%	6.2%	3.1%	4.1%	4.5%	4.0%	5.0%	Return on Total Cap'l	5.0%
						8.0%	9.5%	10.3%	11.1%	11.4%	9.7%	9.0%	3.6%	5.0%	5.6%	4.5%	6.0%	Return on Shr. Equity	7.0%
						8.1%	9.6%	10.4%	11.1%	11.4%	9.7%	9.1%	3.6%	5.0%	5.6%	4.5%	6.0%	Return on Com Equity	7.0%
						4.5%	6.0%	7.0%	7.8%	7.8%	6.3%	5.8%	.8%	2.1%	2.6%	1.5%	3.0%	Retained to Com Eq	3.5%
						45%	38%	33%	31%	32%	36%	36%	78%	58%	54%	77%	48%	All Div'ds to Net Prof	43%

CAPITAL STRUCTURE as of 9/30/07
Total Debt $144.6 mill. **Due in 5 Yrs** $60.0 mill.
LT Debt $143.1 mill. **LT Interest** $8.4 mill.
(Total interest coverage: 2.7x) (46% of Cap'l)

Leases, Uncapitalized: Annual rentals $6.7 mill.
Pension Liability None

Pfd Stock $.458 mill. **Pfd Div'd** $.018 mill.
Common Stock 24,232,637 shs.
as of 11/2/07

MARKET CAP: $300 million (Small Cap)

BUSINESS: Southwest Water Company provides a broad range of services including water production, treatment and distribution; wastewater collection and treatment; utility billing and collection; utility infrastructure construction management; and public works services. It operates out of two groups, Utility (38% of 2006 revenues) and Services (62%). Utility owns and manages rate-regulated public water utilities in California, New Mexico, Oklahoma, and Texas. Services does mostly maintenance work on a contract basis. Off. & dir. own 6.3% of com. shs.; Stein Roe Investment Council, 9.7% (4/07 proxy). CEO and Chairman: Mark Swatek. Inc.: DE. Addr.: One Wilshire Building, 624 S. Grand Ave. Ste. 2900, Los Angeles, CA 90017. Tel.: 213-929-1800. Internet: www.swwc.com.

Southwest Water has struggled of late. A couple of months ago, it reported weak September-period financial results. For the quarter, due to record rainfall in Texas and the weak housing market, share net came in at just $0.08, well below our estimate of $0.15. In addition, for the recently completed fourth quarter, we have lowered our share-net estimate by $0.03 to $0.10. Along with the struggles of the housing market, which probably limited construction and repair opportunities for SWWC, profits were likely hampered by increased operating costs, stemming from its restructuring initiative. On the bright side, the situation should improve this year. Although the housing market has shown few signs of rebounding, Southwest will likely begin to benefit from the improvement of its operations. It recently introduced a new integrated operating system, which has helped improve its communication processes and should help lower operating expenses. Thus, we estimate that this new system will help widen the operating margin by about 50 basis points this year.

Profits will be fueled by Southwest's recent acquisition activity, as well. A few months ago, it purchased Diamond Water Company, which provides services to approximately 7,500 residents near San Antonio. This purchase helped SWWC expand its market reach and customer base in the Lone Star State. Moreover, the company is currently attempting to implement rate hikes in several of its markets. This action will help margins and profits this year. All told, we believe that 2008 share net will be $0.50, about 67% better than last year's 2007 probable results.

These shares do not stand out for the short or long term. Although its restructuring initiative and recent acquisitions may well help the company achieve a large share-net gain this year, our Timeliness Ranking System suggests that this issue will lag the year-ahead market. In addition, looking out to the 2010–2012 period, this stock offers below average appreciation potential to that timeframe. That said, Southwest will probably remain active on the acquisition front. Additional purchases would probably cause us to raise our earnings projections.

Ian Gendler January 25, 2008

(A) Diluted earnings. Excludes nonrecurring gains (losses): '00, (3¢); '01, (5¢); '02, 1¢; '05, (23¢). Next earnings report due mid-Mar.
(B) Dividends historically paid in late January, April, July, and October.
(C) In millions, adjusted for splits.
(D) Includes intangibles. In 2006: $36.0 million, $1.51/share.

Company's Financial Strength	B
Stock's Price Stability	55
Price Growth Persistence	70
Earnings Predictability	60

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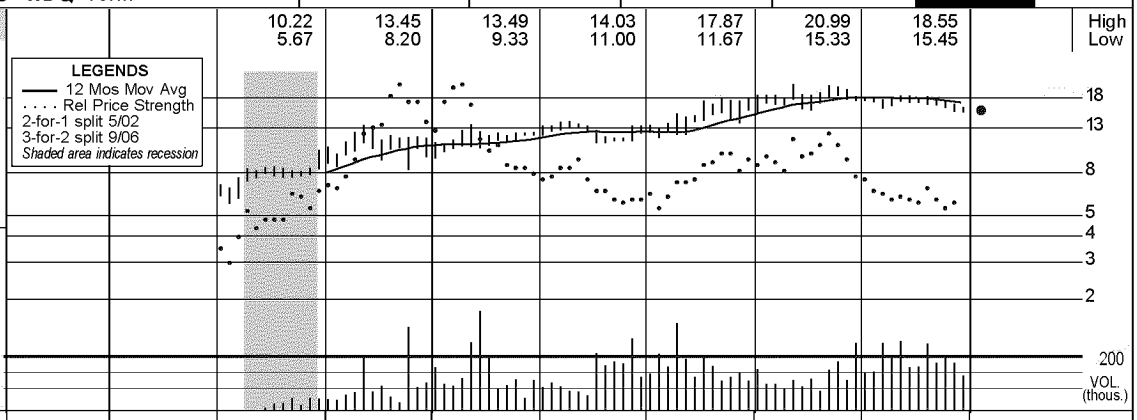
YORK WATER CO NDQ--YORW

RECENT PRICE	TRAILING P/E RATIO	RELATIVE P/E RATIO	DIV'D YLD	VALUE LINE
15.73	27.6	1.65	3.1%	

RANKS

PERFORMANCE	3	Average
Technical	2	Above Average
SAFETY	3	Average
BETA .50		(1.00 = Market)

Financial Strength	B+
Price Stability	65
Price Growth Persistence	40
Earnings Predictability	90



© VALUE LINE PUBLISHING, INC.	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008/2009
REVENUES PER SH	--	--	2.05	2.05	2.17	2.18	2.58	2.56	--	
"CASH FLOW" PER SH	--	--	.59	.57	.65	.65	.79	.77	--	
EARNINGS PER SH	--	--	.43	.40	.47	.49	.56	.58	*.57* [A,B]	*.67* [C]*/NA*
DIV'D DECL'D PER SH	--	--	.34	.35	.37	.39	.42	.45	--	
CAP'L SPENDING PER SH	--	--	.75	.66	1.07	2.50	1.69	1.85	--	
BOOK VALUE PER SH	--	--	3.79	3.90	4.06	4.65	4.85	5.84	--	
COMMON SHS OUTST'G (MILL)	--	--	9.46	9.55	9.63	10.33	10.40	11.20	--	
AVG ANN'L P/E RATIO	--	--	17.9	26.9	24.5	25.7	26.3	31.2	*27.6*	*23.5/NA*
RELATIVE P/E RATIO	--	--	.92	1.47	1.40	1.36	1.39	1.68	--	
AVG ANN'L DIV'D YIELD	--	--	4.3%	3.3%	3.2%	3.1%	2.9%	2.5%	--	
REVENUES ($MILL)	--	18.5	19.4	19.6	20.9	22.5	26.8	28.7	--	
NET PROFIT ($MILL)	--	3.8	4.0	3.8	4.4	4.8	5.8	6.1	--	
INCOME TAX RATE	--	35.7%	35.8%	34.9%	34.8%	36.7%	36.7%	34.4%	--	
AFUDC % TO NET PROFIT	--	--	2.2%	3.7%	--	--	--	7.2%	--	
LONG-TERM DEBT RATIO	--	50.2%	47.7%	46.7%	43.4%	42.5%	44.1%	48.3%	--	
COMMON EQUITY RATIO	--	49.8%	52.3%	53.3%	56.6%	57.5%	55.9%	51.7%	--	
TOTAL CAPITAL ($MILL)	--	65.2	68.6	69.9	69.0	83.6	90.3	126.5	--	
NET PLANT ($MILL)	--	97.0	102.3	106.7	116.5	140.0	155.3	174.4	--	
RETURN ON TOTAL CAP'L	--	7.9%	7.9%	7.4%	8.5%	7.6%	8.4%	6.2%	--	
RETURN ON SHR. EQUITY	--	11.6%	11.2%	10.2%	11.4%	10.0%	11.6%	9.3%	--	
RETURN ON COM EQUITY	--	11.6%	11.2%	10.2%	11.4%	10.0%	11.6%	9.3%	--	
RETAINED TO COM EQ	--	2.5%	2.5%	1.3%	2.6%	2.1%	3.0%	2.2%	--	
ALL DIV'DS TO NET PROF	--	78%	78%	88%	77%	79%	74%	77%	--	

Bold figures are consensus earnings estimates and, using the recent prices, P/E ratios.

[A] *No. of analysts changing earn. est. in last 12 days: 0 up, 0 down, consensus 5-year earnings growth 11.3% per year.* [B] *Based upon 3 analysts' estimates.* [C] *Based upon 3 analysts' estimates.*

ANNUAL RATES

of change (per share)	5 Yrs.	1 Yr.
Revenues	3.5%	-0.5%
"Cash Flow"	4.5%	-2.5%
Earnings	4.5%	3.5%
Dividends	-3.0%	7.0%
Book Value	6.0%	20.5%

QUARTERLY SALES ($mill.)

Fiscal Year	1Q	2Q	3Q	4Q	Full Year
12/31/05	6.2	6.7	7.2	6.7	26.8
12/31/06	6.6	7.0	7.7	7.4	28.7
12/31/07	7.4	8.0	8.3		
12/31/08					

EARNINGS PER SHARE

Fiscal Year	1Q	2Q	3Q	4Q	Full Year
12/31/04	.12	.11	.12	.14	.49
12/31/05	.12	.14	.17	.13	.56
12/31/06	.12	.14	.17	.15	.58
12/31/07	.12	.15	.15	*.15*	
12/31/08	*.14*	*.17*			

QUARTERLY DIVIDENDS PAID

Cal-endar	1Q	2Q	3Q	4Q	Full Year
2005	.104	.104	.104	.104	.42
2006	.112	.112	.112	.112	.45
2007	.118	.118	.118	.118	.47
2008	.121				

INSTITUTIONAL DECISIONS

	1Q'07	2Q'07	3Q'07
to Buy	13	14	10
to Sell	1	5	4
Hld's(000)	1222	1416	1595

ASSETS ($mill.)	2005	2006	9/30/07
Cash Assets	.0	.0	.0
Receivables	3.8	4.8	5.5
Inventory (Avg cost)	.8	.8	.8
Other	.5	1.1	.8
Current Assets	5.1	6.7	7.1
Property, Plant & Equip, at cost	182.4	202.7	- -
Accum Depreciation	27.1	28.3	- -
Net Property	155.3	174.4	184.4
Other	11.9	15.0	14.9
Total Assets	172.3	196.1	206.4
LIABILITIES ($mill.)			
Accts Payable	2.6	1.6	3.3
Debt Due	19.3	1.2	6.3
Other	2.8	3.1	3.6
Current Liab	24.7	5.9	13.2

LONG-TERM DEBT AND EQUITY as of 9/30/07

Total Debt $67.3 mill. **Due in 5 Yrs.** NA
LT Debt $61.1 mill.
Including Cap. Leases NA (48% of Cap'l)
Leases, Uncapitalized Annual rentals NA

Pension Liability $5.9 mill. in '06 vs. $3.9 mill. in '05

Pfd Stock None **Pfd Div'd Paid** None

Common Stock 11,247,944 shares (52% of Cap'l)

INDUSTRY: Water Utility

BUSINESS: The York Water Company engages in the impounding, purification, and distribution of water in York County and Adams County, Pennsylvania. It supplies water for residential, commercial, industrial, and other customers. The company has two reservoirs, Lake Williams and Lake Redman, which together hold approximately 2.2 billion gallons of water. It also has a 15-mile pipeline from the Susquehanna River to Lake Redman that provides access to an additional supply of water. The company serves 34 municipalities in York County and four municipalities in Adams County. Has 106 employees. C.E.O. & President: Jeffrey S. Osman. Inc.: PA. Address: 130 East Market Street, York, PA 17401. Tel.: (717) 845-3601. Internet: http://www.yorkwater.com.

L.Y.

January 25, 2008

TOTAL SHAREHOLDER RETURN

Dividends plus appreciation as of 12/31/2007

3 Mos.	6 Mos.	1 Yr.	3 Yrs.	5 Yrs.
-7.26%	-11.40%	-10.84%	29.93%	88.84%

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INDUSTRY TIMELINESS: 91 (of 98)

After a brief spurt late last year, water utility stocks, as a group, have recently given back most of the gains. Therefore, the industry ranks in the bottom rungs of our Survey for Timeliness. Although broad-market weakness, the result of a plunging housing market and lofty commodity prices, played a role, weaker-than-expected third-quarter results, due to industry-specific woes, namely unfavorable weather conditions and a hiccup in the regulatory process, was the primary reason for the decline. And, although conditions probably got a little better in the fourth quarter, we suspect that earnings growth remained weak for most of these stocks in the fourth-quarter 2007. (Results are likely to be released for most in the coming weeks.)

Earnings growth ought to get back on track this year, as more-normalized weather patterns and recent company initiatives (discussed further below) boost usage rates and act as a catalysts. However, long term, we worry that many water utilities lack the finances to keep up with the elevated infrastructure costs that should persist for years to come.

Regulatory Matters

Water utility companies are subject to comply with state regulatory boards, put in place to maintain a balance of power between the industry and consumers. Companies put in general rate cases claims every year in an attempt to recapture lost wages, due to a variety of circumstances, which are generally weather related. Unfortunately, many commissions have not been kind to utilities in recent memory, handing down decisions in an untimely and unfavorable manner. But that has all changed and regulatory panels are now more-business friendly. Nowhere is this more apparent than in California, where the California Public Utilities Commission (CPUC) has been, for the most part, handing down positive decisions. And there may be more help on the way. The CPUC is contemplating enacting some of the proposals of the Water Action Plan of 2005 that would likely further streamline the decision making process and remove some future earnings volatility, via the adoption of a weather normalization clause.

New Opportunities

Mergers and acquisitions activity has remained at a feverishly high pace. Companies with the financial flexibility to do so have been gobbling up smaller providers unable to deal with the rising costs of business. Aqua America, is a shining example, inking more than two dozen deals in 2007. The additions have been a good means for many to grow their customer base and even gain entry into previously untapped markets.

That said, some are taking an entirely different route. Instead of looking to the M&A market as a means to drive growth, American States Water has turned to the non-regulated sector, namely military bases to do so. Recent deals with the government to operate and maintain the water and wastewater systems at Fort Jackson, South Carolina and Fort Bragg, North Carolina ought to boost revenues for years to come.

Watershed of Costs

Water providers have seen maintenance costs jump considerably in recent years, as aging infrastructures required repairs and, in many cases, even rebuilding. However, we suspect that many systems are still outdated and require additional renovations. That, coupled, with more stringent water purification standards, due to greater fears of bioterrorism, ought to result in high costs for the foreseeable future. Unfortunately, many companies here do not have the finances to fund these endeavors and will be forced to look to outside financiers to help meet the costs.

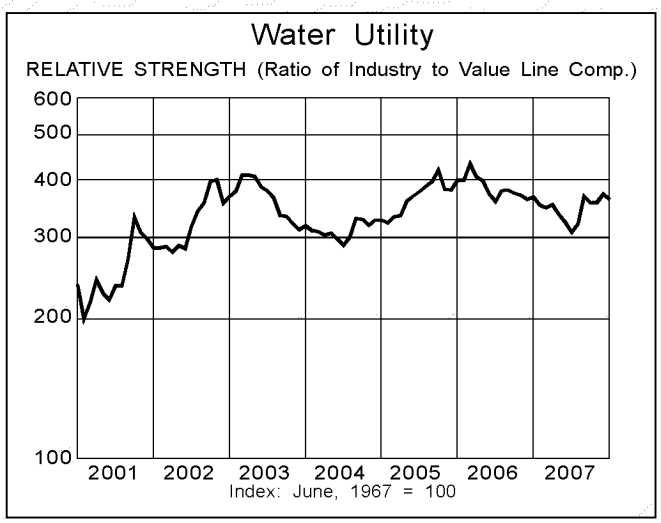
Investment Advice

Appealing investment options are difficult to find here. Not a single stock in the group is ranked favorably for Timeliness or the 3- to 5-year pull, due to the capital constraints of the industry. Indeed, any gains we envision stemming from an improving regulatory landscape and/or penetration into new markets, will likely be offset by rising interest costs and higher sharecount. This affects the income component as well. The once lofty dividend yields are a thing of the past, and income-oriented investors have better investments options. That said, as always, we caution all potential investors to take a careful look at the individual reports on the following pages before making any financial commitments.

Andre J. Costanza

Composite Statistics: Water Utility Industry

2003	2004	2005	2006	2007	2008		10-12
1030	1173.6	1256.9	1361.0	*1500*	*1600*	Revenues ($mill)	*1950*
105.9	127.1	148.3	150.0	*165*	*195*	Net Profit ($mill)	*265*
39.7%	39.1%	40.5%	39.1%	*40.0%*	*40.0%*	Income Tax Rate	*40.0%*
1.9%	1.0%	1.1%	3.7%	*5.0%*	*5.0%*	AFUDC % to Net Profit	*5.0%*
51.0%	49.1%	50.4%	48.8%	*48.0%*	*49.0%*	Long-Term Debt Ratio	*50.0%*
48.8%	50.7%	49.5%	51.0%	*52.0%*	*51.0%*	Common Equity Ratio	*50.0%*
2296.4	2543.6	3057.5	3421.3	*3600*	*3850*	Total Capital ($mill)	*4725*
3186.1	3532.5	4194.7	4587.7	*4950*	*5250*	Net Plant ($mill)	*6325*
5.9%	6.0%	6.3%	5.9%	*6.0%*	*6.5%*	Return on Total Cap'l	*5.5%*
8.8%	9.0%	9.8%	8.6%	*9.0%*	*10.0%*	Return on Shr. Equity	*8.5%*
8.8%	9.0%	9.8%	8.6%	*9.0%*	*10.0%*	Return on Com Equity	*8.5%*
2.7%	3.1%	3.7%	2.8%	*3.0%*	*4.0%*	Retained to Com Eq	*3.0%*
70%	66%	62%	67%	*65%*	*60%*	All Div'ds to Net Prof	*57%*
25.6	25.4	29.4	33.3			Avg Ann'l P/E Ratio	*18.0*
1.46	1.34	1.57	1.80	*Bold figures are Value Line estimates*		Relative P/E Ratio	*1.20*
6.7%	2.6%	2.1%	2.0%			Avg Ann'l Div'd Yield	*2.0%*



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AGL RESOURCES NYSE-ATG

RECENT PRICE 37.54 | P/E RATIO 13.9 (Trailing: 15.2, Median: 14.0) | RELATIVE P/E RATIO 0.81 | DIV'D YLD 4.4% | VALUE LINE

TIMELINESS 4 Lowered 8/11/06
SAFETY 2 New 7/27/90
TECHNICAL 4 Lowered 12/7/07
BETA .85 (1.00 = Market)

2010-12 PROJECTIONS

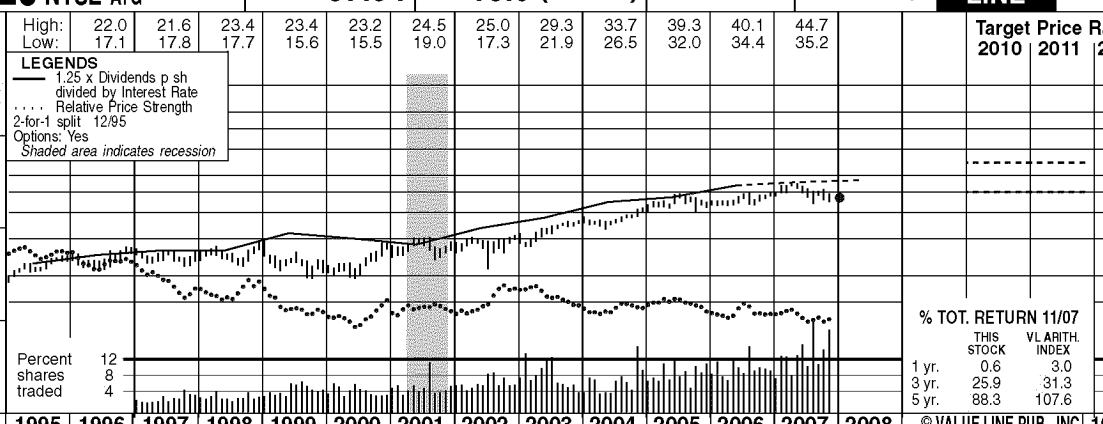
	Price	Gain	Ann'l Total Return
High	55	(+45%)	13%
Low	40	(+5%)	6%

Insider Decisions

	J	F	M	A	M	J	J	A	S
to Buy	0	0	0	0	0	0	0	0	0
Options	0	1	0	0	0	1	0	0	0
to Sell	0	0	0	0	0	0	0	1	0

Institutional Decisions

	4Q2006	1Q2007	2Q2007
to Buy	121	134	132
to Sell	89	97	101
Hld's(000)	49321	49480	50323



1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	© VALUE LINE PUB., INC.	10-12
20.26	20.43	22.73	23.59	19.32	21.91	22.75	23.36	18.71	11.25	19.04	15.32	15.25	23.89	34.98	33.73	33.85	34.60	Revenues per sh [A]	39.40
2.07	2.31	2.25	2.24	2.33	2.49	2.42	2.65	2.29	2.86	3.31	3.39	3.47	3.29	4.20	4.62	4.70	5.00	"Cash Flow" per sh	5.55
1.04	1.13	1.08	1.17	1.33	1.37	1.37	1.41	.91	1.29	1.50	1.82	2.08	2.28	2.48	2.72	2.65	2.85	Earnings per sh [A B]	3.10
1.02	1.03	1.04	1.04	1.04	1.06	1.08	1.08	1.08	1.08	1.08	1.08	1.11	1.15	1.30	1.48	1.64	1.64	Div'ds Decl'd per sh [C■]	1.80
2.95	2.74	2.49	2.37	2.17	2.37	2.59	2.05	2.51	2.92	2.83	3.30	2.46	3.44	3.44	3.26	3.35	3.40	Cap'l Spending per sh	3.50
9.42	9.70	9.90	10.19	10.12	10.56	10.99	11.42	11.59	11.50	12.19	12.52	14.66	18.06	19.29	20.71	21.30	21.45	Book Value per sh [D]	22.50
47.57	48.69	49.72	50.86	55.02	55.70	56.60	57.30	57.10	54.00	55.10	56.70	64.50	76.70	77.70	77.70	76.50	78.00	Common Shs Outst'g [E]	80.00
15.3	15.5	17.9	15.1	12.6	13.8	14.7	13.9	21.4	13.6	14.6	12.5	12.5	13.1	14.3	13.5	Bold figures are Value Line estimates		Avg Ann'l P/E Ratio	15.0
.98	.94	1.06	.99	.84	.86	.85	.72	1.22	.88	.75	.68	.71	.69	.76	.73			Relative P/E Ratio	1.00
6.4%	5.9%	5.4%	5.9%	6.2%	5.6%	5.4%	5.5%	5.5%	6.2%	4.9%	4.7%	4.3%	3.9%	3.7%	4.0%			Avg Ann'l Div'd Yield	3.9%
1287.6	1338.6	1068.6	607.4	1049.3	868.9	983.7	1832.0	2718.0	2621.0	2590	2700	Revenues ($mill) [A]	3150
76.6	80.6	52.1	71.1	82.3	103.0	132.4	153.0	193.0	212.0	205	225	Net Profit ($mill)	250
37.9%	32.5%	33.1%	34.3%	40.7%	36.0%	35.9%	37.0%	37.7%	37.8%	38.0%	38.0%	Income Tax Rate	38.0%
5.9%	6.0%	4.9%	11.7%	7.8%	11.9%	13.5%	8.4%	7.1%	8.1%	7.9%	8.3%	Net Profit Margin	7.9%
48.7%	47.5%	45.3%	45.9%	61.3%	58.3%	50.3%	54.0%	51.9%	50.2%	48.5%	48.5%	Long-Term Debt Ratio	48.5%
45.9%	47.1%	49.2%	48.3%	38.7%	41.7%	49.7%	46.0%	48.1%	49.8%	51.5%	51.5%	Common Equity Ratio	51.5%
1356.4	1388.4	1345.8	1286.2	1736.3	1704.3	1901.4	3008.0	3114.0	3231.0	3170	3250	Total Capital ($mill)	3500
1496.6	1534.0	1598.9	1637.5	2058.9	2194.2	2352.4	3178.0	3271.0	3436.0	3550	3700	Net Plant ($mill)	4000
7.3%	7.6%	5.7%	7.4%	6.5%	8.1%	8.9%	6.3%	7.9%	8.0%	8.0%	8.5%	Return on Total Cap'l	8.5%
11.0%	11.1%	7.1%	10.2%	12.3%	14.5%	14.0%	11.0%	12.9%	13.2%	12.5%	13.5%	Return on Shr. Equity	14.0%
11.3%	12.3%	7.9%	11.5%	12.3%	14.5%	14.0%	11.0%	12.9%	13.2%	12.5%	13.5%	Return on Com Equity	14.0%
3.2%	4.4%	NMF	3.2%	4.2%	7.0%	6.6%	5.6%	6.2%	6.3%	5.0%	6.0%	Retained to Com Eq	6.0%
74%	64%	101%	72%	65%	52%	53%	49%	52%	52%	61%	57%	All Div'ds to Net Prof	58%

CAPITAL STRUCTURE as of 9/30/07
Total Debt $2124.0 mill. **Due in 5 Yrs** $576.0 mill.
LT Debt $1548.0 mill. **LT Interest** $94.0 mill.

(Total interest coverage: 3.5x)
Leases, Uncapitalized Annual rentals $32.0 mill.

Pension Assets-12/06 $375.0 mill.
Oblig. $454.0 mill.

Pfd Stock None
Common Stock 76,576,917 shs.
as of 10/26/07

MARKET CAP: $2.9 billion (Mid Cap)

CURRENT POSITION ($MILL.)	2005	2006	9/30/07
Cash Assets	30.0	20.0	14.0
Other	2002.0	1802.0	1498.0
Current Assets	2032.0	1822.0	1512.0
Accts Payable	264.0	213.0	131.0
Debt Due	522.0	539.0	576.0
Other	1153.0	875.0	668.0
Current Liab.	1939.0	1627.0	1375.0
Fix. Chg. Cov.	442%	397%	370%

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '04-'06 to '10-'12
Revenues	3.5%	13.5%	4.0%
"Cash Flow"	5.5%	7.0%	5.5%
Earnings	7.0%	15.0%	3.5%
Dividends	2.5%	4.0%	5.5%
Book Value	6.5%	10.5%	2.5%

Calendar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2004	651	294	262	625	1832
2005	908	430	387	993	2718
2006	1044	436	434	707	2621
2007	973	467	369	781	2590
2008	1000	490	400	810	2700

Calendar	EARNINGS PER SHARE [B] Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2004	1.00	.33	.31	.64	2.28
2005	1.14	.30	.19	.85	2.48
2006	1.41	.25	.46	.60	2.72
2007	1.30	.40	.17	.78	2.65
2008	1.35	.40	.35	.75	2.85

Calendar	QUARTERLY DIVIDENDS PAID [C■] Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2003	.27	.28	.28	.28	1.11
2004	.28	.29	.29	.29	1.15
2005	.31	.31	.31	.37	1.30
2006	.37	.37	.37	.37	1.48
2007	.41	.41	.41	.41	

BUSINESS: AGL Resources, Inc. is a public utility holding company. Its distribution subsidiaries include Atlanta Gas Light, Chattanooga Gas, and Virginia Natural Gas. The utilities have more than 2.2 million customers in Georgia, Virginia, Tennessee, New Jersey, Florida, and Maryland. Engaged in nonregulated natural gas marketing and other allied services. Also wholesales and retails propane. Deregulated subsidiaries: Georgia Natural Gas markets natural gas at retail. Acquired Virginia Natural Gas, 10/00. Sold Utilipro, 3/01. Off./dir. own less than 1.0% of common; Barclays Global Investors, 5.0% (3/07 Proxy). Pres. & CEO: John W. Somerhalder II. Inc.: GA. Addr.: Ten Peachtree Place N.E., Atlanta, GA 30309. Tel.: 404-584-4000. Internet: www.aglresources.com.

AGL Resources turned in disappointing results for the third quarter. The top line declined roughly 15% in the recent interim. Despite lower operating costs, the earnings picture was also unimpressive. Share net came in at $0.17, considerably below the prior year's period. This was almost entirely due to weakness in the Wholesale Services segment. This business experienced reductions in storage hedge gains and transportation hedge gains. Also, the segment's commercial activity declined owing to lower volatility and narrowing spreads in the natural gas wholesale market. Overall, Wholesale Services reported operating income of $1 million in the recent period, compared to $40 million in the third quarter of 2006. On the bright side, the Distribution Operations segment provided some support, as operating income for this business increased 10%. Also, the Retail Energy business reported a lower operating loss, helped by improved retail price spreads.

We project a modest decline in share earnings for full-year 2007, due to unfavorable comparisons in the first and third quarters. However, moderate bottom-line growth ought to resume in 2008, assuming better performance from the Wholesale Services business, along with normal weather and average volatility in natural gas prices throughout the year.

AGL Resources has acquired Compass Energy Services, based in Richmond, Virginia. Prior to the deal, Compass Energy provided commercial and industrial customers with energy commodity supplies and energy procurement consulting services. This move enables AGL to serve a larger market in the commercial and industrial sector.

These shares are ranked to lag the overall market for the coming six to 12 months. Nevertheless, this issue offers a dividend yield of 4.4%, which may appeal to income-oriented investors. Looking forward, we anticipate steady bottom-line growth at AGL Resources from 2008 onward. Moreover, these shares earn high marks for Safety, Price Stability, and Earnings Predictability. Total return potential looks good on a risk-adjusted basis for the pull to 2010-2012, supported by modest dividend growth.

Michael Napoli, CPA *December 14, 2007*

(A) Fiscal year ends December 31st. Ended September 30th prior to 2002.
(B) Diluted earnings per share. Excl. nonrecurring gains (losses): '95, ($0.83); '99, $0.39; '00, $0.13; '01, $0.13; '03, ($0.07). Next earnings report due late January.
(C) Dividends historically paid early March, June, Sept., and Dec. ■ Div'd reinvest. plan available.
(D) Includes intangibles. At 9/30/07: $420 million, $5.48/share.
(E) In millions, adjusted for stock split.

Company's Financial Strength	B++
Stock's Price Stability	100
Price Growth Persistence	70
Earnings Predictability	80

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ATMOS ENERGY CORP. NYSE-ATO

RECENT PRICE **26.49** | P/E RATIO **13.2** (Trailing: 13.9 / Median: 16.0) | RELATIVE P/E RATIO **0.77** | DIV'D YLD **4.9%** | **VALUE LINE**

TIMELINESS **4** Lowered 8/17/07
SAFETY **2** Raised 12/16/05
TECHNICAL **3** Raised 10/12/07
BETA .85 (1.00 = Market)

2010-12 PROJECTIONS

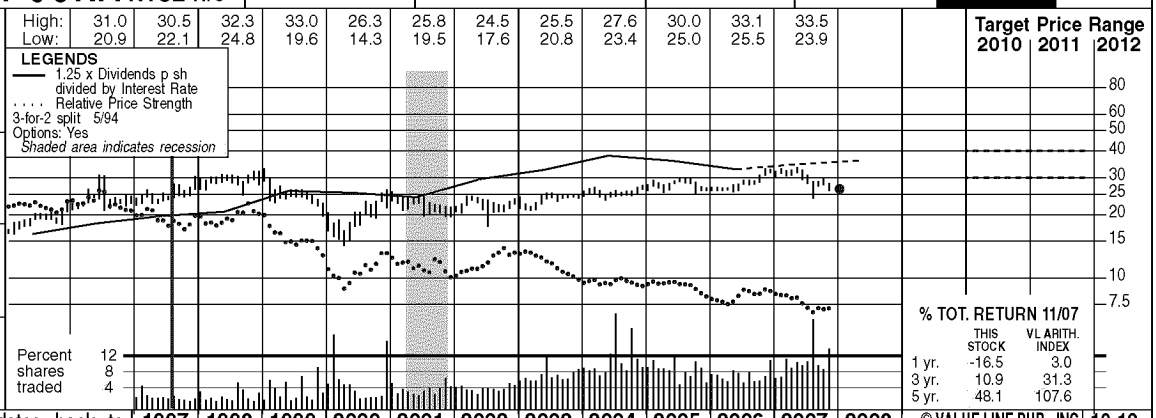
	Price	Gain	Ann'l Total Return
High	40	(+50%)	15%
Low	30	(+15%)	8%

Insider Decisions

	J	F	M	A	M	J	J	A	S
to Buy	0	0	0	0	0	0	0	1	0
Options	0	0	0	0	1	0	0	0	0
to Sell	0	0	1	0	1	0	0	0	0

Institutional Decisions

	4Q2006	1Q2007	2Q2007
to Buy	115	135	115
to Sell	84	80	101
Hld's(000)	53926	56091	58169



Atmos Energy's history dates back to 1906 in the Texas Panhandle. Over the years, through various mergers, it became part of Pioneer Corporation, and, in 1981, Pioneer named its gas distribution division Energas. In 1983, Pioneer organized Energas as a separate subsidiary and distributed the outstanding shares of Energas to Pioneer shareholders. Energas changed its name to Atmos in 1988. Atmos acquired Trans Louisiana Gas in 1986, Western Kentucky Gas Utility in 1987, Greeley Gas in 1993, United Cities Gas in 1997, and others.

CAPITAL STRUCTURE as of 6/30/07
Total Debt $2430.5 mill. **Due in 5 Yrs** $1450.0 mill.
LT Debt $2126.5 mill. **LT Interest** $120.0 mill.
(LT interest earned: 2.9x; total interest coverage: 2.8x)
Leases, Uncapitalized Annual rentals $16.0 mill.
Pfd Stock None
Pension Assets-9/06 $362.7 mill.
Oblig. $326.5 mill.
Common Stock 89,160,099 shs.
as of 7/31/07
MARKET CAP: $2.4 billion (Mid Cap)

CURRENT POSITION ($MILL.)	2005	2006	6/30/07
Cash Assets	40.1	75.8	350.4
Other	1224.3	1041.7	984.1
Current Assets	1264.4	1117.5	1334.5
Accts Payable	461.3	345.1	428.8
Debt Due	148.1	385.6	304.0
Other	503.4	388.5	360.9
Current Liab.	1112.8	1119.2	1093.7
Fix. Chg. Cov.	395%	408%	400%

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '04-'06 to '10-'12
Revenues	7.5%	17.0%	*4.5%*
"Cash Flow"	4.0%	5.0%	*4.0%*
Earnings	3.5%	10.0%	*5.0%*
Dividends	3.0%	2.0%	*1.5%*
Book Value	6.5%	8.5%	*5.5%*

Fiscal Year Ends	QUARTERLY REVENUES ($ mill.) A Dec.31	Mar.31	Jun.30	Sep.30	Full Fiscal Year
2004	763.6	1117.5	546.1	492.8	2920.0
2005	1371.0	1687.8	909.9	1004.6	4973.3
2006	2283.8	2033.8	863.2	971.6	6152.4
2007	1602.6	2075.6	1218.2	1002.0	5898.4
2008	*1550*	*1550*	*1550*	*1550*	*6200*

Fiscal Year Ends	EARNINGS PER SHARE A B E Dec.31	Mar.31	Jun.30	Sep.30	Full Fiscal Year
2004	.57	1.12	.09	d.11	1.58
2005	.79	1.11	.06	d.21	1.72
2006	.88	1.10	d.22	.25	2.00
2007	.97	1.20	d.15	d.05	1.94
2008	*.96*	*1.20*	*d.10*	*d.06*	*2.00*

Cal-endar	QUARTERLY DIVIDENDS PAID C■ Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2003	.30	.30	.30	.305	1.21
2004	.305	.305	.305	.31	1.23
2005	.31	.31	.31	.315	1.25
2006	.315	.315	.315	.32	1.27
2007	.32	.32	.32	.325	

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	© VALUE LINE PUB., INC.	10-12
	30.59	27.90	22.09	26.61	35.36	22.82	54.39	46.50	61.75	75.27	*65.90*	*67.40*	Revenues per sh A	*80.35*
	2.85	3.38	2.62	3.01	3.03	3.39	3.23	2.91	3.90	4.26	*4.15*	*4.25*	"Cash Flow" per sh	*4.65*
	1.34	1.84	.81	1.03	1.47	1.45	1.71	1.58	1.72	2.00	1.94	*2.00*	Earnings per sh A B	*2.35*
	1.01	1.06	1.10	1.14	1.16	1.18	1.20	1.22	1.24	1.26	1.28	*1.30*	Div'ds Decl'd per sh C■	*1.35*
	4.13	4.44	3.53	2.36	2.77	3.17	3.10	3.03	4.14	5.20	*4.40*	*4.95*	Cap'l Spending per sh	*6.30*
	11.04	12.21	12.09	12.28	14.31	13.75	16.66	18.05	19.90	20.16	*21.95*	*22.85*	Book Value per sh	*26.35*
	29.64	30.40	31.25	31.95	40.79	41.68	51.48	62.80	80.54	81.74	*89.50*	*92.00*	Common Shs Outst'g D	*107.00*
	17.9	15.4	33.0	18.9	15.6	15.2	13.4	15.9	16.1	13.5	15.9		Avg Ann'l P/E Ratio	*15.0*
	1.03	.80	1.88	1.23	.80	.83	.76	.84	.86	.73	.83		Relative P/E Ratio	*1.00*
	4.2%	3.7%	4.1%	5.9%	5.1%	5.4%	5.2%	4.9%	4.5%	4.7%	4.2%		Avg Ann'l Div'd Yield	*3.9%*
	906.8	848.2	690.2	850.2	1442.3	950.8	2799.9	2920.0	4973.3	6152.4	5898.4	*6200*	Revenues ($mill) A	*8600*
	39.2	55.3	25.0	32.2	56.1	59.7	79.5	86.2	135.8	162.3	170.5	*180*	Net Profit ($mill)	*250*
	37.5%	36.5%	35.0%	36.1%	37.3%	37.1%	37.1%	37.4%	37.7%	37.6%	35.8%	*37.0%*	Income Tax Rate	*40.0%*
	4.3%	6.5%	3.6%	3.8%	3.9%	6.3%	2.8%	3.0%	2.7%	2.6%	2.9%	*2.9%*	Net Profit Margin	*3.0%*
	48.1%	51.8%	50.0%	48.1%	54.3%	53.9%	50.2%	43.2%	57.7%	57.0%	*52.0%*	*52.0%*	Long-Term Debt Ratio	*51.0%*
	51.9%	48.2%	50.0%	51.9%	45.7%	46.1%	49.8%	56.8%	42.3%	43.0%	*48.0%*	*48.0%*	Common Equity Ratio	*49.0%*
	630.2	769.7	755.1	755.7	1276.3	1243.7	1721.4	1994.8	3785.5	3828.5	*4090*	*4400*	Total Capital ($mill)	*5750*
	849.1	917.9	965.8	982.3	1335.4	1300.3	1516.0	1722.5	3374.4	3629.2	*3840*	*4100*	Net Plant ($mill)	*5300*
	8.3%	9.0%	5.1%	6.5%	5.9%	6.8%	6.2%	5.8%	5.3%	6.1%	*5.5%*	*5.5%*	Return on Total Cap'l	*6.0%*
	12.0%	14.9%	6.6%	8.2%	9.6%	10.4%	9.3%	7.6%	8.5%	9.9%	*8.5%*	*8.5%*	Return on Shr. Equity	*9.0%*
	12.0%	14.9%	6.6%	8.2%	9.6%	10.4%	9.3%	7.6%	8.5%	9.9%	*8.5%*	*8.5%*	Return on Com Equity	*9.0%*
	3.9%	6.3%	NMF	NMF	2.1%	1.9%	2.8%	1.7%	2.3%	3.6%	*3.0%*	*3.0%*	Retained to Com Eq	*4.0%*
	67%	58%	NMF	112%	79%	82%	70%	77%	73%	63%	*67%*	*66%*	All Div'ds to Net Prof	*58%*

BUSINESS: Atmos Energy Corporation is engaged primarily in the distribution and sale of natural gas to 3.2 million customers via six regulated natural gas utility operations: Louisiana Division, West Texas Division, Mid-Tex Division, Mississippi Division, Colorado-Kansas Division, and Kentucky/Mid-States Division. Combined 2006 gas volumes: 272 MMcf. Breakdown: 53%, residential; 32%, commercial; 10%, industrial; and 5% other. 2006 depreciation rate 3.6%. Has around 4,600 employees. Officers and directors own approximately 1.9% of common stock (12/06 Proxy). Chairman and Chief Executive Officer: Robert W. Best. Incorporated: Texas. Address: P.O. Box 650205, Dallas, Texas 75265. Telephone: 972-934-9227. Internet: www.atmosenergy.com.

Atmos Energy's bottom line may show only a 3% improvement in fiscal 2008, which began on October 1st. That's based partly on our assumption that margins for the natural gas marketing segment will be lower, if prices are less volatile (reflecting no major storm activity). But the utility operation ought to be aided by higher throughput, and we note that weather-normalization mechanisms are in place for most operations. Also, the pipeline business should continue to enjoy the benefits of the North Side Loop and other projects that were completed in 2006.

Share net may advance at a somewhat stronger 5% pace in fiscal 2009, supported by additional expansion in operating margins. We expect a similar steady, but unspectacular, rate of growth over the 2010-2012 timeframe.

Atmos is seeking new rate structures to help offset escalating operating costs. It filed for a $52 million increase in annual revenues for the Mid-Tex Division (covering some 1.5 million customers). Furthermore, a $5 million boost in annual revenues is being sought for the Kansas operations, which would affect about 124,000 customers. Note that we have not included the above amounts in our figures because of uncertainty as to when (or if) these measures will be approved by regulators.

The company tends to be aggressive on the acquisition front, as it has conducted a string of major business combinations over the past 20 years (the latest ones being Mississippi Valley Gas Company in 2002 and TXU Gas Company in 2004). Management will undoubtedly stick to its successful strategy of purchasing less-efficient utilities and shoring up their profitability through expense-reduction initiatives, rate relief, and dogged marketing efforts.

These good-quality shares offer an appealing dividend yield. Additional moderate hikes in the distribution seem achievable, too. Earnings coverage ought to remain adequate.

We see decent, risk-adjusted total-return potential here. But the equity is ranked to lag the market in the next six to 12 months.

Frederick L. Harris, III December 14, 2007

(A) Fiscal year ends Sept. 30th. (B) Diluted shrs. Excl. nonrec. items: '97, d53¢; '99, d23¢; '00, 12¢; '03, d17¢; '06, d18¢; Q4 '07, d2¢. Next egs. rpt. due early Feb. (C) Dividends historically paid in early March, June, Sept., and Dec. ■ Div. reinvestment plan. Direct stock purchase plan avail. (D) In millions, adjusted for stock splits. (E) Qtrs may not add due to change in shrs outstanding. (F) ATO completed United Cities merger 7/97.

Company's Financial Strength	B+
Stock's Price Stability	100
Price Growth Persistence	30
Earnings Predictability	80

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LACLEDE GROUP NYSE-LG

RECENT PRICE 33.71 | P/E RATIO 15.0 (Trailing: 14.5 Median: 15.0) | RELATIVE P/E RATIO 0.88 | DIV'D YLD 4.4% | VALUE LINE

TIMELINESS 3 Raised 9/14/07
SAFETY 2 Raised 6/20/03
TECHNICAL 2 Raised 12/7/07
BETA .95 (1.00 = Market)

2010-12 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	45	(+35%)	11%
Low	35	(+5%)	5%

Insider Decisions

	J	F	M	A	M	J	J	A	S
to Buy	0	0	0	0	1	0	0	0	0
Options	0	1	0	0	0	0	0	2	1
to Sell	0	1	0	0	0	0	0	2	1

Institutional Decisions

	4Q2006	1Q2007	2Q2007
to Buy	64	62	67
to Sell	38	49	50
Hld's(000)	10381	9942	9261

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	© VALUE LINE PUB., INC.	10-12
High:	24.9	28.6	27.9	27.0	24.8	25.5	25.0	30.0	32.5	34.3	37.5	36.0								
Low:	20.0	20.3	22.4	20.0	17.5	21.3	19.0	21.8	26.0	26.9	29.1	28.8								
	28.10	26.83	32.33	33.43	24.79	31.03	34.33	31.04	26.04	29.99	53.08	39.84	54.95	59.59	75.43	93.51	*94.05*	*90.90*	Revenues per sh	*110.00*
	2.37	2.32	2.81	2.65	2.55	3.29	3.32	3.02	2.56	2.68	3.00	2.56	3.15	2.79	2.98	3.81	*3.90*	*3.90*	"Cash Flow" per sh	*4.60*
	1.28	1.17	1.61	1.42	1.27	1.87	1.84	1.58	1.47	1.37	1.61	1.18	1.82	1.82	1.90	2.37	2.31	*2.20*	Earnings per sh [A B]	*2.55*
	1.20	1.20	1.22	1.22	1.24	1.26	1.30	1.32	1.34	1.34	1.34	1.34	1.34	1.35	1.37	1.40	1.45	*1.49*	Div'ds Decl'd per sh [C■]	*1.60*
	2.46	2.87	2.62	2.50	2.63	2.35	2.44	2.68	2.58	2.77	2.51	2.80	2.67	2.45	2.84	2.97	*2.95*	*3.05*	Cap'l Spending per sh	*3.80*
	11.83	11.79	12.19	12.44	13.05	13.72	14.26	14.57	14.96	14.99	15.26	15.07	15.65	16.96	17.31	18.85	*21.00*	*20.95*	Book Value per sh [D]	*24.50*
	15.59	15.59	15.59	15.67	17.42	17.56	17.56	17.63	18.88	18.88	18.88	18.96	19.11	20.98	21.17	21.36	*21.50*	*22.00*	Common Shs Outst'g [E]	*25.00*
	12.5	15.8	13.5	16.4	15.5	11.9	12.5	15.5	15.8	14.9	14.5	20.0	13.6	15.7	16.2	13.6	14.2		Avg Ann'l P/E Ratio	*16.0*
	.80	.96	.80	1.08	1.04	.75	.72	.81	.90	.97	.74	1.09	.78	.83	.86	.73	.74		Relative P/E Ratio	*1.05*
	7.5%	6.5%	5.6%	5.3%	6.3%	5.6%	5.6%	5.4%	5.8%	6.6%	5.7%	5.7%	5.4%	4.7%	4.4%	4.3%	4.4%		Avg Ann'l Div'd Yield	*4.0%*
							602.8	547.2	491.6	566.1	1002.1	755.2	1050.3	1250.3	1597.0	1997.6	2021.6	*2000*	Revenues ($mill) [A]	*2750*
							32.5	27.9	26.9	26.0	30.5	22.4	34.6	36.1	40.1	50.5	49.8	*48.5*	Net Profit ($mill)	*65.0*
							36.1%	35.6%	35.5%	35.2%	32.7%	35.4%	35.0%	34.8%	34.1%	32.5%	33.4%	*33.5%*	Income Tax Rate	*35.5%*
							5.4%	5.1%	5.5%	4.6%	3.0%	3.0%	3.3%	2.9%	2.5%	2.5%	2.5%	*2.4%*	Net Profit Margin	*2.4%*
							38.0%	40.9%	41.8%	45.2%	49.5%	47.5%	50.4%	51.6%	48.1%	49.5%	*45.0%*	*47.0%*	Long-Term Debt Ratio	*49.0%*
							61.6%	58.6%	57.8%	54.5%	50.2%	52.3%	49.4%	48.3%	51.8%	50.4%	*55.0%*	*53.0%*	Common Equity Ratio	*51.0%*
							406.8	438.0	488.6	519.2	574.1	546.6	605.0	737.4	707.9	798.9	*820*	*870*	Total Capital ($mill)	*1200*
							467.6	490.6	519.4	575.4	602.5	594.4	621.2	646.9	679.5	763.8	*815*	*865*	Net Plant ($mill)	*1150*
							9.7%	8.1%	7.1%	6.7%	6.9%	6.0%	7.4%	6.6%	7.6%	8.4%	*7.5%*	*7.0%*	Return on Total Cap'l	*7.0%*
							12.9%	10.8%	9.5%	9.1%	10.5%	7.8%	11.5%	10.1%	10.9%	12.5%	*11.0%*	*10.5%*	Return on Shr. Equity	*10.5%*
							12.9%	10.8%	9.5%	9.1%	10.5%	7.8%	11.6%	10.1%	10.9%	12.5%	*11.0%*	*10.5%*	Return on Com Equity	*10.5%*
							3.9%	1.8%	1.0%	.2%	1.8%	NMF	3.1%	2.7%	3.1%	5.1%	*4.0%*	*3.5%*	Retained to Com Eq	*4.0%*
							70%	83%	89%	98%	83%	113%	74%	73%	72%	59%	*63%*	*68%*	All Div'ds to Net Prof	*62%*

LEGENDS
1.00 x Dividends p sh divided by Interest Rate
Relative Price Strength
2-for-1 split 3/94
Options: No
Shaded area indicates recession

Target Price Range 2010 | 2011 | 2012

% TOT. RETURN 11/07

	THIS STOCK	VL ARITH. INDEX
1 yr.	-1.5	3.0
3 yr.	22.2	31.3
5 yr.	82.2	107.6

CAPITAL STRUCTURE as of 6/30/07
Total Debt $497.8 mill. Due in 5 Yrs $275.0 mill.
LT Debt $355.5 mill. LT Interest $20.0 mill.
(Total interest coverage: 3.1x)

Leases, Uncapitalized Annual rentals $.9 mill.
Pension Assets-9/06 $246.1 mill.
Oblig. $282.1 mill.
Pfd Stock $.6 mill. Pfd Div'd $.05 mill.
Common Stock 21,633,811 shs.
as of 7/27/07

MARKET CAP: $725 million (Small Cap)

CURRENT POSITION ($MILL.)	2005	2006	6/30/07
Cash Assets	6.0	50.8	36.4
Other	418.1	409.0	362.9
Current Assets	424.1	459.8	399.3
Accts Payable	138.4	103.3	128.6
Debt Due	110.7	207.5	142.3
Other	116.5	120.1	93.8
Current Liab.	365.6	430.9	364.7
Fix. Chg. Cov.	293%	285%	280%

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '04-'06 to '10-'12
Revenues	10.0%	16.0%	*5.5%*
"Cash Flow"	1.0%	3.0%	*6.5%*
Earnings	3.0%	6.5%	*4.0%*
Dividends	1.0%	.5%	*2.5%*
Book Value	3.0%	3.5%	*5.0%*

Fiscal Year Ends	QUARTERLY REVENUES ($ mill.)[A] Dec.31	Mar.31	Jun.30	Sep.30	Full Fiscal Year
2004	332.6	475.0	245.1	197.6	1250.3
2005	442.5	576.5	311.3	266.7	1597.0
2006	689.2	708.8	330.6	269.0	1997.6
2007	539.6	700.8	457.9	323.3	2021.6
2008	*500*	*500*	*500*	*500*	*2000*

Fiscal Year Ends	EARNINGS PER SHARE [A B F] Dec.31	Mar.31	Jun.30	Sep.30	Full Fiscal Year
2004	.87	1.12	.19	d.28	1.82
2005	.79	1.06	.29	d.24	1.90
2006	1.23	1.05	.13	d.04	2.37
2007	.89	.97	.43	.03	2.31
2008	*.90*	*1.00*	*.32*	*d.02*	*2.20*

Cal-endar	QUARTERLY DIVIDENDS PAID [C■] Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2003	.335	.335	.335	.335	1.34
2004	.335	.34	.34	.34	1.36
2005	.34	.345	.345	.345	1.38
2006	.345	.355	.355	.355	1.41
2007	.365	.365	.365	.365	

BUSINESS: Laclede Group, Inc., is a holding company for Laclede Gas, which distributes natural gas in eastern Missouri, including the city of St. Louis, St. Louis County, and parts of 10 other counties. Has roughly 631,000 customers. Purchased SM&P for approximately $43 million (1/02). Therms sold and transported in fiscal 2006: 1.02 mill. Revenue mix for regulated operations: residential, 60%; commercial and industrial, 25%; transportation, 1%; other, 14%. Has around 3,880 employees. Officers and directors own approximately 7.0% of common shares (1/07 proxy). Chairman, Chief Executive Officer, and President: Douglas H. Yaeger. Incorporated: Missouri. Address: 720 Olive Street, St. Louis, Missouri 63101. Telephone: 314-342-0500. Internet: www.ladledegas.com.

We do not think Laclede Group's share net in fiscal 2008 (which began on October 1st) will reach last year's level, attributable largely to the difficult comparison. Margins for Laclede Energy Resources (LER) may not be spectacular if pricing volatility in Gulf Coast markets is fairly stable, assuming no repeat of the severe storms that occurred in 2005. Furthermore, SM&P Utility Resources' performance ought to be constrained, to a certain extent, by expenses from growth initiatives. But Laclede Gas, the core subsidiary, stands to benefit from higher volumes from entities within the service territory (if temperatures cooperate). A rate hike effective August 1st of 2007 should help here, as well. Nonetheless, consolidated share net may decline around 5%, to $2.20, in fiscal 2008. The bottom line for fiscal 2009 stands to advance to $2.30 a share, assuming expansion in operating margins.

Steady, if measured, earnings gains seem possible over the 2010-2012 horizon. Customer increases for the natural gas operation have been moderate for some time because the service area is in a mature stage. That being the case, internal growth here will likely remain a challenge. The non-regulated units have promising prospects, but they have contributed just a small portion to profits on a historical basis. A major acquisition could help to offset this, but it appears that management has no such plans in the works at this juncture. Consequently, annual share-net advances may only be in the mid-single-digit range over the 2010-2012 period.

These shares offer a decent amount of current dividend income, which is well covered by earnings. But additional increases in the payout could be slow in coming, since the long-term growth prospects for Laclede Gas are not exciting. Note, also, the 2 (Above Average) rank for Safety.

Total return possibilities are limited. That's because these shares are trading close to our 3- to 5-year Target Price Range, and we assume moderate hikes in the distribution. And for the next six to 12 months, the equity is expected to perform only in line with the broader market.

Frederick L. Harris, III December 14, 2007

(A) Fiscal year ends Sept. 30th.
(B) Based on average shares outstanding thru. '97, then diluted. Excludes nonrecurring loss: '06, 7¢. Next earnings report due late January.
(C) Dividends historically paid in early January, April, July, and October. ■ Dividend reinvestment plan available.
(D) Incl. deferred charges. In '06: $256.8 mill., $12.02/sh.
(E) In millions. Adjusted for stock split.
(F) Qtly. egs. may not sum due to change in shares outstanding.

Company's Financial Strength	B+
Stock's Price Stability	95
Price Growth Persistence	55
Earnings Predictability	65

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NEW JERSEY RES. NYSE-NJR

RECENT PRICE 50.05 | P/E RATIO 15.2 (Trailing: 15.1 Median: 15.0) | RELATIVE P/E RATIO 0.89 | DIV'D YLD 3.2% | VALUE LINE

TIMELINESS 4 Raised 5/11/07
SAFETY 1 Raised 9/15/06
TECHNICAL 3 Lowered 9/7/07
BETA .85 (1.00 = Market)

2010-12 PROJECTIONS

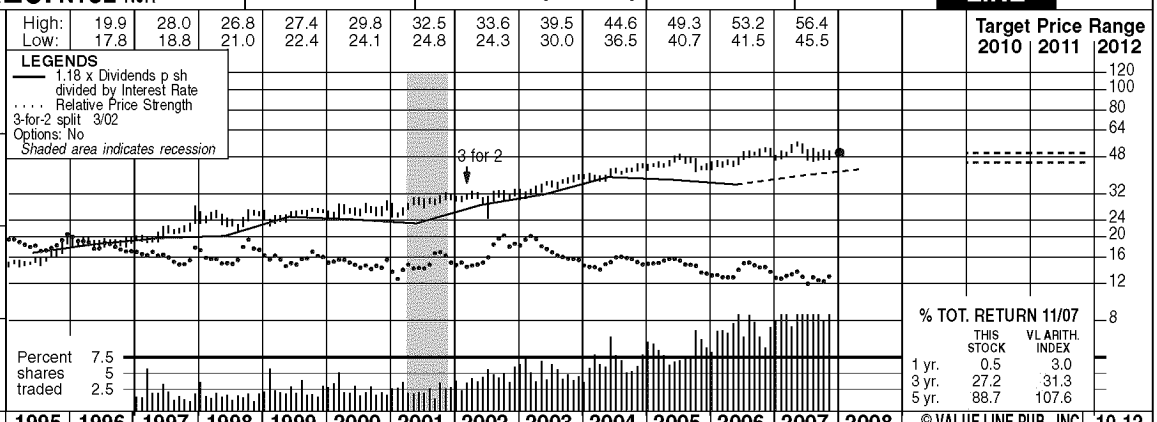
	Price	Gain	Ann'l Total Return
High	50	(Nil)	3%
Low	45	(-10%)	1%

Insider Decisions

	J	F	M	A	M	J	J	A	S
to Buy	0	0	0	0	0	0	0	0	0
Options	2	0	0	0	5	0	0	0	0
to Sell	0	0	0	0	5	0	0	1	0

Institutional Decisions

	4Q2006	1Q2007	2Q2007
to Buy	68	82	77
to Sell	69	76	83
Hld's(000)	15657	15824	17707



% TOT. RETURN 11/07

	THIS STOCK	VL ARITH. INDEX
1 yr.	0.5	3.0
3 yr.	27.2	31.3
5 yr.	88.7	107.6

1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	© VALUE LINE PUB., INC.	10-12
15.99	16.88	18.02	19.22	17.03	20.22	25.97	26.59	33.98	44.13	76.82	66.17	93.43	91.33	114.29	119.44	108.56	*108.40*	Revenues per sh [A]	*112.50*
1.58	1.95	2.14	2.31	2.13	2.22	2.45	2.60	2.79	2.99	3.18	3.21	3.58	3.75	3.92	4.10	4.40	*4.50*	"Cash Flow" per sh	*4.60*
.55	1.09	1.15	1.26	1.29	1.37	1.48	1.55	1.66	1.79	1.95	2.09	2.38	2.55	2.65	2.80	3.15	*3.20*	Earnings per sh [B]	*3.40*
1.00	1.01	1.01	1.01	1.01	1.03	1.07	1.09	1.12	1.15	1.17	1.20	1.24	1.30	1.36	1.44	1.52	*1.60*	Div'ds Decl'd per sh [C■]	*1.84*
2.91	1.99	2.31	2.10	1.77	1.78	1.72	1.60	1.81	1.85	1.66	1.53	1.71	2.17	1.92	1.92	*1.95*	*1.95*	Cap'l Spending per sh	*1.85*
8.57	9.44	9.81	9.64	9.70	10.10	10.38	10.88	11.35	12.43	13.20	13.06	15.38	16.87	15.90	22.50	*24.40*	*26.70*	Book Value per sh [D]	*33.50*
20.95	24.43	25.23	25.95	26.69	27.13	26.82	26.72	26.61	26.39	26.66	27.67	27.23	27.74	27.55	27.63	27.90	*28.50*	Common Shs Outst'g [E]	*30.00*
22.3	12.4	15.1	13.0	11.7	13.6	13.5	15.3	15.2	14.7	14.2	14.7	14.0	15.3	16.8	16.1	*Bold figures are Value Line estimates*		Avg Ann'l P/E Ratio	*14.0*
1.42	.75	.89	.85	.78	.85	.78	.80	.87	.96	.73	.80	.80	.81	.89	.86			Relative P/E Ratio	*.95*
8.1%	7.5%	5.8%	6.2%	6.7%	5.6%	5.3%	4.6%	4.5%	4.4%	4.2%	3.9%	3.7%	3.3%	3.1%	3.2%			Avg Ann'l Div'd Yield	*4.5%*
						696.5	710.3	904.3	1164.5	2048.4	1830.8	2544.4	2533.6	3148.3	3299.6	3028.9	*3090*	Revenues ($mill) [A]	*3375*
						41.5	43.3	44.9	47.9	52.3	56.8	65.4	71.6	74.4	78.5	88.4	*93.0*	Net Profit ($mill)	*105.0*
						33.3%	30.4%	36.2%	37.8%	38.0%	38.7%	39.4%	39.1%	39.1%	38.9%	38.9%	*39.0%*	Income Tax Rate	*40.0%*
						6.0%	6.1%	5.0%	4.1%	2.6%	3.1%	2.6%	2.8%	2.4%	2.4%	2.9%	*3.0%*	Net Profit Margin	*3.0%*
						49.3%	51.2%	48.7%	47.0%	50.1%	50.6%	38.1%	40.3%	42.0%	34.8%	*33.0%*	*30.5%*	Long-Term Debt Ratio	*27.2%*
						47.1%	45.6%	51.2%	52.9%	49.9%	49.4%	61.9%	59.7%	58.0%	65.2%	*67.0%*	*69.5%*	Common Equity Ratio	*72.8%*
						590.6	638.2	590.4	620.1	706.2	732.4	676.8	783.8	755.3	954.0	*1015*	*1095*	Total Capital ($mill)	*1380*
						659.4	680.0	705.4	730.6	743.9	756.4	852.6	880.4	905.1	934.9	*955*	*975*	Net Plant ($mill)	*1030*
						8.6%	8.1%	9.0%	9.0%	8.5%	8.7%	10.7%	10.1%	11.2%	9.6%	*9.5%*	*9.0%*	Return on Total Cap'l	*8.0%*
						13.9%	13.9%	14.8%	14.6%	14.8%	15.7%	15.6%	15.3%	17.0%	12.6%	*13.0%*	*12.0%*	Return on Shr. Equity	*10.5%*
						14.3%	14.4%	14.8%	14.6%	14.9%	15.7%	15.6%	15.3%	17.0%	12.6%	*13.0%*	*12.0%*	Return on Com Equity	*10.5%*
						4.0%	4.4%	5.0%	5.4%	6.1%	6.9%	7.7%	7.8%	8.5%	6.3%	*6.5%*	*6.0%*	Retained to Com Eq	*5.0%*
						73%	71%	67%	63%	59%	56%	51%	49%	50%	50%	*48%*	*49%*	All Div'ds to Net Prof	*54%*

CAPITAL STRUCTURE as of 6/30/07
Total Debt $565.8 mill. **Due in 5 Yrs** $300.0 mill.
LT Debt $334.5 mill. **LT Interest** $17.0 mill.
Incl. $7.4 mill. capitalized leases.
(LT interest earned: 6.0x; total interest coverage: 6.0x)
Pension Assets-9/06 $95.8 mill. **Oblig.** $103.7 mill.
Pfd Stock None

Common Stock 28,063,442 shs.
as of 8/1/07
MARKET CAP: $1.4 billion (Mid Cap)

CURRENT POSITION ($MILL.)	2005	2006	6/30/07
Cash Assets	25.0	5.0	5.7
Other	927.8	960.5	805.6
Current Assets	952.8	965.5	811.3
Accts Payable	54.7	46.8	53.7
Debt Due	177.4	284.4	231.3
Other	744.2	566.0	471.7
Current Liab.	976.3	897.2	756.7
Fix. Chg. Cov.	660%	570%	550%

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '04-'06 to '10-'12
Revenues	19.0%	16.0%	*0.5%*
"Cash Flow"	6.0%	5.5%	*2.5%*
Earnings	7.5%	8.0%	*4.0%*
Dividends	3.0%	3.5%	*5.0%*
Book Value	6.5%	8.5%	*10.5%*

Fiscal Year Ends	QUARTERLY REVENUES ($ mill.) [A] Dec.31	Mar.31	Jun.30	Sep.30	Full Fiscal Year
2004	643.0	1037	438.5	415.1	2533.6
2005	854.1	1065	544.3	684.9	3148.3
2006	1164	1064	536.1	535.5	3299.6
2007	741.5	1024	665.9	597.5	3028.9
2008	*755*	*1040*	*680*	*615*	*3090*

Fiscal Year Ends	EARNINGS PER SHARE [A B] Dec.31	Mar.31	Jun.30	Sep.30	Full Fiscal Year
2004	.87	1.82	.06	d.20	2.55
2005	.91	1.84	.07	d.17	2.65
2006	1.23	2.14	d.14	d.43	2.80
2007	1.01	2.87	d.18	d.55	3.15
2008	*1.20*	*2.90*	*d.25*	*d.65*	*3.20*

Cal-endar	QUARTERLY DIVIDENDS PAID [C■] Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2003	.31	.31	.31	.31	1.24
2004	.325	.325	.325	.325	1.30
2005	.34	.34	.34	.34	1.36
2006	.36	.36	.36	.36	1.44
2007	.38	.38	.38	.38	

BUSINESS: New Jersey Resources Corp. is a holding company providing retail/wholesale energy svcs. to customers in New Jersey, and in states from the Gulf Coast to New England, and Canada. New Jersey Natural Gas had about 471,000 customers at 9/30/06 in Monmouth and Ocean Counties, and other N.J. Counties. Fiscal 2006 volume: 102.8 bill. cu. ft. (56% firm, 7% interruptible industrial and electric utility, 37% off-system and capacity release). N.J. Natural Energy subsidiary provides unregulated retail/wholesale natural gas and related energy svcs. 2006 dep. rate: 2.7%. Has 766 empls. Off./dir. own about 2% of common (12/06 Proxy). Chrmn. and CEO: Laurence M. Downes. Inc.: N.J. Addr.: 1415 Wyckoff Road, Wall, NJ 07719. Tel.: 732-938-1480. Web: www.njresources.com.

New Jersey Resources was unable to submit its 10-K on time this year. As a result, only preliminary unaudited data are available for fiscal 2007 (ended September 30th). The reason for the delay relates to NJR's investigation regarding the assessment and treatment of its derivative instruments under SFAS 133. Given the compexity of this examination, no timetable has been set regarding the release of the document. However, at this time, the company has reported a 12.5% increase in earnings when compared with last year. The majority of this advance can be attributed to an almost 43% earnings increase for the New Jersey Resources division, the wholesale energy portion of NJR's business.

Share-net growth ought to moderate in 2008 and beyond. We look for the bottom line to advance 2%-5% in 2008. Driving this advance will likely be a 1.8% annual customer growth rate as the New Jersey Natural Gas unit attracts additional accounts and converts existing ones from other sources of energy.

Additional benefits ought to develop thanks to healthy capital spending. The Steckman Ridge project continues to move forward towards its projected in-service date of spring, 2009. The gas storage facility in Pennsylvania, with access to the Texas Eastern pipeline system, has received bids for storage services that totaled almost five times its proposed working capacity. NJR, though, is still awaiting approval by the FERC, as it filed back in November. And the board of directors recently approved a 5.3% dividend increase to $0.40 per share. Finally, the company increased its share-repurchase program, from 3.5 million shares to 4.5 million. This past year, the company bought back 340,000 shares.

All told, these shares are ranked to underperform the broader market for the year ahead. And based on the stock's quotation and our earnings projections, the equity currently sits above our Target Price Range. Thus, it offers below-average appreciation potential. However, the issue may still appeal to income-oriented investors with an eye on capital preservation, due to its solid dividend yield and top mark for Stock Price Stability.

Bryan Fong *December 14, 2007*

(A) Fiscal year ends Sept. 30th.
(B) Diluted earnings. Next earnings report due late Jan.
(C) Dividends historically paid in early January, April, July, and October. ■ Dividend reinvestment plan available.
(D) Includes regulatory assets in 2006: $323.0 million, $11.70/share.
(E) In millions, adjusted for split.

Company's Financial Strength	A
Stock's Price Stability	100
Price Growth Persistence	70
Earnings Predictability	95

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NICOR, INC. NYSE-GAS

RECENT PRICE **42.63** | P/E RATIO **15.0** (Trailing: 14.5 Median: 15.0) | RELATIVE P/E RATIO **0.88** | DIV'D YLD **4.4%** | **VALUE LINE**

TIMELINESS **3** Raised 12/7/07
SAFETY **3** Lowered 6/17/05
TECHNICAL **4** Lowered 11/9/07
BETA 1.00 (1.00 = Market)

2010-12 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	55	(+30%)	*10%*
Low	35	(-20%)	*Nil*

Insider Decisions

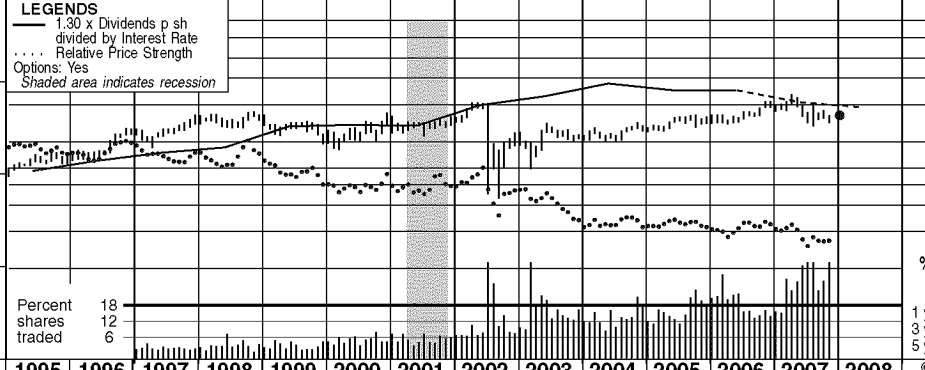
	J	F	M	A	M	J	J	A	S
to Buy	0	0	1	0	0	0	0	1	1
Options	0	2	0	0	3	0	0	0	0
to Sell	0	2	1	0	3	0	0	0	0

Institutional Decisions

	4Q2006	1Q2007	2Q2007
to Buy	124	118	119
to Sell	80	101	111
Hld's(000)	32939	34865	37018

	High:	37.1	42.9	44.4	42.9	43.9	42.4	49.0	39.3	39.7	43.0	49.9	53.7
	Low:	25.4	30.0	37.1	31.2	29.4	34.0	17.3	23.7	32.0	35.5	38.7	37.8

LEGENDS
— 1.30 x Dividends p sh divided by Interest Rate
. . . . Relative Price Strength
Options: Yes
Shaded area indicates recession



% TOT. RETURN 11/07

	THIS STOCK	VL ARITH. INDEX
1 yr.	-11.4	3.0
3 yr.	30.5	31.3
5 yr.	70.5	107.6

1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	© VALUE LINE PUB., INC.	10-12
26.46	28.90	31.02	31.23	29.42	37.39	41.33	30.84	34.45	50.52	57.30	43.11	60.46	62.12	76.00	65.92	*73.35*	*75.00*	Revenues per sh	*80.00*
3.92	4.14	3.80	4.11	4.19	4.97	5.29	5.21	5.59	6.16	6.41	6.03	5.37	6.00	6.19	6.82	*7.25*	*7.35*	"Cash Flow" per sh	*7.70*
1.86	1.92	1.97	2.07	1.96	2.42	2.55	2.31	2.57	2.94	3.01	2.88	2.11	2.22	2.29	3.03	*2.80*	*2.90*	Earnings per sh [A]	*2.90*
1.12	1.18	1.22	1.25	1.28	1.32	1.40	1.48	1.54	1.66	1.76	1.84	1.86	1.86	1.86	1.86	*1.86*	*1.86*	Div'ds Decl'd per sh [B] ■	*1.86*
3.65	3.12	2.62	3.34	3.12	2.42	2.34	2.87	3.28	3.48	4.18	4.37	4.12	4.32	4.57	4.17	*4.45*	*4.45*	Cap'l Spending per sh	*4.80*
12.28	12.76	13.05	13.26	13.67	14.74	15.43	15.97	16.80	15.56	16.39	16.55	17.13	16.99	18.36	19.43	*20.45*	*21.50*	Book Value per sh	*25.75*
57.30	55.77	53.96	51.54	50.30	49.49	48.22	47.51	46.89	45.49	44.40	44.01	44.04	44.10	44.18	44.90	*45.00*	*45.00*	Common Shs Outst'g [C]	*45.00*
11.5	11.6	14.1	12.5	13.1	12.5	14.2	17.6	14.6	11.9	12.8	13.1	15.8	15.9	17.3	15.0	*Bold figures are Value Line estimates*		Avg Ann'l P/E Ratio	*16.0*
.73	.70	.83	.82	.88	.78	.82	.92	.83	.77	.66	.72	.90	.84	.92	.81			Relative P/E Ratio	*1.05*
5.2%	5.3%	4.4%	4.8%	5.0%	4.4%	3.9%	3.6%	4.1%	4.7%	4.6%	4.9%	5.6%	5.3%	4.7%	4.3%			Avg Ann'l Div'd Yield	*4.5%*
1992.6	1465.1	1615.2	2298.1	2544.1	1897.4	2662.7	2739.7	3357.8	2960.0	*3300*	*3375*	Revenues ($mill)	*3600*
124.3	111.1	121.9	136.4	136.3	128.0	93.1	98.1	101.1	128.3	*125*	*130*	Net Profit ($mill)	*130*
35.0%	34.4%	34.7%	34.8%	33.5%	31.0%	35.2%	31.8%	28.3%	26.3%	*30.0%*	*31.0%*	Income Tax Rate	*33.0%*
6.2%	7.6%	7.5%	5.9%	5.4%	6.7%	3.5%	3.6%	3.0%	4.3%	*3.8%*	*3.9%*	Net Profit Margin	*3.6%*
42.3%	42.1%	35.5%	32.7%	37.8%	35.1%	39.6%	39.8%	37.4%	36.3%	*30.0%*	*29.0%*	Long-Term Debt Ratio	*26.0%*
57.2%	57.4%	64.0%	66.7%	61.7%	64.5%	60.3%	60.1%	62.5%	63.7%	*70.0%*	*71.0%*	Common Equity Ratio	*74.0%*
1300.6	1322.6	1230.1	1061.2	1180.1	1128.9	1251.5	1246.0	1297.7	1370.7	*1320*	*1365*	Total Capital ($mill)	*1550*
1735.8	1731.8	1735.2	1729.6	1768.6	1796.8	2484.2	2549.8	2659.1	2714.1	*2850*	*2950*	Net Plant ($mill)	*3225*
11.1%	9.9%	10.9%	13.7%	12.3%	12.2%	8.3%	8.8%	9.4%	10.9%	*11.5%*	*11.0%*	Return on Total Cap'l	*10.0%*
16.6%	14.5%	15.4%	19.1%	18.6%	17.5%	12.3%	13.1%	12.5%	14.7%	*13.5%*	*13.5%*	Return on Shr. Equity	*11.5%*
16.7%	14.6%	15.4%	19.2%	18.7%	17.5%	12.3%	13.1%	12.5%	14.7%	*14.0%*	*13.5%*	Return on Com Equity	*11.5%*
7.6%	5.4%	6.2%	8.5%	7.9%	6.5%	1.5%	2.1%	2.3%	5.2%	*4.5%*	*5.0%*	Retained to Com Eq	*4.0%*
55%	63%	60%	56%	58%	63%	88%	84%	81%	65%	*66%*	*64%*	All Div'ds to Net Prof	*64%*

CAPITAL STRUCTURE as of 9/30/07
Total Debt $660.3 mill. **Due in 5 Yrs** $422.7 mill.
LT Debt $423.3 mill. **LT Interest** $38.0 mill.
(Total interest coverage: 4.6x)

Pension Assets-12/06 $432.3 mill. **Oblig.** $271.3 mill.

Pfd Stock $.6 mill. **Pfd Div'd** None

Common Stock 45,124,624 shares
as of 10/26/07
MARKET CAP: $1.9 billion (Mid Cap)

CURRENT POSITION ($MILL.)	2005	2006	9/30/07
Cash Assets	126.9	67.6	76.1
Other	1218.8	843.1	657.4
Current Assets	1345.7	910.7	733.5
Accts Payable	658.2	564.5	579.2
Debt Due	636.0	350.0	237.0
Other	328.7	227.9	190.9
Current Liab.	1622.9	1142.4	1007.1
Fix. Chg. Cov.	367%	543%	612%

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '04-'06 to '10-'12
Revenues	7.5%	7.5%	*2.5%*
"Cash Flow"	3.5%	1.0%	*3.5%*
Earnings	1.5%	-3.0%	*3.0%*
Dividends	4.0%	2.5%	*Nil*
Book Value	3.0%	2.5%	*6.0%*

Calendar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2004	1115.7	429.5	299.9	894.6	2739.7
2005	1179.9	484.4	236.0	1357.5	3257.8
2006	1319.4	451.3	351.1	838.2	2960.0
2007	1334.7	556.9	365.2	*1043.2*	*3300*
2008	*1350*	*575*	*375*	*1075*	*3375*

Calendar	EARNINGS PER SHARE [A] Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2004	.96	.44	d.26	1.08	2.22
2005	.98	.35	d.06	1.02	2.29
2006	.94	.41	.39	1.29	3.03
2007	.93	.40	.32	*1.15*	*2.80*
2008	*.95*	*.43*	*.35*	*1.17*	*2.90*

Calendar	QUARTERLY DIVIDENDS PAID [B] ■ Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2003	.465	.465	.465	.465	1.86
2004	.465	.465	.465	.465	1.86
2005	.465	.465	.465	.465	1.86
2006	.465	.465	.465	.465	1.86
2007	.465	.465	.465	.465	

BUSINESS: Nicor Inc. is a holding company with gas distribution as its primary business. Serves over 2.1 million customers in northern and western Illinois. 2006 gas delivered: 438.7 Bcf, incl. 206.0 Bcf from transportation. 2006 gas sales (232.7 bcf): residential, 80%; commercial, 18%; industrial, 2%. Principal supplying pipelines: Natural Gas Pipeline, Horizon Pipeline, and TGPC. Current operations include Tropical Shipping subsidiary and several energy related ventures. Divested inland barging, 7/86; contract drilling, 9/86; oil and gas E&P, 6/93. Has about 3,900 employees. Off./dir. own about 1.7% of common stock (3/07 proxy). Chairman and CEO: Russ Strobel. Inc.: Illinois Address: 1844 Ferry Road, Naperville, Illinois 60563. Telephone: 630-305-9500. Internet: www.nicor.com.

Higher costs are hurting Nicor's earnings. Specifically, profits continue to be dragged down by bad debt and higher expenses in the gas distribution segment. Moreover, an investigation by the Environmental Protection Agency and the Illinois attorney general, regarding polychlorinated biphenyls in Nicor's distribution system, has weighed on share net. (The investigation is nearly complete and should not continue to affect results.) Because of the recent pressure on results, management has been focusing on cost control. All told, we believe the company will post an earnings decline in 2007 and just a modest increase in 2008 while these issues are a factor.

Nicor Gas might seek rate relief in 2008. Base rates have remained unchanged in 2007, and the company has not been earning its allowed return. Moreover, Nicor does not have any rate cases pending currently. Therefore, if cost-cutting doesn't enable the utility to earn an adequate return on equity, it might file a rate case in the near future. Additionally, management continues to look into rate mechanisms, such as one that decouples gas revenues from gas sales, to improve the company's ability to generate healthy returns.

The balance sheet is solid. Indeed, the company has a Financial Strength rating of A. Nicor's diverse business provides a steady stream of income that amply supports its capital structure.

The company's nonregulated operations have performed well. The wholesale natural gas marketing and the retail products and services businesses turned in strong results in the September period. Nicor's focus on developing these other opportunities has enabled it to better handle the volatility in natural gas prices.

This stock is currently trading within our 2010-2012 Target Price Range. Therefore, long-term investors may want to look elsewhere, especially since we project no dividend growth, even over the 3- to 5-year period. However, income-oriented investors may be interested in this stock's above-average yield. For now, these shares are ranked to mirror the market in the year ahead.

Richard Gallagher *December 14, 2007*

(A) Based on primary earnings thru. '96, then diluted. Excl. nonrecurring gains/(loss): '97, 6¢; '98, 11¢; '99, 5¢; '00, ($1.96); '01, 16¢; '03, (27¢); '04, (52¢); '05, 80¢; '06, (17¢). Excl. items from discontinued ops.: '93, 4¢; '96, 30¢. Next egs. report due late February.
(B) Dividends historically paid mid February, May, August, November. ■ Dividend reinvestment plan available. (C) In millions.

Company's Financial Strength	A
Stock's Price Stability	90
Price Growth Persistence	30
Earnings Predictability	75

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N.W. NAT'L GAS NYSE-NWN

RECENT PRICE 47.92 | P/E RATIO 18.2 (Trailing: 17.6 Median: 16.0) | RELATIVE P/E RATIO 1.06 | DIV'D YLD 3.2% | VALUE LINE

TIMELINESS 3 Raised 11/16/07
SAFETY 1 Raised 3/18/05
TECHNICAL 4 Lowered 12/14/07
BETA .90 (1.00 = Market)

2010-12 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	65	(+35%)	11%
Low	55	(+15%)	7%

Insider Decisions

	J	F	M	A	M	J	J	A	S
to Buy	0	1	0	1	0	0	0	0	0
Options	0	0	0	0	1	0	0	0	0
to Sell	0	0	1	0	1	0	0	1	0

Institutional Decisions

	4Q2006	1Q2007	2Q2007
to Buy	75	87	94
to Sell	60	64	65
Hld's(000)	14381	14681	16847

	2005	2006	2007	2008
High:	39.6	43.7	52.8	
Low:	32.4	32.8	39.8	

LEGENDS
1.10 x Dividends p sh divided by Interest Rate
Relative Price Strength
3-for-2 split 9/96
Options: Yes
Shaded area indicates recession

Target Price Range 2010 | 2011 | 2012

% TOT. RETURN 11/07

	THIS STOCK	VL ARITH. INDEX
1 yr.	20.2	3.0
3 yr.	57.7	31.3
5 yr.	128.1	107.6

1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	© VALUE LINE PUB., INC.	10-12
16.74	14.10	18.15	18.30	16.02	16.86	15.82	16.77	18.17	21.09	25.78	25.07	23.57	25.69	33.01	37.20	*39.60*	*41.35*	Revenues per sh	*48.15*
2.57	3.25	3.74	3.50	3.41	3.86	3.72	3.24	3.72	3.68	3.86	3.65	3.85	3.92	4.34	4.75	*5.25*	*5.40*	"Cash Flow" per sh	*6.10*
.67	.74	1.74	1.63	1.61	1.97	1.76	1.02	1.70	1.79	1.88	1.62	1.76	1.86	2.11	2.35	*2.65*	*2.75*	Earnings per sh [A]	*3.30*
1.13	1.15	1.17	1.17	1.18	1.20	1.21	1.22	1.23	1.24	1.25	1.26	1.27	1.30	1.32	1.39	*1.44*	*1.52*	Div'ds Decl'd per sh [B]■	*1.92*
3.58	3.73	3.61	4.23	3.02	3.70	5.07	4.02	4.78	3.46	3.23	3.11	4.90	5.52	3.48	3.56	*4.25*	*3.90*	Cap'l Spending per sh	*4.20*
12.23	12.41	13.08	13.63	14.55	15.37	16.02	16.59	17.12	17.93	18.56	18.88	19.52	20.64	21.28	22.01	*22.45*	*23.00*	Book Value per sh	*26.35*
17.68	19.46	19.77	20.13	22.24	22.56	22.86	24.85	25.09	25.23	25.23	25.59	25.94	27.55	27.58	27.24	*26.50*	*26.00*	Common Shs Outst'g [C]	*27.00*
28.1	27.0	12.9	13.0	12.9	11.7	14.4	26.7	14.5	12.4	12.9	17.2	15.8	16.7	17.0	16.3	*Bold figures are Value Line estimates*		Avg Ann'l P/E Ratio	*18.0*
1.79	1.64	.76	.85	.86	.73	.83	1.39	.83	.81	.66	.94	.90	.88	.91	.88			Relative P/E Ratio	*1.20*
5.9%	5.7%	5.2%	5.5%	5.7%	5.2%	4.8%	4.5%	5.0%	5.6%	5.1%	4.5%	4.6%	4.2%	3.7%	3.7%			Avg Ann'l Div'd Yield	*3.2%*
361.8	416.7	455.8	532.1	650.3	641.4	611.3	707.6	910.5	1013.2	*1050*	*1075*	Revenues ($mill)	*1300*
43.1	27.3	44.9	47.8	50.2	43.8	46.0	50.6	58.1	63.4	*71.5*	*71.5*	Net Profit ($mill)	*87.0*
32.9%	31.0%	35.4%	35.9%	35.4%	34.9%	33.7%	34.4%	36.0%	36.4%	*37.0%*	*37.0%*	Income Tax Rate	*37.0%*
11.9%	6.6%	9.9%	9.0%	7.7%	6.8%	7.5%	7.1%	6.4%	6.3%	*6.8%*	*6.7%*	Net Profit Margin	*6.7%*
46.0%	45.0%	46.0%	45.1%	43.0%	47.6%	49.7%	46.0%	47.0%	46.3%	*47.0%*	*47.0%*	Long-Term Debt Ratio	*48.0%*
49.0%	50.6%	49.9%	50.9%	53.2%	51.5%	50.3%	54.0%	53.0%	53.7%	*53.0%*	*53.0%*	Common Equity Ratio	*52.0%*
748.0	815.6	861.5	887.8	880.5	937.3	1006.6	1052.5	1108.4	1116.5	*1150*	*1200*	Total Capital ($mill)	*1350*
827.5	894.7	895.9	934.0	965.0	995.6	1205.9	1318.4	1373.4	1425.1	*1500*	*1575*	Net Plant ($mill)	*1800*
7.4%	5.0%	6.8%	6.7%	6.9%	5.9%	5.7%	5.9%	6.5%	7.0%	*7.0%*	*7.0%*	Return on Total Cap'l	*7.0%*
10.7%	6.1%	9.7%	9.8%	10.0%	8.9%	9.1%	8.9%	9.9%	10.6%	*11.0%*	*11.5%*	Return on Shr. Equity	*11.5%*
11.0%	6.0%	9.9%	10.0%	10.2%	8.5%	9.0%	8.9%	9.9%	10.6%	*11.0%*	*11.5%*	Return on Com Equity	*11.5%*
3.6%	NMF	2.8%	3.1%	3.5%	1.9%	2.6%	2.7%	3.7%	4.2%	*5.0%*	*5.0%*	Retained to Com Eq	*4.5%*
70%	118%	74%	70%	67%	79%	72%	69%	63%	60%	*54%*	*55%*	All Div'ds to Net Prof	*58%*

CAPITAL STRUCTURE as of 9/30/07
Total Debt $629.1 mill. **Due in 5 Yrs** $179.7 mill.
LT Debt $512.0 mill. **LT Interest** $31.0 mill.

(Total interest coverage: 3.5x)

Pension Assets-12/06 $236 mill.
Oblig. $269 mill.
Pfd Stock None

Common Stock 26,452,275 shs.
as of 10/31/07
MARKET CAP $1.3 billion (Mid Cap)

CURRENT POSITION ($MILL.)	2005	2006	9/30/07
Cash Assets	7.1	5.8	4.6
Other	316.6	303.0	200.4
Current Assets	323.7	308.8	205.0
Accts Payable	135.3	113.6	57.7
Debt Due	134.7	129.6	117.1
Other	56.6	98.3	124.3
Current Liab.	326.6	341.5	299.1
Fx. Chg. Cov.	340%	349%	NMF

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '04-'06 to '10-'12
Revenues	6.5%	8.0%	*6.5%*
"Cash Flow"	2.0%	3.0%	*5.0%*
Earnings	2.0%	3.0%	*7.0%*
Dividends	1.0%	1.5%	*5.5%*
Book Value	4.0%	3.5%	*3.5%*

Calendar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2004	254.5	109.7	81.4	262.0	707.6
2005	308.7	153.7	106.7	341.4	910.5
2006	390.4	171.0	114.9	336.9	1013.2
2007	394.1	183.2	124.2	*348.5*	*1050*
2008	*405*	*190*	*125*	*355*	*1075*

Calendar	EARNINGS PER SHARE [A] Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2004	1.24	d.03	d.30	.95	1.86
2005	1.44	.04	d.31	.94	2.11
2006	1.48	.07	d.35	1.15	2.35
2007	1.70	.10	d.32	*1.17*	*2.65*
2008	*1.68*	*.11*	*d.30*	*1.26*	*2.75*

Calendar	QUARTERLY DIVIDENDS PAID [B]■ Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2003	.315	.315	.315	.325	1.27
2004	.325	.325	.325	.325	1.30
2005	.325	.325	.325	.345	1.32
2006	.345	.345	.345	.355	1.39
2007	.355	.355	.355	.375	

BUSINESS: Northwest Natural Gas Co. distributes natural gas to 90 communities, 639,500 customers, in Oregon (90% of customers) and in southwest Washington state. Principal cities served: Portland and Eugene, OR; Vancouver, WA. Service area population: 2.5 mill. (77% in OR). Company buys gas supply from Canadian and U.S. producers; has transportation rights on Northwest Pipeline system. Owns local underground storage. Rev. breakdown: residential, 55%; commercial, 28%; industrial, gas transportation, and other, 17%. Employs 1,150. Fidelity owns 14.9% of shares; Snyder Cap'l, 8.7%; off./dir., 2.0% (4/07 proxy). CEO: Mark S. Dodson. Inc.: Oregon. Address: 220 NW 2nd Ave., Portland, OR 97209. Telephone: 503-226-4211. Internet: www.nwnatural.com.

Northwest Natural remains on course to post record earnings in 2007. In the third quarter, the usual seasonal loss from gas distribution increased, but it was more than offset by a $0.04-a-share increase in gas storage profits, due, in part, to a recent 11% expansion of the gas storage field at Mist, OR. Operating expenses were up 6% in the latest period, compared with 3% year to date, due to unusual storm repair work and extra outlays for efficiency projects. Meanwhile, customer growth was 2.6% for the 12 months ended in September, down from over 3% annually for many years, though still about twice the national average.

We look for modest share-net gains in 2008. The large earnings increase in the first nine months of 2007 resulted largely from astute gas hedging in the first quarter, though gas storage profits are up, as well. With less volatile gas prices likely, Northwest will probably not book nearly as much in hedging profits in 2008. But we still look for steady customer growth, despite the national housing recession, and higher storage profits. And Northwest should begin to reap the benefits of its work reorientation program next year.

Oregon has renewed key tariff provisions. Northwest benefits from weather adjustment and conservation tariffs that protect the company's earnings from fluctuations due to unusually warm or cold weather and reduced gas usage due to conservation. The Oregon commission has renewed those clauses through October 2012, and the company has agreed not to file a rate case before late 2011. It can, however, seek higher rates for several kinds of projects, and it will continue to adjust rates to reflect actual gas costs.

Expansion of Portland's urban density boundaries and other projects will likely boost earnings by 2010-2012. Oregon has raised permitted population density in the southeastern suburbs of Portland, which should lead to substantial growth in that area. And two possible pipeline and storage projects, with a total of up to $500 million invested by Northwest, could come on stream by 2012.

These top quality, neutrally ranked, shares have decent risk-adjusted, long-term total return potential.

Sigourney B. Romaine December 14, 2007

(A) Diluted earnings per share. Excludes nonrecurring items: '98, $0.15; '00, $0.11; '06, ($0.06); '07, 17¢. Next earnings report due early February.

(B) Dividends historically paid in mid-February, mid-May, mid-August, and mid-November.
■ Dividend reinvestment plan available.
(C) In millions, adjusted for stock split.

Company's Financial Strength	A
Stock's Price Stability	100
Price Growth Persistence	65
Earnings Predictability	80

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PIEDMONT NAT'L. GAS NYSE-PNY

RECENT PRICE **26.21** | P/E RATIO **17.7** (Trailing: 18.3 Median: 17.0) | RELATIVE P/E RATIO **1.04** | DIV'D YLD **3.8%** | **VALUE LINE**

TIMELINESS **3** Raised 6/15/07
SAFETY **2** New 7/27/90
TECHNICAL **3** Raised 7/6/07
BETA .85 (1.00 = Market)

2010-12 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	40	(+55%)	14%
Low	30	(+15%)	7%

Insider Decisions

	J	F	M	A	M	J	J	A	S
to Buy	0	0	1	0	0	0	1	0	0
Options	0	0	0	0	0	0	0	0	0
to Sell	0	0	0	1	0	0	0	0	0

Institutional Decisions

	4Q2006	1Q2007	2Q2007
to Buy	79	74	84
to Sell	70	70	77
Hld's(000)	33589	31059	35264

	High:	12.9	18.2	18.1	18.3	19.7	19.0	19.0	22.0	24.3	25.8	28.4	27.5
	Low:	10.3	11.0	13.9	14.3	11.8	14.6	13.7	16.6	19.2	21.3	23.2	22.0

LEGENDS
1.40 x Dividends p sh divided by Interest Rate
Relative Price Strength
2-for-1 split 11/04
Options: No
Shaded area indicates recession

2-for-1

Target Price Range 2010 | 2011 | 2012

80 60 50 40 30 25 20 15 10 7.5

Percent shares traded 7.5 5 2.5

% TOT. RETURN 11/07

	THIS STOCK	VL ARITH. INDEX
1 yr.	-3.0	3.0
3 yr.	24.2	31.3
5 yr.	84.9	107.6

1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	© VALUE LINE PUB., INC.	10-12
8.32	8.91	10.57	10.82	8.76	11.59	12.84	12.45	10.97	13.01	17.06	12.57	18.14	19.95	22.96	25.80	*24.40*	*25.60*	Revenues per sh [A]	*29.30*
.78	1.07	1.14	1.13	1.25	1.49	1.62	1.72	1.70	1.77	1.81	1.81	2.04	2.31	2.43	2.50	*2.55*	*2.65*	"Cash Flow" per sh	*2.90*
.44	.70	.73	.68	.73	.84	.93	.98	.93	1.01	1.01	.95	1.11	1.27	1.32	1.27	*1.45*	*1.50*	Earnings per sh [B]	*1.60*
.44	.46	.48	.51	.54	.57	.61	.64	.68	.72	.76	.80	.82	.85	.91	.95	*1.00*	*1.04*	Div'ds Decl'd per sh [C■]	*1.16*
1.37	1.41	1.58	1.95	1.72	1.64	1.52	1.48	1.58	1.65	1.29	1.21	1.16	1.85	2.50	2.74	*1.95*	*2.05*	Cap'l Spending per sh	*2.30*
4.83	5.13	5.45	5.68	6.16	6.53	6.95	7.45	7.86	8.26	8.63	8.91	9.36	11.15	11.53	11.83	*12.15*	*12.40*	Book Value per sh [D]	*13.40*
49.46	51.59	52.30	53.15	57.67	59.10	60.39	61.48	62.59	63.83	64.93	66.18	67.31	76.67	76.70	74.61	*73.80*	*73.00*	Common Shs Outst'g [E]	*71.80*
16.3	12.3	15.4	15.7	13.8	13.9	13.6	16.3	17.7	14.3	16.7	18.4	16.7	16.6	17.9	19.4	*Bold figures are Value Line estimates*		Avg Ann'l P/E Ratio	*22.0*
1.04	.75	.91	1.03	.92	.87	.78	.85	1.01	.93	.86	1.01	.95	.88	.95	1.02			Relative P/E Ratio	*1.30*
6.0%	5.3%	4.3%	4.8%	5.4%	4.9%	4.8%	4.0%	4.1%	5.0%	4.5%	4.6%	4.4%	4.1%	3.8%	3.9%			Avg Ann'l Div'd Yield	*3.5%*
775.5	765.3	686.5	830.4	1107.9	832.0	1220.8	1529.7	1761.1	1924.7	*1800*	*1870*	Revenues ($mill) [A]	*2105*
55.2	60.3	58.2	64.0	65.5	62.2	74.4	95.2	101.3	96.7	*105*	*110*	Net Profit ($mill)	*120*
39.1%	39.2%	39.7%	34.7%	34.6%	33.1%	34.8%	35.1%	33.7%	35.0%	*35.0%*	*35.0%*	Income Tax Rate	*35.0%*
7.1%	7.9%	8.5%	7.7%	5.9%	7.5%	6.1%	6.2%	5.8%	5.0%	*5.8%*	*5.9%*	Net Profit Margin	*5.7%*
47.6%	44.7%	46.2%	46.1%	47.6%	43.9%	42.2%	43.6%	41.4%	48.3%	*49.0%*	*50.0%*	Long-Term Debt Ratio	*49.2%*
52.4%	55.3%	53.8%	53.9%	52.4%	56.1%	57.8%	56.4%	58.6%	51.7%	*51.0%*	*50.0%*	Common Equity Ratio	*50.8%*
800.8	829.3	914.7	978.4	1069.4	1051.6	1090.2	1514.9	1509.2	1708.0	*1755*	*1810*	Total Capital ($mill)	*1900*
941.7	990.6	1047.0	1072.0	1114.7	1158.5	1812.3	1849.8	1939.1	2075.0	*2100*	*2150*	Net Plant ($mill)	*2350*
8.9%	9.2%	8.1%	8.3%	7.9%	7.8%	8.6%	7.8%	8.2%	7.1%	*7.5%*	*7.0%*	Return on Total Cap'l	*7.0%*
13.1%	13.2%	11.8%	12.1%	11.7%	10.6%	11.8%	11.1%	11.5%	11.0%	*12.0%*	*12.0%*	Return on Shr. Equity	*12.0%*
13.1%	13.2%	11.8%	12.1%	11.7%	10.6%	11.8%	11.1%	11.5%	11.0%	*12.0%*	*12.0%*	Return on Com Equity	*12.0%*
4.6%	4.7%	3.3%	3.5%	3.0%	1.7%	3.1%	3.7%	3.6%	2.8%	*3.5%*	*3.5%*	Retained to Com Eq	*3.5%*
65%	65%	72%	71%	75%	83%	74%	66%	68%	75%	*69%*	*69%*	All Div'ds to Net Prof	*72%*

CAPITAL STRUCTURE as of 7/31/07
Total Debt $972.5 mill. **Due in 5 Yrs** $150.0 mill.
LT Debt $825.0 mill. **LT Interest** $50.0 mill.
(LT interest earned: 4.0x; total interest coverage: 4.0x)

Pension Assets-10/06 $211.9 mill.
Oblig. $236.3 mill.

Pfd Stock None

Common Stock 74,068,474 shs.
as of 9/4/07
MARKET CAP: $1.9 billion (Mid Cap)

CURRENT POSITION ($MILL.)	2005	2006	7/31/07
Cash Assets	7.1	8.9	11.3
Other	497.8	467.1	417.8
Current Assets	504.9	476.0	429.1
Accts Payable	182.8	80.3	83.8
Debt Due	193.5	170.0	147.5
Other	152.3	150.1	118.8
Current Liab.	528.6	400.4	350.1
Fix. Chg. Cov.	271%	261%	300%

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '04-'06 to '10-'12
Revenues	7.5%	11.0%	*4.0%*
"Cash Flow"	7.0%	5.5%	*3.0%*
Earnings	5.5%	5.0%	*4.0%*
Dividends	5.5%	5.0%	*4.5%*
Book Value	6.5%	6.5%	*2.5%*

Fiscal Year Ends	QUARTERLY REVENUES ($ mill.) [A] Jan.31	Apr.30	Jul.31	Oct.31	Full Fiscal Year
2004	618.8	482.4	214.7	213.8	1529.7
2005	680.6	508.0	232.9	339.6	1761.1
2006	921.4	483.2	237.9	282.2	1924.7
2007	677.2	531.6	224.4	*366.8*	*1800*
2008	*685*	*540*	*275*	*370*	*1870*

Fiscal Year Ends	EARNINGS PER SHARE [A B F] Jan.31	Apr.30	Jul.31	Oct.31	Full Fiscal Year
2004	1.03	.54	d.11	d.21	1.27
2005	.93	.52	d.06	d.07	1.32
2006	.94	.57	d.16	d.08	1.27
2007	.94	.69	d.12	*d.06*	*1.45*
2008	*.95*	*.65*	*d.06*	*d.04*	*1.50*

Calendar	QUARTERLY DIVIDENDS PAID [C■] Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2003	.20	.208	.208	.208	.82
2004	.208	.215	.215	.215	.85
2005	.215	.23	.23	.23	.91
2006	.23	.24	.24	.24	.95
2007	.25	.25	.25	.25	

BUSINESS: Piedmont Natural Gas Company is primarily a regulated natural gas distributor, serving over 1,016,000 customers in North Carolina, South Carolina, and Tennessee. 2006 revenue mix: residential (44%), commercial (26%), industrial (11%), other (19%). Principal suppliers: Transco and Tennessee Pipeline. Gas costs: 72.8% of revenues. '06 deprec. rate: 3.5%. Estimated plant age: 8.7 years. Non-regulated operations: sale of gas-powered heating equipment; natural gas brokering; propane sales. Has about 2,051 employees. Officers & directors own less than 1% of common stock (1/07 proxy). Chairman, CEO, & President: Thomas E. Skains. Inc.: NC. Addr.: 4720 Piedmont Row Drive, Charlotte, NC 28210. Telephone: 704-364-3120. Internet: www.piedmontng.com.

Piedmont Natural Gas likely posted a 25% improvement in share net for the fourth quarter. This probably stemmed from the healthy growth of its customer base and good cost management. Expenses are down $5.4 million year to date. This reduction is partially due to the completion of the automated meter reading (AMR) project. Savings from AMR come in the form of less meter readers, trucks, fuel, accidents, and insurance risks, as well as the consolidation of billing. Regulatory mechanisms have also been protecting margins against the warmer-than-normal weather and customer conservation. And the use of these devices ought to continue to boost margins.

All told, we believe there was a full recovery in annual earnings in 2007. The bottom line seemed to have advanced about 14% year over year. PNY's joint ventures (JV) have been adding to earnings through higher nonutility income. JV earnings before taxes have increased 25% as Southstar continues to do well. Also, the Hardy Storage unit, which went into service in April, has been contributing nicely. Some difficulties arose from the North Carolina Utilities Commission's order to discontinue an accounting convention for the treatment of demand charges, as PNY moved gas in and out of storage. This practice, adopted in the 1980s, had a one-time negative impact on October-period earnings of $2.5 million.

Earnings gains should occur at a slower pace moving forward. In 2008, we look for share net to increase 3%-5%. We have likely already seen the majority of benefits from efficiency improvements. Therefore, most of this year's bottom-line boost ought to come from a projected 3% increase in customer additions and the benefit of having the Hardy Storage facility in use for the full year.

Indeed, the equity is ranked to perform in line with the broader market for the coming year. Based on its current quotation and our projections, the issue offers average appreciation potential out to 2011-2012. Too, the stock maintains a solid dividend yield. Conservative accounts should note the stock's Above-Average Safety rank (2), and its top score for Price Stability (100).

Bryan Fong *December 14, 2007*

(A) Fiscal year ends October 31st.
(B) Diluted earnings. Excl. extraordinary item: '00, 8¢. Excl. nonrecurring charge: '97, 2¢. Next earnings report due early Feb.
(C) Dividends historically paid mid-January, April, July, October.
■ Div'd reinvest. plan available; 5% discount.
(D) Includes deferred charges. At 10/31/06: $11.3 million, 15¢/share.
(E) In millions, adjusted for stock split.
(F) Quarters may not add to total due to change in shares outstanding.

Company's Financial Strength	B++
Stock's Price Stability	100
Price Growth Persistence	60
Earnings Predictability	80

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SOUTH JERSEY INDS. NYSE-SJI

RECENT PRICE **36.73** | P/E RATIO **18.5** (Trailing: 17.4, Median: 14.0) | RELATIVE P/E RATIO **1.08** | DIV'D YLD **3.0%** | **VALUE LINE**

TIMELINESS **4** Lowered 9/14/07
SAFETY **2** Lowered 1/4/91
TECHNICAL **3** Raised 12/14/07
BETA .85 (1.00 = Market)

2010-12 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	45	(+25%)	8%
Low	35	(-5%)	2%

Insider Decisions

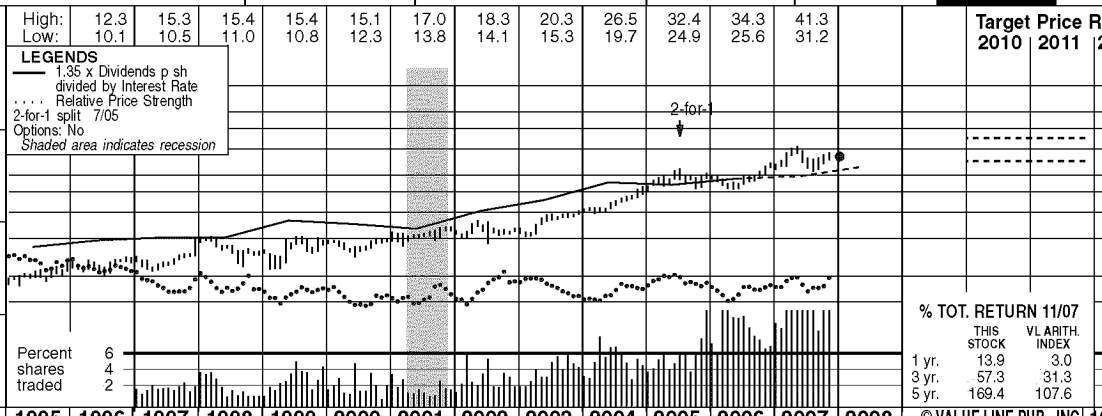
	J	F	M	A	M	J	J	A	S
to Buy	0	0	1	0	0	0	0	0	0
Options	0	0	0	0	0	0	0	0	0
to Sell	0	0	2	0	3	0	0	1	0

Institutional Decisions

	4Q2006	1Q2007	2Q2007
to Buy	58	75	69
to Sell	44	41	64
Hld's(000)	15568	17152	16955

High: 12.3 15.3 15.4 15.4 15.1 17.0 18.3 20.3 26.5 32.4 34.3 41.3
Low: 10.1 10.5 11.0 10.8 12.3 13.8 14.1 15.3 19.7 24.9 25.6 31.2

LEGENDS
1.35 x Dividends p sh divided by Interest Rate
Relative Price Strength
2-for-1 split 7/05
Options: No
Shaded area indicates recession



Target Price Range 2010 | 2011 | 2012
80 60 50 40 30 25 20 15 10 7.5

% TOT. RETURN 11/07

	THIS STOCK	VL ARITH. INDEX
1 yr.	13.9	3.0
3 yr.	57.3	31.3
5 yr.	169.4	107.6

1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	© VALUE LINE PUB., INC.	10-12
15.10	16.67	17.03	17.45	16.50	16.52	16.18	20.89	17.60	22.43	35.30	20.69	26.34	29.51	31.78	31.77	*32.25*	*33.75*	Revenues per sh	*37.50*
1.37	1.56	1.54	1.35	1.65	1.54	1.60	1.44	1.84	1.95	1.90	2.12	2.24	2.44	2.51	3.49	*3.15*	*3.30*	"Cash Flow" per sh	*4.20*
.64	.81	.78	.61	.83	.85	.86	.64	1.01	1.08	1.15	1.22	1.37	1.58	1.71	2.46	*2.00*	*2.20*	Earnings per sh [A]	*2.90*
.71	.71	.72	.72	.72	.72	.72	.72	.72	.73	.74	.75	.78	.82	.86	.92	*1.01*	*1.10*	Div'ds Decl'd per sh [B] ■	*1.20*
2.17	1.69	1.87	1.93	2.08	2.01	2.30	3.06	2.19	2.21	2.82	3.47	2.36	2.67	3.21	2.51	*2.00*	*2.45*	Cap'l Spending per sh	*2.80*
6.77	6.95	7.17	7.23	7.34	8.03	6.43	6.23	6.74	7.25	7.81	9.67	11.26	12.41	13.50	15.11	*16.15*	*16.40*	Book Value per sh [C]	*17.95*
18.48	19.00	19.61	21.43	21.44	21.51	21.54	21.56	22.30	23.00	23.72	24.41	26.46	27.76	28.98	29.33	*29.75*	*30.50*	Common Shs Outst'g [D]	*32.00*
14.5	13.2	15.8	16.1	12.2	13.3	13.8	21.2	13.3	13.0	13.6	13.5	13.3	14.1	16.6	11.9	*Bold figures are Value Line estimates*		Avg Ann'l P/E Ratio	*14.0*
.93	.80	.93	1.06	.82	.83	.80	1.10	.76	.85	.70	.74	.76	.74	.88	.64			Relative P/E Ratio	*.95*
7.6%	6.6%	5.9%	7.4%	7.2%	6.4%	6.1%	5.3%	5.4%	5.2%	4.7%	4.6%	4.3%	3.7%	3.0%	3.2%			Avg Ann'l Div'd Yield	*3.0%*
						348.6	450.2	392.5	515.9	837.3	505.1	696.8	819.1	921.0	931.4	*960*	*1030*	Revenues ($mill)	*1200*
						18.4	13.8	22.0	24.7	26.8	29.4	34.6	43.0	48.6	72.0	*60.0*	*65.0*	Net Profit ($mill)	*95.0*
						36.8%	46.2%	42.8%	43.1%	42.2%	41.4%	40.6%	40.9%	41.5%	41.1%	*40.0%*	*40.0%*	Income Tax Rate	*40.0%*
						5.3%	3.1%	5.6%	4.8%	3.2%	5.8%	5.0%	5.2%	5.3%	7.7%	*6.3%*	*6.3%*	Net Profit Margin	*7.9%*
						54.6%	57.3%	53.8%	54.1%	57.0%	53.6%	50.8%	48.7%	44.9%	44.7%	*43.0%*	*43.0%*	Long-Term Debt Ratio	*41.0%*
						35.8%	33.5%	37.0%	37.6%	35.9%	46.1%	49.0%	51.0%	55.1%	55.3%	*57.0%*	*57.0%*	Common Equity Ratio	*59.0%*
						387.1	401.1	405.9	443.5	516.2	512.5	608.4	675.0	710.3	801.1	*840*	*875*	Total Capital ($mill)	*975*
						456.5	504.3	533.3	562.2	607.0	666.6	748.3	799.9	877.3	920.0	*950*	*1000*	Net Plant ($mill)	*1200*
						6.7%	5.3%	7.4%	7.4%	6.9%	7.6%	7.3%	7.9%	8.3%	10.1%	*8.5%*	*8.5%*	Return on Total Cap'l	*11.0%*
						10.5%	8.1%	11.7%	12.1%	12.1%	12.4%	11.5%	12.4%	12.4%	16.3%	*12.5%*	*13.0%*	Return on Shr. Equity	*16.5%*
						13.3%	10.3%	14.6%	14.8%	12.8%	12.5%	11.6%	12.5%	12.4%	16.3%	*12.5%*	*13.0%*	Return on Com Equity	*16.5%*
						2.1%	NMF	4.2%	4.8%	3.5%	4.7%	5.0%	5.9%	6.2%	10.2%	*6.0%*	*6.5%*	Retained to Com Eq	*10.0%*
						84%	112%	72%	67%	76%	62%	57%	52%	50%	37%	*50%*	*52%*	All Div'ds to Net Prof	*40%*

CAPITAL STRUCTURE as of 9/30/07
Total Debt $503.7 mill. **Due in 5 Yrs** $181.3 mill.
LT Debt $357.9 mill. **LT Interest** $21.0 mill.
(Total interest coverage: 5.0x)

Pension Assets-12/06 $117.1 mill.
Oblig. $132.6 mill.

Pfd Stock none

Common Stock 29,572,416 common shs.
as of 11/1/07

MARKET CAP: $1.1 billion (Mid Cap)

CURRENT POSITION ($MILL.)	2005	2006	9/30/07
Cash Assets	4.9	7.9	14.2
Other	352.6	363.8	295.1
Current Assets	357.5	371.7	309.3
Accts Payable	179.0	101.6	64.3
Debt Due	149.7	197.0	145.8
Other	74.4	124.2	117.9
Current Liab.	403.1	422.8	328.0
Fix. Chg. Cov.	486%	527%	494%

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '04-'06 to '10-'12
Revenues	6.5%	4.5%	*3.0%*
"Cash Flow"	5.5%	6.5%	*NMF*
Earnings	8.5%	9.5%	*NMF*
Dividends	2.0%	3.5%	*5.5%*
Book Value	6.0%	13.5%	*4.5%*

Calendar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2004	307.6	136.5	129.5	245.5	819.1
2005	328.6	154.0	157.0	281.4	921.0
2006	372.6	153.8	154.7	250.3	931.4
2007	368.4	171.7	156.2	*263.7*	*960*
2008	*390*	*190*	*170*	*280*	*1030*

Calendar	EARNINGS PER SHARE [A] Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2004	.91	.15	.02	.50	1.58
2005	.96	.27	.09	.39	1.71
2006	1.06	.20	.51	.69	2.46
2007	1.30	.21	d.05	*.54*	*2.00*
2008	*1.25*	*.25*	*.10*	*.60*	*2.20*

Calendar	QUARTERLY DIVIDENDS PAID [B]■ Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2003	- -	.193	.193	.395	.78
2004	- -	.202	.202	.415	.82
2005	- -	.213	.213	.438	.86
2006	- -	.225	.225	.470	.92
2007	- -	.245	.245	.245	

BUSINESS: South Jersey Industries, Inc. is a holding company. Its subsidiary, South Jersey Gas Co., distributes natural gas to 330,049 customers in New Jersey's southern counties, which covers 2,500 square miles and includes Atlantic City. Gas revenue mix '06: residential, 43%; commercial, 24%; cogeneration and electric generation, 3%; industrial, 30%. Non-utility operations include: South Jersey Energy, South Jersey Resources Group, Marina Energy, and South Jersey Energy Service Plus. Has 611 employees. Off./dir. cntrl. 1.2% of com. shares; Dimensional Fund Advisors, 8.3%; Barclays, 6.0% (3/07 proxy). Chrmn. & CEO: Edward Graham. Incorp.: NJ. Address: 1 South Jersey Plaza, Folsom, NJ 08037. Tel.: 609-561-9000. Internet: www.sjindustries.com.

South Jersey Industries posted a small top-line advance for the third quarter. Solid growth in Utility revenues offset lower sales from nonutility operations. Share earnings declined, however, as the company experienced higher operating expenses, due to a greater cost of sales. We project a favorable revenue comparison for the fourth quarter, and a modest top-line advance for full-year 2007. Subscribers are advised that share net is now based on economic earnings, a non-GAAP measure that excludes unrealized gains and losses from commodity derivative transactions. Thus, share earnings from 2007 forward are not directly comparable with those from previous years.

We remain optimistic about long-term prospects for subsidiary South Jersey Gas. Customer growth at the utility has continued at a respectable clip, as this business has increased its customer base by roughly 1.9% during the past 12 months. This may ease somewhat going forward, due to the slowdown in the housing market. Nevertheless, natural gas should remain the fuel of choice within the utility's service territory. In addition, the Conservation Incentive Program (CIP) ought to continue to benefit South Jersey Gas. This initiative allows the utility to promote energy conservation, while insulating itself from the negative impact of lower customer usage. The CIP has benefited net income by $4.4 million during the first nine months of the year, offsetting the impact of lower customer utilization.

The board of directors has increased the dividend by 10%. The board has raised the quarterly dividend from $0.245 to $0.27, starting with the December payout. This comes as no surprise, considering SJI's track record of increasing its dividend in recent years. We find this trend encouraging, and expect it will continue.

These shares are ranked 4 (Below Average) for Timeliness. However, this stock earns high marks for Safety, Price Stability, and Earnings Predictability. Moreover, we expect steady growth in revenues and share earnings at South Jersey over the pull to 2010-2012. At the current quotation, the issue offers modest, but relatively well-defined, total return potential.

Michael Napoli, CPA *December 14, 2007*

(A) Based on GAAP EPS through 2006, economic earnings thereafter. GAAP EPS: Q1 2007, $0.92; Q2 2007, $0.37; Q3 2007, $0.29. Excl. nonrecur. gain: '01, $0.13. Excl gain (losses) from discont. ops.: '96, $1.14; '97, ($0.24); '98, ($0.26); '99, ($0.02); '00, ($0.04); '01, ($0.02); '02, ($0.04); '03, ($0.09); '05, ($0.02); '06, ($0.02). Next egs. report due late Feb. (B) Div'ds paid early Apr., Jul., Oct., and late Dec. ■ Div. reinvest. plan avail. (C) Incl. regulatory assets. At 9/30/07: $197.5 mill., $6.68 per shr. (D) In millions, adjusted for split.

Company's Financial Strength	B++
Stock's Price Stability	100
Price Growth Persistence	95
Earnings Predictability	85

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SOUTHWEST GAS NYSE-SWX

RECENT PRICE **29.66** | P/E RATIO **13.9** (Trailing: 14.5 Median: 19.0) | RELATIVE P/E RATIO **0.81** | DIV'D YLD **2.9%** | **VALUE LINE**

TIMELINESS **4** Raised 11/9/07
SAFETY **3** Lowered 1/4/91
TECHNICAL **4** Lowered 8/10/07
BETA .90 (1.00 = Market)

2010-12 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	55	(+85%)	*19%*
Low	35	(+20%)	*7%*

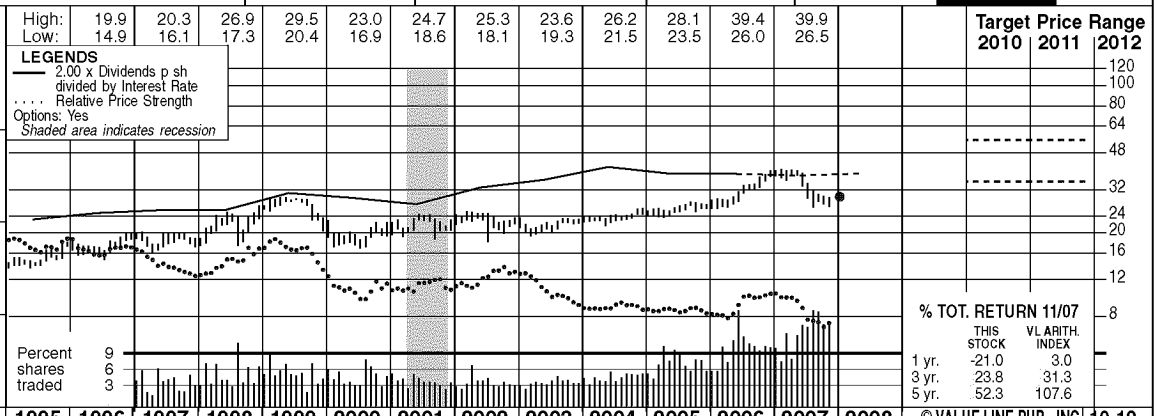
Insider Decisions

	J	F	M	A	M	J	J	A	S
to Buy	0	0	1	0	0	0	0	0	0
Options	3	0	3	0	0	0	0	0	0
to Sell	3	0	5	0	1	1	0	0	1

Institutional Decisions

	4Q2006	1Q2007	2Q2007
to Buy	92	99	93
to Sell	65	62	79
Hld's(000)	30129	29184	32178

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	© VALUE LINE PUB., INC.	10-12
High:	19.9	20.3	26.9	29.5	23.0	24.7	25.3	23.6	26.2	28.1	39.4	39.9								
Low:	14.9	16.1	17.3	20.4	16.9	18.6	18.1	19.3	21.5	23.5	26.0	26.5								
	24.99	25.93	25.68	28.16	23.03	24.09	26.73	30.17	30.24	32.61	42.98	39.68	35.96	40.14	43.59	48.47	*50.75*	*53.40*	Revenues per sh A	*58.95*
	1.53	3.34	3.24	5.09	2.65	3.00	3.85	4.48	4.45	4.57	4.79	5.07	5.11	5.57	5.20	6.07	*6.40*	*6.70*	"Cash Flow" per sh	*7.20*
	d.76	.81	.63	1.22	.10	.25	.77	1.65	1.27	1.21	1.15	1.16	1.13	1.66	1.25	1.98	*2.08*	*2.25*	Earnings per sh A B	*2.60*
	.88	.70	.74	.80	.82	.82	.82	.82	.82	.82	.82	.82	.82	.82	.82	.82	*.86*	*.86*	Div'ds Decl'd per sh C■	*.90*
	3.76	5.02	5.43	6.64	6.79	8.19	6.19	6.40	7.41	7.04	8.17	8.50	7.03	8.23	7.49	8.27	*9.80*	*10.25*	Cap'l Spending per sh	*10.50*
	15.88	15.99	15.96	16.38	14.55	14.20	14.09	15.67	16.31	16.82	17.27	17.91	18.42	19.18	19.10	21.58	*22.45*	*22.75*	Book Value per sh	*25.25*
	20.60	20.60	21.00	21.28	24.47	26.73	27.39	30.41	30.99	31.71	32.49	33.29	34.23	36.79	39.33	41.77	*42.75*	*44.00*	Common Shs Outst'g D	*47.50*
	--	16.6	26.5	14.0	NMF	69.3	24.1	13.2	21.1	16.0	19.0	19.9	19.2	14.3	20.6	15.9	*Bold figures are Value Line estimates*		Avg Ann'l P/E Ratio	*18.0*
	--	1.01	1.57	.92	NMF	4.34	1.39	.69	1.20	1.04	.97	1.09	1.09	.76	1.10	.86			Relative P/E Ratio	*1.20*
	7.0%	5.2%	4.4%	4.7%	5.4%	4.7%	4.4%	3.8%	3.1%	4.2%	3.8%	3.6%	3.8%	3.5%	3.2%	2.6%			Avg Ann'l Div'd Yield	*1.9%*
							732.0	917.3	936.9	1034.1	1396.7	1320.9	1231.0	1477.1	1714.3	2024.7	*2170*	*2350*	Revenues ($mill) A	*2800*
							20.8	47.5	39.3	38.3	37.2	38.6	38.5	58.9	48.1	81.1	*90.0*	*100*	Net Profit ($mill)	*125*
							29.2%	43.4%	35.5%	26.2%	34.5%	32.8%	30.5%	34.8%	29.7%	34.7%	*36.0%*	*35.0%*	Income Tax Rate	*35.0%*
							2.8%	5.2%	4.2%	3.7%	2.7%	2.9%	3.1%	4.0%	2.8%	4.0%	*4.1%*	*4.3%*	Net Profit Margin	*4.5%*
							63.6%	60.2%	60.3%	60.2%	56.2%	62.5%	66.0%	64.2%	63.8%	60.6%	*58.0%*	*56.5%*	Long-Term Debt Ratio	*53.0%*
							31.5%	35.3%	35.5%	35.8%	39.6%	34.1%	34.0%	35.8%	36.2%	39.4%	*42.0%*	*43.5%*	Common Equity Ratio	*47.0%*
							1224.7	1349.3	1424.7	1489.9	1417.6	1748.3	1851.6	1968.6	2076.0	2287.8	*2285*	*2300*	Total Capital ($mill)	*2550*
							1360.3	1459.4	1581.1	1686.1	1825.6	1979.5	2175.7	2336.0	2489.1	2668.1	*2825*	*3000*	Net Plant ($mill)	*3500*
							3.9%	5.8%	4.8%	4.6%	5.1%	4.3%	4.2%	5.0%	4.3%	5.6%	*6.0%*	*6.5%*	Return on Total Cap'l	*6.5%*
							4.7%	8.9%	7.0%	6.5%	6.0%	5.9%	6.1%	8.3%	6.4%	9.0%	*9.5%*	*10.0%*	Return on Shr. Equity	*10.5%*
							5.4%	10.0%	7.8%	7.2%	6.6%	6.5%	6.1%	8.3%	6.4%	9.0%	*9.5%*	*10.0%*	Return on Com Equity	*10.5%*
							NMF	5.0%	2.8%	2.4%	1.9%	1.9%	1.7%	4.3%	2.2%	5.3%	*5.5%*	*6.5%*	Retained to Com Eq	*7.0%*
							107%	50%	64%	67%	71%	70%	72%	49%	65%	41%	*40%*	*37%*	All Div'ds to Net Prof	*34%*



CAPITAL STRUCTURE as of 9/30/07

Total Debt $1364.5 mill. **Due in 5 Yrs** $461.9 mill.
LT Debt $1327.6 mill. **LT Interest** $92.0 mill.
(Total interest coverage: 2.4x)

Pension Assets-12/06 $413.5 mill.
Oblig. $534.9 mill.

Pfd Stock None

Common Stock 42,633,508 shs.
as of 11/1/07

MARKET CAP: $1.3 billion (Mid Cap)

CURRENT POSITION ($MILL.)	2005	2006	9/30/07
Cash Assets	29.6	18.8	18.8
Other	513.1	482.8	272.8
Current Assets	542.7	501.6	291.6
Accts Payable	259.5	265.7	91.8
Debt Due	107.2	27.5	36.9
Other	254.3	202.9	270.6
Current Liab.	621.0	496.1	399.3
Fix. Chg. Cov.	167%	220%	228%

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '04-'06 to '10-'12
Revenues	6.0%	4.5%	*5.0%*
"Cash Flow"	4.5%	4.0%	*4.0%*
Earnings	12.0%	6.0%	*8.0%*
Dividends	--	--	*1.5%*
Book Value	3.0%	3.5%	*4.0%*

Calendar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2004	473.4	278.7	264.5	460.5	1477.1
2005	542.9	361.1	313.3	497.0	1714.3
2006	676.9	430.9	351.8	565.1	2024.7
2007	793.7	426.5	371.5	*578.3*	*2170*
2008	*850*	*460*	*400*	*640*	*2350*

Calendar	EARNINGS PER SHARE B Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2004	1.18	d.24	d.51	1.23	1.66
2005	.88	d.07	d.43	.87	1.25
2006	1.11	.02	d.26	1.11	1.98
2007	1.17	d.01	d.22	*1.14*	*2.08*
2008	*1.22*	*Nil*	*d.15*	*1.18*	*2.25*

Calendar	QUARTERLY DIVIDENDS PAID C■ Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2003	.205	.205	.205	.205	.82
2004	.205	.205	.205	.205	.82
2005	.205	.205	.205	.205	.82
2006	.205	.205	.205	.205	.82
2007	.205	.215	.215	.215	

BUSINESS: Southwest Gas Corporation is a regulated gas distributor serving approximately 1.8 million customers in sections of Arizona, Nevada, and California. Comprised of two business segments: natural gas operations and construction services. 2006 margin mix: residential and small commercial, 85%; large commercial and industrial, 6%; transportation, 9%. Total throughput: 2.4 billion therms. Sold PriMerit Bank (acquired in 1986) in July of 1996. Has 4,902 employees. Officers & Directors own roughly 1.4% of common stock (3/07 Proxy). Chairman: LeRoy C. Hanneman, Jr. Chief Executive Officer: Jeffrey W. Shaw. Incorporated: California. Address: 5241 Spring Mountain Road, Las Vegas, Nevada 89193. Telephone: 702-876-7237. Internet: www.swgas.com.

Southwest Gas turned in a solid performance for the third quarter. The top line came in at $371.5 million, an advance of almost 6%. The company increased its customer base by about 48,000 over the past 12 months. This was somewhat lower than in recent times, but still healthy overall. The company reported a share loss of $0.22, a modest improvement from the prior year's period. Losses at Southwest are not unusual during the second and third quarters, due to the seasonal nature of its business. Looking forward, we anticipate slightly better results in the fourth quarter, also. For full-year 2007, we expect revenues and share earnings will increase roughly 7% and 5%, respectively. This pattern ought to continue in 2008, as well.

The company has filed a rate case in Arizona. Due to an increase in its fixed operating costs, Southwest Gas has requested the Arizona Corporation Commission increase its authorized operating revenues by $50.2 million (almost 5%). In addition, SWX has proposed a rate structure that would promote efficient energy usage, and eliminate weather-related volatility from customer bills. The company is seeking implementation of these new rates by October 1, 2008. This move is encouraging, and we expect SWX will continue to focus on obtaining rate relief and improving rate design. This issue is important, as Southwest depends upon such approved revenue increases to help it cope with higher expenses and to provide for a smoother income stream.

The stock is not without risk. Warmer-than-normal temperatures may hurt performance at Southwest Gas. Also, as the company continues to expand, it is likely to incur increased operating costs. The upfront expenses may keep dividend growth limited.

These shares have improved a notch in Timeliness, but remain unfavorably ranked for the coming six to 12 months. Nevertheless, we anticipate continued growth in revenues and share earnings at Southwest Gas over the pull to 2010-2012. At the current quotation, this issue has above-average total return potential for a utility. Patient, risk-tolerant investors may be rewarded.

Michael Napoli, CPA *December 14, 2007*

(A) Incl. income for PriMerit Bank on the equity basis through 1994. (B) Based on avg. shares outstand. thru. '96, then diluted. Excl. nonrec. gains (losses): '93, 8¢; '97, 16¢; '02, (10¢); '05, (11¢); '06, 7¢. Incl. asset writedown: '93, 44¢. Excl. loss from disc. ops.: '95, 75¢. Next egs. report due late February. (C) Dividends historically paid early March, June, September, December. ■ Div'd reinvest. plan avail. (D) In millions.

Company's Financial Strength	B
Stock's Price Stability	100
Price Growth Persistence	60
Earnings Predictability	65

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WGL HOLDINGS NYSE-WGL

RECENT PRICE 33.13 | P/E RATIO 16.2 (Trailing: 15.1 Median: 15.0) | RELATIVE P/E RATIO 0.95 | DIV'D YLD 4.1% | VALUE LINE

TIMELINESS 3 Raised 5/25/07
SAFETY 1 Raised 4/2/93
TECHNICAL 3 Lowered 11/2/07
BETA .85 (1.00 = Market)

2010-12 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	35	(+5%)	6%
Low	30	(-10%)	2%

Insider Decisions

	J	F	M	A	M	J	J	A	S
to Buy	0	0	0	0	0	0	0	0	0
Options	0	0	0	0	1	0	0	0	0
to Sell	0	0	0	0	1	0	0	0	0

Institutional Decisions

	4Q2006	1Q2007	2Q2007
to Buy	81	97	94
to Sell	68	62	81
Hld's(000)	30408	33055	35310

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	© VALUE LINE PUB., INC.	10-12
High:	25.0	31.4	30.8	29.4	31.5	30.5	29.5	28.8	31.4	34.8	33.6	35.9								
Low:	19.1	20.9	23.1	21.0	21.8	25.3	19.3	23.2	26.7	28.8	27.0	29.8								
	17.50	18.37	21.55	21.69	19.30	22.19	24.16	23.74	20.92	22.19	29.80	32.63	42.45	42.93	44.94	53.96	53.81	*54.95*	Revenues per sh [A]	*59.55*
	2.04	2.17	2.25	2.43	2.51	2.93	3.02	2.79	2.74	3.20	3.24	2.63	4.00	3.87	3.97	3.93	3.92	*4.10*	"Cash Flow" per sh	*4.25*
	1.14	1.27	1.31	1.42	1.45	1.85	1.85	1.54	1.47	1.79	1.88	1.14	2.30	1.98	2.11	1.94	2.10	*2.20*	Earnings per sh [B]	*2.25*
	1.05	1.07	1.09	1.11	1.12	1.14	1.17	1.20	1.22	1.24	1.26	1.27	1.28	1.30	1.32	1.34	1.36	*1.40*	Div'ds Decl'd per sh [C]■	*1.52*
	2.05	2.17	2.43	2.84	2.63	2.85	3.20	3.62	3.42	2.67	2.68	3.34	2.65	2.33	2.32	3.27	3.35	*2.40*	Cap'l Spending per sh	*2.50*
	9.63	10.66	11.04	11.51	11.95	12.79	13.48	13.86	14.72	15.31	16.24	15.78	16.25	16.95	17.80	18.28	19.95	*20.85*	Book Value per sh [D]	*23.00*
	39.89	40.62	41.50	42.19	42.93	43.70	43.70	43.84	46.47	46.47	48.54	48.56	48.63	48.67	48.65	48.89	49.17	*49.60*	Common Shs Outst'g [E]	*50.00*
	12.8	13.6	15.6	14.0	12.7	11.5	12.7	17.2	17.3	14.6	14.7	23.1	11.1	14.2	14.7	15.5	15.5		Avg Ann'l P/E Ratio	*15.0*
	.82	.82	.92	.92	.85	.72	.73	.89	.99	.95	.75	1.26	.63	.75	.78	.81	.82		Relative P/E Ratio	*1.00*
	7.2%	6.2%	5.3%	5.6%	6.1%	5.4%	5.0%	4.5%	4.8%	4.8%	4.6%	4.8%	5.0%	4.6%	4.2%	4.5%	4.2%		Avg Ann'l Div'd Yield	*4.3%*
	1055.8	1040.6	972.1	1031.1	1446.5	1584.8	2064.2	2089.6	2186.3	2637.9	2646.0	*2725*	Revenues ($mill) [A]	*3000*
	82.0	68.6	68.8	84.6	89.9	55.7	112.3	98.0	104.8	95.1	103.7	*110*	Net Profit ($mill)	*115*
	36.9%	35.6%	36.0%	36.1%	39.6%	34.0%	38.0%	38.2%	37.4%	39.0%	38.0%	*38.0%*	Income Tax Rate	*38.0%*
	7.8%	6.6%	7.1%	8.2%	6.2%	3.5%	5.4%	4.7%	4.8%	3.6%	3.7%	*3.7%*	Net Profit Margin	*3.8%*
	41.1%	40.3%	41.5%	43.1%	41.7%	45.7%	43.8%	40.9%	39.5%	38.5%	37.9%	*34.9%*	Long-Term Debt Ratio	*32.6%*
	56.2%	57.1%	56.1%	54.8%	56.3%	52.4%	54.3%	57.2%	58.6%	61.5%	60.3%	*63.4%*	Common Equity Ratio	*65.8%*
	1049.0	1064.8	1218.5	1299.2	1400.8	1462.5	1454.9	1443.6	1478.1	1497.8	1625.4	*1635*	Total Capital ($mill)	*1745*
	1217.1	1319.5	1402.7	1460.3	1519.7	1606.8	1874.9	1915.6	1969.7	2068	2150	*2280*	Net Plant ($mill)	*2640*
	9.3%	8.0%	7.1%	7.9%	7.9%	5.3%	9.1%	8.2%	8.5%	7.7%	7.6%	*8.0%*	Return on Total Cap'l	*7.5%*
	13.3%	10.8%	9.7%	11.4%	11.0%	7.0%	13.7%	11.5%	11.7%	10.3%	*10.6%*	*10.5%*	Return on Shr. Equity	*10.0%*
	13.7%	11.1%	9.9%	11.7%	11.2%	7.2%	14.0%	11.7%	12.0%	10.2%	11.1%	*11.0%*	Return on Com Equity	*10.5%*
	5.1%	2.5%	1.8%	3.7%	3.8%	NMF	6.2%	4.1%	4.6%	3.1%	3.6%	*4.0%*	Retained to Com Eq	*3.0%*
	63%	78%	82%	69%	67%	112%	56%	65%	62%	70%	65%	*63%*	All Div'ds to Net Prof	*67%*

CAPITAL STRUCTURE as of 9/30/07
Total Debt $821.8 mill. **Due in 5 Yrs** $399.5 mill.
LT Debt $616.4 mill. **LT Interest** $40.1 mill.
(LT interest earned: 6.7x; total interest coverage: 5.7x)
Pension Assets-9/07 $740.7 mill.
Oblig. $680.3 mill.
Preferred Stock $28.2 mill. **Pfd. Div'd** $1.3 mill.

Common Stock 49,449,357 shs.
as of 10/31/07

MARKET CAP: $1.6 billion (Mid Cap)

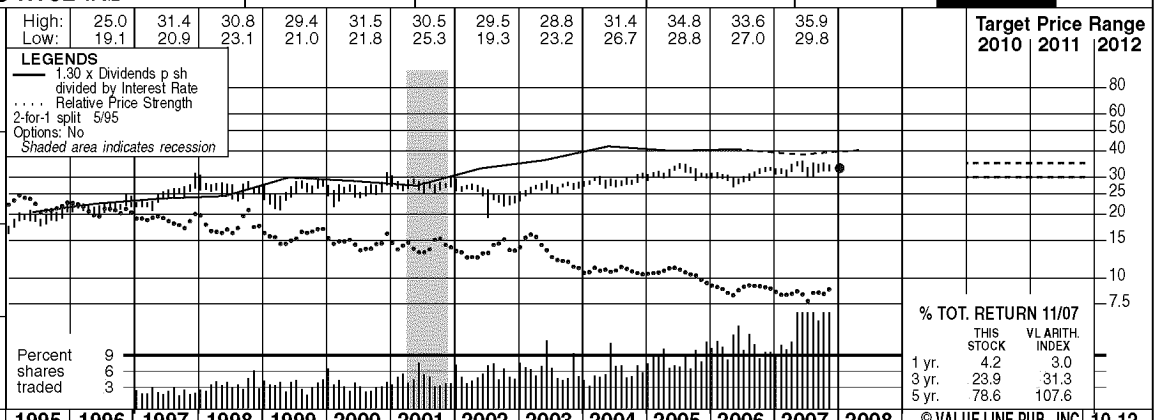
CURRENT POSITION ($MILL.)	2005	2006	9/30/07
Cash Assets	4.8	4.4	4.9
Other	476.2	556.9	568.8
Current Assets	481.0	561.3	573.7
Accts Payable	204.9	208.5	216.9
Debt Due	91.0	238.4	205.4
Other	115.5	113.9	134.8
Current Liab.	411.4	560.8	557.1
Fix. Chg. Cov.	460%	465%	460%

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '04-'06 to '10-'12
Revenues	7.5%	14.5%	*4.0%*
"Cash Flow"	5.0%	6.5%	*1.5%*
Earnings	4.5%	6.0%	*2.0%*
Dividends	1.5%	1.5%	*2.5%*
Book Value	4.0%	3.0%	*4.5%*

Fiscal Year Ends	QUARTERLY REVENUES ($ mill.) [A] Dec.31	Mar.31	Jun.30	Sep.30	Full Fiscal Year
2004	585.3	862.2	356.9	285.2	2089.6
2005	623.4	929.8	349.0	284.1	2186.3
2006	902.9	1064.5	346.9	323.6	2637.9
2007	732.9	1119.9	467.5	325.7	2646.0
2008	*780*	*1140*	*455*	*350*	*2725*

Fiscal Year Ends	EARNINGS PER SHARE [A] [B] Dec.31	Mar.31	Jun.30	Sep.30	Full Fiscal Year
2004	.81	1.62	d.08	d.37	1.98
2005	.88	1.63	d.17	d.23	2.11
2006	.93	1.17	d.01	d.15	1.94
2007	.92	1.27	.22	d.31	2.10
2008	*.95*	*1.26*	*.14*	*d.15*	*2.20*

Calendar	QUARTERLY DIVIDENDS PAID [C] ■ Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2003	.318	.32	.32	.32	1.28
2004	.32	.325	.325	.325	1.30
2005	.325	.333	.333	.333	1.32
2006	.333	.338	.338	.338	1.34
2007	.34	.34	.34	.34	



BUSINESS: WGL Holdings, Inc. is the parent of Washington Gas Light, a natural gas distributor in Washington, D.C. and adjacent areas of VA and MD to resident'l and comm'l users (1,031,916 meters). Hampshire Gas, a federally regulated sub., operates an underground gas-storage facility in WV. Non-regulated subs.: Wash. Gas Energy Svcs. sells and delivers natural gas and provides energy related products in the D.C. metro area; Wash. Gas Energy Sys. designs/installs comm'l heating, ventilating, and air cond. systems. American Century Inv. own 9.6% of common stock; Off./dir. less than 1% (1/07 proxy). Chrmn. & CEO: J.H. DeGraffenreidt. Inc.: D.C. and VA. Addr.: 1100 H St., N.W., Washington, D.C. 20080. Tel.: 202-624-6410. Internet: www.wglholdings.com.

WGL Holdings continues to build its infrastructure through capital projects. The company completed the underground work for the Prince George County rehabilitation, at a cost of $89 million. The project involved the replacement of mains and service lines that experienced unusually high incidents of leaks associated with the Cove Point (CP) liquefied natural gas (LNG) terminal. Also, in an effort to prevent such a high level of leaks in the future, WGL is working on a gas conditioning facility in Rockville, Maryland, which should be operational shortly. And the company has recently received county approvals for a third facility in Brainesville, Virginia. These projects should enable WGL to manage safely through the final CP LNG terminal expansion, which is anticipated to be operational late in the fall of 2008. Furthermore, work has commenced on a peaking facility in Chillum, Maryland. At a cost of $149 million, this project should produce enough reserves to meet excess demand during the peak winter heating season by 2011-2012.

We look for the company to post low- to mid-single-digit earnings growth in the first quarter. Contributions to the bottom line should stem from cost reduction initiatives. WGL entered into a 10-year agreement with Accenture for the outsourcing of various tasks. So far, Accenture is handling WGL's human resources, purchasing, payroll, and parts of IT. Customer service should be transitioned by December 31st, while the final IT transition should be completed in the spring of 2009. This plan is expected to save $170 million in the next 10 years.

All told, we estimate share-net advances of approximately 5% in 2008. Pending rate cases in Maryland and the District of Columbia ought to contribute to the boost, as well as should the projected addition of 17,500 customers by yearend.

Shares of WGL Holdings are ranked to perform in line with the overall market for the coming year. And the issue offers a decent dividend yield, which may interest income investors. However, based on our earnings projections and the stock's current quotation, which already falls within our Target Price Range, it offers below-average appreciation potential.

Bryan Fong *December 14, 2007*

(A) Fiscal years end Sept. 30th.
(B) Based on diluted shares. Excludes nonrecurring losses: '01, (13¢); '02, (34¢); '07, (4¢) discontinued operations: '06, (15¢). Next earnings report due late Jan. (C) Dividends historically paid early February, May, August, and November. ■ Dividend reinvestment plan available. (D) Includes deferred charges and intangibles. '07: $322.2 million, $6.51/sh. (E) In millions, adjusted for stock split.

Company's Financial Strength	A
Stock's Price Stability	100
Price Growth Persistence	50
Earnings Predictability	65

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BLUE CHIP ECONOMIC INDICATORS

Top Analysts' Forecasts of the U.S. Economic Outlook For The Year Ahead

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Wolters Kluwer
Law & Business

Long-Range Consensus U.S. Economic Projections

I. The table below shows the latest U.S. Blue Chip Consensus[1] projections by years for 2009 through 2013, an average for the five-year period 2009-2013, and an average for the next five-year period 2014-2018. There are also Top 10 and Bottom 10 averages for each variable. Apply these projections cautiously. For the most part economic and political forces cannot be evaluated over such long time spans.

ECONOMIC VARIABLE		YEAR					Five-Year Averages	
		2009	2010	2011	2012	2013	2009-13	2014-18
		Percent Change, Full Year-Over-Prior Year						
1. Real GDP (chained, 2000 dollars)	**CONSENSUS**	**2.9**	**2.8**	**2.9**	**2.9**	**2.8**	**2.9**	**2.8**
	Top 10 Avg.	3.3	3.2	3.3	3.2	3.1	3.2	3.1
	Bottom 10 Avg.	2.5	2.5	2.5	2.5	2.5	2.5	2.4
2. GDP Chained Price Index	**CONSENSUS**	**2.1**	**2.1**	**2.1**	**2.1**	**2.1**	**2.1**	**2.1**
	Top 10 Avg.	2.5	2.5	2.4	2.4	2.5	2.5	2.5
	Bottom 10 Avg.	1.9	1.7	1.9	1.9	1.9	1.8	1.8
3. Nominal GDP (current dollars)	**CONSENSUS**	**5.1**	**5.0**	**5.1**	**5.0**	**5.0**	**5.0**	**4.9**
	Top 10 Avg.	5.6	5.5	5.6	5.5	5.4	5.5	5.4
	Bottom 10 Avg.	4.6	4.5	4.7	4.6	4.5	4.6	4.5
4. Consumer Price Index (for all urban consumers)	**CONSENSUS**	**2.3**	**2.3**	**2.3**	**2.3**	**2.3**	**2.3**	**2.3**
	Top 10 Avg.	2.7	2.7	2.7	2.6	2.6	2.6	2.6
	Bottom 10 Avg.	1.8	1.8	1.9	1.9	1.9	1.9	1.9
5. Industrial Production (total)	**CONSENSUS**	**3.1**	**2.9**	**3.1**	**2.8**	**2.8**	**2.9**	**2.9**
	Top 10 Avg.	3.8	3.6	4.0	3.6	3.5	3.7	3.5
	Bottom 10 Avg.	2.4	2.0	2.2	2.0	2.1	2.1	2.2
6. Disposable Personal Income (chained, 2000 dollars)	**CONSENSUS**	**3.2**	**3.0**	**3.0**	**3.0**	**2.9**	**3.0**	**2.9**
	Top 10 Avg.	3.8	3.6	3.6	3.5	3.3	3.5	3.3
	Bottom 10 Avg.	2.7	2.6	2.5	2.5	2.4	2.5	2.5
7. Personal Consumption Expenditures (chained, 2000 dollars)	**CONSENSUS**	**2.7**	**2.8**	**2.8**	**2.7**	**2.7**	**2.7**	**2.6**
	Top 10 Avg.	3.0	3.2	3.2	3.1	2.9	3.1	2.9
	Bottom 10 Avg.	2.3	2.4	2.4	2.3	2.3	2.4	2.3
8. Non-Residential Fixed Investment (chained, 2000 dollars)	**CONSENSUS**	**4.3**	**4.2**	**4.3**	**4.2**	**3.9**	**4.2**	**4.0**
	Top 10 Avg.	5.6	5.7	5.8	5.7	5.2	5.6	5.2
	Bottom 10 Avg.	3.3	2.9	2.8	2.7	2.9	2.9	2.9
9. Corporate Profits, Pretax (current dollars)	**CONSENSUS**	**4.6**	**3.7**	**4.8**	**4.8**	**5.0**	**4.6**	**5.1**
	Top 10 Avg.	7.4	6.0	7.1	6.6	6.6	6.7	6.3
	Bottom 10 Avg.	2.1	0.4	2.0	2.8	3.4	2.2	4.1
		Annual Average						
10. Treasury Bills, 3-Month (percent per annum)	**CONSENSUS**	**4.5**	**4.5**	**4.5**	**4.5**	**4.5**	**4.5**	**4.5**
	Top 10 Avg.	4.9	5.0	4.9	4.9	5.0	5.0	5.0
	Bottom 10 Avg.	4.1	4.1	4.1	4.2	4.1	4.1	4.1
11. Treasury Notes, 10-Year (yield per annum)	**CONSENSUS**	**5.1**	**5.2**	**5.2**	**5.2**	**5.2**	**5.2**	**5.2**
	Top 10 Avg.	5.4	5.6	5.6	5.6	5.7	5.6	5.6
	Bottom 10 Avg.	4.8	4.9	4.8	4.8	4.8	4.8	4.7
12. Unemployment Rate (% of civilian labor force)	**CONSENSUS**	**4.8**	**4.8**	**4.8**	**4.8**	**4.8**	**4.8**	**4.8**
	Top 10 Avg.	5.1	5.1	5.1	5.1	5.1	5.1	5.1
	Bottom 10 Avg.	4.5	4.5	4.5	4.4	4.4	4.5	4.5
		Total Units, Millions						
13. Housing Starts (millions of units)	**CONSENSUS**	**1.44**	**1.54**	**1.58**	**1.62**	**1.65**	**1.57**	**1.66**
	Top 10 Avg.	1.62	1.70	1.73	1.75	1.79	1.72	1.80
	Bottom 10 Avg.	1.26	1.37	1.41	1.49	1.50	1.41	1.51
14. Total Auto & Light Truck Sales (millions of units)	**CONSENSUS**	**16.3**	**16.4**	**16.7**	**16.8**	**16.9**	**16.6**	**16.9**
	Top 10 Avg.	16.6	16.9	17.3	17.6	17.7	17.2	17.8
	Bottom 10 Avg.	15.9	16.0	16.2	16.2	16.2	16.1	16.2
		Billions of Chained, 2000 Dollars						
15. Net Exports (billions of chained, 2000 dollars)	**CONSENSUS**	**-516.4**	**-508.0**	**-498.5**	**-492.4**	**-477.4**	**-498.6**	**-456.4**
	Top 10 Avg.	-447.9	-443.9	-421.5	-411.5	-385.4	-422.0	-317.7
	Bottom 10 Avg.	-570.9	-567.3	-576.7	-571.5	-569.2	-571.1	-593.4

Long-Range Consensus U.S. Economic Projections

II. For comparison, this table includes some of the long-range consensus projections found on the preceding page, plus the latest long-range projections from the Bush Administration[1] and the Congressional Budget Office (CBO)[2].

ECONOMIC VARIABLE		YEAR 2009	2010	2011	2012	2013	Five-Year Averages 2009-13	2014-18
		Percent Change, Full Year-Over-Prior Year						
1. Real GDP (chained, 2000 dollars)	**CONSENSUS**	**2.9**	**2.8**	**2.9**	**2.9**	**2.8**	**2.9**	**2.8**
	Bush Admin.[1,3]	3.1	3.0	3.0	2.9	na	3.0	na
	CBO[2,3]	3.1	3.2	2.9	2.7	2.7	2.9	2.6
2. GDP Chained Price Index	**CONSENSUS**	**2.1**	**2.1**	**2.1**	**2.1**	**2.1**	**2.1**	**2.1**
	Bush Admin.[1,3]	2.1	2.0	2.0	2.0	na	2.0	na
	CBO[2,3]	1.8	1.8	1.8	1.8	1.8	1.8	1.8
3. Nominal GDP (current dollars)	**CONSENSUS**	**5.1**	**5.0**	**5.1**	**5.0**	**5.0**	**5.0**	**4.9**
	Bush Admin.[1,3]	5.3	5.1	5.0	5.0	na	5.1	na
	CBO[2,3]	5.0	5.0	4.8	4.6	4.5	4.8	4.4
4. Consumer Price Index (for all urban consumers)	**CONSENSUS**	**2.3**	**2.3**	**2.3**	**2.3**	**2.3**	**2.3**	**2.3**
	Bush Admin.[1,3]	2.4	2.3	2.3	2.3	na	2.3	na
	CBO[2,3]	2.2	2.2	2.2	2.2	2.2	2.2	2.2
		Annual Average						
5. Treasury Bills, 3-Month (percent per annum)	**CONSENSUS**	**4.5**	**4.5**	**4.5**	**4.5**	**4.5**	**4.5**	**4.5**
	Bush Admin.[1,3]	4.4	4.2	4.1	4.1	na	4.2	na
	CBO[2,3]	4.8	4.7	4.7	4.7	4.7	4.7	4.7
6. Treasury Notes, 10-Year (yield per annum)	**CONSENSUS**	**5.1**	**5.2**	**5.2**	**5.2**	**5.2**	**5.2**	**5.2**
	Bush Admin.[1,3]	5.1	5.2	5.3	5.3	na	5.2	na
	CBO[2,3]	5.2	5.2	5.2	5.2	5.2	5.2	5.2
7. Unemployment Rate (% of civilian labor force)	**CONSENSUS**	**4.8**	**4.8**	**4.8**	**4.8**	**4.8**	**4.8**	**4.8**
	Bush Admin.[1,3]	4.8	4.8	4.8	4.8	na	4.8	na
	CBO[2,3]	4.7	4.8	4.8	4.8	4.8	4.8	4.8

III. In this table, we compare the results of our most recent survey with those of our survey in March 2007[4].

ECONOMIC VARIABLE		YEAR 2009	2010	2011	2012	2013	Five-Year Averages 2009-13	2014-18
		Percent Change, Full Year-Over-Prior Year						
1. Real GDP (chained, 2000 dollars)	**October Consensus**	**2.9**	**2.8**	**2.9**	**2.9**	**2.8**	**2.9**	**2.8**
	March Consensus	3.0	2.9	3.0	3.0	2.9	3.0	2.9
2. GDP Chained Price Index	**October Consensus**	**2.1**	**2.1**	**2.1**	**2.1**	**2.1**	**2.1**	**2.1**
	March Consensus	2.1	2.1	2.1	2.1	2.1	2.1	2.1
3. Nominal GDP (current dollars)	**October Consensus**	**5.1**	**5.0**	**5.1**	**5.0**	**5.0**	**5.0**	**4.9**
	March Consensus	5.2	5.0	5.1	5.1	5.1	5.1	5.1
4. Consumer Price Index (for all urban consumers)	**October Consensus**	**2.3**	**2.3**	**2.3**	**2.3**	**2.3**	**2.3**	**2.3**
	March Consensus	2.3	2.3	2.3	2.3	2.3	2.3	2.3
		Annual Average						
5. Treasury Bills, 3-Month (percent per annum)	**October Consensus**	**4.5**	**4.5**	**4.5**	**4.5**	**4.5**	**4.5**	**4.5**
	March Consensus	4.7	4.6	4.6	4.7	4.7	4.6	4.7
6. Treasury Notes, 10-Year (yield per annum)	**October Consensus**	**5.1**	**5.2**	**5.2**	**5.2**	**5.2**	**5.2**	**5.2**
	March Consensus	5.2	5.1	5.2	5.2	5.3	5.2	5.3
7. Unemployment Rate (% of civilian labor force)	**October Consensus**	**4.8**	**4.8**	**4.8**	**4.8**	**4.8**	**4.8**	**4.8**
	March Consensus	4.8	4.8	4.8	4.8	4.8	4.8	4.8

[1]*Mid-Session Review, Budget of the United States Government, Fiscal Year 2008,* Office of Management and Budget, July 2007. [2]*The Budget and Economic Outlook: An Update;* Congressional Budget Office, August 2007. [3]The Bush Administration's forecast only extends through 2012, so averages for the 2009-2013 period are based on the forecast for the four-year period 2008-2012. CBO's forecast only extends through 2017, so averages for the 2014-2018 period are based on the forecast for the four-year period 2014-2017. [4]*Blue Chip Economic Indicators*, March 10, 2007.

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— Aa —

	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
2000	6.56	6.62	6.67	6.75	6.81	6.95	6.90	6.81	6.89	6.75	6.67	6.53
2001	6.72	6.63	6.64	6.75	6.76	6.72	6.61	6.48	6.51	6.49	6.48	6.64
2002	6.60	6.54	6.84	6.74	6.73	6.59	6.59	6.68	6.80	6.82	6.81	6.62
2003	6.70	6.68	6.64	6.72	----	----	----	----	----	----	----	----
2004	----	----	----	----	----	----	----	----	----	----	----	----

— A —

	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
2000	6.84	6.80	6.82	6.93	6.94	7.05	7.05	6.96	7.05	7.02	7.14	7.38
2001	7.42	7.38	7.35	7.47	7.48	7.36	7.25	7.07	7.17	7.06	7.17	7.30
2002	7.30	7.22	7.36	7.27	7.29	7.40	7.33	7.20	7.18	7.37	7.38	7.06
2003	7.13	7.01	7.05	6.97	6.83	6.81	6.84	6.77	6.73	6.87	6.84	6.70
2004	6.65	6.71	6.70	7.10	7.42	7.00	6.64	6.38	6.24	6.26	6.19	6.16
2005	6.15	6.29	6.41	6.17	6.24	6.20	6.22	6.21	6.27	6.41	6.31	6.19
2006	6.14	6.10	6.22	6.31	6.32	6.38	6.25	6.19	6.22	6.02	6.01	5.90
2007	5.90	5.85	5.76	5.81	5.88	6.13	6.29	6.09	6.12	6.18	6.17	6.20
2008	5.97	----	----	----	----	----	----	----	----	----	----	----

— Baa —

	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
2000	8.26	8.30	8.23	8.27	8.25	8.06	8.09	8.00	8.05	7.81	7.69	7.54
2001	7.53	7.48	7.48	7.59	7.57	7.60	7.42	7.40	7.41	7.40	7.53	7.66
2002	7.62	7.51	7.83	7.62	7.62	7.74	7.64	7.42	7.48	7.59	7.56	7.57
2003	7.61	7.62	7.66	7.51	7.42	7.41	7.24	7.29	7.28	7.26	7.29	7.28
2004	7.20	7.20	7.20	7.27	7.64	7.17	6.89	6.74	6.61	6.53	6.23	6.42
2005	6.35	6.36	6.42	6.41	6.39	6.37	6.35	6.36	6.38	6.40	6.45	6.42
2006	6.41	6.38	6.56	6.64	6.57	6.63	6.42	6.37	6.36	6.23	6.23	6.17
2007	6.08	6.04	6.03	6.12	6.16	6.23	6.51	6.24	6.24	6.27	6.37	6.51
2008	6.37	----	----	----	----	----	----	----	----	----	----	----

NOTE: The Aaa and Aa averages have been discontinued because of the lack of 'high-grade' preferred stock issues. Yields are based on prices for the last Friday of each month.

Note: Moody's® ratings are subject to change. Because of the possible time lapse between Moody's® assignment or change of a rating and your use of this publication, we suggest you verify the current rating of any security or issuer in which you are interested. For standard abbreviations and symbols, see page 6.

Tennessee Regulatory Authority | **Test Year: Twelve Months Ended: November 30, 2007**
Company: Tennessee-American Water Company | **Exhibit No. 3, Schedule 1**
Case No: | **Page 1 of 1**

Line No.	Class of Capital	Reference	Amount	Percent of Total	Cost Rate	Weighted Cost of Capital
1						
2						
3	Long-term Debt	Schedule 2	$58,579,797	49.83%	6.27%	3.124%
4						
5	Short-term Debt		6,222,000	5.29%	4.50%	0.238%
6						
7	Preferred Equity	Schedule 3	1,381,600	1.18%	5.00%	0.059%
8						
9	Common Equity					
10	Common Stock		29,543,153	25.13%	11.50%	2.890%
11	Retained Earnings		21,836,831	18.58%	11.50%	2.136%
12						
13	Total Capitalization		117,563,381	100.00%		8.447%
14						
15						
16						
17						
18	Total Common Equity Return Proposed		11.50%			
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						

TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 08-00039
FIRST DISCOVERY REQUEST OF THE
CONSUMER ADVOCATE AND PROTECTION DIVISION

Responsible Witness: Michael Miller

PART III: QUESTIONS & REQUESTS REGARDING COST OF CAPITAL & MISCELLANEOUS

Question:

2. Provide TAWC's current credit rating, with documentation, and identify the holders of any General Mortgage Bonds, any Capital Leases, any subordinated capital on TAWC's books, and provide copies of the terms and conditions of each.

Response:

TAWC does not have a stand alone credit rating. Please see the responses to TN-CMA-01-Q10 and TN-CMA-01-Q18 for information on credit ratings of AWW and AWCC. Please see the attached schedule, which indicates which bonds are subject to the General Mortgage Indenture and which are not, as well as the bondholders. Please note that this is the same schedule as provided in the testimony of Mr. Miller (Exhibit MAM-3), except for the additions mentioned in the previous sentence.

Embedded Cost of Long-Term Debt
At the Mid-Point of the Attrition Year

Tennessee Regulatory Authority
Company: Tennessee-American Water Company
Case No:

Test Year: Twelve Months Ended November 30, 2007
Exhibit No. 3, Schedule 2

Line No.	Bond Holder		Debt Issue Type, Coupon Rate	Interest Rate	Issue Date	Maturity Date	Principal Amount	Face Amount Outstanding	Unamortized (Issuance) Debt Exp.	Carrying Value	Annual Interest Expense	Annual Amortization of Issue Expense	Total Cost
1													
2													
3													
4													
5	Bond Holder												
6													
7	Hare & Co.	Gen. Mort.Indent.	9.25% Series	9.25%	01/12/90	12/01/19	**2,500,000**	2,500,000	16,270	2,483,730	231,250	1,525	232,775
8	Hare & Co.	Gen. Mort.Indent.	7.84% Series	7.84%	09/04/96	09/01/26	**5,700,000**	5,700,000	39,665	5,660,335	446,880	2,278	449,158
9	Swanbird & Co.	Gen. Mort.Indent.	6.50% Series-matured 6/08	6.50%	05/31/98	06/01/08	**0**	0	0	0	0	7,434	7,434
10	AWCC *	per AWCC Agree.	6.87% Series	6.87%	03/31/01	03/29/11	**5,100,000**	2,040,000	10,010	2,029,990	140,148	5,004	145,152
11	AWCC *	per AWCC Agree.	5.39% Series	5.39%	01/31/07	12/21/13	**15,000,000**	15,000,000	34,585	14,965,415	808,500	3,458	811,958
12	AWCC *	per AWCC Agree.	5.62% Series	5.62%	03/29/07	03/29/19	**19,000,000**	19,000,000	51,691	18,948,309	1,067,800	5,169	1,072,969
13	AWCC *	per AWCC Agree.	6.00% Series (proposed)	6.00%	03/01/09	02/28/19	**16,000,000**	16,000,000	160,000	15,840,000	960,000	16,000	976,000
14													
15													
16	Tallan Properties Inc.		Capital Lease 9.489%	9.489%	06/01/98	05/31/13	1,590,500	632,018		632,018	97,432	0	97,432
17													
18													
19			Total				$64,890,500	$60,872,018	$312,221	$60,559,797	$3,752,010	$40,868	$3,792,878
20													
21													
22			Embedded Cost of Long-Term Debt										6.26%
23													
24	* AWCC agreement aproved by TRA in Case no. 00-00637												
25													
26													
27													
28													
29													
30													

TN-CAPD-01-PART III-Q002-ATTACHMENT
Page 1 of 1

TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 08-00039
FIRST DISCOVERY REQUEST OF THE
CONSUMER ADVOCATE AND PROTECTION DIVISION

Responsible Witness: Michael Miller/Others

PART III: QUESTIONS & REQUESTS REGARDING COST OF CAPITAL & MISCELLANEOUS

Question:

3. In TRA Docket No. 06-00119, TAWC received the Tennessee Regulatory Authority's approval for a change of control. In that Docket, TAWC stated on p. 8 of the Petition for Approval of Change in Control filed on 4/21/2006 that "The Proposed Transaction will not impair the ability of the Petitioner to maintain a reasonable capital structure that is representative of other utilities."

   Also, on May 6, 2008 American Water Works filed with the SEC a Registration Statement stating that the Company may issue $750 million of debt. Included in the filing was Exhibit 23.1, a consent statement by Price Waterhouse Coopers:

   > Consent Of Independent Registered Public Accounting Firm. We hereby consent to the use in this Registration Statement on Amendment No. 1 to Form S-4 (No. 333-148284) of our report dated February 28, 2008 relating to the consolidated financial statements of American Water Works Company, Inc. and Subsidiary Companies (formerly Thames Water Aqua US Holdings, Inc. and Subsidiary Companies), which appears in such Registration Statement. We also consent to the reference to us under the heading "Experts" in such Registration Statement.

   a. Provide the consolidated financial statements prepared by Price Water House Coopers and all American Water Work's workpapers relied on by Price Water House Coopers to prepare the consolidated financial statements.

   b. Provide American Water Work's current credit rating.

c. Provide copies of all audited financial statements of American Water Works and Subsidiary Companies which were performed between April 28, 2007 and April 28, 2008.

d. Provide copies of all minutes taken between May 12, 2007, and May 12, 2008, for the Audit Committee of American Water Works.

e. Provide copies of all studies, working papers, and other documents issued by the Audit Committee or which the Audit Committee caused to be issued between May 12, 2007, and May 12, 2008.

f. Produce a record of those portions of American Water Work's Charter or Bylaws where the Charter or the Bylaws address capitalization;

g. Provide the book value of equity which AWW will have once the underwriters exercise their options.

Response:

a. The Company objects to this request on the grounds that it is overbroad, unduly burdensome, and seeks information that is not relevant to this proceeding, including information subject to attorney/client privilege and the work product doctrine, and containing highly confidential information.

Subject to and without waiving its objections, the Company states that public information about AWK can be found at the following web sites: www.sec.gov and www.amwater.com (investor relations). Furthermore, please see the response to TN-COC-01-Q002. The 2007-2005 AWW Audited Financial Statements can be found with the response to TN-TRA-01-Q5.

b. See responses to TN-CMA-01-Q10 and TN-CMA-01-Q118.

c. The Company objects to this question on the grounds that the requested is overbroad, unduly burdensome, and in large part not relevant to this proceeding.

Subject to and without waiving these objections, please refer to the responses to TN-TRA-01-Q5 for the AWW and TAWC 2007 Audited Financial Statements. Also refer to the web sites www.amwater.com (investor relations) and www.sec.gov for information on the first quarter 2008 reports for AWW.

d. The Company objects to this request on the grounds that it is overbroad, unduly burdensome, and seeks information that is not relevant to this proceeding, including information subject to the attorney/client privilege and work product doctrine, and containing highly confidential information.

e. The Company objects to this request on the grounds that it is overbroad, unduly burdensome, and seeks information that is not relevant to this proceeding, including information subject to the attorney/client privilege and work product doctrine, and containing highly confidential information.

f. Please see the attached documents, which are the charter and by-laws of AWW.

g. Please refer to the 10-Q report for March 2008, which can be obtained from the SEC website, www.sec.gov. The book value of AWW equity at March 31, 2008 per that report is $3.809 billion. The book value of AWW will not change based upon whether or not the underwriters exercise their options to purchase shares of AWW stock.

Delaware

The First State

I, HARRIET SMITH WINDSOR, SECRETARY OF STATE OF THE STATE OF DELAWARE, DO HEREBY CERTIFY THE ATTACHED IS A TRUE AND CORRECT COPY OF THE RESTATED CERTIFICATE OF "AMERICAN WATER WORKS COMPANY, INC.", FILED IN THIS OFFICE ON THE TWENTY-FOURTH DAY OF APRIL, A.D. 2008, AT 5:30 O'CLOCK P.M.

A FILED COPY OF THIS CERTIFICATE HAS BEEN FORWARDED TO THE NEW CASTLE COUNTY RECORDER OF DEEDS.

Harriet Smith Windsor

Harriet Smith Windsor, Secretary of State

0352210 8100

080469715

AUTHENTICATION: 6547432

DATE: 04-24-08

You may verify this certificate online at corp.delaware.gov/authver.shtml

State of Delaware
Secretary of State
Division of Corporations
Delivered 05:45 PM 04/24/2008
FILED 05:30 PM 04/24/2008
SRV 080469715 - 0352210 FILE

RESTATED

CERTIFICATE OF INCORPORATION

OF

AMERICAN WATER WORKS COMPANY, INC.

American Water Works Company, Inc., a corporation organized under the laws of the State of Delaware (the "Corporation"), hereby certifies as follows:

A. The name of the Corporation is "American Water Works Company, Inc." The Corporation was originally incorporated under the name "American Communities Company," and the original Certificate of Incorporation of the Corporation was filed with the Secretary of State of the State of Delaware on August 28, 1936.

B. This Restated Certificate of Incorporation, which amends the provisions of the Corporation's Certificate of Incorporation as heretofore amended, restated and supplemented, was duly adopted by the Board of Directors of the Corporation and by the sole stockholder of the Corporation in accordance with the provisions of Sections 228, 242 and 245 of the General Corporation Law of the State of Delaware.

C. The text of the Certificate of Incorporation of the Corporation, as heretofore amended, restated and supplemented, is hereby amended and restated to read in its entirety as follows:

ARTICLE I

The name of the corporation (hereinafter called the "Corporation") is American Water Works Company, Inc.

ARTICLE II

The address of the Corporation's registered office in the State of Delaware is 1209 Orange Street, in the City of Wilmington, County of New Castle, Delaware 19801. The name of the Corporation's registered agent at such address is The Corporation Trust Company.

ARTICLE III

The purpose of the Corporation is to engage in any lawful act or activity for which corporations may be organized under the General Corporation Law of the State of Delaware.

ARTICLE IV

A. Authorized Capital Stock. The total number of shares of all classes of stock that the Corporation shall have authority to issue is 550,000,000 shares, divided into two classes consisting of (i) 500,000,000 shares of common stock, par value $0.01 per share (the "Common Stock"), and (ii) 50,000,000 shares of preferred stock, par value $0.01 per share (the "Preferred Stock"). The following is a statement of the powers, preferences and rights, and the qualifications, limitations and restrictions thereof, in respect of each such class.

B. Preferred Stock. The Board of Directors is authorized to provide for the issuance from time to time of shares of Preferred Stock in one or more series and, by filing a certificate pursuant to the applicable provisions of the General Corporation Law of the State of Delaware (a "Preferred Stock Certificate of Designation"), to establish from time to time the number of shares to be included in each such series, with such powers, designations, preferences and relative, participating, optional or other rights, if any, and qualifications, limitations or restrictions thereof, if any, as are stated and expressed in the resolution or resolutions providing for the issuance thereof adopted by the Board of Directors (as such resolutions may be amended by a resolution or resolutions subsequently adopted by the Board of Directors), and as are not stated and expressed in this Restated Certificate of Incorporation, including, but not limited to, determination of any of the following:

(1) the distinctive designation of the series, whether by number, letter or title, and the number of shares which will constitute the series, which number may be increased or decreased (but not below the number of shares then outstanding and except to the extent otherwise provided in the applicable Preferred Stock Certificate of Designation) from time to time by action of the Board of Directors;

(2) the dividend rate, if any, and the times of payment of dividends, if any, on the shares of the series, whether such dividends will be cumulative and, if so, from what date or dates, and the relation which such dividends, if any, shall bear to the dividends payable on any other class or classes of stock;

(3) the price or prices at which, and the terms and conditions on which, the shares of the series may be redeemed at the option of the Corporation;

(4) whether or not the shares of the series will be entitled to the benefit of a retirement or sinking fund to be applied to the purchase or redemption of

such shares and, if so entitled, the amount of such fund and the terms and provisions relative to the operation thereof;

(5) the amounts payable on, and the preferences, if any, of the shares of the series in the event of any voluntary or involuntary liquidation, dissolution or winding up of the affairs of the Corporation;

(6) whether or not the shares of the series will be convertible into, or exchangeable for, any other shares of stock of the Corporation or other securities and, if so convertible or exchangeable, the conversion price or prices, or the rates of exchange, and any adjustments thereof, at which such conversion or exchange may be made, and any other terms and conditions of such conversion or exchange;

(7) whether or not the shares of the series will have priority over or be on a parity with or be junior to the shares of any other series or class of stock in any respect, or will be entitled to the benefit of limitations restricting the issuance of shares of any other series or class of stock, restricting the payment of dividends on or the making of other distributions in respect of shares of any other series or class of stock ranking junior to the shares of the series as to dividends or assets, or restricting the purchase or redemption of the shares of any such junior series or class, and the terms of any such restriction;

(8) whether or not the shares of the series will have voting rights in addition to any voting rights provided by law and, if so, the terms of such voting rights; and

(9) any other terms of the shares of the series.

C. Common Stock.

Except as otherwise required by applicable law, all shares of Common Stock shall be identical in all respects and shall entitle the holders thereof to the same rights, subject to the same qualifications, limitations and restrictions. The terms of the Common Stock set forth below shall be subject to the express terms of any series of Preferred Stock.

(1) Dividends. As, if and when dividends are declared or paid thereon, whether in cash, property or securities of the Corporation, the holders of Common Stock shall be entitled to participate in such dividends ratably on a per share basis.

(2) Voting Rights. Except as otherwise required by applicable law, the holders of Common Stock shall be entitled to one vote per share on all matters to be voted on by the Corporation's stockholders. No stockholder of the Corporation shall be entitled to exercise any right of cumulative voting.

(3) Liquidation Rights. The holders of Common Stock shall be entitled to participate ratably on a per share basis in all distributions to holders of Common Stock as a result of the liquidation, dissolution or winding up of the Corporation.

ARTICLE V

The number of directors of the Corporation shall be fixed from time to time in the manner provided in the Bylaws.

ARTICLE VI

In furtherance and not in limitation of the powers conferred upon it by law, the Board of Directors of the Corporation is expressly authorized to adopt, amend or repeal the Bylaws of the Corporation without the assent or vote of the stockholders of the Corporation. The stockholders may, at any annual or special meeting of the stockholders of the Corporation, duly called and upon proper notice thereof, make, alter, amend or repeal the Bylaws by the affirmative vote of the holders of not less than a majority of the then outstanding stock of the Corporation entitled to vote generally in the election of directors.

ARTICLE VII

Unless and except to the extent that the Bylaws of the Corporation so require, the election of directors of the Corporation need not be by written ballot.

ARTICLE VIII

No director of the Corporation shall be personally liable to the Corporation or its stockholders for monetary damages for breach of fiduciary duty as a director; provided, however, that the foregoing shall not eliminate or limit the liability of a director (A) for any breach of the director's duty of loyalty to the Corporation or its stockholders, (B) for acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law, (C) under Section 174 of the General Corporation Law of the State of Delaware, or (D) for any transaction from which the director derived an improper personal benefit.

Any repeal or modification of this Article by the stockholders of the Corporation shall be prospective only, and shall not affect, to the detriment of any director, any limitation on the personal liability of a director of the Corporation existing at the time of such repeal or modification.

ARTICLE IX

Each person who is or was or had agreed to become a director or officer of the Corporation, and each such person who is or was serving or who had agreed to serve

at the request of the Corporation as a director, officer, partner, member, trustee, employee or agent of another corporation, partnership, limited liability company, joint venture, trust or other enterprise (including the heirs, executor, administrators or estate of such person), shall be indemnified by the Corporation to the fullest extent permitted from time to time by applicable law.

ARTICLE X

Any action required or permitted to be taken by the stockholders of the Corporation must be effected at a duly called annual or special meeting of the stockholders of the Corporation, and the ability of the stockholders to consent in writing to the taking of any action is specifically denied.

IN WITNESS WHEREOF, this Restated Certificate of Incorporation of the Corporation has been executed by its duly authorized officer this 24th day of April, 2008.

AMERICAN WATER WORKS COMPANY, INC.

by _____

Name: George W. Patrick
Title: Senior Vice President, General Counsel and Secretary

AMENDED AND RESTATED BYLAWS OF AMERICAN WATER WORKS COMPANY, INC.

a Delaware corporation

As adopted on March 31, 2008
with effect from April 22, 2008

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AMENDED AND RESTATED
BYLAWS OF

AMERICAN WATER WORKS COMPANY, INC.
a Delaware corporation

As adopted on March 31, 2008

with effect from April 22, 2008

ARTICLE I

Offices

SECTION 1. Registered Office. The registered office of American Water Works Company, Inc. (the "Corporation") in the State of Delaware shall be located in the City of Wilmington.

SECTION 2. Other Offices. The Corporation may also have offices in such places, within or without the State of Delaware, as the Board of Directors of the Corporation (the "Board") may from time to time determine or the business of the Corporation may require.

ARTICLE II

Meetings of Stockholders

SECTION 1. Annual Meetings. The annual meeting of the stockholders for the election of directors and for such other business as may properly come before the meeting shall be held at such place (within or without the State of Delaware), date and hour as shall be designated by the Board or as shall be designated in the notice or waiver of notice thereof.

SECTION 2. Special Meetings. Special meetings of the stockholders may be held only upon call by the Board or the Chairman of the Board or President or a stockholder or stockholders holding at least 15% of the shares of stock of the Corporation issued and outstanding and entitled to be voted at the meeting, at such place and at such time and date as may be fixed by the body or person or persons giving such call, and as may be stated in the notice setting forth such call. Only business within the purpose or purposes described in the notice or waiver of notice required by these Bylaws may be conducted at a special meeting of the stockholders.

SECTION 3. Notice of Meetings. (a) Each stockholder of record of each class of stock of the Corporation then outstanding and entitled to vote at any meeting of stockholders shall be given written notice of such meeting, which notice shall state the place, date and hour of the meeting, and, in the case of a special meeting, the purpose or purposes for which the meeting is called. Each stockholder receiving such a notice shall be entitled to attend such meeting. Except as otherwise expressly required by law, notice of each meeting of stockholders shall be given not less than ten nor more than sixty days before the date of such meeting to each stockholder entitled to vote at such meeting.

(b) Attendance of a stockholder at a meeting shall constitute a waiver of notice of such meeting, except when the stockholder attends for the express purpose of objecting at the beginning of the meeting to the transaction of any business because the meeting is not lawfully called or convened

SECTION 4. Quorum. At each meeting of the stockholders, except as otherwise expressly required by law or the Corporation's Restated Certificate of Incorporation, stockholders holding a majority of the shares of stock of the Corporation issued and outstanding and entitled to be voted at the meeting shall be present in person or by proxy to constitute a quorum for the transaction of business. In the absence of a quorum at any such meeting or any adjournment or adjournments thereof, a majority in voting interest of those present in person or by proxy and entitled to vote thereat, or any officer entitled to preside at, or to act as secretary of, such meeting may adjourn such meeting until stockholders holding the amount of stock requisite for a quorum are present in person or by proxy. At any such adjourned meeting at which a quorum may be present, any business may be transacted which might have been transacted at the meeting as originally called.

SECTION 5. Organization. Meetings of stockholders shall be presided over by the Chairman of the Board, or in his or her absence by the President, or such other person as the Board may determine. The Secretary shall act as secretary of the meeting, and in his or her absence such other person as the person presiding over the meeting may appoint.

SECTION 6. Voting. When a quorum is present, the affirmative vote of the majority of shares present in person or represented by proxy at the meeting and entitled to vote on the subject matter shall be the act of the stockholders, unless the question is one upon which by express provisions of an applicable law, the rules and regulations of any stock exchange or quotation system applicable to the Corporation,

these Bylaws or the Corporation's Restated Certificate of Incorporation, a different vote is required, in which case such express provision shall govern and control the decision of such question.

SECTION 7. Notice of Stockholder Business and Nominations. (a) Annual Meetings of Stockholders.

(i) Nominations of persons for election to the Board and the proposal of business to be considered by the stockholders may be made at an annual meeting of stockholders (A) by or at the direction of the Chairman of the Board or the Board generally, (B) pursuant to the Corporation's notice of meeting (or any supplement thereto) or (C) by any stockholder of the Corporation who is entitled to vote at the meeting and who complies with the notice procedures set forth in clauses (ii) and (iii) of this paragraph and who was a stockholder of record at the time such notice is delivered to the Secretary.

(ii) For nominations or other business to be properly brought before an annual meeting by a stockholder, pursuant to clause (C) of paragraph (a)(i) of this Section 7 (or before a special meeting of stockholders pursuant to paragraph (b) of this Section 7), the stockholder must have given timely notice thereof in writing to the Secretary and any such proposed business other than the nominations of persons for election to the Board must constitute a proper matter for stockholder action. To be timely, a stockholder's notice shall be delivered to the Secretary at the principal executive offices of the Corporation not less than ninety days prior to the first anniversary of the date of the preceding year's annual

meeting; provided, however, that if the Corporation did not hold an annual meeting the preceding year or if the date of the annual meeting is changed by more than thirty days from the date of the preceding year's annual meeting, to be timely, notice by the stockholder must be delivered not later than the ninetieth day prior to the date of the annual meeting (or, if later, the tenth day following the day on which public announcement is first made of the date of the annual meeting and of the nominees proposed by the Board to be elected at such meeting). In no event shall the adjournment of an annual meeting commence a new time period for the giving of a stockholder's notice as described above. Such stockholder's notice shall set forth (A) as to each person whom the stockholder proposes to nominate for election or reelection as a director, all information relating to such person that is required to be disclosed in solicitations of proxies for election of directors, or is otherwise required, in each case pursuant to Regulation 14A under the Securities Exchange Act of 1934, as amended (the "Exchange Act"), in each case including any successor rule or regulation thereto, including such person's written consent to being named in the proxy statement as a nominee and to serving as a director if elected; (B) as to any other business that the stockholder proposes to bring before the meeting, a brief description of the business desired to be brought before the meeting, the reasons for conducting such business at the meeting and any material interest in such business of such stockholder and of any beneficial owner on whose behalf the proposal is made; and (C) as to the stockholder giving the notice and any beneficial owner on whose behalf the nomination or proposal is made (1) the name and address of such stockholder, as

they appear on the Corporation's books, and the name, address and phone number of such beneficial owner, (2) the number and class of shares of capital stock of the Corporation which are owned beneficially and of record by such stockholder and such beneficial owner, (3) a description of any and all arrangements or understandings between such stockholder and such beneficial owner, (4) a representation that the stockholder is a holder of record of stock of the Corporation entitled to vote at such meeting and intends to appear in person or by proxy at the meeting to propose such business or nomination and (5) a representation as to whether the stockholder or the beneficial owner, if any, intends or is part of a group which intends (x) to deliver a proxy statement and/or form of proxy to holders of at least the percentage of the Corporation's outstanding capital stock required to approve or adopt the proposal or elect the nominee and/or (y) otherwise to solicit proxies from stockholders in support of such proposal or nomination. The foregoing notice requirements shall be deemed satisfied by a stockholder if the stockholder has notified the Corporation of his or her intention to present a proposal at an annual meeting in compliance with Rule 14a-8 (or any successor thereto) promulgated under the Exchange Act and such stockholder's proposal has been included in a proxy statement that has been prepared by the Corporation to solicit proxies for such annual meeting. The Corporation may require any proposed nominee to furnish such other information as it may reasonably require to determine the eligibility of such proposed nominee to serve as a director of the Corporation.

(iii) Notwithstanding anything in the second sentence of paragraph (a)(ii) of this Section 7 to the contrary, in the event that the number of directors to be elected to the Board is increased and there is no public announcement made by the Corporation naming all of the nominees for director or specifying the size of the increased Board at least ninety days prior to the first anniversary of the date of the preceding year's annual meeting, a stockholder's notice under this paragraph shall also be considered timely, but only with respect to nominees for any new positions created by such increase, if it shall be delivered to the Secretary at the principal executive offices of the Corporation not later than the close of business on the tenth day following the day on which such public announcement is first made by the Corporation.

(b) Special Meetings of Stockholders. Only such business as shall have been brought before the special meeting of the stockholders pursuant to the notice or waiver of notice of the meeting shall be conducted at such meeting. Nominations of persons for election to the Board may be made at a special meeting of stockholders at which directors are to be elected pursuant to the notice or waiver of notice of the meeting (i) by or at the direction of the Board, (ii) by the stockholder or stockholders who called such meeting or (iii) by any other stockholder of the Corporation who is entitled to vote at such meeting, who complies with the notice procedures set forth in this Section 7 and who is a stockholder of record at the time such notice is delivered to the Secretary. Nominations by such other stockholders of persons for election to the Board may be made at such special meeting of stockholders if the stockholder's notice as required by paragraph (a)(ii) of this Section 7 shall be delivered to the Secretary at the principal

executive offices of the Corporation not later than the ninetieth day prior to the date of the special meeting (or, if later, the tenth day following the day on which public announcement is first made of the date of the special meeting and of the nominees proposed by the Board to be elected at such meeting). In no event shall the adjournment of a special meeting commence a new time period for the giving of a stockholder's notice as described above.

(c) General. Other than as set forth in Article III, Section 5 hereof, only persons who are nominated in accordance with the procedures set forth in this Section 7 shall be eligible to serve as directors and only such business shall be conducted at a meeting of stockholders as shall have been brought before the meeting in accordance with the procedures set forth in this Section 7. Except as otherwise provided by law, the chairman of the meeting shall have the power and duty to determine whether a nomination or any business proposed to be brought before the meeting was made in accordance with the procedures set forth in this Section 7 and, if any proposed nomination or business is not in compliance with this Section 7, to declare that such defective proposal or nomination shall be disregarded.

SECTION 8. Postponement and Cancellation of Meeting. Any previously scheduled annual or special meeting of the stockholders may be postponed, and any previously scheduled annual or special meeting of the stockholders called by the Board may be canceled, by resolution of the Board upon public notice given prior to the time previously scheduled for such meeting of stockholders.

ARTICLE III

Board of Directors

SECTION 1. General Powers. The property, business and affairs of the Corporation shall be managed by or under the direction of the Board, which may exercise all such powers of the Corporation and do all such lawful acts and things as are not by law or by the Restated Certificate of Incorporation directed or required to be exercised or done by the stockholders.

SECTION 2. Number and Term of Office. The number of directors which shall constitute the whole Board shall be fixed from time to time by the Board. Directors need not be stockholders or citizens or residents of the United States of America. Except as provided in Section 5 of this Article III, directors shall be elected at the annual meeting of the stockholders by a plurality of the votes of the shares present in person or represented by proxy at the meeting and entitled to vote in the election of directors. Each of the directors of the Corporation shall hold office until his or her successor shall be elected and shall qualify or until his or her earlier death or resignation or removal in the manner hereinafter provided.

SECTION 3. Resignations. Any director may resign at any time by giving written notice of his or her resignation to the Chairman of the Board, the President or the Secretary. Any such resignation shall take effect at the time specified therein or, if the time when it shall become effective shall not be specified therein, then it shall take effect when accepted by action of the Board. Except as aforesaid, the acceptance of such resignation shall not be necessary to make it effective.

SECTION 4. Removal of Directors. Any director or the entire Board may be removed, with or without cause, at any time upon the affirmative vote of holders of a majority of the shares then entitled to vote at an election of directors.

SECTION 5. Vacancies. Vacancies in the Board and newly created directorships resulting from any increase in the authorized number of directors may be filled by a majority of the directors then in office, although less than a quorum, or by a sole remaining director or by the stockholders of the Corporation at the next annual meeting or any special meeting called for the purpose. Each director so chosen shall hold office until his or her successor shall be elected and shall qualify or until his or her earlier death or resignation or removal in the manner as herein provided.

SECTION 6. Place of Meetings. The Board may hold its meetings at such place or places within or without the State of Delaware as the Board may from time to time determine or as shall be designated in the respective notices or waivers of notice thereof.

SECTION 7. Annual and Regular Meetings. The annual meeting of the Board for the purpose of electing officers and for the transaction of such other business as may come before the meeting shall be held as soon as possible following adjournment of the annual meeting of the stockholders at the place of such annual meeting of the stockholders. Notice of such annual meeting of the Board need not be given. The Board from time to time may by resolution provide for the holding of regular meetings and fix the place (which may be within or without the State of Delaware), date and time of such meetings. Notice of regular meetings need not be given; provided, however, that if the

Board shall fix or change the time or place of any regular meeting, notice of such action shall be mailed promptly, or sent by telephone, telegraph, facsimile, electronic mail or other electronic means to each director who shall not have been present at the meeting at which such action was taken, addressed to him or her at his or her usual place of business, or shall be delivered to him or her personally.

SECTION 8. Special Meetings. Special meetings of the Board shall be held whenever called by the Chairman of the Board, the President or at least two of the directors, at such place, date and time as may be specified in the respective notices or waivers of notice of such meetings. Special meetings of the Board may be called on at least twenty-four hours' notice to each director if notice is given to each director personally or by telephone, telegraph, facsimile, electronic mail or other electronic means, or on three days' notice from the official date of deposit in the mail if notice is sent by internationally recognized courier to each director, addressed to him or her at his or her usual place of business. Such notice need not state the purpose of, nor the business to be transacted at, that meeting, except as may otherwise be required by law. Notice need not be given to a director present at a meeting. A meeting may be held at any time without notice if all the directors are present or if those not present waive notice of the meeting in writing either before or after that meeting.

SECTION 9. Quorum and Manner of Acting. Except as provided by law, the Restated Certificate of Incorporation or these Bylaws, a majority of the total number of directors shall be present in person at any meeting of the Board in order to constitute a quorum for the transaction of business at such meeting, and the vote of a majority of

those directors present at any such meeting at which a quorum is present shall be necessary for the passage of any resolution or act of the Board. In the absence of a quorum for any such meeting, a majority of the directors present thereat may adjourn such meeting from time to time until a quorum shall be present thereat. Notice of any adjourned meeting need not be given.

SECTION 10. Organization. The Board shall elect a Chairman of the Board from among the directors. Meetings of the Board shall be presided over by the Chairman of the Board, or such other person as the Board may determine. The Secretary shall act as secretary of the meeting, and in his or her absence such other person as the person presiding over the meeting may appoint.

SECTION 11. Action by Written Consent. Any action required or permitted to be taken at any meeting of the Board or of any committee thereof may be taken without a meeting if all members of the Board or of such committee, as the case may be, consent thereto in writing, and such writing or writings are filed with the minutes of the proceedings of the Board or such committee.

SECTION 12. Meetings by Telephone, etc. Any one or more members of the Board, or any committee designated by the Board, may participate in a meeting of the Board, or such committee, by means of conference telephone or similar communications equipment by means of which all persons participating in the meeting can hear each other, and participation in a meeting pursuant to this Section shall constitute presence in person at such meeting.

SECTION 13. Compensation. Each director, in consideration of his or her serving as such, shall be entitled to receive from the Corporation such amount per annum or such fees for attendance at meetings of the Board or of any committee, or both, as the Board shall from time to time determine. The Board may likewise provide that the Corporation shall reimburse each director or member of a committee for any expenses incurred by him or her on account of his or her attendance at any such meeting. Nothing contained in this Section shall be construed to preclude any director from serving the Corporation in any other capacity and receiving compensation therefor.

ARTICLE IV

Committees

SECTION 1. Committees. The Board shall, by resolution passed by a majority of the directors, designate a compensation committee, a nominating and governance committee, an audit committee and, if so desired from time to time, other committees to serve at the pleasure of the Board. Each committee shall consist of two or more of the directors of the Corporation, which to the extent permitted by law and provided in such resolution or these Bylaws shall have and may exercise the powers of the Board in the management and affairs of the Corporation. Such committee(s) shall have such name(s) as may be determined from time to time by resolution adopted by the Board. Each committee shall keep regular minutes of its meetings and report the same to the Board when required. The Board may designate one or more directors as alternate members of any committee, who may replace any absent or disqualified member at any meeting of the committee. In the absence or disqualification of a member of the

committee, the member or members thereof present at any meeting and not disqualified from voting, whether or not he, she or they constitute a quorum, may unanimously appoint another member of the Board to act at the meeting in place of any such absent or disqualified member.

SECTION 2. Committee Rules. Each committee of the Board may fix its own rules of procedure and shall hold its meetings as provided by such rules, except as may otherwise be provided by the resolution of the Board designating such committee or the charter adopted by the Board for such committee. In the absence of such rules, each committee shall conduct its business in the same manner as the Board conducts its business pursuant to Article III of these Bylaws.

ARTICLE V

Officers

SECTION 1. Number. The principal officers of the Corporation shall be designated by the Board and shall consist of a President, such number of Vice Presidents as the Board may determine from time to time, a Treasurer, a Secretary and such number of Assistant Treasurers and Assistant Secretaries as the Board may determine from time to time. The Board may, in its discretion, create such offices and confer such titles as Chief Executive Officer, Chief Financial Officer or Chief Operating Officer and designate any Vice President by a number or numbers or a word or words (including, without limitation, the words "Executive" and "Senior") added before or after such title. The Board may appoint, and authorize the appointment of, such other officers of the Corporation as the Board deems necessary who shall have such authority and shall

perform such duties as these Bylaws or as the Board may prescribe. Any number of offices may be held by the same person, except that no person may simultaneously hold the offices of President and Secretary.

SECTION 2. Term of Office. Each officer shall hold office until his or her successor is duly elected and qualified or until his or her earlier death or resignation or removal in the manner hereinafter provided.

SECTION 3. Removal and Resignation. All officers and agents of the Corporation shall be subject to removal, with or without cause, at any time by the affirmative vote of a majority of the Board, or, except in the case of any officer elected by the Board, by any committee or superior officer upon whom such power may be conferred by the Board. Designation of an officer shall not itself create contract rights. Any officer may resign at any time by giving written notice of his or her resignation to the President or the Secretary, and such resignation shall take effect at the time specified therein or, if the time when it shall become effective shall not be specified therein, shall take effect when accepted by action of the Board. Except as aforesaid, the acceptance of such resignation shall not be necessary to make it effective.

SECTION 4. President. The President, subject to the direction of the Board, shall have such powers and perform such duties as pertain to the office of President and as the Board may from time to time prescribe, shall have the direction of all subordinate officers, agents and employees and may assign such duties to such other officers as he or she deems appropriate, and shall perform such other duties and exercise such other powers as may from time to time be prescribed by these Bylaws or the Board.

SECTION 5. Vice Presidents. Each Vice President shall have such powers and perform such duties as the Board or the President may from time to time prescribe and shall perform such other duties as may be prescribed by these Bylaws. At the request of the President, or in case of his or her absence or inability to act, any of the Vice Presidents shall perform the duties of the President and, when so acting, shall have all the powers of, and be subject to all the restrictions upon, the President.

SECTION 6. Treasurer. The Treasurer shall have charge and custody of, and be responsible for, all funds and securities of the Corporation, and shall deposit all such funds in the name of the Corporation in such banks, trust companies or other depositories as shall be selected in accordance with the provisions of these Bylaws. He or she shall disburse the funds of the Corporation as may be ordered by the Board, making proper vouchers for such disbursements, and shall render to the Board whenever required to do so, and shall present at the annual meeting of the stockholders, if called upon to do so, a statement of all his or her transactions as Treasurer. He or she shall have such powers and perform such duties as pertain to the office of Treasurer and shall perform such other duties as may from time to time be assigned to him or her by the Board.

SECTION 7. Secretary. The Secretary shall keep the records of the proceedings of all meetings of the stockholders and the Board or any committees thereof. He or she shall affix the seal of the Corporation to all deeds, contracts, bonds or other instruments requiring the corporate seal when the same shall have been signed on behalf of the Corporation by a duly authorized officer and shall be the custodian of all contracts,

deeds, documents and all other indicia of title to properties owned by the Corporation and of its other corporate records (except accounting records). He or she shall have such powers and perform such duties as pertain to the office of Secretary and shall perform such other duties as may from time to time be assigned to him or her by the Board.

SECTION 8. Other Officers, Assistant Officers and Agents. Officers, assistant officers and agents, if any, other than those whose duties are provided for in these Bylaws, shall have such authority and perform such duties as may from time to time be prescribed by resolution of the Board or by the person responsible for appointing such officers, assistant officers and agents, as the case may be.

SECTION 9. Execution of Contracts and Instruments. Notwithstanding the foregoing description of the duties and powers of corporate officers, the Board may from time to time limit or qualify such duties and powers by an instrument designated by the Board or pursuant to the Board's delegated authority as a corporate delegation of authority, and the duties and powers of the Corporation's officers shall be so limited. The Board may also from time to time specifically authorize one or more officers or agents of the Corporation to enter into such contracts, execute such instruments and take such other actions in the name of and on behalf of the Corporation for such specific purposes and in connection with such specific matters and transactions as the Board in its discretion may determine. Any instrument may be executed on behalf of and in the name of the Corporation: (a) by the Chairman of the Board, the President, the Chief Executive Officer (if any), the Chief Financial Officer (if any), the Chief Operating Officer (if any) or any Vice President, together with the Secretary, the Treasurer or any Assistant

Secretary, or any Assistant Treasurer, in each case, subject to any instrument that the Board or those authorized by it may designate as a "corporate delegation of authority", (b) by such officers specifically authorized to act by Board resolution for a specific purpose or (c) by any other person authorized to do so by, and subject to the limits stated in, the instrument that the Board or those authorized by it may designate as a "corporate delegation of authority", and such persons shall be deemed agents of the Corporation for such purposes. Except as otherwise designated or expressly authorized by these Bylaws, or an instrument properly designated as a "corporate delegation of authority" no officer, employee or agent shall have any power or authority to bind the Corporation by any contract or engagement or to pledge its credit or to render it liable pecuniarily for any purpose or to any amount.

SECTION 10. Security. The Board may require any officer, agent or employee of the Corporation to provide security for the faithful performance of his or her duties, in such amount and of such character as may be determined from time to time by the Board.

ARTICLE VI

Proxies, Checks, Drafts, Bank Accounts, Etc.

The President, or any other officer designated by the Board as having such authority, shall have authority from time to time to exercise in the name and on behalf of the Corporation the powers and rights which the Corporation may have as the holder of stock or other securities or interests in any other corporation or business entity and to vote or consent in respect of such stock, securities or interest; the President or such

designated officers may designate an agent or agents to perform such function and may instruct the person or persons so appointed as to the manner of exercising such powers and rights; and the President or such designated officers may execute or cause to be executed in the name and on behalf of the Corporation and under its corporate seal, or otherwise, such written proxies, powers of attorney or other instruments as they may deem necessary or proper in order that the Corporation may exercise its said powers and rights. All checks and drafts on the Corporation bank accounts and all bills of exchange and promissory notes, and all acceptances, obligations and other instruments for the payment of money, shall be signed by such officer or officers or agent or agents or other employee or employees as shall be thereunto authorized from time to time by the Board. Third parties shall be entitled to rely on the authority delegated by the Board or pursuant to its delegated authority in an instrument designated as a "corporate delegation of authority" as to all matters governed by this Article VI.

ARTICLE VII

Books and Records

The books and records of the Corporation may be kept at such places within or without the State of Delaware as the Board may from time to time determine.

ARTICLE VIII

Seal

The corporate seal shall have inscribed thereon the name of the Corporation and the words "Corporate Seal Delaware 1936." In lieu of the corporate

seal, when so authorized by the Board or a duly empowered committee thereof and permitted by law, a facsimile thereof may be impressed or affixed or reproduced.

ARTICLE IX

Fiscal Year

The fiscal year of the Corporation shall end on the 31st day of December in each year, unless changed by resolution of the Board.

ARTICLE X

Indemnification

SECTION 1. Right to Indemnification. The Corporation shall indemnify to the fullest extent authorized by the Delaware General Corporation Law, as the same exists or may hereafter be amended, each person who was or is a party or is threatened to be made a party to or is involved in any action, suit or proceeding, whether civil, criminal, administrative or investigative (a "Proceeding"), by reason of the fact that he or she is or was or had agreed to become a director or officer of the Corporation or an employee of the Corporation specifically designated by the Board as an indemnified employee, or is or was serving or had agreed to serve at the request of the Corporation as a director, officer, partner, member, trustee or agent, or such an employee, of another corporation, partnership, limited liability company, joint venture, trust or other enterprise (including the heirs, executor, administrators or estate of such person), whether the basis of such Proceeding is alleged action in an official capacity as a director, officer, partner, member, trustee, agent or employee, or in any other capacity while serving as a director,

officer, partner, member, trustee, agent or employee, against all expense, liability and loss (including attorneys' fees, judgments, fines, ERISA excise taxes, penalties and amounts paid or to be paid in settlement) reasonably incurred or suffered by such person in connection with such service; provided, however, that except as provided in Section 2 of this Article X the Corporation shall indemnify any such person seeking indemnification in connection with a Proceeding (or part thereof) initiated by such person only if such Proceeding was authorized by the Board, either generally or in the specific instance.

SECTION 2. Expenses. The right to indemnification shall include the advancement of expenses incurred by any person described in Section 1 of this Article X in defending any such Proceeding in advance of its final disposition in accordance with procedures established from time to time by the Board; provided, however, that the director, officer, partner, member, trustee, agent or employee shall deliver to the Corporation an undertaking to repay all amounts so advanced if it shall ultimately be determined by final judicial decision from which there is no further right to appeal that he or she is not entitled to be indemnified for such expenses under this Article X or otherwise, such undertaking to be in form and substance reasonably acceptable to the Corporation and which may further specify the conditions upon which indemnification for expenses is available given the facts and circumstances of such Proceeding.

SECTION 3. Continuation of Rights. The rights of indemnification provided in this Article X shall be in addition to any rights to which any person may otherwise be entitled by law or under any Bylaw, agreement, vote of stockholders or disinterested directors, or otherwise. Such rights shall continue as to any person who has

ceased to be a director, officer, partner, member, trustee, agent or employee and shall inure to the benefit of his or her heirs, executors and administrators, and shall be applicable to proceedings commenced after the adoption hereof, whether arising from acts or omissions occurring before or after the adoption hereof.

SECTION 4. Contract Rights. The obligations of the Corporation to indemnify a director, officer, partner, member, trustee, agent or employee under this Article X, including the duty to advance expenses, shall be considered a contract between the Corporation and such individual, and no modification or repeal of any provision of this Article X shall affect, to the detriment of the individual, such obligations of the Corporation in connection with a claim based on any act or failure to act occurring before such modification or repeal.

SECTION 5. Insurance and Funding. The Corporation may purchase and maintain insurance to protect any person against any liability or expense asserted against or incurred by such person in connection with any Proceeding, whether or not the Corporation would have the power to indemnify such person against such liability or expense by law or under this Article X or otherwise, provided that such insurance is available on acceptable terms, which determination shall be made by the Board. The Corporation may create a trust fund, grant a security interest or use other means (including, without limitation, a letter of credit) to insure the payment of such sums as may become necessary to effect indemnification as provided herein.

SECTION 6. Severability. If this Article X or any portion hereof shall be invalidated on any ground by any court of competent jurisdiction, then the Corporation

shall nevertheless indemnify and hold harmless each director and officer and any other person indemnified pursuant to this Article X as to all expense, liability and loss (including attorneys' fees, judgments, fines, ERISA excise taxes, penalties and amounts paid or to be paid in settlement) with respect to any Proceeding to the full extent permitted by any applicable portion of this Article X that shall not have been invalidated and to the fullest extent permitted by applicable law.

ARTICLE XI

Shares and Their Transfer

SECTION 1. Certificates for Shares. The shares of the Corporation shall be represented by certificates, or shall be uncertificated shares evidenced by a book-entry system, or a combination of both. Certificates shall be signed by, or in the name of the Corporation by, (i) the President or a Vice President and (ii) the Secretary or an Assistant Secretary, certifying the number and class of shares of the Corporation owned by the holder of such certificate. If such a certificate is countersigned (a) by a transfer agent or an assistant transfer agent other than the Corporation or its employee or (b) by a registrar other than the Corporation or its employee, the signature of any such President, Vice President, Secretary or Assistant Secretary may be a facsimile. In case any officer(s) who have signed, or whose facsimile signature(s) have been used on, any such certificate(s) shall cease to be such officer(s) of the Corporation, whether because of death, resignation or otherwise, before such certificate(s) have been delivered by the Corporation, such certificate(s) may nevertheless be issued and delivered as though the person or persons

who signed such certificate(s) or whose facsimile signature(s) have been used thereon had not ceased to be such officer(s) of the Corporation.

SECTION 2. Record. A record shall be kept of the name of the person, firm or corporation owning each share of stock of the Corporation, including, in the case of stock represented by each certificate for stock of the Corporation issued, the number of shares represented by each such certificate, and the date thereof, and, in the case of cancellation, the date of cancellation. Except as otherwise expressly required by law, the person in whose name shares of stock stand on the books of the Corporation shall be deemed the owner thereof for all purposes as regards the Corporation.

SECTION 3. Transfers of Stock. Transfers of stock shall be made only upon the transfer books of the Corporation kept at an office of the Corporation or by transfer agents designated to transfer shares of the stock of the Corporation. Except when a certificate is issued in accordance with Section 4 of this Article XI, in the case of stock represented by a certificate, an outstanding certificate for the number of shares involved shall be surrendered for cancellation before a new certificate is issued therefor.

SECTION 4. Lost, Destroyed or Mutilated Certificates. In the case of an alleged loss or destruction or the mutilation of a certificate representing stock of the Corporation, a new certificate may be issued in place thereof, in the manner and upon such terms as the Board may prescribe.

ARTICLE XII

General Provisions

SECTION 1. Section Headings. Section headings in these Bylaws are for convenience of reference only and shall not be given any substantive effect in limiting or otherwise construing any provision herein.

SECTION 2. Inconsistent Provisions. In the event that any provision of these Bylaws is or becomes inconsistent with any provision of the Corporation's Certificate of Incorporation, the General Corporation Law of the State of Delaware or any other applicable law, such provision of these Bylaws shall not be given any effect to the extent of such inconsistency but shall otherwise be given full force and effect.

ARTICLE XIII

Amendments

These Bylaws, or any of them, may be altered, amended or repealed by the Board, or by the stockholders of the Corporation as provided in the Corporation's Restated Certificate of Incorporation.

TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 08-00039
FIRST DISCOVERY REQUEST OF THE
CONSUMER ADVOCATE AND PROTECTION DIVISION

Responsible Witness: Michael Miller/Others

PART III: QUESTIONS & REQUESTS REGARDING COST OF CAPITAL & MISCELLANEOUS

Question:

4. In the Registration statement filed with the Securities and Exchange Commission ("SEC") on May 6, 2008, American Water Works made this statement: "In order to obtain the state PUC approvals to consummate the proposed RWE Divestiture we were required to accept certain conditions and restrictions that could increase our costs."

   a. Identify those costs, provide the amounts of each cost, and identify the "State PUC(s)" which imposed the costs.

Response:

The Company objects to this request on the grounds that it is overbroad, unduly burdensome, seeks information not readily available to TAWC, and seeks information that is not relevant to this proceeding.

Subject to and without waiving its objections, the Company states that public information about AWK can be found at the following web sites: www.sec.gov and www.amwater.com. AWW filed petitions in 13 states seeking approval for the change of control. Those states are: Arizona, New Mexico, California, Illinois, Pennsylvania, West Virginia, Kentucky, Tennessee, Virginia, Maryland, New Jersey, and New York. The orders issued regarding those petitions can be found on the Commission (including the TRA) websites.

There has been no tabulation or quantifications of any additional costs related to those conditions. Mr. Miller was a witness in both the West Virginia and Kentucky Change of Control proceedings. Below are examples of conditions in those two states that could result in increased costs.

1. WV – Pages 9-11 of the Commission Order addresses the conditions relating to the approval of the Petition.
2. WV - Conditions, B, H, M, S, W, and X impose reporting requirements that would not be required except for those conditions.
3. KY – Pages 19-29 of the Commission Order addresses the conditions relating to the approval of the Petition, those conditions are also listed in detail in Appendix A attached to the Order.
4. KY – Conditions 4, 10, 12, 14, 17, 20, 21, 22, 24, 26, and 38, impose reporting requirements that would not be required except for those conditions.

TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 08-00039
FIRST DISCOVERY REQUEST OF THE
CONSUMER ADVOCATE AND PROTECTION DIVISION

Responsible Witness: Michael Miller/Others

PART III: QUESTIONS & REQUESTS REGARDING COST OF CAPITAL & MISCELLANEOUS

Question:

5. In the Registration statement filed with the SEC on May 6, 2008, American Water Works made this statement:

   The RWE acquisition resulted in certain changes in our business. For example, our operations and management were managed through Thames Water. Also, we agreed not to file rate cases with some state PUCs for specified periods of time as a condition of the acquisition. As of December 31, 2007, all rate stay-out provisions associated with the RWE acquisition had expired.

   a. Identify those states where there were stay-out provisions, identify the terms and conditions of those provisions and provide copies of orders , decisions or other material to substantiate your reply.

Response:

The Company objects to this request on the grounds that it is overbroad, unduly burdensome, seeks information not readily available to TAWC, and seeks information that is not relevant to this proceeding.

Subject to and without waiving its objections, the Company states that public information about AWK can be found at the following web sites: www.sec.gov and www.amwater.com. In 2006, AWW filed petitions in 13 states seeking approval for the change of control. Those states are: Arizona, New Mexico,

California, Illinois, Pennsylvania, West Virginia, Kentucky, Tennessee, Virginia, Maryland, New Jersey, and New York. The orders issued regarding those petitions can be found on the Commission (including TRA) websites. In the 2006 Change of Control Proceedings, there were no rate case filing moratoriums (stay-outs) included in the Orders approving the Petitions.

In neither the 2002 nor 2006 Change of Control Proceedings regarding TAWC, were any rate filing moratorium conditions proposed by any party or approved by the TRA.

In the 2002 Change of Control proceedings, there were rate filing moratoriums (stay-outs) as part of the conditions attached to the Commission's approval of those petitions in Arizona, Kentucky, West Virginia, California, Maryland, New Jersey, and New York. The Commission (TRA) orders approving the 2002 Change of Control proceedings can be found at the Commission (TRA) websites referenced earlier in this response.

TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 08-00039
FIRST DISCOVERY REQUEST OF THE
CONSUMER ADVOCATE AND PROTECTION DIVISION

Responsible Witness: Michael Miller/Others

PART III: QUESTIONS & REQUESTS REGARDING COST OF CAPITAL & MISCELLANEOUS

Question:

6. If American Water Works' current amount of equity is subject to any claims or liability via capital assigned to AWW from RWE or its subsidiaries and where such capital may be withdrawn from AWW by RWE, its subsidiaries or assignees, identify by class of equity and amount any such claims, including common equity and all other equity classes, such as assigns or other items of value.

Response:

The Company objects to this request on the grounds that it does not make sense, is vague and ambiguous, overbroad, unduly burdensome, seeks information not readily available to TAWC, and seeks information that is not relevant to this proceeding.

Subject to and without waiving the foregoing objections, the Company provides the following response. Based upon the Company's interpretation of this request, the answer is none.

TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 08-00039
FIRST DISCOVERY REQUEST OF THE
CONSUMER ADVOCATE AND PROTECTION DIVISION

Responsible Witness: Michael Miller/Others

PART III: QUESTIONS & REQUESTS REGARDING COST OF CAPITAL & MISCELLANEOUS

Question:

7. In its S-1 Registration statement filed May 6 with the SEC, American Water Works stated: "RWE intends to fully divest its ownership of American Water through the consummation of one or more public offerings of common stock of American Water as soon as reasonably practicable, subject to market conditions." Provide any study, document, emails and all written material where RWE or RWE Aqua Holdings GmbH consider what circumstances financial, and otherwise, constitute conditions that "are reasonably practicable, subject to market conditions" for the public offerings of common stock.

Response:

The Company objects to this request on the grounds that it is overbroad, unduly burdensome, and seeks information that is not relevant to this proceeding, seeks information that may be subject to attorney/client privilege and work product, and seeks information that is highly confidential. Furthermore, this request seeks information that is not in the possession, custody or control of the TAWC.

Subject to and without waiving its objections, the Company states that public information about AWK can be found at the following web sites: www.sec.gov and www.amwater.com (investor relations).

TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 08-00039
FIRST DISCOVERY REQUEST OF THE
CONSUMER ADVOCATE AND PROTECTION DIVISION

Responsible Witness: Michael Miller/Others

PART III: QUESTIONS & REQUESTS REGARDING COST OF CAPITAL & MISCELLANEOUS

Question:

8. Provide any study, document, emails and all written material where RWE, RWE Aqua Holdings GmbH, or American Water Works has performed or caused to be performed a study of American Water Works' expected market value between now and 2010.

Response:

The Company objects to this request on the grounds that it is unduly burdensome, seeks information that is irrelevant to this proceeding now that TAWC's parent company's (AWK) initial public offering has closed, and seeks information that is not in the possession, custody or control of the TAWC. Furthermore, the Company objects to this request to the extent it seeks Highly Confidential Information. The Company objects to the production of highly confidential data without the entry of a protective order that includes heightened protections sufficient to protect highly confidential information from public disclosure. Subject to and without waiving these objections, please see the public information about AWK which can be found at the following web sites: www.sec.gov and amwater.com (investor relations). Please see the response to TN-COC-01-Q2 for the public road show information.

TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 08-00039
FIRST DISCOVERY REQUEST OF THE
CONSUMER ADVOCATE AND PROTECTION DIVISION

Responsible Witness: Michael Miller/Others

PART III: QUESTIONS & REQUESTS REGARDING COST OF CAPITAL & MISCELLANEOUS

Question:

9. Provide any study, document, emails and all written material where RWE, RWE Aqua Holdings GmbH, or American Water Works has performed or caused to be performed a study where a second class of stock is, has, would be or will be issued for American Water Works.

Response:

The Company objects to this request on the grounds that it is overbroad, unduly burdensome, seeks information that is not relevant to this proceeding, seeks information that is not in the possession, custody or control of TAWC, seeks information that may be subject to the attorney/client privilege and work product doctrine, and seeks information that is highly confidential in nature.

Subject to and without waiving its objections, the Company states that public information about AWK can be found at the following web sites: www.sec.gov and www.amwater.com (investor relations).

Please refer to the response to TN-CAPD-01-part III-Q3(f), to which is attached the By-laws of AWW, which addresses types of securities authorized for AWW.

TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 08-00039
FIRST DISCOVERY REQUEST OF THE
CONSUMER ADVOCATE AND PROTECTION DIVISION

Responsible Witness: Michael Miller/Others

PART III: QUESTIONS & REQUESTS REGARDING COST OF CAPITAL & MISCELLANEOUS

Question:

10. Provide any study, document, emails and all written material where RWE, RWE Aqua Holdings GmbH, or American Water Works has performed or caused to be performed a study of the dividends which American Water Works should, will or consider paying to its stockholders.

Response:

The Company objects to this request on the grounds that it is overbroad, unduly burdensome, seeks information that is not within the possession, custody or control of TAWC, seeks information that is not relevant to this proceeding, including information subject to the attorney/client privilege and work product doctrine, and containing highly confidential information.

Subject to and without waiving its objections, the Company states that public information about AWK can be found at the following web site: www.sec.gov. The Prospectus includes extensive discussion about AWW's dividend policy on page 27, and in the Management Discussion section beginning on page 63.

TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 08-00039
FIRST DISCOVERY REQUEST OF THE
CONSUMER ADVOCATE AND PROTECTION DIVISION

Responsible Witness: Michael Miller/Sheila Miller

PART IV: QUESTIONS & REQUESTS REGARDING REVENUES, EXPENSES, TAXES, RATE BASE & MISCELLANEOUS

Question:

1. Provide the "billing determinates" (billing determinates include all information needed to compute, but not confined to customer meters, customer volumes by rate class by location) as shown on Exhibit No. 4 Schedule 2 for the 12 months ended March 31, 2008. Provide all work papers, documentation, i.e. billing determinants, by customer class, by location supporting any normalization adjustments for the period.

Response:

The Company objects to this request on the grounds that it is unduly burdensome, in particular because the information requested is not readily available in the requested format and is very costly to gather and produce. The Company also objects to this request on the grounds that it detracts from the Company's ability to address and support its historical test-year data and the adjustments developed to arrive at a reasonable attrition year and is not required by the TRA's recognized rate case procedures.

The Company filed its petition, testimony, exhibits and workpapers fully supporting its case based on a test year ending November 30, 2007 all in compliance with TRA rules. Test year data and schedules were prepared specifically for the historical test year utilized in the Company's filing. This request seeks the compilation of data for the 12 months ended March 31, 2008,

a test year that the CAPD has stated it intends to propose. It is burdensome and fundamentally unfair to require the Company to respond to a data request that, in essence, requires the Company to completely redo the data collection and analysis required to file its petition based on a test year, or multiple test years, proposed by an Intervenor, particularly when that test year includes dates after the petition was filed. The re-creation of every aspect of its case for multiple historical test years is not required by TRA rules and is not necessary for the CAPD to assess the Company's petition.

With respect to this specific request, the Company objects on the basis specified above to the CAPD's request that the Company generate data for a new test year by creating an entire bill analysis, including normalization adjustments, for the twelve months ended March 31, 2008.

To compile the information set forth in Exhibit No. 4 Schedule 2, the Company requests from the IT group a bill analysis report for the historical test year, in this case the twelve months ended November 2007. The Company then must perform extensive analysis and calculations to tie the results of that bill analysis to the per books revenue numbers. This is an extremely time consuming and costly process.

Notwithstanding these objections, the monthly raw data of billing determinates for January-December 2007 were provided in response to TN-TRA-01-Q020. Please see the raw data monthly billing determinates for January-March 2008 included on the enclosed CD in a folder labeled as TN-CAPD-01-Part IV-Q001. Please note that Dr. Spitznagel's weather normalizations are specific to the twelve month ended November 2007. No weather normalization factors exist for the 12 months ended March 2008 or February 2008.

	A
1	Tennessee-American Water Company
2	**Chatanooga**
3	Bill Analysis for the Month Ended January 31, 2008:
4	Rates for General Water Service Effective 3/09/05
5	Service Charge
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	
17	
18	**Consumption Res, Com, Ind, OPA, OWU & Misc. Customers**
19	Effective 3/09/05
20	
21	
22	
23	
24	
25	
26	
27	**Consumption Res, Com, Ind, OPA, Misc. Customers**
28	Effective 5/22/07
29	
30	
31	
32	
33	
34	
35	
36	
37	
38	
39	
40	
41	

	B	C	D
1			
2			
3			
4			Current
5			Rates
6	Monthly Eff 5/22/07	5/8"	$10.42
7		3/4"	17.51
8		1"	29.14
9		1-1/2"	58.30
10		2"	93.27
11		3"	174.89
12		4"	291.49
13		6"	582.99
14		8"	932.77
15		10"	-
16		12"	-
17			
18			Current
19		Monthly	Rates
20		First 4 (100 CCF)	$0.1720
21		2nd 61 (100 CCF)	$2.7300
22		3rd 435 (100 CCF)	$1.7150
23		4th 4,500 (100 CCF)	$1.2820
24		5th 10,000 (100CCF)	$0.9800
25		In Excess 15,000 (100 CCF)	$0.5820
26			
27			Current
28		Monthly	Rates
29		First 4 (100 CCF)	$0.1940
30		2nd 61 (100 CCF)	$3.0730
31		3rd 435 (100 CCF)	$1.9310
32		4th 4,500 (100 CCF)	$1.4430
33		5th 10,000 (100CCF)	$1.1030
34		In Excess 15,000 (100 CCF)	$0.6550
35			
36			
37			
38			
39			
40			
41			

	E	F	G
1			Tennessee-American Water Company
2			RESIDENTIAL
3			Bill Analysis for the Month Ended January 31, 2008:
4	Proposed		
5	Rates		Number of Meters
6			Monthly
7			Eff 5/22/07
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			Total Meters
18	Proposed		
19	Rates		Monthly Eff 3/09/05
20			First 4 (100 CCF)
21			2nd 61 (100 CCF)
22			3rd 435 (100 CCF)
23			4th 4,500 (100 CCF)
24			5th 10,000 (100CCF)
25			In Excess 15,000 (100 CCF)
26			
27	Proposed		
28	Rates		Monthly Eff 5/22/07
29			First 4 (100 CCF)
30			2nd 61 (100 CCF)
31			3rd 435 (100 CCF)
32			4th 4,500 (100 CCF)
33			5th 10,000 (100CCF)
34			In Excess 15,000 (100 CCF)
35			
36			
37			
38			
39			
40			
41			

	H	I	J	K	L
1					
2					
3					
4					
5		A1M4	A1MSM		WATER
6	5/8"	65,400.21	3.00		
7	3/4"	94.87	0.00		
8	1"	166.77	0.00		
9	1-1/2"	19.00	0.00		
10	2"	9.97	0.00		
11	3"	0.00	0.00		
12	4"	0.00	0.00		
13	6"	0.00	0.00		
14	8"	0.00	0.00		
15	10"	0.00	0.00		
16	12"	0.00	0.00		
17		65,690.81	3.00	0.00	0.00
18	Consumption				
19					
20					
21					
22					
23					
24					
25					
26	Total	0.00	0.00	0.00	0.00
27					
28					
29		208,020.18	4.00		
30		147,947.76			
31		3,541.72			
32		16.34			
33					
34					
35	Total	359,526.00	4.00	0.00	0.00
36					
37					
38					
39					
40					
41					

	M	N	O	P	Q
1					
2					
3					
4			Present Rate	Proposed Rate	
5	Totals		Revenues	Revenues	
6	65,403.21		681,501.40	0.00	
7	94.87		1,661.12	0.00	
8	166.77		4,859.60	0.00	
9	19.00		1,107.70	0.00	
10	9.97		929.59	0.00	
11	0.00		0.00	0.00	
12	0.00		0.00	0.00	
13	0.00		0.00	0.00	
14	0.00		0.00	0.00	
15	0.00		0.00	0.00	
16	0.00		0.00	0.00	
17	65,693.81		$690,059.41	$0.00	
18					
19					
20	0.00		0.00	0.00	
21	0.00		0.00	0.00	
22	0.00		0.00	0.00	
23	0.00		0.00	0.00	
24	0.00		0.00	0.00	
25	0.00		0.00	0.00	
26	0.00		$0.00	$0.00	
27					
28					
29	208,024.18		40,356.69	0.00	
30	147,947.76		454,643.47	0.00	
31	3,541.72		6,839.06	0.00	
32	16.34		23.58	0.00	
33	0.00		0.00	0.00	
34	0.00		0.00	0.00	
35	359,530.00		$501,862.80	$0.00	
36					
37	**TOTAL**		$1,191,922.21	$0.00	
38					
39					
40					
41					

	R	S
1	Tennessee-American Water Company	
2	COMMERCIAL	
3	Bill Analysis for the Month Ended January 31, 2008:	
4		
5	Number of Meters	
6	Monthly	5/8"
7	Eff 5/22/07	3/4"
8		1"
9		1-1/2"
10		2"
11		3"
12		4"
13		6"
14		8"
15		10"
16		12"
17	Total Meters	
18		Consumption
19	Monthly Eff 3/09/05	
20	First 4 (100 CCF)	
21	2nd 61 (100 CCF)	
22	3rd 435 (100 CCF)	
23	4th 4,500 (100 CCF)	
24	5th 10,000 (100CCF)	
25	In Excess 15,000 (100 CCF)	
26		Total
27		
28	Monthly Eff 5/22/07	
29	First 4 (100 CCF)	
30	2nd 61 (100 CCF)	
31	3rd 435 (100 CCF)	
32	4th 4,500 (100 CCF)	
33	5th 10,000 (100CCF)	
34	In Excess 15,000 (100 CCF)	
35		Total
36		
37		
38		
39		
40		
41		

	T	U	V	W	X
1					
2					
3					
4					
5	A2M4	A2MAM	A2MSM	A2M4S	A2MTM
6	5,886.44	0.00	1.00	1.00	1.00
7	149.80	0.00	0.00	0.00	0.00
8	1,489.01	1.00	2.00	6.23	0.00
9	346.80	1.00	3.00	10.13	1.00
10	857.13	6.00	106.53	127.47	0.00
11	37.80	0.00	0.00	0.00	0.00
12	6.27	1.00	9.30	5.13	0.00
13	1.00	1.00	9.13	1.00	0.00
14	0.00	0.00	1.00	0.00	0.00
15	0.00	0.00	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	0.00
17	8,774.25	10.00	131.97	150.97	2.00
18					
19					
20					
21					
22					
23					
24					
25					
26	0.00	0.00	0.00	0.00	0.00
27					
28					
29	23,180.29	35.00	518.71	4.00	8.00
30	93,074.57	438.00	7,485.25	61.00	69.00
31	93,304.80	1,870.00	37,610.34	325.00	435.00
32	24,715.34	4,500.00	41,535.70		331.00
33	616.00	1,668.00	2,548.00		
34					
35	234,891.00	8,511.00	89,698.00	390.00	843.00
36					
37					
38					
39					
40					
41					

	Y	Z	AA	AB	AC	AD
1						
2						
3						
4				Present Rate	Proposed Rate	
5	A2M4D	Totals		Revenues	Revenues	
6		5,889.44		61,367.96	0.00	
7		149.80		2,622.98	0.00	
8		1,498.24		43,658.73	0.00	
9		361.93		21,100.67	0.00	
10		1,097.13		102,329.74	0.00	
11		37.80		6,610.86	0.00	
12		21.70		6,325.36	0.00	
13		12.13		7,073.61	0.00	
14		1.00		932.77	0.00	
15		0.00		0.00	0.00	
16		0.00		0.00	0.00	
17	0.00	9,069.18		$252,022.68	$0.00	
18						
19						
20		0.00		0.00	0.00	
21		0.00		0.00	0.00	
22		0.00		0.00	0.00	
23		0.00		0.00	0.00	
24		0.00		0.00	0.00	
25		0.00		0.00	0.00	
26	0.00	0.00		$0.00	$0.00	
27						
28						
29		23,746.00		4,606.72	0.00	
30		101,127.82		310,765.79	0.00	
31		133,545.14		257,875.67	0.00	
32		71,082.04		102,571.38	0.00	
33		4,832.00		5,329.70	0.00	
34		0.00		0.00	0.00	
35	0.00	334,333.00		$681,149.26	$0.00	
36						
37		**TOTAL**		$933,171.94	$0.00	
38						
39						
40						
41						

	AE	AF
1	Tennessee-American Water Company	
2	INDUSTRIALS	
3	Bill Analysis for the Month Ended January 31, 2008:	
4		
5	Number of Meters	
6	Monthly	5/8"
7	Eff 5/22/07	3/4"
8		1"
9		1-1/2"
10		2"
11		3"
12		4"
13		6"
14		8"
15		10"
16		12"
17	Total Meters	
18		
19	Monthly Eff 3/09/05	Consumption
20	First 4 (100 CCF)	
21	2nd 61 (100 CCF)	
22	3rd 435 (100 CCF)	
23	4th 4,500 (100 CCF)	
24	5th 10,000 (100CCF)	
25	In Excess 15,000 (100 CCF)	
26		Total
27		
28	Monthly Eff 5/22/07	Consumption
29	First 4 (100 CCF)	
30	2nd 61 (100 CCF)	
31	3rd 435 (100 CCF)	
32	4th 4,500 (100 CCF)	
33	5th 10,000 (100CCF)	
34	In Excess 15,000 (100 CCF)	
35		Total
36		
37		
38		
39		
40		
41		

	AG	AH	AI	AJ	AK	AL
1						
2						
3						
4						
5	A3M4	A3MSM	A3M4M	A3M4S	Totals	
6	30.13	0.00	0.00	0.00	30.13	
7	3.00	0.00	0.00	0.00	3.00	
8	28.13	0.00	0.00	0.00	28.13	
9	7.00	0.00	1.00	0.00	8.00	
10	53.73	10.00	10.00	14.00	87.73	
11	0.00	0.00	0.00	0.00	0.00	
12	12.00	2.00	4.00	1.00	19.00	
13	3.00	1.00	2.00	1.00	7.00	
14	0.00	0.00	0.00	0.00	0.00	
15	0.00	0.00	0.00	0.00	0.00	
16	0.00	0.00	0.00	0.00	0.00	
17	137.00	13.00	17.00	16.00	183.00	
18						
19						
20					0.00	
21					0.00	
22					0.00	
23					0.00	
24					0.00	
25					0.00	
26	0.00	0.00	0.00	0.00	0.00	
27						
28						
29	373.46	52.00	68.00		493.46	
30	2,956.86	793.00	1,008.00		4,757.86	
31	9,066.68	4,589.00	6,286.00		19,941.68	
32	17,824.00	22,261.00	39,276.00		79,361.00	
33	14,767.00	20,051.00	27,459.00		62,277.00	
34	9,955.00	261.00	1,125.00		11,341.00	
35	54,943.00	48,007.00	75,222.00	0.00	178,172.00	
36						
37					**TOTAL**	
38						
39						
40						
41						

	AM	AN	AO
1			
2			
3			
4	Present Rate	Proposed Rate	
5	Revenues	Revenues	
6	313.99	0.00	
7	52.53	0.00	
8	819.81	0.00	
9	466.40	0.00	
10	8,182.89	0.00	
11	0.00	0.00	
12	5,538.31	0.00	
13	4,080.93	0.00	
14	0.00	0.00	
15	0.00	0.00	
16	0.00	0.00	
17	$19,454.86	$0.00	
18			
19			
20	0.00	0.00	0.00
21	0.00	0.00	0.00
22	0.00	0.00	0.00
23	0.00	0.00	0.00
24	0.00	0.00	0.00
25	0.00	0.00	0.00
26	$0.00	$0.00	0.00
27			
28			
29	95.73	0.00	#REF!
30	14,620.90	0.00	#REF!
31	38,507.38	0.00	#REF!
32	114,517.92	0.00	#REF!
33	68,691.53	0.00	#REF!
34	7,428.36	0.00	#REF!
35	$243,861.82	$0.00	#REF!
36			
37	$263,316.68	$0.00	$0.00
38			
39			
40			
41			

	AP	AQ
1	Tennessee-American Water Company	
2	OTHER PUBLIC AUTHORITY	
3	Bill Analysis for the Month Ended January 31, 2008:	
4		
5	Number of Meters	
6	Monthly	5/8"
7	Eff 5/22/07	3/4"
8		1"
9		1-1/2"
10		2"
11		3"
12		4"
13		6"
14		8"
15		10"
16		12"
17	Total Meters	
18		
19	Monthly Eff 3/09/05	Consumption
20	First 4 (100 CCF)	
21	2nd 61 (100 CCF)	
22	3rd 435 (100 CCF)	
23	4th 4,500 (100 CCF)	
24	5th 10,000 (100CCF)	
25	In Excess 15,000 (100 CCF)	
26		Total
27		
28	Monthly Eff 5/22/07	Consumption
29	First 4 (100 CCF)	
30	2nd 61 (100 CCF)	
31	3rd 435 (100 CCF)	
32	4th 4,500 (100 CCF)	
33	5th 10,000 (100CCF)	
34	In Excess 15,000 (100 CCF)	
35		Total
36		
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	AR	AS	AT	AU	AV
1					
2					
3					
4					
5	A4M4	A4MSM	A4M4A	A4M4S	A4MAM
6	186.07	0.00	0.00	1.00	0.00
7	12.00	0.00	0.00	1.00	0.00
8	137.70	2.00	0.00	3.00	0.00
9	64.53	2.00	0.00	4.00	0.00
10	209.67	34.53	1.00	39.67	1.00
11	4.00	1.00	0.00	1.00	0.00
12	12.13	8.13	0.00	3.00	0.00
13	0.00	2.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00
15	0.00	0.00	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	0.00
17	626.10	49.67	1.00	52.67	1.00
18					
19					
20					
21					
22					
23					
24					
25					
26	0.00	0.00	0.00	0.00	0.00
27					
28					
29	1,557.20	185.67		4.00	
30	10,139.62	2,553.99		61.00	
31	11,610.18	10,993.00		78.00	
32	8,605.00	20,673.34			
33	4,440.00	1,125.00			
34					
35	36,352.00	35,531.00	0.00	143.00	0.00
36					
37					
38					
39					
40					
41					

	AW	AX	AY	AZ	BA	BB
1						
2						
3						
4				Present Rate	Proposed Rate	
5	A4M4M	Totals		Revenues	Revenues	
6	0.00	187.07		1,949.24	0.00	
7	0.00	13.00		227.63	0.00	
8	3.13	145.83		4,249.61	0.00	
9	1.00	71.53		4,170.38	0.00	
10	10.00	295.87		27,595.53	0.00	
11	0.00	6.00		1,049.34	0.00	
12	0.00	23.27		6,782.01	0.00	
13	0.00	2.00		1,165.98	0.00	
14	0.00	0.00		0.00	0.00	
15	0.00	0.00		0.00	0.00	
16	0.00	0.00		0.00	0.00	
17	14.13	744.57		$47,189.72	$0.00	
18						
19						
20		0.00		0.00	0.00	
21		0.00		0.00	0.00	
22		0.00		0.00	0.00	
23		0.00		0.00	0.00	
24		0.00		0.00	0.00	
25		0.00		0.00	0.00	
26	0.00	0.00		$0.00	$0.00	
27						
28						
29	50.53	1,797.40		348.70	0.00	
30	586.13	13,340.74		40,996.09	0.00	
31	1,670.34	24,351.52		47,022.79	0.00	
32	1,979.00	31,257.34		45,104.34	0.00	
33		5,565.00		6,138.20	0.00	
34		0.00		0.00	0.00	
35	4,286.00	76,312.00		$139,610.12	$0.00	
36						
37		**TOTAL**		$186,799.84	$0.00	
38						
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41						

	BC	BD
1	Tennessee-American Water Company	
2	OTHER WATER UTILITIES	
3	Bill Analysis for the Month Ended January 31, 2008:	
4		
5	Number of Meters	
6	Eff 5/22/07	5/8"
7		3/4"
8		1"
9		1-1/2"
10		2"
11		3"
12		4"
13		6"
14		8"
15		10"
16		12"
17	Total Meters	
18		
19	Monthly Eff 3/09/05	Consumption
20	First 4 (100 CCF)	
21	2nd 61 (100 CCF)	
22	3rd 435 (100 CCF)	
23	4th 4,500 (100 CCF)	
24	5th 10,000 (100CCF)	
25	In Excess 15,000 (100 CCF)	
26		Total
27		
28	Monthly Eff 5/22/07	Consumption
29	First 4 (100 CCF)	
30	2nd 61 (100 CCF)	
31	3rd 435 (100 CCF)	
32	4th 4,500 (100 CCF)	
33	5th 10,000 (100CCF)	
34	In Excess 15,000 (100 CCF)	
35		Total
36		
37		
38		
39		
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41		

	BE	BF	BG	BH	BI	BJ	BK
1							
2							
3							
4							Present Rate
5	A5M4	A5M4M			Totals		Revenues
6	0.00	0.00			0.00		0.00
7	0.00	0.00			0.00		0.00
8	0.00	0.00			0.00		0.00
9	0.00	0.00			0.00		0.00
10	1.00	0.00			1.00		93.27
11	0.00	0.00			0.00		0.00
12	2.00	1.00			3.00		874.47
13	0.00	0.00			0.00		0.00
14	0.00	0.00			0.00		0.00
15	0.00	0.00			0.00		0.00
16	0.00	0.00			0.00		0.00
17	3.00	1.00	0.00	0.00	4.00		$967.74
18							
19							
20					0.00		0.00
21					0.00		0.00
22					0.00		0.00
23					0.00		0.00
24					0.00		0.00
25					0.00		0.00
26	0.00	0.00	0.00	0.00	0.00		$0.00
27							
28							
29					0.00		0.00
30					0.00		0.00
31					0.00		0.00
32					0.00		0.00
33					0.00		0.00
34					0.00		0.00
35	0.00	0.00	0.00	0.00	0.00		$0.00
36							
37					**TOTAL**		$967.74
38							
39							
40							
41							

	BL	BM	BN
1			Tennessee-American Water Company
2			MISCELLANEOUS
3			Bill Analysis for the Month Ended January 31, 2008:
4	Proposed Rate		
5	Revenues		Number of Meters
6	0.00		Eff 5/22/07
7	0.00		
8	0.00		
9	0.00		
10	0.00		
11	0.00		
12	0.00		
13	0.00		
14	0.00		
15	0.00		
16	0.00		
17	$0.00		Total Meters
18			
19			Monthly Eff 3/09/05
20	0.00		First 4 (100 CCF)
21	0.00		2nd 61 (100 CCF)
22	0.00		3rd 435 (100 CCF)
23	0.00		4th 4,500 (100 CCF)
24	0.00		5th 10,000 (100CCF)
25	0.00		In Excess 15,000 (100 CCF)
26	$0.00		
27			
28			Monthly Eff 3/09/05
29	0.00		First 4 (100 CCF)
30	0.00		2nd 61 (100 CCF)
31	0.00		3rd 435 (100 CCF)
32	0.00		4th 4,500 (100 CCF)
33	0.00		5th 10,000 (100CCF)
34	0.00		In Excess 15,000 (100 CCF)
35	$0.00		
36			
37	$0.00		
38			
39			
40			
41			

	BO	BP	BQ	BR	BS	BT	BU
1							
2							
3							
4							
5		A7M4				Totals	
6	5/8"					0.00	
7	3/4"					0.00	
8	1"					0.00	
9	1-1/2"					0.00	
10	2"					0.00	
11	3"					0.00	
12	4"					0.00	
13	6"					0.00	
14	8"					0.00	
15	10"					0.00	
16	12"					0.00	
17		0.00	0.00	0.00	0.00	0.00	
18							
19	Consumption						
20						0.00	
21						0.00	
22						0.00	
23						0.00	
24						0.00	
25						0.00	
26	Total	0.00	0.00	0.00	0.00	0.00	
27							
28	Consumption						
29						0.00	
30						0.00	
31						0.00	
32						0.00	
33						0.00	
34						0.00	
35	Total	0.00	0.00	0.00	0.00	0.00	
36							
37						**TOTAL**	
38							
39							
40							
41							

	BV	BW	BX	BY	BZ
1					
2					
3					
4	Present Rate	Proposed Rate			
5	Revenues	Revenues			
6	0.00	0.00			
7	0.00	0.00			
8	0.00	0.00			
9	0.00	0.00			
10	0.00	0.00			
11	0.00	0.00			
12	0.00	0.00			
13	0.00	0.00			
14	0.00	0.00			
15	0.00	0.00			
16	0.00	0.00			
17	$0.00	$0.00			
18					
19					
20	0.00	0.00			
21	0.00	0.00			
22	0.00	0.00			
23	0.00	0.00			
24	0.00	0.00			
25	0.00	0.00			
26	$0.00	$0.00			
27					
28					
29	0.00	0.00			
30	0.00	0.00			
31	0.00	0.00			
32	0.00	0.00			
33	0.00	0.00			
34	0.00	0.00			
35	$0.00	$0.00			
36					
37	$0.00	$0.00			
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	CA	CB	CC	CD
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	BE	BF	BG	BH	BI	BJ	BK
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	BO	BP	BQ	BR	BS	BT	BU
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	BV	BW	BX	BY	BZ
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	A
1	Tennessee-American Water Company
2	**Lookout Mountain**
3	Bill Analysis for the Month Ended January 31, 2008:
4	Rates for General Water Service Effective 3/09/05
5	Service Charge
6	
7	
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17	
18	**Consumption Res, Com, Ind, OPA, Misc. Customers**
19	Effective 5/22/07
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	B	C	D
1			
2			
3			
4			Current
5			Rates
6	Monthly Eff 5/22/07	5/8"	$11.70
7		3/4"	17.51
8		1"	29.14
9		1-1/2"	58.30
10		2"	93.27
11		3"	174.89
12		4"	291.49
13		6"	582.99
14		8"	932.77
15		10"	-
16		12"	-
17			
18			Current
19		Monthly	Rates
20		First 4 (100 CCF)	$0.7210
21		2nd 61 (100 CCF)	$3.9580
22		3rd 435 (100 CCF)	$2.8160
23		4th 4,500 (100 CCF)	$1.9690
24		5th 10,000 (100CCF)	$1.6300
25		In Excess 15,000 (100 CCF)	$1.1810
26			
27			
28			
29			
30			
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	E	F	G
1			Tennessee-American Water Company
2			RESIDENTIAL
3			Bill Analysis for the Month Ended January 31, 2008:
4	Proposed		
5	Rates		Number of Meters
6			Monthly
7			Eff 5/22/07
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			Total Meters
18	Proposed		
19	Rates		Monthly Eff 5/22/07
20			First 4 (100 CCF)
21			2nd 61 (100 CCF)
22			3rd 435 (100 CCF)
23			4th 4,500 (100 CCF)
24			5th 10,000 (100CCF)
25			In Excess 15,000 (100 CCF)
26			
27			
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	H	I	J	K	L	M	N
1							
2							
3							
4							Present Rate
5		B1M4			Totals		Revenues
6	5/8"	1,668.13			1,668.13		19,517.16
7	3/4"	42.20			42.20		738.92
8	1"	110.50			110.50		3,219.97
9	1-1/2"	2.00			2.00		116.60
10	2"	3.13			3.13		292.25
11	3"	0.00			0.00		0.00
12	4"	0.00			0.00		0.00
13	6"	0.00			0.00		0.00
14	8"	0.00			0.00		0.00
15	10"	0.00			0.00		0.00
16	12"	0.00			0.00		0.00
17		1,825.97	0.00	0.00	1,825.97		$23,884.90
18							
19							
20		5,758.50			5,758.50		4,151.88
21		8,365.82			8,365.82		33,111.92
22		220.68			220.68		621.43
23					0.00		0.00
24					0.00		0.00
25					0.00		0.00
26	Total	14,345.00	0.00	0.00	14,345.00		$37,885.23
27							
28					**TOTAL**		$61,770.13
29							
30							
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	O	P
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4	Proposed Rate	
5	Revenues	
6	0.00	
7	0.00	
8	0.00	
9	0.00	
10	0.00	
11	0.00	
12	0.00	
13	0.00	
14	0.00	
15	0.00	
16	0.00	
17	$0.00	
18		
19		
20	0.00	0.00
21	0.00	0.00
22	0.00	0.00
23	0.00	0.00
24	0.00	0.00
25	0.00	0.00
26	$0.00	
27		
28	$0.00	
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	Q	R	S
1	Tennessee-American Water Company		
2	COMMERCIAL		
3	Bill Analysis for the Month Ended January 31, 2008:		
4			
5	Number of Meters		B2M4
6	Monthly	5/8"	55.53
7	Eff 5/22/07	3/4"	2.00
8		1"	17.00
9		1-1/2"	3.00
10		2"	7.00
11		3"	0.00
12		4"	0.00
13		6"	0.00
14		8"	0.00
15		10"	0.00
16		12"	0.00
17	Total Meters		84.53
18			
19	Monthly Eff 5/22/07		
20	First 4 (100 CCF)		201.33
21	2nd 61 (100 CCF)		924.67
22	3rd 435 (100 CCF)		355.00
23	4th 4,500 (100 CCF)		
24	5th 10,000 (100CCF)		
25	In Excess 15,000 (100 CCF)		
26		Total	1,481.00
27			
28			
29			
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	T	U	V	W	X	Y
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2						
3						
4						Present Rate
5	B2M4M			Totals		Revenues
6				55.53		649.74
7				2.00		35.02
8				17.00		495.38
9				3.00		174.90
10				7.00		652.89
11				0.00		0.00
12				0.00		0.00
13				0.00		0.00
14				0.00		0.00
15				0.00		0.00
16				0.00		0.00
17	0.00	0.00	0.00	84.53		$2,007.93
18						
19						
20				201.33		145.16
21				924.67		3,659.84
22				355.00		999.68
23				0.00		0.00
24				0.00		0.00
25				0.00		0.00
26	0.00	0.00	0.00	1,481.00		$4,804.68
27						
28				**TOTAL**		$6,812.61
29						
30						
31						
32						
33						
34						
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	Z	AA	AB
1			Tennessee-American Water Company
2			INDUSTRIALS
3			Bill Analysis for the Month Ended January 31, 2008:
4	Proposed Rate		
5	Revenues		Number of Meters
6	0.00		Monthly
7	0.00		Eff 5/22/07
8	0.00		
9	0.00		
10	0.00		
11	0.00		
12	0.00		
13	0.00		
14	0.00		
15	0.00		
16	0.00		
17	$0.00		Total Meters
18			
19			Monthly Eff 5/22/07
20	0.00		First 4 (100 CCF)
21	0.00		2nd 61 (100 CCF)
22	0.00		3rd 435 (100 CCF)
23	0.00		4th 4,500 (100 CCF)
24	0.00		5th 10,000 (100CCF)
25	0.00		In Excess 15,000 (100 CCF)
26	$0.00		
27			
28	$0.00		
29			
30			
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32			
33			
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	AC	AD	AE	AF	AG	AH
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2						
3						
4						Present Rate
5		B3M4		Totals		Revenues
6	5/8"			0.00		0.00
7	3/4"			0.00		0.00
8	1"			0.00		0.00
9	1-1/2"			0.00		0.00
10	2"			0.00		0.00
11	3"			0.00		0.00
12	4"			0.00		0.00
13	6"			0.00		0.00
14	8"			0.00		0.00
15	10"			0.00		0.00
16	12"			0.00		0.00
17		0.00	0.00	0.00		$0.00
18						
19						
20				0.00		0.00
21				0.00		0.00
22				0.00		0.00
23				0.00		0.00
24				0.00		0.00
25				0.00		0.00
26	Total	0.00	0.00	0.00		$0.00
27						
28				**TOTAL**		$0.00
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	AI	AJ
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4	Proposed Rate	
5	Revenues	
6	0.00	
7	0.00	
8	0.00	
9	0.00	
10	0.00	
11	0.00	
12	0.00	
13	0.00	
14	0.00	
15	0.00	
16	0.00	
17	$0.00	
18		
19		#REF!
20	0.00	
21	0.00	
22	0.00	
23	0.00	
24	0.00	
25	0.00	
26	$0.00	
27		
28	$0.00	
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	AK	AL	AM
1	Tennessee-American Water Company		
2	OTHER PUBLIC AUTHORITY		
3	Bill Analysis for the Month Ended January 31, 2008:		
4			
5	Number of Meters		B4M4
6	Monthly	5/8"	13.00
7	Eff 5/22/07	3/4"	1.00
8		1"	10.13
9		1-1/2"	1.00
10		2"	6.00
11		3"	0.00
12		4"	0.00
13		6"	0.00
14		8"	0.00
15		10"	0.00
16		12"	0.00
17	Total Meters		31.13
18			
19	Monthly Eff 5/22/07		
20	First 4 (100 CCF)		55.53
21	2nd 61 (100 CCF)		312.47
22	3rd 435 (100 CCF)		423.00
23	4th 4,500 (100 CCF)		
24	5th 10,000 (100CCF)		
25	In Excess 15,000 (100 CCF)		
26		Total	791.00
27			
28			
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	AN	AO	AP	AQ	AR	AS
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3						
4				Present Rate	Proposed Rate	
5		Totals		Revenues	Revenues	
6		13.00		152.10	0.00	
7		1.00		17.51	0.00	
8		10.13		295.29	0.00	
9		1.00		58.30	0.00	
10		6.00		559.62	0.00	
11		0.00		0.00	0.00	
12		0.00		0.00	0.00	
13		0.00		0.00	0.00	
14		0.00		0.00	0.00	
15		0.00		0.00	0.00	
16		0.00		0.00	0.00	
17	0.00	31.13		$1,082.82	$0.00	
18						
19						
20		55.53		40.04	0.00	
21		312.47		1,236.76	0.00	
22		423.00		1,191.17	0.00	
23		0.00		0.00	0.00	
24		0.00		0.00	0.00	
25		0.00		0.00	0.00	
26	0.00	791.00		$2,467.97	$0.00	
27						
28		**TOTAL**		$3,550.79	$0.00	
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	AT	AU	AV
1	Tennessee-American Water Company		
2	OTHER WATER UTILITIES		
3	Bill Analysis for the Month Ended January 31, 2008:		
4			
5	Number of Meters		
6	Monthly	5/8"	
7	Eff 5/22/07	3/4"	
8		1"	
9		1-1/2"	
10		2"	
11		3"	
12		4"	
13		6"	
14		8"	
15		10"	
16		12"	
17	Total Meters		0.00
18			
19	Monthly Eff 5/22/07		
20	First 4 (100 CCF)		
21	2nd 61 (100 CCF)		
22	3rd 435 (100 CCF)		
23	4th 4,500 (100 CCF)		
24	5th 10,000 (100CCF)		
25	In Excess 15,000 (100 CCF)		
26		Total	0.00
27			
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	AW	AX	AY	AZ	BA	BB
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3						
4				Present Rate	Proposed Rate	
5		Totals		Revenues	Revenues	
6		0.00		0.00	0.00	
7		0.00		0.00	0.00	
8		0.00		0.00	0.00	
9		0.00		0.00	0.00	
10		0.00		0.00	0.00	
11		0.00		0.00	0.00	
12		0.00		0.00	0.00	
13		0.00		0.00	0.00	
14		0.00		0.00	0.00	
15		0.00		0.00	0.00	
16		0.00		0.00	0.00	
17	0.00	0.00		$0.00	$0.00	
18						
19						
20		0.00		0.00	0.00	
21		0.00		0.00	0.00	
22		0.00		0.00	0.00	
23		0.00		0.00	0.00	
24		0.00		0.00	0.00	
25		0.00		0.00	0.00	
26	0.00	0.00		$0.00	$0.00	
27						
28		**TOTAL**		$0.00	$0.00	
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	BC	BD	BE
1	Tennessee-American Water Company		
2	MISCELLANEOUS		
3	Bill Analysis for the Month Ended January 31, 2008:		
4			
5	Number of Meters		B7M4
6	Monthly	5/8"	
7	Eff 5/22/07	3/4"	
8		1"	
9		1-1/2"	
10		2"	
11		3"	
12		4"	
13		6"	
14		8"	
15		10"	
16		12"	
17	Total Meters		0.00
18			
19	Monthly Eff 5/22/07		
20	First 4 (100 CCF)		
21	2nd 61 (100 CCF)		
22	3rd 435 (100 CCF)		
23	4th 4,500 (100 CCF)		
24	5th 10,000 (100CCF)		
25	In Excess 15,000 (100 CCF)		
26		Total	0.00
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	BF	BG	BH	BI	BJ	BK
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3						
4				Present Rate	Proposed Rate	
5		Totals		Revenues	Revenues	
6		0.00		0.00	0.00	
7		0.00		0.00	0.00	
8		0.00		0.00	0.00	
9		0.00		0.00	0.00	
10		0.00		0.00	0.00	
11		0.00		0.00	0.00	
12		0.00		0.00	0.00	
13		0.00		0.00	0.00	
14		0.00		0.00	0.00	
15		0.00		0.00	0.00	
16		0.00		0.00	0.00	
17	0.00	0.00		$0.00	$0.00	
18						
19						
20		0.00		0.00	0.00	
21		0.00		0.00	0.00	
22		0.00		0.00	0.00	
23		0.00		0.00	0.00	
24		0.00		0.00	0.00	
25		0.00		0.00	0.00	
26	0.00	0.00		$0.00	$0.00	
27						
28		**TOTAL**		$0.00	$0.00	
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	A
1	Tennessee-American Water Company
2	**Lakeview**
3	Bill Analysis for the Month Ended January 31, 2008:
4	Rates for General Water Service
5	Service Charge
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18	**Consumption Res, Com, Ind, OPA, OWU & Misc. Customers**
19	Effective 3/09/05
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24	
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26	
27	**Consumption Res, Com, Ind, OPA, OWU & Misc. Customers**
28	Effective 5/22/07
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	B	C	D
1			
2			
3			
4			Current
5			Rates
6	Monthly Eff 5/22/07	5/8"	$11.70
7		3/4"	17.51
8		1"	29.14
9		1-1/2"	58.30
10		2"	93.27
11		3"	174.89
12		4"	291.49
13		6"	582.99
14		8"	932.77
15		10"	-
16		12"	-
17			
18			Current
19		Monthly	Rates
20		First 4 (100 CCF)	$0.3160
21		2nd 61 (100 CCF)	$3.0080
22		3rd 435 (100 CCF)	$1.9930
23		4th 4,500 (100 CCF)	$1.4250
24		5th 10,000 (100CCF)	$1.1240
25		In Excess 15,000 (100 CCF)	$0.7250
26			
27			Current
28		Monthly	Rates
29		First 4 (100 CCF)	$0.3560
30		2nd 61 (100 CCF)	$3.3860
31		3rd 435 (100 CCF)	$2.2440
32		4th 4,500 (100 CCF)	$1.6040
33		5th 10,000 (100CCF)	$1.2650
34		In Excess 15,000 (100 CCF)	$0.8160
35			
36			
37			
38			
39			
40			
41			

	E	F	G
1			Tennessee-American Water Company
2			RESIDENTIAL
3			Bill Analysis for the Month Ended January 31, 2008:
4	Proposed		
5	Rates		Number of Meters
6			Quarterly
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			Total Meters
18	Proposed		
19	Rates		Monthly
20			First 4 (100 CCF)
21			2nd 61 (100 CCF)
22			3rd 435 (100 CCF)
23			4th 4,500 (100 CCF)
24			5th 10,000 (100CCF)
25			In Excess 15,000 (100 CCF)
26			
27	Proposed		
28	Rates		Monthly Eff 5/22/07
29			First 4 (100 CCF)
30			2nd 61 (100 CCF)
31			3rd 435 (100 CCF)
32			4th 4,500 (100 CCF)
33			5th 10,000 (100CCF)
34			In Excess 15,000 (100 CCF)
35			
36			
37			
38			
39			
40			
41			

	H	I	J	K	L	M
1						
2						
3						
4						Present Rate
5		C1M4		Totals		Revenues
6	5/8"	2,824.03		2,824.03		33,041.19
7	3/4"	0.00		0.00		0.00
8	1"	4.00		4.00		116.56
9	1-1/2"	0.00		0.00		0.00
10	2"	0.00		0.00		0.00
11	3"	0.00		0.00		0.00
12	4"	0.00		0.00		0.00
13	6"	0.00		0.00		0.00
14	8"	0.00		0.00		0.00
15	10"	0.00		0.00		0.00
16	12"	0.00		0.00		0.00
17		2,828.03	0.00	2,828.03		$33,157.75
18	Consumption					
19						
20				0.00		0.00
21				0.00		0.00
22				0.00		0.00
23				0.00		0.00
24				0.00		0.00
25				0.00		0.00
26	Total	0.00	0.00	0.00		$0.00
27						
28						
29		9,037.16		9,037.16		3,217.23
30		6,504.84		6,504.84		22,025.39
31		64.00		64.00		143.62
32				0.00		0.00
33				0.00		0.00
34				0.00		0.00
35	Total	15,606.00	0.00	15,606.00		$25,386.24
36						
37				**TOTAL**		$58,543.99
38						
39						
40						
41						

	N	O	P
1			Tennessee-American Water Company
2			COMMERCIAL
3			Bill Analysis for the Month Ended January 31, 2008:
4	Proposed Rate		
5	Revenues		Number of Meters
6	0.00		Quarterly
7	0.00		
8	0.00		
9	0.00		
10	0.00		
11	0.00		
12	0.00		
13	0.00		
14	0.00		
15	0.00		
16	0.00		
17	$0.00		Total Meters
18			
19			Monthly
20	0.00		First 4 (100 CCF)
21	0.00		2nd 61 (100 CCF)
22	0.00		3rd 435 (100 CCF)
23	0.00		4th 4,500 (100 CCF)
24	0.00		5th 10,000 (100CCF)
25	0.00		In Excess 15,000 (100 CCF)
26	$0.00		
27			
28			Monthly Eff 5/22/07
29	0.00		First 4 (100 CCF)
30	0.00		2nd 61 (100 CCF)
31	0.00		3rd 435 (100 CCF)
32	0.00		4th 4,500 (100 CCF)
33	0.00		5th 10,000 (100CCF)
34	0.00		In Excess 15,000 (100 CCF)
35	$0.00		
36			
37	$0.00		
38			
39			
40			
41			

	Q	R	S	T	U	V
1						
2						
3						
4						
5		C2M4			Totals	
6	5/8"	139.50			139.50	
7	3/4"	0.00			0.00	
8	1"	19.23			19.23	
9	1-1/2"	0.00			0.00	
10	2"	7.00			7.00	
11	3"	0.00			0.00	
12	4"	0.00			0.00	
13	6"	0.00			0.00	
14	8"	0.00			0.00	
15	10"	0.00			0.00	
16	12"	0.00			0.00	
17		165.73	0.00	0.00	165.73	
18	Consumption					
19						
20					0.00	
21					0.00	
22					0.00	
23					0.00	
24					0.00	
25					0.00	
26	Total	0.00	0.00	0.00	0.00	
27						
28						
29		437.60			437.60	
30		990.40			990.40	
31		277.00			277.00	
32					0.00	
33					0.00	
34					0.00	
35	Total	1,705.00	0.00	0.00	1,705.00	
36						
37					**TOTAL**	
38						
39						
40						
41						

	W	X	Y
1			
2			
3			
4	Present Rate	Proposed Rate	
5	Revenues	Revenues	
6	1,632.15	0.00	
7	0.00	0.00	
8	560.46	0.00	
9	0.00	0.00	
10	652.89	0.00	
11	0.00	0.00	
12	0.00	0.00	
13	0.00	0.00	
14	0.00	0.00	
15	0.00	0.00	
16	0.00	0.00	
17	$2,845.50	$0.00	
18			
19			
20	0.00	0.00	
21	0.00	0.00	
22	0.00	0.00	
23	0.00	0.00	
24	0.00	0.00	
25	0.00	0.00	
26	$0.00	$0.00	
27			
28			
29	155.79	0.00	
30	3,353.49	0.00	
31	621.59	0.00	
32	0.00	0.00	
33	0.00	0.00	
34	0.00	0.00	
35	$4,130.87	$0.00	
36			
37	$6,976.37	$0.00	
38			
39			
40			
41			

	Z	AA
1	Tennessee-American Water Company	
2	INDUSTRIALS	
3	Bill Analysis for the Month Ended January 31, 2008:	
4		
5	Number of Meters	
6	Quarterly	5/8"
7		3/4"
8		1"
9		1-1/2"
10		2"
11		3"
12		4"
13		6"
14		8"
15		10"
16		12"
17	Total Meters	
18		
19	Monthly	Consumption
20	First 4 (100 CCF)	
21	2nd 61 (100 CCF)	
22	3rd 435 (100 CCF)	
23	4th 4,500 (100 CCF)	
24	5th 10,000 (100CCF)	
25	In Excess 15,000 (100 CCF)	
26		Total
27		
28	Monthly Eff 5/22/07	
29	First 4 (100 CCF)	
30	2nd 61 (100 CCF)	
31	3rd 435 (100 CCF)	
32	4th 4,500 (100 CCF)	
33	5th 10,000 (100CCF)	
34	In Excess 15,000 (100 CCF)	
35		Total
36		
37		
38		
39		
40		
41		

	AB	AC	AD	AE	AF	AG
1						
2						
3						
4					Present Rate	Proposed Rate
5	C3M4		Totals		Revenues	Revenues
6			0.00		0.00	0.00
7			0.00		0.00	0.00
8			0.00		0.00	0.00
9			0.00		0.00	0.00
10			0.00		0.00	0.00
11			0.00		0.00	0.00
12			0.00		0.00	0.00
13			0.00		0.00	0.00
14			0.00		0.00	0.00
15			0.00		0.00	0.00
16			0.00		0.00	0.00
17	0.00	0.00	0.00		$0.00	$0.00
18						
19						
20			0.00		0.00	0.00
21			0.00		0.00	0.00
22			0.00		0.00	0.00
23			0.00		0.00	0.00
24			0.00		0.00	0.00
25			0.00		0.00	0.00
26	0.00	0.00	0.00		$0.00	$0.00
27						
28						
29			0.00		0.00	0.00
30			0.00		0.00	0.00
31			0.00		0.00	0.00
32			0.00		0.00	0.00
33			0.00		0.00	0.00
34			0.00		0.00	0.00
35	0.00	0.00	0.00		$0.00	$0.00
36						
37			**TOTAL**		$0.00	$0.00
38						
39						
40						
41						

	AH	AI
1		Tennessee-American Water Company
2		OTHER PUBLIC AUTHORITY
3		Bill Analysis for the Month Ended January 31, 2008:
4		
5		Number of Meters
6		Monthly
7		Eff 5/22/07
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		Total Meters
18		
19		Monthly
20	0.00	First 4 (100 CCF)
21	0.00	2nd 61 (100 CCF)
22	0.00	3rd 435 (100 CCF)
23	0.00	4th 4,500 (100 CCF)
24	0.00	5th 10,000 (100CCF)
25	0.00	In Excess 15,000 (100 CCF)
26	0.00	
27		
28	$0.00	Monthly Eff 5/22/07
29		First 4 (100 CCF)
30		2nd 61 (100 CCF)
31		3rd 435 (100 CCF)
32		4th 4,500 (100 CCF)
33		5th 10,000 (100CCF)
34		In Excess 15,000 (100 CCF)
35		
36		
37		
38		
39		
40		
41		

	AJ	AK	AL	AM	AN	AO
1						
2						
3						
4						Present Rate
5		C4M4		Totals		Revenues
6	5/8"	5.23		5.23		61.23
7	3/4"	0.00		0.00		0.00
8	1"	1.00		1.00		29.14
9	1-1/2"	1.00		1.00		58.30
10	2"	2.00		2.00		186.54
11	3"	0.00		0.00		0.00
12	4"	0.00		0.00		0.00
13	6"	0.00		0.00		0.00
14	8"	0.00		0.00		0.00
15	10"	0.00		0.00		0.00
16	12"	0.00		0.00		0.00
17		9.23	0.00	9.23		$335.21
18						
19	Consumption					
20				0.00		0.00
21				0.00		0.00
22				0.00		0.00
23				0.00		0.00
24				0.00		0.00
25				0.00		0.00
26	Total	0.00	0.00	0.00		$0.00
27						
28						
29		14.93		14.93		5.32
30		197.23		197.23		667.82
31		267.84		267.84		601.03
32				0.00		0.00
33				0.00		0.00
34				0.00		0.00
35	Total	480.00	0.00	480.00		$1,274.17
36						
37				**TOTAL**		$1,609.38
38						
39						
40						
41						

	AP	AQ	AR
1			Tennessee-American Water Company
2			OTHER WATER UTILITIES
3			Bill Analysis for the Month Ended January 31, 2008:
4	Proposed Rate		
5	Revenues		Number of Meters
6	0.00		Quarterly
7	0.00		
8	0.00		
9	0.00		
10	0.00		
11	0.00		
12	0.00		
13	0.00		
14	0.00		
15	0.00		
16	0.00		
17	$0.00		Total Meters
18			
19			Monthly
20	0.00		First 4 (100 CCF)
21	0.00		2nd 61 (100 CCF)
22	0.00		3rd 435 (100 CCF)
23	0.00		4th 4,500 (100 CCF)
24	0.00		5th 10,000 (100CCF)
25	0.00		In Excess 15,000 (100 CCF)
26	$0.00		
27			
28			Monthly Eff 5/22/07
29	0.00		First 4 (100 CCF)
30	0.00		2nd 61 (100 CCF)
31	0.00		3rd 435 (100 CCF)
32	0.00		4th 4,500 (100 CCF)
33	0.00		5th 10,000 (100CCF)
34	0.00		In Excess 15,000 (100 CCF)
35	$0.00		
36			
37	$0.00		
38			
39			
40			
41			

	AS	AT	AU	AV	AW	AX
1						
2						
3						
4						Present Rate
5				Totals		Revenues
6	5/8"			0.00		0.00
7	3/4"			0.00		0.00
8	1"			0.00		0.00
9	1-1/2"			0.00		0.00
10	2"			0.00		0.00
11	3"			0.00		0.00
12	4"			0.00		0.00
13	6"			0.00		0.00
14	8"			0.00		0.00
15	10"			0.00		0.00
16	12"			0.00		0.00
17		0.00	0.00	0.00		$0.00
18						
19	Consumption					
20						0.00
21						0.00
22						0.00
23						0.00
24						0.00
25						0.00
26	Total	0.00	0.00	0.00	0.00	0.00
27						
28						
29				0.00		0.00
30				0.00		0.00
31				0.00		0.00
32				0.00		0.00
33				0.00		0.00
34				0.00		0.00
35	Total	0.00	0.00	0.00		$0.00
36						
37				**TOTAL**		$0.00
38						
39						
40						
41						

	AY	AZ	BA
1			Tennessee-American Water Company
2			MISCELLANEOUS
3			Bill Analysis for the Month Ended January 31, 2008:
4	Proposed Rate		
5	Revenues		Number of Meters
6	0.00		Quarterly
7	0.00		
8	0.00		
9	0.00		
10	0.00		
11	0.00		
12	0.00		
13	0.00		
14	0.00		
15	0.00		
16	0.00		
17	$0.00		Total Meters
18			
19			Monthly
20	0.00		First 4 (100 CCF)
21	0.00		2nd 61 (100 CCF)
22	0.00		3rd 435 (100 CCF)
23	0.00		4th 4,500 (100 CCF)
24	0.00		5th 10,000 (100CCF)
25	0.00		In Excess 15,000 (100 CCF)
26	0.00		
27			
28			Monthly Eff 5/22/07
29	0.00		First 4 (100 CCF)
30	0.00		2nd 61 (100 CCF)
31	0.00		3rd 435 (100 CCF)
32	0.00		4th 4,500 (100 CCF)
33	0.00		5th 10,000 (100CCF)
34	0.00		In Excess 15,000 (100 CCF)
35	$0.00		
36			
37	$0.00		
38			
39			
40			
41			

	BB	BC	BD	BE	BF	BG
1						
2						
3						
4						Present Rate
5		C7M4		Totals		Revenues
6	5/8"			0.00		0.00
7	3/4"			0.00		0.00
8	1"			0.00		0.00
9	1-1/2"			0.00		0.00
10	2"			0.00		0.00
11	3"			0.00		0.00
12	4"			0.00		0.00
13	6"			0.00		0.00
14	8"			0.00		0.00
15	10"			0.00		0.00
16	12"			0.00		0.00
17		0.00	0.00	0.00		$0.00
18						
19	Consumption					
20						0.00
21						0.00
22						0.00
23						0.00
24						0.00
25						0.00
26	Total	0.00	0.00	0.00	0.00	0.00
27						
28						
29				0.00		0.00
30				0.00		0.00
31				0.00		0.00
32				0.00		0.00
33				0.00		0.00
34				0.00		0.00
35	Total	0.00	0.00	0.00		$0.00
36						
37				**TOTAL**		$0.00
38						
39						
40						
41						

	BH	BI	BJ	BK	BL
1					
2					
3					
4	Proposed Rate				
5	Revenues				
6	0.00				
7	0.00				
8	0.00				
9	0.00				
10	0.00				
11	0.00				
12	0.00				
13	0.00				
14	0.00				
15	0.00				
16	0.00				
17	$0.00				
18					
19					
20	0.00				
21	0.00				
22	0.00				
23	0.00				
24	0.00				
25	0.00				
26	0.00				
27					
28					
29	0.00				
30	0.00				
31	0.00				
32	0.00				
33	0.00				
34	0.00				
35	$0.00				
36					
37	$0.00				
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	BM	BN	BO	BP	BQ
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	AB	AC	AD	AE	AF	AG
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	AH	AI
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	AJ	AK	AL	AM	AN	AO
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	AP	AQ	AR
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	AS	AT	AU	AV	AW	AX
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	AY	AZ	BA
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	BB	BC	BD	BE	BF	BG
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	BH	BI	BJ	BK	BL
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57					
58		H7			

	BM	BN	BO	BP	BQ
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	BR	BS	BT	BU	BV
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55					
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57					
58			H7		

	BW	BX	BY	BZ
42				
43				
44				
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	CA	CB
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55		
56		
57		H8
58		

	A
1	Tennessee-American Water Company
2	**Ft. Oglethorpe**
3	Bill Analysis for the Month Ended January 31, 2008:
4	
5	Service Charge
6	
7	
8	
9	
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23	
24	
25	
26	
27	
28	
29	**Consumption Res, Com, Ind, OPA, Misc. Customers**
30	
31	
32	
33	**Sale for Resale**
34	
35	
36	
37	
38	
39	
40	
41	

	B	C	D
1			
2			
3			
4			Current
5			Rates
6	Monthly	5/8"	$0.00
7		3/4"	$0.00
8		1"	$0.00
9		1-1/2"	$0.00
10		2"	$0.00
11		3"	$0.00
12		4"	$0.00
13		6"	$0.00
14		8"	$0.00
15		10"	-
16		12"	-
17	Quarterly	5/8"	-
18		3/4"	-
19		1"	-
20		1-1/2"	-
21		2"	-
22		3"	-
23		4"	-
24		6"	-
25		8"	-
26		10"	-
27		12"	-
28			
29			Current
30		Monthly	Rates
31			
32			
33			Current
34		Monthly	Rates
35		All Usage (100 CCF)	$0.7660
36		Catoosa 11/19/05 & Ft. Ogle 10/19/06	$0.7960
37		Waldens Ridge (100 CCF)	$0.9375
38			
39	Eff 6/29/07	Catoosa	$0.8961
40			
41			

	E	F
1		
2		
3		
4	Proposed	
5	Rates	
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17	-	
18	-	
19	-	
20	-	
21	-	
22	-	
23	-	
24	-	
25	-	
26	-	
27	-	
28		
29	Proposed	
30	Rates	
31		
32		
33	Proposed Res	
34	Rates	
35		
36		
37		
38		
39		
40		
41		

	G	H	I
1	Tennessee-American Water Company		
2	RESIDENTIAL		
3	Bill Analysis for the Month Ended January 31, 2008:		
4			
5	Number of Meters		
6	Monthly	5/8"	
7		3/4"	
8		1"	
9		1-1/2"	
10		2"	
11		3"	
12		4"	
13		6"	
14		8"	
15		10"	
16		12"	
17	Quarterly	5/8"	
18		3/4"	
19		1"	
20		1-1/2"	
21		2"	
22		3"	
23		4"	
24		6"	
25		8"	
26		10"	
27		12"	
28	Total Meters		0.00
29		Consumption	
30	Monthly		
31	All Usage (100 CCF)		
32		Total	0.00
33			
34			
35			
36			
37			
38			
39			
40			
41			

	J	K	L	M	N	O
1						
2						
3						
4				Present Rate	Proposed Rate	
5		Totals		Revenues	Revenues	
6		0.00		$0.00	$0.00	
7		0.00		0.00	0.00	
8		0.00		0.00	0.00	
9		0.00		0.00	0.00	
10		0.00		0.00	0.00	
11		0.00		0.00	0.00	
12		0.00		0.00	0.00	
13		0.00		0.00	0.00	
14		0.00		0.00	0.00	
15		0.00		0.00	0.00	
16		0.00		0.00	0.00	
17		0.00		0.00	0.00	
18		0.00		0.00	0.00	
19		0.00		0.00	0.00	
20		0.00		0.00	0.00	
21		0.00		0.00	0.00	
22		0.00		0.00	0.00	
23		0.00		0.00	0.00	
24		0.00		0.00	0.00	
25		0.00		0.00	0.00	
26		0.00		0.00	0.00	
27		0.00		0.00	0.00	
28	0.00	0.00		$0.00	$0.00	
29						
30						
31		0.00		0.00	0.00	
32	0.00	0.00		$0.00	$0.00	
33						
34		**TOTAL**		$0.00	$0.00	
35						
36						
37						
38						
39						
40						
41						

	P	Q	R
1	Tennessee-American Water Company		
2	COMMERCIAL		
3	Bill Analysis for the Month Ended January 31, 2008:		
4			
5	Number of Meters		
6	Monthly	5/8"	
7		3/4"	
8		1"	
9		1-1/2"	
10		2"	
11		3"	
12		4"	
13		6"	
14		8"	
15		10"	
16		12"	
17	Quarterly	5/8"	
18		3/4"	
19		1"	
20		1-1/2"	
21		2"	
22		3"	
23		4"	
24		6"	
25		8"	
26		10"	
27		12"	
28	Total Meters		0.00
29		Consumption	
30	Monthly		
31	All Usage (100 CCF)		
32		Total	0.00
33			
34			
35			
36			
37			
38			
39			
40			
41			

	S	T	U	V	W	X
1						
2						
3						
4				Present Rate	Proposed Rate	
5		Totals		Revenues	Revenues	
6		0.00		$0.00	$0.00	
7		0.00		0.00	0.00	
8		0.00		0.00	0.00	
9		0.00		0.00	0.00	
10		0.00		0.00	0.00	
11		0.00		0.00	0.00	
12		0.00		0.00	0.00	
13		0.00		0.00	0.00	
14		0.00		0.00	0.00	
15		0.00		0.00	0.00	
16		0.00		0.00	0.00	
17		0.00		0.00	0.00	
18		0.00		0.00	0.00	
19		0.00		0.00	0.00	
20		0.00		0.00	0.00	
21		0.00		0.00	0.00	
22		0.00		0.00	0.00	
23		0.00		0.00	0.00	
24		0.00		0.00	0.00	
25		0.00		0.00	0.00	
26		0.00		0.00	0.00	
27		0.00		0.00	0.00	
28	0.00	0.00		$0.00	$0.00	
29						
30						
31		0.00		0.00	0.00	
32	0.00	0.00		$0.00	$0.00	
33						
34		**TOTAL**		$0.00	$0.00	
35						
36						
37						
38						
39						
40						
41						

	Y	Z	AA
1	Tennessee-American Water Company		
2	INDUSTRIALS		
3	Bill Analysis for the Month Ended January 31, 2008:		
4			
5	Number of Meters		
6	Monthly	5/8"	
7		3/4"	
8		1"	
9		1-1/2"	
10		2"	
11		3"	
12		4"	
13		6"	
14		8"	
15		10"	
16		12"	
17	Quarterly	5/8"	
18		3/4"	
19		1"	
20		1-1/2"	
21		2"	
22		3"	
23		4"	
24		6"	
25		8"	
26		10"	
27		12"	
28	Total Meters		0.00
29			
30	Monthly	Consumption	
31	All Usage (100 CCF)		
32		Total	0.00
33			
34			
35			
36			
37			
38			
39			
40			
41			

	AB	AC	AD	AE	AF	AG
1						
2						
3						
4				Present Rate	Proposed Rate	
5		Totals		Revenues	Revenues	
6		0.00		$0.00	$0.00	
7		0.00		0.00	0.00	
8		0.00		0.00	0.00	
9		0.00		0.00	0.00	
10		0.00		0.00	0.00	
11		0.00		0.00	0.00	
12		0.00		0.00	0.00	
13		0.00		0.00	0.00	
14		0.00		0.00	0.00	
15		0.00		0.00	0.00	
16		0.00		0.00	0.00	
17		0.00		0.00	0.00	
18		0.00		0.00	0.00	
19		0.00		0.00	0.00	
20		0.00		0.00	0.00	
21		0.00		0.00	0.00	
22		0.00		0.00	0.00	
23		0.00		0.00	0.00	
24		0.00		0.00	0.00	
25		0.00		0.00	0.00	
26		0.00		0.00	0.00	
27		0.00		0.00	0.00	
28	0.00	0.00		$0.00	$0.00	
29						
30						
31		0.00		0.00	0.00	0.00
32	0.00	0.00		$0.00	$0.00	0.00
33						
34		**TOTAL**		$0.00	$0.00	$0.00
35						
36						
37						
38						
39						
40						
41						

	AH	AI	AJ
1	Tennessee-American Water Company		
2	OTHER PUBLIC AUTHORITY		
3	Bill Analysis for the Month Ended January 31, 2008:		
4			
5	Number of Meters		
6	Monthly	5/8"	
7		3/4"	
8		1"	
9		1-1/2"	
10		2"	
11		3"	
12		4"	
13		6"	
14		8"	
15		10"	
16		12"	
17	Quarterly	5/8"	
18		3/4"	
19		1"	
20		1-1/2"	
21		2"	
22		3"	
23		4"	
24		6"	
25		8"	
26		10"	
27		12"	
28	Total Meters		0.00
29			
30	Monthly	Consumption	
31	All Usage (100 CCF)		
32		Total	0.00
33			
34			
35			
36			
37			
38			
39			
40			
41			

	AK	AL	AM	AN	AO	AP
1						
2						
3						
4				Present Rate	Proposed Rate	
5		Totals		Revenues	Revenues	
6		0.00		$0.00	$0.00	
7		0.00		0.00	0.00	
8		0.00		0.00	0.00	
9		0.00		0.00	0.00	
10		0.00		0.00	0.00	
11		0.00		0.00	0.00	
12		0.00		0.00	0.00	
13		0.00		0.00	0.00	
14		0.00		0.00	0.00	
15		0.00		0.00	0.00	
16		0.00		0.00	0.00	
17		0.00		0.00	0.00	
18		0.00		0.00	0.00	
19		0.00		0.00	0.00	
20		0.00		0.00	0.00	
21		0.00		0.00	0.00	
22		0.00		0.00	0.00	
23		0.00		0.00	0.00	
24		0.00		0.00	0.00	
25		0.00		0.00	0.00	
26		0.00		0.00	0.00	
27		0.00		0.00	0.00	
28	0.00	0.00		$0.00	$0.00	
29						
30						
31		0.00		0.00	0.00	
32	0.00	0.00		$0.00	$0.00	
33						
34		**TOTAL**		$0.00	$0.00	
35						
36						
37						
38						
39						
40						
41						

	AQ	AR
1	Tennessee-American Water Company	
2	OTHER WATER UTILITIES	
3	Bill Analysis for the Month Ended January 31, 2008:	
4		
5	Number of Meters	
6	Monthly	5/8"
7	Eff 3/09/05	3/4"
8		1"
9		1-1/2"
10		2"
11		3"
12		4"
13		6"
14		8"
15		10"
16		12"
17	Monthly	5/8"
18	Eff 5/22/07	3/4"
19		1"
20		1-1/2"
21		2"
22		3"
23		4"
24		6"
25		8"
26		10"
27		12"
28	Total Meters	
29		
30	Monthly	Consumption
31	All Usage (100 CCF)	
32		Total
33	Monthly D5MWM	
34	Monthly D5MCM, D5MFM & D5MSM	
35	Monthly D5MCM Eff 6/29/07	
36		Total
37		
38		
39		
40		
41		

	AS	AT	AU	AV	AW
1					
2					
3					
4			Ft Ogl	Catoosa	Signal Mt
5	D5M4	D5M4M	D5MFM	D5MCM	D5MSM
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28	0.00	0.00	0.00	0.00	0.00
29					
30					
31					
32	0.00	0.00	0.00	0.00	0.00
33					
34			36,084.00		37,365.00
35				27,292.00	
36	0.00	0.00	36,084.00	27,292.00	37,365.00
37					
38					
39					
40					
41					

	AX	AY	AZ	BA	BB
1					
2					
3					
4	Waldens Rdg			Present Rate	Proposed Rate
5	D5MWM	Totals		Revenues	Revenues
6		0.00		$0.00	$0.00
7		0.00		0.00	0.00
8		0.00		0.00	0.00
9		0.00		0.00	0.00
10		0.00		0.00	0.00
11		0.00		0.00	0.00
12		0.00		0.00	0.00
13		0.00		0.00	0.00
14		0.00		0.00	0.00
15		0.00		0.00	0.00
16		0.00		0.00	0.00
17		0.00		0.00	0.00
18		0.00		0.00	0.00
19		0.00		0.00	0.00
20		0.00		0.00	0.00
21		0.00		0.00	0.00
22		0.00		0.00	0.00
23		0.00		0.00	0.00
24		0.00		0.00	0.00
25		0.00		0.00	0.00
26		0.00		0.00	0.00
27		0.00		0.00	0.00
28		0.00		$0.00	$0.00
29					
30					
31		0.00		0.00	0.00
32	0.00	0.00	0.00	$0.00	$0.00
33	39,445.00	39,445.00		36,979.69	0.00
34		73,449.00		58,465.40	0.00
35		27,292.00		24,456.36	0.00
36	39,445.00	140,186.00	0.00	$119,901.45	$0.00
37					
38	**TOTAL**	140,186.00		$119,901.45	$0.00
39					
40					
41					

	BC	BD	BE
1		Tennessee-American Water Company	
2		MISCELLANEOUS	
3		Bill Analysis for the Month Ended January 31, 2008:	
4			
5		Number of Meters	
6		Monthly	5/8"
7			3/4"
8			1"
9			1-1/2"
10			2"
11			3"
12			4"
13			6"
14			8"
15			10"
16			12"
17		Quarterly	5/8"
18			3/4"
19			1"
20			1-1/2"
21			2"
22			3"
23			4"
24			6"
25			8"
26			10"
27			12"
28		Total Meters	
29			
30		Monthly	Consumption
31		All Usage (100 CCF)	
32			Total
33			
34			
35			
36			
37			
38			
39			
40			
41			

	BF	BG	BH	BI	BJ	BK
1						
2						
3						
4					Present Rate	Proposed Rate
5			Totals		Revenues	Revenues
6			0.00		$0.00	$0.00
7			0.00		0.00	0.00
8			0.00		0.00	0.00
9			0.00		0.00	0.00
10			0.00		0.00	0.00
11			0.00		0.00	0.00
12			0.00		0.00	0.00
13			0.00		0.00	0.00
14			0.00		0.00	0.00
15			0.00		0.00	0.00
16			0.00		0.00	0.00
17			0.00		0.00	0.00
18			0.00		0.00	0.00
19			0.00		0.00	0.00
20			0.00		0.00	0.00
21			0.00		0.00	0.00
22			0.00		0.00	0.00
23			0.00		0.00	0.00
24			0.00		0.00	0.00
25			0.00		0.00	0.00
26			0.00		0.00	0.00
27			0.00		0.00	0.00
28	0.00	0.00	0.00		$0.00	$0.00
29						
30						
31			0.00		0.00	0.00
32	0.00	0.00	0.00	0.00	$0.00	$0.00
33						
34			**TOTAL**		$0.00	$0.00
35						
36						
37						
38						
39						
40						
41						

	BL	BM	BN	BO	BP
1					
2					
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14					
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41					

	BQ	BR	BS	BT
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40				
41				

	BU	BV	BW	BX	BY
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
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	AS	AT	AU	AV	AW
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	AX	AY	AZ	BA	BB
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	BC	BD	BE
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	BF	BG	BH	BI	BJ	BK
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	BL	BM	BN	BO	BP
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	BQ	BR	BS	BT
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	BU	BV	BW	BX	BY
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	BZ	CA	CB	CC
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63		H8
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	A	B
1	Tennessee-American Water Company	
2	**Lone Oak**	
3	Bill Analysis for the Month Ended January 31, 2008:	
4		
5	Base Charge	
6		Monthly
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		Quarterly
18		
19		
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28		
29	**Consumption Res, Com Customers**	
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	C	D	E	F
1				
2				
3				
4		Current	Proposed	
5		Rates	Rates	
6	5/8"	$31.39		
7	3/4"	$31.39		
8	1"	$31.39		
9	1-1/2"	$31.39		
10	2"	$31.39		
11	3"	$31.39		
12	4"	$31.39		
13	6"	$31.39		
14	8"	$31.39		
15	10"	-		
16	12"	-		
17	5/8"	94.17	-	
18	3/4"	94.17	-	
19	1"	94.17	-	
20	1-1/2"	94.17	-	
21	2"	94.17	-	
22	3"	94.17	-	
23	4"	94.17	-	
24	6"	94.17	-	
25	8"	94.17	-	
26	10"	-	-	
27	12"	-	-	
28				
29		Current	Proposed	
30	Monthly	Rates	Rates	
31	First 2.67 (100 CCF)	$0.0000		
32	In Excess 2.67 (100 CCF)	$3.9473		
33				
34				
35				
36				
37				
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39				
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41				

	G	H
1	Tennessee-American Water Company	
2	RESIDENTIAL	
3	Bill Analysis for the Month Ended January 31, 2008:	
4		
5	Base Charge	
6	Monthly	5/8"
7	Eff 3/09/05	3/4"
8		1"
9		1-1/2"
10		2"
11		3"
12		4"
13		6"
14		8"
15		10"
16		12"
17	Quarterly	5/8"
18		3/4"
19		1"
20		1-1/2"
21		2"
22		3"
23		4"
24		6"
25		8"
26		10"
27		12"
28	Total Meters	
29		Consumption
30	Monthly	
31	First 2.67 (100 CCF)	
32	In Excess 2.67 (100 CCF)	
33		Total
34		
35		
36		
37		
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	I	J	K	L	M	N
1						
2						
3						
4					Present Rate	Proposed Rate
5	L1M4		Totals		Revenues	Revenues
6	109.87		109.87		$3,448.71	$0.00
7	0.00		0.00		0.00	0.00
8	0.00		0.00		0.00	0.00
9	0.00		0.00		0.00	0.00
10	0.00		0.00		0.00	0.00
11	0.00		0.00		0.00	0.00
12	0.00		0.00		0.00	0.00
13	0.00		0.00		0.00	0.00
14	0.00		0.00		0.00	0.00
15	0.00		0.00		0.00	0.00
16	0.00		0.00		0.00	0.00
17			0.00		0.00	0.00
18			0.00		0.00	0.00
19			0.00		0.00	0.00
20			0.00		0.00	0.00
21			0.00		0.00	0.00
22			0.00		0.00	0.00
23			0.00		0.00	0.00
24			0.00		0.00	0.00
25			0.00		0.00	0.00
26			0.00		0.00	0.00
27			0.00		0.00	0.00
28	109.87	0.00	109.87		$3,448.71	$0.00
29						
30						
31	254.57		254.57		0.00	0.00
32	381.43		381.43		1,505.62	0.00
33	636.00	0.00	636.00		$1,505.62	$0.00
34						
35			**TOTAL**		$4,954.33	$0.00
36						
37						
38						
39						
40						
41						

	O	P	Q
1		Tennessee-American Water Company	
2		COMMERCIAL	
3		Bill Analysis for the Month Ended January 31, 2008:	
4			
5		Base Charge	
6		Monthly	5/8"
7			3/4"
8			1"
9			1-1/2"
10			2"
11			3"
12			4"
13			6"
14			8"
15			10"
16			12"
17		Quarterly	5/8"
18			3/4"
19			1"
20			1-1/2"
21			2"
22			3"
23			4"
24			6"
25			8"
26			10"
27			12"
28		Total Meters	
29			Consumption
30		Monthly	
31		First 2.67 (100 CCF)	
32		In Excess 2.67 (100 CCF)	
33			Total
34			
35			
36			
37			
38			
39			
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41			

	R	S	T	U	V	W	X
1							
2							
3							
4					Present Rate	Proposed Rate	
5	L2M4		Totals		Revenues	Revenues	
6	2.00		2.00		$62.78	$0.00	
7	0.00		0.00		0.00	0.00	
8	0.00		0.00		0.00	0.00	
9	0.00		0.00		0.00	0.00	
10	0.00		0.00		0.00	0.00	
11	0.00		0.00		0.00	0.00	
12	0.00		0.00		0.00	0.00	
13	0.00		0.00		0.00	0.00	
14	0.00		0.00		0.00	0.00	
15	0.00		0.00		0.00	0.00	
16	0.00		0.00		0.00	0.00	
17			0.00		0.00	0.00	
18			0.00		0.00	0.00	
19			0.00		0.00	0.00	
20			0.00		0.00	0.00	
21			0.00		0.00	0.00	
22			0.00		0.00	0.00	
23			0.00		0.00	0.00	
24			0.00		0.00	0.00	
25			0.00		0.00	0.00	
26			0.00		0.00	0.00	
27			0.00		0.00	0.00	
28	2.00	0.00	2.00		$62.78	$0.00	
29							
30							
31	4.00		4.00		0.00	0.00	
32			0.00		0.00	0.00	
33	4.00	0.00	4.00		$0.00	$0.00	
34							
35			**TOTAL**		$62.78	$0.00	
36							
37							
38							
39							
40							
41							

	Y	Z	AA
1	Tennessee-American Water Company		
2	INDUSTRIALS		
3	Bill Analysis for the Month Ended January 31, 2008:		
4			
5	Base Charge		
6	Monthly	5/8"	
7		3/4"	
8		1"	
9		1-1/2"	
10		2"	
11		3"	
12		4"	
13		6"	
14		8"	
15		10"	
16		12"	
17	Quarterly	5/8"	
18		3/4"	
19		1"	
20		1-1/2"	
21		2"	
22		3"	
23		4"	
24		6"	
25		8"	
26		10"	
27		12"	
28	Total Meters		0.00
29			
30	Monthly	Consumption	
31	All Usage (100 CCF)		
32			
33		Total	0.00
34			
35			
36			
37			
38			
39			
40			
41			

	AB	AC	AD	AE	AF	AG
1						
2						
3						
4				Present Rate	Proposed Rate	
5		Totals		Revenues	Revenues	
6		0.00		$0.00	$0.00	
7		0.00		0.00	0.00	
8		0.00		0.00	0.00	
9		0.00		0.00	0.00	
10		0.00		0.00	0.00	
11		0.00		0.00	0.00	
12		0.00		0.00	0.00	
13		0.00		0.00	0.00	
14		0.00		0.00	0.00	
15		0.00		0.00	0.00	
16		0.00		0.00	0.00	
17		0.00		0.00	0.00	
18		0.00		0.00	0.00	
19		0.00		0.00	0.00	
20		0.00		0.00	0.00	
21		0.00		0.00	0.00	
22		0.00		0.00	0.00	
23		0.00		0.00	0.00	
24		0.00		0.00	0.00	
25		0.00		0.00	0.00	
26		0.00		0.00	0.00	
27		0.00		0.00	0.00	
28	0.00	0.00		0.00	0.00	
29						
30						
31		0.00		0.00	0.00	0.00
32						
33	0.00	0.00		0.00	0.00	0.00
34						
35		**TOTAL**		$0.00	$0.00	$0.00
36						
37						
38						
39						
40						
41						

	AH	AI	AJ
1	Tennessee-American Water Company		
2	OTHER PUBLIC AUTHORITY		
3	Bill Analysis for the Month Ended January 31, 2008:		
4			
5	Number of Meters		
6	Monthly	5/8"	
7		3/4"	
8		1"	
9		1-1/2"	
10		2"	
11		3"	
12		4"	
13		6"	
14		8"	
15		10"	
16		12"	
17	Quarterly	5/8"	
18		3/4"	
19		1"	
20		1-1/2"	
21		2"	
22		3"	
23		4"	
24		6"	
25		8"	
26		10"	
27		12"	
28	Total Meters		0.00
29			
30	Monthly	Consumption	
31	All Usage (100 CCF)		
32			
33		Total	0.00
34			
35			
36			
37			
38			
39			
40			
41			

	AK	AL	AM	AN	AO	AP
1						
2						
3						
4				Present Rate	Proposed Rate	
5		Totals		Revenues	Revenues	
6		0.00		$0.00	$0.00	
7		0.00		0.00	0.00	
8		0.00		0.00	0.00	
9		0.00		0.00	0.00	
10		0.00		0.00	0.00	
11		0.00		0.00	0.00	
12		0.00		0.00	0.00	
13		0.00		0.00	0.00	
14		0.00		0.00	0.00	
15		0.00		0.00	0.00	
16		0.00		0.00	0.00	
17		0.00		0.00	0.00	
18		0.00		0.00	0.00	
19		0.00		0.00	0.00	
20		0.00		0.00	0.00	
21		0.00		0.00	0.00	
22		0.00		0.00	0.00	
23		0.00		0.00	0.00	
24		0.00		0.00	0.00	
25		0.00		0.00	0.00	
26		0.00		0.00	0.00	
27		0.00		0.00	0.00	
28	0.00	0.00		0.00	0.00	
29						
30						
31		0.00		0.00	0.00	
32						
33	0.00	0.00		0.00	0.00	
34						
35		**TOTAL**		$0.00	$0.00	
36						
37						
38						
39						
40						
41						

	AQ	AR	AS
1	Tennessee-American Water Company		
2	OTHER WATER UTILITIES		
3	Bill Analysis for the Month Ended January 31, 2008:		
4			
5	Number of Meters		
6	Monthly	5/8"	
7		3/4"	
8		1"	
9		1-1/2"	
10		2"	
11		3"	
12		4"	
13		6"	
14		8"	
15		10"	
16		12"	
17	Quarterly	5/8"	
18		3/4"	
19		1"	
20		1-1/2"	
21		2"	
22		3"	
23		4"	
24		6"	
25		8"	
26		10"	
27		12"	
28	Total Meters		0.00
29			
30	Monthly	Consumption	
31	All Usage (100 CCF)		
32			
33		Total	0.00
34			
35			
36			
37			
38			
39			
40			
41			

	AT	AU	AV	AW	AX	AY
1						
2						
3						
4						Present Rate
5				Totals		Revenues
6				0.00		$0.00
7				0.00		0.00
8				0.00		0.00
9				0.00		0.00
10				0.00		0.00
11				0.00		0.00
12				0.00		0.00
13				0.00		0.00
14				0.00		0.00
15				0.00		0.00
16				0.00		0.00
17				0.00		0.00
18				0.00		0.00
19				0.00		0.00
20				0.00		0.00
21				0.00		0.00
22				0.00		0.00
23				0.00		0.00
24				0.00		0.00
25				0.00		0.00
26				0.00		0.00
27				0.00		0.00
28	0.00	0.00	0.00	0.00		0.00
29						
30						
31				0.00		0.00
32						
33	0.00	0.00	0.00	0.00	0.00	0.00
34						
35				**TOTAL**		$0.00
36						
37						
38						
39						
40						
41						

	AZ	BA	BB
1			Tennessee-American Water Company
2			MISCELLANEOUS
3			Bill Analysis for the Month Ended January 31, 2008:
4	Proposed Rate		
5	Revenues		Number of Meters
6	$0.00		Monthly
7	0.00		
8	0.00		
9	0.00		
10	0.00		
11	0.00		
12	0.00		
13	0.00		
14	0.00		
15	0.00		
16	0.00		
17	0.00		Quarterly
18	0.00		
19	0.00		
20	0.00		
21	0.00		
22	0.00		
23	0.00		
24	0.00		
25	0.00		
26	0.00		
27	0.00		
28	0.00		Total Meters
29			
30			Monthly
31	0.00		All Usage (100 CCF)
32			
33	0.00		
34			
35	$0.00		
36			
37			
38			
39			
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41			

	BC	BD	BE	BF	BG	BH	BI
1							
2							
3							
4							
5						Totals	
6	5/8"					0.00	
7	3/4"					0.00	
8	1"					0.00	
9	1-1/2"					0.00	
10	2"					0.00	
11	3"					0.00	
12	4"					0.00	
13	6"					0.00	
14	8"					0.00	
15	10"					0.00	
16	12"					0.00	
17	5/8"					0.00	
18	3/4"					0.00	
19	1"					0.00	
20	1-1/2"					0.00	
21	2"					0.00	
22	3"					0.00	
23	4"					0.00	
24	6"					0.00	
25	8"					0.00	
26	10"					0.00	
27	12"					0.00	
28		0.00	0.00	0.00	0.00	0.00	
29							
30	Consumption						
31						0.00	
32							
33	Total	0.00	0.00	0.00	0.00	0.00	0.00
34							
35						**TOTAL**	
36							
37							
38							
39							
40							
41							

	BJ	BK	BL	BM	BN
1					
2					
3					
4	Present Rate	Proposed Rate			
5	Revenues	Revenues			
6	$0.00	$0.00			
7	0.00	0.00			
8	0.00	0.00			
9	0.00	0.00			
10	0.00	0.00			
11	0.00	0.00			
12	0.00	0.00			
13	0.00	0.00			
14	0.00	0.00			
15	0.00	0.00			
16	0.00	0.00			
17	0.00	0.00			
18	0.00	0.00			
19	0.00	0.00			
20	0.00	0.00			
21	0.00	0.00			
22	0.00	0.00			
23	0.00	0.00			
24	0.00	0.00			
25	0.00	0.00			
26	0.00	0.00			
27	0.00	0.00			
28	0.00	0.00			
29					
30					
31	0.00	0.00			
32					
33	0.00	0.00			
34					
35	$0.00	$0.00			
36					
37					
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	BO	BP	BQ	BR
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	BS	BT	BU	BV	BW
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	BX	BY	BZ	CA
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	CB	CC	CD	CE
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	C	D	E	F
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	R	S	T	U	V	W	X
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	AB	AC	AD	AE	AF	AG
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	AH	AI	AJ
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	AK	AL	AM	AN	AO	AP
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	AQ	AR	AS
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	AT	AU	AV	AW	AX	AY
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	AZ	BA	BB
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	BC	BD	BE	BF	BG	BH	BI
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66							

	BJ	BK	BL	BM	BN
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64					
65			H7		
66					

	BO	BP	BQ	BR
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	BS	BT	BU	BV	BW
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64					
65					H7
66					

	BX	BY	BZ	CA
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	CB	CC	CD	CE
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64				H8
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	A	B
1	Tennessee-American Water Company	
2	**Suck Creek**	
3	Bill Analysis for the Month Ended January 31, 2008:	
4		
5	Base Charge	
6		Monthly
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		Quarterly
18		
19		
20		
21		
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23		
24		
25		
26		
27		
28		
29	**Consumption Res, Com Customers**	
30		
31		
32		
33		
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38		
39		
40		
41		

	C	D	E	F
1				
2				
3				
4		Current	Proposed	
5		Rates	Rates	
6	5/8"	$22.85		
7	3/4"	$22.85		
8	1"	$22.85		
9	1-1/2"	$22.85		
10	2"	$22.85		
11	3"	$22.85		
12	4"	$22.85		
13	6"	$22.85		
14	8"	$22.85		
15	10"	-		
16	12"	-		
17	5/8"	68.55	-	
18	3/4"	68.55	-	
19	1"	68.55	-	
20	1-1/2"	68.55	-	
21	2"	68.55	-	
22	3"	68.55	-	
23	4"	68.55	-	
24	6"	68.55	-	
25	8"	68.55	-	
26	10"	-	-	
27	12"	-	-	
28				
29		Current	Proposed	
30	Monthly	Rates	Rates	
31	First 2 (100 CCF)	$0.0000		
32	2nd 10.67 (100 CCF)	$3.3000		
33	In Excess 12.67 (100 CCF)	$2.4750		
34				
35				
36				
37				
38				
39				
40				
41				

	G	H
1	Tennessee-American Water Company	
2	RESIDENTIAL	
3	Bill Analysis for the Month Ended January 31, 2008:	
4		
5	Base Charge	
6	Monthly	5/8"
7		3/4"
8		1"
9		1-1/2"
10		2"
11		3"
12		4"
13		6"
14		8"
15		10"
16		12"
17	Quarterly	5/8"
18		3/4"
19		1"
20		1-1/2"
21		2"
22		3"
23		4"
24		6"
25		8"
26		10"
27		12"
28	Total Meters	
29		Consumption
30	Monthly	
31	First 2 (100 CCF)	
32	2nd 10.67 (100 CCF)	
33	In Excess 12.67 (100 CCF)	
34		Total
35		
36		
37		
38		
39		
40		
41		

	I	J	K	L	M	N
1						
2						
3						
4					Present Rate	Proposed Rate
5	S1M4		Totals		Revenues	Revenues
6	211.10		211.10		$4,823.63	$0.00
7	0.00		0.00		0.00	0.00
8	1.00		1.00		22.85	0.00
9	0.00		0.00		0.00	0.00
10	0.00		0.00		0.00	0.00
11	0.00		0.00		0.00	0.00
12	0.00		0.00		0.00	0.00
13	0.00		0.00		0.00	0.00
14	0.00		0.00		0.00	0.00
15	0.00		0.00		0.00	0.00
16	0.00		0.00		0.00	0.00
17			0.00		0.00	0.00
18			0.00		0.00	0.00
19			0.00		0.00	0.00
20			0.00		0.00	0.00
21			0.00		0.00	0.00
22			0.00		0.00	0.00
23			0.00		0.00	0.00
24			0.00		0.00	0.00
25			0.00		0.00	0.00
26			0.00		0.00	0.00
27			0.00		0.00	0.00
28	212.10	0.00	212.10		$4,846.48	$0.00
29						
30						
31	392.27		392.27		0.00	0.00
32	799.77		799.77		2,639.24	0.00
33	114.96		114.96		284.53	0.00
34	1,307.00	0.00	1,307.00		$2,923.77	$0.00
35						
36			**TOTAL**		$7,770.25	$0.00
37						
38						
39						
40						
41						

	O	P	Q
1		Tennessee-American Water Company	
2		COMMERCIAL	
3		Bill Analysis for the Month Ended January 31, 2008:	
4			
5		Base Charge	
6		Monthly	5/8"
7			3/4"
8			1"
9			1-1/2"
10			2"
11			3"
12			4"
13			6"
14			8"
15			10"
16			12"
17		Quarterly	5/8"
18			3/4"
19			1"
20			1-1/2"
21			2"
22			3"
23			4"
24			6"
25			8"
26			10"
27			12"
28		Total Meters	
29			Consumption
30		Monthly	
31		First 2 (100 CCF)	
32		2nd 10.67 (100 CCF)	
33		In Excess 12.67 (100 CCF)	
34			Total
35			
36			
37			
38			
39			
40			
41			

	R	S	T	U	V	W	X
1							
2							
3							
4					Present Rate	Proposed Rate	
5	S2M4		Totals		Revenues	Revenues	
6	4.00		4.00		$91.40	$0.00	
7	0.00		0.00		0.00	0.00	
8	0.00		0.00		0.00	0.00	
9	0.00		0.00		0.00	0.00	
10	0.00		0.00		0.00	0.00	
11	0.00		0.00		0.00	0.00	
12	0.00		0.00		0.00	0.00	
13	0.00		0.00		0.00	0.00	
14	0.00		0.00		0.00	0.00	
15	0.00		0.00		0.00	0.00	
16	0.00		0.00		0.00	0.00	
17			0.00		0.00	0.00	
18			0.00		0.00	0.00	
19			0.00		0.00	0.00	
20			0.00		0.00	0.00	
21			0.00		0.00	0.00	
22			0.00		0.00	0.00	
23			0.00		0.00	0.00	
24			0.00		0.00	0.00	
25			0.00		0.00	0.00	
26			0.00		0.00	0.00	
27			0.00		0.00	0.00	
28	4.00	0.00	4.00		$91.40	$0.00	
29							
30							
31	3.00		3.00		0.00	0.00	
32	1.00		1.00		3.30	0.00	
33			0.00		0.00	0.00	
34	4.00	0.00	4.00		$3.30	$0.00	
35							
36			**TOTAL**		$94.70	$0.00	
37							
38							
39							
40							
41							

	Y	Z
1	Tennessee-American Water Company	
2	INDUSTRIALS	
3	Bill Analysis for the Month Ended January 31, 2008:	
4		
5	Base Charge	
6	Monthly	5/8"
7		3/4"
8		1"
9		1-1/2"
10		2"
11		3"
12		4"
13		6"
14		8"
15		10"
16		12"
17	Quarterly	5/8"
18		3/4"
19		1"
20		1-1/2"
21		2"
22		3"
23		4"
24		6"
25		8"
26		10"
27		12"
28	Total Meters	
29		
30	Monthly	Consumption
31	First 2 (100 CCF)	
32	2nd 10.67 (100 CCF)	
33	In Excess 12.67 (100 CCF)	
34		Total
35		
36		
37		
38		
39		
40		
41		

	AA	AB	AC	AD	AE	AF
1						
2						
3						
4					Present Rate	Proposed Rate
5	S3M4		Totals		Revenues	Revenues
6			0.00		$0.00	$0.00
7			0.00		0.00	0.00
8			0.00		0.00	0.00
9			0.00		0.00	0.00
10			0.00		0.00	0.00
11			0.00		0.00	0.00
12			0.00		0.00	0.00
13			0.00		0.00	0.00
14			0.00		0.00	0.00
15			0.00		0.00	0.00
16			0.00		0.00	0.00
17			0.00		0.00	0.00
18			0.00		0.00	0.00
19			0.00		0.00	0.00
20			0.00		0.00	0.00
21			0.00		0.00	0.00
22			0.00		0.00	0.00
23			0.00		0.00	0.00
24			0.00		0.00	0.00
25			0.00		0.00	0.00
26			0.00		0.00	0.00
27			0.00		0.00	0.00
28	0.00	0.00	0.00		0.00	0.00
29						
30						
31			0.00		0.00	0.00
32			0.00		0.00	0.00
33			0.00		0.00	0.00
34	0.00	0.00	0.00		0.00	0.00
35						
36			**TOTAL**		$0.00	$0.00
37						
38						
39						
40						
41						

	AG	AH
1		Tennessee-American Water Company
2		OTHER PUBLIC AUTHORITY
3		Bill Analysis for the Month Ended January 31, 2008:
4		
5		Number of Meters
6		Monthly
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		Quarterly
18		
19		
20		
21		
22		
23		
24		
25		
26		
27		
28		Total Meters
29		
30		Monthly
31	0.00	First 2 (100 CCF)
32		2nd 10.67 (100 CCF)
33		In Excess 12.67 (100 CCF)
34	0.00	
35		
36	$0.00	
37		
38		
39		
40		
41		

	AI	AJ	AK	AL	AM	AN
1						
2						
3						
4						Present Rate
5		S4M4		Totals		Revenues
6	5/8"			0.00		$0.00
7	3/4"			0.00		0.00
8	1"			0.00		0.00
9	1-1/2"			0.00		0.00
10	2"			0.00		0.00
11	3"			0.00		0.00
12	4"			0.00		0.00
13	6"			0.00		0.00
14	8"			0.00		0.00
15	10"			0.00		0.00
16	12"			0.00		0.00
17	5/8"			0.00		0.00
18	3/4"			0.00		0.00
19	1"			0.00		0.00
20	1-1/2"			0.00		0.00
21	2"			0.00		0.00
22	3"			0.00		0.00
23	4"			0.00		0.00
24	6"			0.00		0.00
25	8"			0.00		0.00
26	10"			0.00		0.00
27	12"			0.00		0.00
28		0.00	0.00	0.00		0.00
29						
30	Consumption					
31				0.00		0.00
32				0.00		0.00
33				0.00		0.00
34	Total	0.00	0.00	0.00		0.00
35						
36				**TOTAL**		$0.00
37						
38						
39						
40						
41						

	AO	AP	AQ
1			Tennessee-American Water Company
2			OTHER WATER UTILITIES
3			Bill Analysis for the Month Ended January 31, 2008:
4	Proposed Rate		
5	Revenues		Number of Meters
6	$0.00		Monthly
7	0.00		
8	0.00		
9	0.00		
10	0.00		
11	0.00		
12	0.00		
13	0.00		
14	0.00		
15	0.00		
16	0.00		
17	0.00		Quarterly
18	0.00		
19	0.00		
20	0.00		
21	0.00		
22	0.00		
23	0.00		
24	0.00		
25	0.00		
26	0.00		
27	0.00		
28	0.00		Total Meters
29			
30			Monthly
31	0.00		All Usage (100 CCF)
32	0.00		
33	0.00		
34	0.00		
35			
36	$0.00		
37			
38			
39			
40			
41			

	AR	AS	AT	AU	AV	AW	AX
1							
2							
3							
4							
5						Totals	
6	5/8"					0.00	
7	3/4"					0.00	
8	1"					0.00	
9	1-1/2"					0.00	
10	2"					0.00	
11	3"					0.00	
12	4"					0.00	
13	6"					0.00	
14	8"					0.00	
15	10"					0.00	
16	12"					0.00	
17	5/8"					0.00	
18	3/4"					0.00	
19	1"					0.00	
20	1-1/2"					0.00	
21	2"					0.00	
22	3"					0.00	
23	4"					0.00	
24	6"					0.00	
25	8"					0.00	
26	10"					0.00	
27	12"					0.00	
28		0.00	0.00	0.00	0.00	0.00	
29							
30	Consumption						
31						0.00	
32							
33							
34	Total	0.00	0.00	0.00	0.00	0.00	0.00
35							
36						**TOTAL**	
37							
38							
39							
40							
41							

	AY	AZ	BA
1			
2			
3			
4	Present Rate	Proposed Rate	
5	Revenues	Revenues	
6	$0.00	$0.00	
7	0.00	0.00	
8	0.00	0.00	
9	0.00	0.00	
10	0.00	0.00	
11	0.00	0.00	
12	0.00	0.00	
13	0.00	0.00	
14	0.00	0.00	
15	0.00	0.00	
16	0.00	0.00	
17	0.00	0.00	
18	0.00	0.00	
19	0.00	0.00	
20	0.00	0.00	
21	0.00	0.00	
22	0.00	0.00	
23	0.00	0.00	
24	0.00	0.00	
25	0.00	0.00	
26	0.00	0.00	
27	0.00	0.00	
28	0.00	0.00	
29			
30			
31	0.00	0.00	
32			
33			
34	0.00	0.00	
35			
36	$0.00	$0.00	
37			
38			
39			
40			
41			

	BB	BC	BD
1	Tennessee-American Water Company		
2	MISCELLANEOUS		
3	Bill Analysis for the Month Ended January 31, 2008:		
4			
5	Number of Meters		
6	Monthly	5/8"	
7		3/4"	
8		1"	
9		1-1/2"	
10		2"	
11		3"	
12		4"	
13		6"	
14		8"	
15		10"	
16		12"	
17	Quarterly	5/8"	
18		3/4"	
19		1"	
20		1-1/2"	
21		2"	
22		3"	
23		4"	
24		6"	
25		8"	
26		10"	
27		12"	
28	Total Meters		0.00
29			
30	Monthly	Consumption	
31	All Usage (100 CCF)		
32			
33			
34		Total	0.00
35			
36			
37			
38			
39			
40			
41			

	BE	BF	BG	BH	BI	BJ
1						
2						
3						
4						Present Rate
5				Totals		Revenues
6				0.00		$0.00
7				0.00		0.00
8				0.00		0.00
9				0.00		0.00
10				0.00		0.00
11				0.00		0.00
12				0.00		0.00
13				0.00		0.00
14				0.00		0.00
15				0.00		0.00
16				0.00		0.00
17				0.00		0.00
18				0.00		0.00
19				0.00		0.00
20				0.00		0.00
21				0.00		0.00
22				0.00		0.00
23				0.00		0.00
24				0.00		0.00
25				0.00		0.00
26				0.00		0.00
27				0.00		0.00
28	0.00	0.00	0.00	0.00		0.00
29						
30						
31				0.00		0.00
32						
33						
34	0.00	0.00	0.00	0.00	0.00	0.00
35						
36				**TOTAL**		$0.00
37						
38						
39						
40						
41						

	BK	BL	BM	BN	BO
1					
2					
3					
4	Proposed Rate				
5	Revenues				
6	$0.00				
7	0.00				
8	0.00				
9	0.00				
10	0.00				
11	0.00				
12	0.00				
13	0.00				
14	0.00				
15	0.00				
16	0.00				
17	0.00				
18	0.00				
19	0.00				
20	0.00				
21	0.00				
22	0.00				
23	0.00				
24	0.00				
25	0.00				
26	0.00				
27	0.00				
28	0.00				
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31	0.00				
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36	$0.00				
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	A	B	C	D	E	F	G
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3							**RATE STUD**
4							
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6							
7							
8				**Per**		**Per**	
9		**Jan-08**		**General**		**Rate**	
10				**Ledger**		**Study**	
11		Res		$1,311,837.36		$1,324,960.91	
12		Com		$943,256.71		$947,118.40	
13		Ind		$263,317.30		$263,316.68	
14		OPA		$190,647.46		$191,960.01	
15		OWU		$120,869.19		$120,869.19	
16		Priv Fr		$133,042.50		$0.00	
17		Pub Fr		$0.00		$0.00	
18		Misc		$0.00		$0.00	
19		Adj.		$0.00		$0.00	
20		**Total**		$2,962,970.52		$2,848,225.19	
21							
22		Notes: a)					
23		b)					
24		c)					
25							
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	H	I	J	K	L	M
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3	**)Y - GENERAL LEDGER REVENUE COMPARISON**					
4	**TENNESSEE WATER**					
5	**01/01/2008 to 01/31/2008**					
6						
7						
8					**Total Rate**	
9	**Fixed**		**Miscellaneous**		**Study / Fixed**	
10	**Charges**		**Charges**		**Misc.**	
11	$0.00		($13,841.75)		$1,311,119.16	
12	$0.00		($5,622.25)		$941,496.15	
13	$0.00		($40.24)		$263,276.44	
14	$0.00		($1,360.00)		$190,600.01	
15	$0.00		$0.00		$120,869.19	
16	$133,750.16		($833.13)		$132,917.03	
17	$0.00		$0.00		$0.00	
18	$0.00		$0.00		$0.00	
19	$0.00		$0.00		$0.00	
20	$133,750.16		($21,697.37)		$2,960,277.98	
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9			**%**				
10	**Variance**		**Variance**				
11	(718.20)		-0.055%				
12	(1,760.56)		-0.187%				
13	(40.86)		-0.016%				
14	(47.45)		-0.025%				
15	0.00		0.000%				
16	(125.47)		-0.094%				
17	0.00		#DIV/0!				
18	0.00		#DIV/0!				
19	0.00		#DIV/0!				
20	(2,692.54)		-0.091%				
21							
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3								**RATE STUDY - GENERAL L**	
4								**TENNES**	
5								**01/01/2008**	
6									
7									
8						**Per**			
9		**Jan-08**		**Per PMT**		**Rate**		**Fixed**	
10				**Report**		**Study**		**Charges**	
11		Res		289,174.29		293,568.00		(4,433.00)	
12		Com		250,922.23		253,145.25		(2,029.00)	
13		Ind		133,281.24		133,629.00		0.00	
14		OPA		57,673.03		58,187.25		(482.00)	
15		OWU		104,866.40		105,139.50		0.00	
16		Priv Fr		0.00		0.00		0.00	
17		Pub Fr		0.00		0.00		0.00	
18		Misc		0.00		0.00		0.00	
19		Adj.		0.00		0.00		0.00	
20		**Total**		835,917.19		843,669.00		(6,944.00)	
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	J	K	L	M	N	O	P
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3	**EDGER USAGE COMPARISON**						
4	**SEE WATER**						
5	**to 01/31/2008**						
6							
7							
8			**Total Rate**				
9	**Miscellaneous**		**Study / Fixed**				**%**
10	**Charges**		**Misc.**		**Variance**		**Variance**
11	0.00		289,135.00		(39.29)		-0.014%
12	0.00		251,116.25		194.02		0.077%
13	0.00		133,629.00		347.76		0.261%
14	0.00		57,705.25		32.22		0.056%
15	0.00		105,139.50		273.10		0.260%
16	0.00		0.00		0.00		0.000%
17	0.00		0.00		0.00		0.000%
18	0.00		0.00		0.00		0.000%
19	0.00		0.00		0.00		0.000%
20	0.00		836,725.00		807.81		0.097%
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26					
27					
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29					

	A
1	Tennessee-American Water Company
2	**Chatanooga**
3	Bill Analysis for the Month Ended February 29, 2008:
4	Rates for General Water Service Effective 3/09/05
5	Service Charge
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	
17	
18	**Consumption Res, Com, Ind, OPA, OWU & Misc. Customers**
19	Effective 3/09/05
20	
21	
22	
23	
24	
25	
26	
27	**Consumption Res, Com, Ind, OPA, Misc. Customers**
28	Effective 5/22/07
29	
30	
31	
32	
33	
34	
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39	
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41	

	B	C	D
1			
2			
3			
4			Current
5			Rates
6	Monthly Eff 5/22/07	5/8"	$10.42
7		3/4"	17.51
8		1"	29.14
9		1-1/2"	58.30
10		2"	93.27
11		3"	174.89
12		4"	291.49
13		6"	582.99
14		8"	932.77
15		10"	-
16		12"	-
17			
18			Current
19		Monthly	Rates
20		First 4 (100 CCF)	$0.1720
21		2nd 61 (100 CCF)	$2.7300
22		3rd 435 (100 CCF)	$1.7150
23		4th 4,500 (100 CCF)	$1.2820
24		5th 10,000 (100CCF)	$0.9800
25		In Excess 15,000 (100 CCF)	$0.5820
26			
27			Current
28		Monthly	Rates
29		First 4 (100 CCF)	$0.1940
30		2nd 61 (100 CCF)	$3.0730
31		3rd 435 (100 CCF)	$1.9310
32		4th 4,500 (100 CCF)	$1.4430
33		5th 10,000 (100CCF)	$1.1030
34		In Excess 15,000 (100 CCF)	$0.6550
35			
36			
37			
38			
39			
40			
41			

	E	F	G
1			Tennessee-American Water Company
2			RESIDENTIAL
3			Bill Analysis for the Month Ended February 29, 2008:
4	Proposed		
5	Rates		Number of Meters
6			Monthly
7			Eff 5/22/07
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			Total Meters
18	Proposed		
19	Rates		Monthly Eff 3/09/05
20			First 4 (100 CCF)
21			2nd 61 (100 CCF)
22			3rd 435 (100 CCF)
23			4th 4,500 (100 CCF)
24			5th 10,000 (100CCF)
25			In Excess 15,000 (100 CCF)
26			
27	Proposed		
28	Rates		Monthly Eff 5/22/07
29			First 4 (100 CCF)
30			2nd 61 (100 CCF)
31			3rd 435 (100 CCF)
32			4th 4,500 (100 CCF)
33			5th 10,000 (100CCF)
34			In Excess 15,000 (100 CCF)
35			
36			
37			
38			
39			
40			
41			

	H	I	J	K	L
1					
2					
3					
4					
5		A1M4	A1MSM		WATER
6	5/8"	59,778.44	2.00		
7	3/4"	93.17	0.00		
8	1"	160.23	0.00		
9	1-1/2"	19.00	0.00		
10	2"	10.00	0.00		
11	3"	0.00	0.00		
12	4"	0.00	0.00		
13	6"	0.00	0.00		
14	8"	0.00	0.00		
15	10"	0.00	0.00		
16	12"	0.00	0.00		
17		60,060.84	2.00	0.00	0.00
18	Consumption				
19					
20					
21					
22					
23					
24					
25					
26	Total	0.00	0.00	0.00	0.00
27					
28					
29		183,969.27	2.00		
30		110,247.37			
31		4,777.36			
32		420.00			
33					
34					
35	Total	299,414.00	2.00	0.00	0.00
36					
37					
38					
39					
40					
41					

	M	N	O	P	Q
1					
2					
3					
4			Present Rate	Proposed Rate	
5	Totals		Revenues	Revenues	
6	59,780.44		622,912.18	0.00	
7	93.17		1,631.35	0.00	
8	160.23		4,669.20	0.00	
9	19.00		1,107.70	0.00	
10	10.00		932.70	0.00	
11	0.00		0.00	0.00	
12	0.00		0.00	0.00	
13	0.00		0.00	0.00	
14	0.00		0.00	0.00	
15	0.00		0.00	0.00	
16	0.00		0.00	0.00	
17	60,062.84		$631,253.13	$0.00	
18					
19					
20	0.00		0.00	0.00	
21	0.00		0.00	0.00	
22	0.00		0.00	0.00	
23	0.00		0.00	0.00	
24	0.00		0.00	0.00	
25	0.00		0.00	0.00	
26	0.00		$0.00	$0.00	
27					
28					
29	183,971.27		35,690.43	0.00	
30	110,247.37		338,790.17	0.00	
31	4,777.36		9,225.08	0.00	
32	420.00		606.06	0.00	
33	0.00		0.00	0.00	
34	0.00		0.00	0.00	
35	299,416.00		$384,311.74	$0.00	
36					
37	**TOTAL**		$1,015,564.87	$0.00	
38					
39					
40					
41					

	R	S
1	Tennessee-American Water Company	
2	COMMERCIAL	
3	Bill Analysis for the Month Ended February 29, 2008:	
4		
5	Number of Meters	
6	Monthly	5/8"
7	Eff 5/22/07	3/4"
8		1"
9		1-1/2"
10		2"
11		3"
12		4"
13		6"
14		8"
15		10"
16		12"
17	Total Meters	
18		Consumption
19	Monthly Eff 3/09/05	
20	First 4 (100 CCF)	
21	2nd 61 (100 CCF)	
22	3rd 435 (100 CCF)	
23	4th 4,500 (100 CCF)	
24	5th 10,000 (100CCF)	
25	In Excess 15,000 (100 CCF)	
26		Total
27		
28	Monthly Eff 5/22/07	
29	First 4 (100 CCF)	
30	2nd 61 (100 CCF)	
31	3rd 435 (100 CCF)	
32	4th 4,500 (100 CCF)	
33	5th 10,000 (100CCF)	
34	In Excess 15,000 (100 CCF)	
35		Total
36		
37		
38		
39		
40		
41		

	T	U	V	W	X
1					
2					
3					
4					
5	A2M4	A2MAM	A2MSM	A2M4S	A2MTM
6	5,162.30	0.00	1.00	1.00	1.00
7	137.47	0.00	0.00	0.00	0.00
8	1,358.23	1.00	1.83	4.83	0.00
9	326.80	1.00	3.00	10.00	1.00
10	809.20	5.00	102.17	123.17	0.00
11	39.73	0.00	0.00	0.00	0.00
12	6.00	1.00	8.00	5.00	0.00
13	1.00	1.00	9.00	1.00	0.00
14	0.00	0.00	1.00	0.00	0.00
15	0.00	0.00	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	0.00
17	7,840.73	9.00	126.00	145.00	2.00
18					
19					
20					
21					
22					
23					
24					
25					
26	0.00	0.00	0.00	0.00	0.00
27					
28					
29	20,666.98	31.00	500.00	4.00	8.00
30	83,887.52	385.00	7,364.00	61.00	70.00
31	82,036.50	1,438.00	36,977.00	316.00	435.00
32	18,821.00	4,528.00	39,381.00		271.00
33	763.00	1,470.00			
34					
35	206,175.00	7,852.00	84,222.00	381.00	784.00
36					
37					
38					
39					
40					
41					

	Y	Z	AA	AB	AC	AD
1						
2						
3						
4				Present Rate	Proposed Rate	
5	A2M4D	Totals		Revenues	Revenues	
6		5,165.30		53,822.42	0.00	
7		137.47		2,407.03	0.00	
8		1,365.90		39,802.34	0.00	
9		341.80		19,926.93	0.00	
10		1,039.53		96,957.29	0.00	
11		39.73		6,948.97	0.00	
12		20.00		5,829.80	0.00	
13		12.00		6,995.88	0.00	
14		1.00		932.77	0.00	
15		0.00		0.00	0.00	
16		0.00		0.00	0.00	
17	0.00	8,122.73		$233,623.43	$0.00	
18						
19						
20		0.00		0.00	0.00	
21		0.00		0.00	0.00	
22		0.00		0.00	0.00	
23		0.00		0.00	0.00	
24		0.00		0.00	0.00	
25		0.00		0.00	0.00	
26	0.00	0.00		$0.00	$0.00	
27						
28						
29		21,209.98		4,114.74	0.00	
30		91,767.52		282,001.59	0.00	
31		121,202.50		234,042.03	0.00	
32		63,001.00		90,910.44	0.00	
33		2,233.00		2,463.00	0.00	
34		0.00		0.00	0.00	
35	0.00	299,414.00		$613,531.80	$0.00	
36						
37		**TOTAL**		$847,155.23	$0.00	
38						
39						
40						
41						

	AE	AF
1	Tennessee-American Water Company	
2	INDUSTRIALS	
3	Bill Analysis for the Month Ended February 29, 2008:	
4		
5	Number of Meters	
6	Monthly	5/8"
7	Eff 5/22/07	3/4"
8		1"
9		1-1/2"
10		2"
11		3"
12		4"
13		6"
14		8"
15		10"
16		12"
17	Total Meters	
18		
19	Monthly Eff 3/09/05	Consumption
20	First 4 (100 CCF)	
21	2nd 61 (100 CCF)	
22	3rd 435 (100 CCF)	
23	4th 4,500 (100 CCF)	
24	5th 10,000 (100CCF)	
25	In Excess 15,000 (100 CCF)	
26		Total
27		
28	Monthly Eff 5/22/07	Consumption
29	First 4 (100 CCF)	
30	2nd 61 (100 CCF)	
31	3rd 435 (100 CCF)	
32	4th 4,500 (100 CCF)	
33	5th 10,000 (100CCF)	
34	In Excess 15,000 (100 CCF)	
35		Total
36		
37		
38		
39		
40		
41		

	AG	AH	AI	AJ	AK	AL
1						
2						
3						
4						
5	A3M4	A3MSM	A3M4M	A3M4S	Totals	
6	23.00	0.00	0.00	0.00	23.00	
7	2.00	0.00	0.00	0.00	2.00	
8	25.00	0.00	0.00	0.00	25.00	
9	6.00	0.00	1.00	0.00	7.00	
10	50.00	9.00	10.00	13.00	82.00	
11	0.00	0.00	0.00	0.00	0.00	
12	12.00	2.00	4.00	1.00	19.00	
13	3.00	1.00	2.00	1.00	7.00	
14	0.00	0.00	0.00	0.00	0.00	
15	0.00	0.00	0.00	0.00	0.00	
16	0.00	0.00	0.00	0.00	0.00	
17	121.00	12.00	17.00	15.00	165.00	
18						
19						
20					0.00	
21					0.00	
22					0.00	
23					0.00	
24					0.00	
25					0.00	
26	0.00	0.00	0.00	0.00	0.00	
27						
28						
29	312.00	48.00	68.00		428.00	
30	2,695.00	728.00	1,016.00		4,439.00	
31	9,155.00	4,520.00	6,164.00		19,839.00	
32	18,937.00	23,347.00	39,792.00		82,076.00	
33	13,862.00	30,000.00	26,132.00		69,994.00	
34	8,754.00	314,024.00	5,780.00		328,558.00	
35	53,715.00	372,667.00	78,952.00	0.00	505,334.00	
36						
37					**TOTAL**	
38						
39						
40						
41						

	AM	AN	AO
1			
2			
3			
4	Present Rate	Proposed Rate	
5	Revenues	Revenues	
6	239.66	0.00	
7	35.02	0.00	
8	728.50	0.00	
9	408.10	0.00	
10	7,648.14	0.00	
11	0.00	0.00	
12	5,538.31	0.00	
13	4,080.93	0.00	
14	0.00	0.00	
15	0.00	0.00	
16	0.00	0.00	
17	$18,678.66	$0.00	
18			
19			
20	0.00	0.00	0.00
21	0.00	0.00	0.00
22	0.00	0.00	0.00
23	0.00	0.00	0.00
24	0.00	0.00	0.00
25	0.00	0.00	0.00
26	$0.00	$0.00	0.00
27			
28			
29	83.03	0.00	#REF!
30	13,641.05	0.00	#REF!
31	38,309.11	0.00	#REF!
32	118,435.67	0.00	#REF!
33	77,203.38	0.00	#REF!
34	215,205.49	0.00	#REF!
35	$462,877.73	$0.00	#REF!
36			
37	$481,556.39	$0.00	$0.00
38			
39			
40			
41			

	AP	AQ
1	Tennessee-American Water Company	
2	OTHER PUBLIC AUTHORITY	
3	Bill Analysis for the Month Ended February 29, 2008:	
4		
5	Number of Meters	
6	Monthly	5/8"
7	Eff 5/22/07	3/4"
8		1"
9		1-1/2"
10		2"
11		3"
12		4"
13		6"
14		8"
15		10"
16		12"
17	Total Meters	
18		
19	Monthly Eff 3/09/05	Consumption
20	First 4 (100 CCF)	
21	2nd 61 (100 CCF)	
22	3rd 435 (100 CCF)	
23	4th 4,500 (100 CCF)	
24	5th 10,000 (100CCF)	
25	In Excess 15,000 (100 CCF)	
26		Total
27		
28	Monthly Eff 5/22/07	Consumption
29	First 4 (100 CCF)	
30	2nd 61 (100 CCF)	
31	3rd 435 (100 CCF)	
32	4th 4,500 (100 CCF)	
33	5th 10,000 (100CCF)	
34	In Excess 15,000 (100 CCF)	
35		Total
36		
37		
38		
39		
40		
41		

	AR	AS	AT	AU	AV
1					
2					
3					
4					
5	A4M4	A4MSM	A4M4A	A4M4S	A4MAM
6	163.67	0.00	0.00	1.00	0.00
7	11.00	0.00	0.00	1.00	0.00
8	124.23	1.00	0.00	2.00	0.00
9	60.00	2.00	0.00	4.00	0.00
10	198.00	33.60	1.00	38.60	1.00
11	4.00	1.00	0.00	1.00	0.00
12	11.00	8.00	0.00	3.00	0.00
13	0.00	2.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00
15	0.00	0.00	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	0.00
17	571.90	47.60	1.00	50.60	1.00
18					
19					
20					
21					
22					
23					
24					
25					
26	0.00	0.00	0.00	0.00	0.00
27					
28					
29	1,411.21	176.40		4.00	
30	9,263.13	2,498.60		61.00	
31	10,619.66	10,720.00		169.00	
32	8,485.00	18,023.00			
33	3,965.00	734.00			
34					
35	33,744.00	32,152.00	0.00	234.00	0.00
36					
37					
38					
39					
40					
41					

	AW	AX	AY	AZ	BA	BB
1						
2						
3						
4				Present Rate	Proposed Rate	
5	A4M4M	Totals		Revenues	Revenues	
6	0.00	164.67		1,715.83	0.00	
7	0.00	12.00		210.12	0.00	
8	2.00	129.23		3,765.85	0.00	
9	1.00	67.00		3,906.10	0.00	
10	10.00	282.20		26,320.81	0.00	
11	0.00	6.00		1,049.34	0.00	
12	0.00	22.00		6,412.78	0.00	
13	0.00	2.00		1,165.98	0.00	
14	0.00	0.00		0.00	0.00	
15	0.00	0.00		0.00	0.00	
16	0.00	0.00		0.00	0.00	
17	13.00	685.10		$44,546.81	$0.00	
18						
19						
20		0.00		0.00	0.00	
21		0.00		0.00	0.00	
22		0.00		0.00	0.00	
23		0.00		0.00	0.00	
24		0.00		0.00	0.00	
25		0.00		0.00	0.00	
26	0.00	0.00		$0.00	$0.00	
27						
28						
29	47.00	1,638.61		317.89	0.00	
30	576.00	12,398.73		38,101.30	0.00	
31	1,436.00	22,944.66		44,306.14	0.00	
32	2,547.00	29,055.00		41,926.37	0.00	
33		4,699.00		5,183.00	0.00	
34		0.00		0.00	0.00	
35	4,606.00	70,736.00		$129,834.70	$0.00	
36						
37		**TOTAL**		$174,381.51	$0.00	
38						
39						
40						
41						

	BC	BD
1	Tennessee-American Water Company	
2	OTHER WATER UTILITIES	
3	Bill Analysis for the Month Ended February 29, 2008:	
4		
5	Number of Meters	
6	Eff 5/22/07	5/8"
7		3/4"
8		1"
9		1-1/2"
10		2"
11		3"
12		4"
13		6"
14		8"
15		10"
16		12"
17	Total Meters	
18		
19	Monthly Eff 3/09/05	Consumption
20	First 4 (100 CCF)	
21	2nd 61 (100 CCF)	
22	3rd 435 (100 CCF)	
23	4th 4,500 (100 CCF)	
24	5th 10,000 (100CCF)	
25	In Excess 15,000 (100 CCF)	
26		Total
27		
28	Monthly Eff 5/22/07	Consumption
29	First 4 (100 CCF)	
30	2nd 61 (100 CCF)	
31	3rd 435 (100 CCF)	
32	4th 4,500 (100 CCF)	
33	5th 10,000 (100CCF)	
34	In Excess 15,000 (100 CCF)	
35		Total
36		
37		
38		
39		
40		
41		

	BE	BF	BG	BH	BI	BJ	BK
1							
2							
3							
4							Present Rate
5	A5M4	A5M4M			Totals		Revenues
6	0.00	0.00			0.00		0.00
7	0.00	0.00			0.00		0.00
8	0.00	0.00			0.00		0.00
9	0.00	0.00			0.00		0.00
10	1.00	0.00			1.00		93.27
11	0.00	0.00			0.00		0.00
12	2.00	1.00			3.00		874.47
13	0.00	0.00			0.00		0.00
14	0.00	0.00			0.00		0.00
15	0.00	0.00			0.00		0.00
16	0.00	0.00			0.00		0.00
17	3.00	1.00	0.00	0.00	4.00		$967.74
18							
19							
20					0.00		0.00
21					0.00		0.00
22					0.00		0.00
23					0.00		0.00
24					0.00		0.00
25					0.00		0.00
26	0.00	0.00	0.00	0.00	0.00		$0.00
27							
28							
29					0.00		0.00
30					0.00		0.00
31					0.00		0.00
32					0.00		0.00
33					0.00		0.00
34					0.00		0.00
35	0.00	0.00	0.00	0.00	0.00		$0.00
36							
37					**TOTAL**		$967.74
38							
39							
40							
41							

	BL	BM	BN
1			Tennessee-American Water Company
2			MISCELLANEOUS
3			Bill Analysis for the Month Ended February 29, 2008:
4	Proposed Rate		
5	Revenues		Number of Meters
6	0.00		Eff 5/22/07
7	0.00		
8	0.00		
9	0.00		
10	0.00		
11	0.00		
12	0.00		
13	0.00		
14	0.00		
15	0.00		
16	0.00		
17	$0.00		Total Meters
18			
19			Monthly Eff 3/09/05
20	0.00		First 4 (100 CCF)
21	0.00		2nd 61 (100 CCF)
22	0.00		3rd 435 (100 CCF)
23	0.00		4th 4,500 (100 CCF)
24	0.00		5th 10,000 (100CCF)
25	0.00		In Excess 15,000 (100 CCF)
26	$0.00		
27			
28			Monthly Eff 3/09/05
29	0.00		First 4 (100 CCF)
30	0.00		2nd 61 (100 CCF)
31	0.00		3rd 435 (100 CCF)
32	0.00		4th 4,500 (100 CCF)
33	0.00		5th 10,000 (100CCF)
34	0.00		In Excess 15,000 (100 CCF)
35	$0.00		
36			
37	$0.00		
38			
39			
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41			

	BO	BP	BQ	BR	BS	BT	BU
1							
2							
3							
4							
5		A7M4				Totals	
6	5/8"					0.00	
7	3/4"					0.00	
8	1"					0.00	
9	1-1/2"					0.00	
10	2"					0.00	
11	3"					0.00	
12	4"					0.00	
13	6"					0.00	
14	8"					0.00	
15	10"					0.00	
16	12"					0.00	
17		0.00	0.00	0.00	0.00	0.00	
18							
19	Consumption						
20						0.00	
21						0.00	
22						0.00	
23						0.00	
24						0.00	
25						0.00	
26	Total	0.00	0.00	0.00	0.00	0.00	
27							
28	Consumption						
29						0.00	
30						0.00	
31						0.00	
32						0.00	
33						0.00	
34						0.00	
35	Total	0.00	0.00	0.00	0.00	0.00	
36							
37						**TOTAL**	
38							
39							
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	BV	BW	BX	BY	BZ
1					
2					
3					
4	Present Rate	Proposed Rate			
5	Revenues	Revenues			
6	0.00	0.00			
7	0.00	0.00			
8	0.00	0.00			
9	0.00	0.00			
10	0.00	0.00			
11	0.00	0.00			
12	0.00	0.00			
13	0.00	0.00			
14	0.00	0.00			
15	0.00	0.00			
16	0.00	0.00			
17	$0.00	$0.00			
18					
19					
20	0.00	0.00			
21	0.00	0.00			
22	0.00	0.00			
23	0.00	0.00			
24	0.00	0.00			
25	0.00	0.00			
26	$0.00	$0.00			
27					
28					
29	0.00	0.00			
30	0.00	0.00			
31	0.00	0.00			
32	0.00	0.00			
33	0.00	0.00			
34	0.00	0.00			
35	$0.00	$0.00			
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37	$0.00	$0.00			
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	CA	CB	CC	CD
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	BE	BF	BG	BH	BI	BJ	BK
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	BO	BP	BQ	BR	BS	BT	BU
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	A
1	Tennessee-American Water Company
2	**Lookout Mountain**
3	Bill Analysis for the Month Ended February 29, 2008:
4	Rates for General Water Service Effective 3/09/05
5	Service Charge
6	
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14	
15	
16	
17	
18	**Consumption Res, Com, Ind, OPA, Misc. Customers**
19	Effective 5/22/07
20	
21	
22	
23	
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	B	C	D
1			
2			
3			
4			Current
5			Rates
6	Monthly Eff 5/22/07	5/8"	$11.70
7		3/4"	17.51
8		1"	29.14
9		1-1/2"	58.30
10		2"	93.27
11		3"	174.89
12		4"	291.49
13		6"	582.99
14		8"	932.77
15		10"	-
16		12"	-
17			
18			Current
19		Monthly	Rates
20		First 4 (100 CCF)	$0.7210
21		2nd 61 (100 CCF)	$3.9580
22		3rd 435 (100 CCF)	$2.8160
23		4th 4,500 (100 CCF)	$1.9690
24		5th 10,000 (100CCF)	$1.6300
25		In Excess 15,000 (100 CCF)	$1.1810
26			
27			
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	E	F	G
1			Tennessee-American Water Company
2			RESIDENTIAL
3			Bill Analysis for the Month Ended February 29, 2008:
4	Proposed		
5	Rates		Number of Meters
6			Monthly
7			Eff 5/22/07
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			Total Meters
18	Proposed		
19	Rates		Monthly Eff 5/22/07
20			First 4 (100 CCF)
21			2nd 61 (100 CCF)
22			3rd 435 (100 CCF)
23			4th 4,500 (100 CCF)
24			5th 10,000 (100CCF)
25			In Excess 15,000 (100 CCF)
26			
27			
28			
29			
30			
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	H	I	J	K	L	M	N
1							
2							
3							
4							Present Rate
5		B1M4			Totals		Revenues
6	5/8"	1,669.23			1,669.23		19,530.03
7	3/4"	42.17			42.17		738.34
8	1"	109.97			109.97		3,204.42
9	1-1/2"	2.00			2.00		116.60
10	2"	3.00			3.00		279.81
11	3"	0.00			0.00		0.00
12	4"	0.00			0.00		0.00
13	6"	0.00			0.00		0.00
14	8"	0.00			0.00		0.00
15	10"	0.00			0.00		0.00
16	12"	0.00			0.00		0.00
17		1,826.37	0.00	0.00	1,826.37		$23,869.20
18							
19							
20		5,668.06			5,668.06		4,086.67
21		6,964.60			6,964.60		27,565.89
22		210.34			210.34		592.32
23					0.00		0.00
24					0.00		0.00
25					0.00		0.00
26	Total	12,843.00	0.00	0.00	12,843.00		$32,244.88
27							
28					**TOTAL**		$56,114.08
29							
30							
31							
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	O	P
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4	Proposed Rate	
5	Revenues	
6	0.00	
7	0.00	
8	0.00	
9	0.00	
10	0.00	
11	0.00	
12	0.00	
13	0.00	
14	0.00	
15	0.00	
16	0.00	
17	$0.00	
18		
19		
20	0.00	0.00
21	0.00	0.00
22	0.00	0.00
23	0.00	0.00
24	0.00	0.00
25	0.00	0.00
26	$0.00	
27		
28	$0.00	
29		
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	Q	R	S
1	Tennessee-American Water Company		
2	COMMERCIAL		
3	Bill Analysis for the Month Ended February 29, 2008:		
4			
5	Number of Meters		B2M4
6	Monthly	5/8"	54.73
7	Eff 5/22/07	3/4"	2.00
8		1"	17.00
9		1-1/2"	3.00
10		2"	7.00
11		3"	0.00
12		4"	0.00
13		6"	0.00
14		8"	0.00
15		10"	0.00
16		12"	0.00
17	Total Meters		83.73
18			
19	Monthly Eff 5/22/07		
20	First 4 (100 CCF)		217.00
21	2nd 61 (100 CCF)		917.00
22	3rd 435 (100 CCF)		434.00
23	4th 4,500 (100 CCF)		
24	5th 10,000 (100CCF)		
25	In Excess 15,000 (100 CCF)		
26		Total	1,568.00
27			
28			
29			
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	T	U	V	W	X	Y
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2						
3						
4						Present Rate
5	B2M4M			Totals		Revenues
6				54.73		640.38
7				2.00		35.02
8				17.00		495.38
9				3.00		174.90
10				7.00		652.89
11				0.00		0.00
12				0.00		0.00
13				0.00		0.00
14				0.00		0.00
15				0.00		0.00
16				0.00		0.00
17	0.00	0.00	0.00	83.73		$1,998.57
18						
19						
20				217.00		156.46
21				917.00		3,629.49
22				434.00		1,222.14
23				0.00		0.00
24				0.00		0.00
25				0.00		0.00
26	0.00	0.00	0.00	1,568.00		$5,008.09
27						
28				**TOTAL**		$7,006.66
29						
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31						
32						
33						
34						
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	Z	AA	AB
1			Tennessee-American Water Company
2			INDUSTRIALS
3			Bill Analysis for the Month Ended February 29, 2008:
4	Proposed Rate		
5	Revenues		Number of Meters
6	0.00		Monthly
7	0.00		Eff 5/22/07
8	0.00		
9	0.00		
10	0.00		
11	0.00		
12	0.00		
13	0.00		
14	0.00		
15	0.00		
16	0.00		
17	$0.00		Total Meters
18			
19			Monthly Eff 5/22/07
20	0.00		First 4 (100 CCF)
21	0.00		2nd 61 (100 CCF)
22	0.00		3rd 435 (100 CCF)
23	0.00		4th 4,500 (100 CCF)
24	0.00		5th 10,000 (100CCF)
25	0.00		In Excess 15,000 (100 CCF)
26	$0.00		
27			
28	$0.00		
29			
30			
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32			
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	AC	AD	AE	AF	AG	AH
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2						
3						
4						Present Rate
5		B3M4		Totals		Revenues
6	5/8"			0.00		0.00
7	3/4"			0.00		0.00
8	1"			0.00		0.00
9	1-1/2"			0.00		0.00
10	2"			0.00		0.00
11	3"			0.00		0.00
12	4"			0.00		0.00
13	6"			0.00		0.00
14	8"			0.00		0.00
15	10"			0.00		0.00
16	12"			0.00		0.00
17		0.00	0.00	0.00		$0.00
18						
19						
20				0.00		0.00
21				0.00		0.00
22				0.00		0.00
23				0.00		0.00
24				0.00		0.00
25				0.00		0.00
26	Total	0.00	0.00	0.00		$0.00
27						
28				**TOTAL**		$0.00
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	AI	AJ
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3		
4	Proposed Rate	
5	Revenues	
6	0.00	
7	0.00	
8	0.00	
9	0.00	
10	0.00	
11	0.00	
12	0.00	
13	0.00	
14	0.00	
15	0.00	
16	0.00	
17	$0.00	
18		
19		#REF!
20	0.00	
21	0.00	
22	0.00	
23	0.00	
24	0.00	
25	0.00	
26	$0.00	
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28	$0.00	
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	AK	AL	AM
1	Tennessee-American Water Company		
2	OTHER PUBLIC AUTHORITY		
3	Bill Analysis for the Month Ended February 29, 2008:		
4			
5	Number of Meters		B4M4
6	Monthly	5/8"	13.00
7	Eff 5/22/07	3/4"	1.00
8		1"	10.00
9		1-1/2"	1.00
10		2"	6.00
11		3"	0.00
12		4"	0.00
13		6"	0.00
14		8"	0.00
15		10"	0.00
16		12"	0.00
17	Total Meters		31.00
18			
19	Monthly Eff 5/22/07		
20	First 4 (100 CCF)		58.00
21	2nd 61 (100 CCF)		363.00
22	3rd 435 (100 CCF)		593.00
23	4th 4,500 (100 CCF)		
24	5th 10,000 (100CCF)		
25	In Excess 15,000 (100 CCF)		
26		Total	1,014.00
27			
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	AN	AO	AP	AQ	AR	AS
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4				Present Rate	Proposed Rate	
5		Totals		Revenues	Revenues	
6		13.00		152.10	0.00	
7		1.00		17.51	0.00	
8		10.00		291.40	0.00	
9		1.00		58.30	0.00	
10		6.00		559.62	0.00	
11		0.00		0.00	0.00	
12		0.00		0.00	0.00	
13		0.00		0.00	0.00	
14		0.00		0.00	0.00	
15		0.00		0.00	0.00	
16		0.00		0.00	0.00	
17	0.00	31.00		$1,078.93	$0.00	
18						
19						
20		58.00		41.82	0.00	
21		363.00		1,436.75	0.00	
22		593.00		1,669.89	0.00	
23		0.00		0.00	0.00	
24		0.00		0.00	0.00	
25		0.00		0.00	0.00	
26	0.00	1,014.00		$3,148.46	$0.00	
27						
28		**TOTAL**		$4,227.39	$0.00	
29						
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	AT	AU	AV
1	Tennessee-American Water Company		
2	OTHER WATER UTILITIES		
3	Bill Analysis for the Month Ended February 29, 2008:		
4			
5	Number of Meters		
6	Monthly	5/8"	
7	Eff 5/22/07	3/4"	
8		1"	
9		1-1/2"	
10		2"	
11		3"	
12		4"	
13		6"	
14		8"	
15		10"	
16		12"	
17	Total Meters		0.00
18			
19	Monthly Eff 5/22/07		
20	First 4 (100 CCF)		
21	2nd 61 (100 CCF)		
22	3rd 435 (100 CCF)		
23	4th 4,500 (100 CCF)		
24	5th 10,000 (100CCF)		
25	In Excess 15,000 (100 CCF)		
26		Total	0.00
27			
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	AW	AX	AY	AZ	BA	BB
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3						
4				Present Rate	Proposed Rate	
5		Totals		Revenues	Revenues	
6		0.00		0.00	0.00	
7		0.00		0.00	0.00	
8		0.00		0.00	0.00	
9		0.00		0.00	0.00	
10		0.00		0.00	0.00	
11		0.00		0.00	0.00	
12		0.00		0.00	0.00	
13		0.00		0.00	0.00	
14		0.00		0.00	0.00	
15		0.00		0.00	0.00	
16		0.00		0.00	0.00	
17	0.00	0.00		$0.00	$0.00	
18						
19						
20		0.00		0.00	0.00	
21		0.00		0.00	0.00	
22		0.00		0.00	0.00	
23		0.00		0.00	0.00	
24		0.00		0.00	0.00	
25		0.00		0.00	0.00	
26	0.00	0.00		$0.00	$0.00	
27						
28		**TOTAL**		$0.00	$0.00	
29						
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	BC	BD	BE
1	Tennessee-American Water Company		
2	MISCELLANEOUS		
3	Bill Analysis for the Month Ended February 29, 2008:		
4			
5	Number of Meters		B7M4
6	Monthly	5/8"	
7	Eff 5/22/07	3/4"	
8		1"	
9		1-1/2"	
10		2"	
11		3"	
12		4"	
13		6"	
14		8"	
15		10"	
16		12"	
17	Total Meters		0.00
18			
19	Monthly Eff 5/22/07		
20	First 4 (100 CCF)		
21	2nd 61 (100 CCF)		
22	3rd 435 (100 CCF)		
23	4th 4,500 (100 CCF)		
24	5th 10,000 (100CCF)		
25	In Excess 15,000 (100 CCF)		
26		Total	0.00
27			
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	BF	BG	BH	BI	BJ	BK
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3						
4				Present Rate	Proposed Rate	
5		Totals		Revenues	Revenues	
6		0.00		0.00	0.00	
7		0.00		0.00	0.00	
8		0.00		0.00	0.00	
9		0.00		0.00	0.00	
10		0.00		0.00	0.00	
11		0.00		0.00	0.00	
12		0.00		0.00	0.00	
13		0.00		0.00	0.00	
14		0.00		0.00	0.00	
15		0.00		0.00	0.00	
16		0.00		0.00	0.00	
17	0.00	0.00		$0.00	$0.00	
18						
19						
20		0.00		0.00	0.00	
21		0.00		0.00	0.00	
22		0.00		0.00	0.00	
23		0.00		0.00	0.00	
24		0.00		0.00	0.00	
25		0.00		0.00	0.00	
26	0.00	0.00		$0.00	$0.00	
27						
28		**TOTAL**		$0.00	$0.00	
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	A
1	Tennessee-American Water Company
2	**Lakeview**
3	Bill Analysis for the Month Ended February 29, 2008:
4	Rates for General Water Service
5	Service Charge
6	
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17	
18	**Consumption Res, Com, Ind, OPA, OWU & Misc. Customers**
19	Effective 3/09/05
20	
21	
22	
23	
24	
25	
26	
27	**Consumption Res, Com, Ind, OPA, OWU & Misc. Customers**
28	Effective 5/22/07
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	B	C	D
1			
2			
3			
4			Current
5			Rates
6	Monthly Eff 5/22/07	5/8"	$11.70
7		3/4"	17.51
8		1"	29.14
9		1-1/2"	58.30
10		2"	93.27
11		3"	174.89
12		4"	291.49
13		6"	582.99
14		8"	932.77
15		10"	-
16		12"	-
17			
18			Current
19		Monthly	Rates
20		First 4 (100 CCF)	$0.3160
21		2nd 61 (100 CCF)	$3.0080
22		3rd 435 (100 CCF)	$1.9930
23		4th 4,500 (100 CCF)	$1.4250
24		5th 10,000 (100CCF)	$1.1240
25		In Excess 15,000 (100 CCF)	$0.7250
26			
27			Current
28		Monthly	Rates
29		First 4 (100 CCF)	$0.3560
30		2nd 61 (100 CCF)	$3.3860
31		3rd 435 (100 CCF)	$2.2440
32		4th 4,500 (100 CCF)	$1.6040
33		5th 10,000 (100CCF)	$1.2650
34		In Excess 15,000 (100 CCF)	$0.8160
35			
36			
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	E	F	G
1			Tennessee-American Water Company
2			RESIDENTIAL
3			Bill Analysis for the Month Ended February 29, 2008:
4	Proposed		
5	Rates		Number of Meters
6			Quarterly
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			Total Meters
18	Proposed		
19	Rates		Monthly
20			First 4 (100 CCF)
21			2nd 61 (100 CCF)
22			3rd 435 (100 CCF)
23			4th 4,500 (100 CCF)
24			5th 10,000 (100CCF)
25			In Excess 15,000 (100 CCF)
26			
27	Proposed		
28	Rates		Monthly Eff 5/22/07
29			First 4 (100 CCF)
30			2nd 61 (100 CCF)
31			3rd 435 (100 CCF)
32			4th 4,500 (100 CCF)
33			5th 10,000 (100CCF)
34			In Excess 15,000 (100 CCF)
35			
36			
37			
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39			
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	H	I	J	K	L	M
1						
2						
3						
4						Present Rate
5		C1M4		Totals		Revenues
6	5/8"	2,837.17		2,837.17		33,194.85
7	3/4"	0.00		0.00		0.00
8	1"	4.00		4.00		116.56
9	1-1/2"	0.00		0.00		0.00
10	2"	0.00		0.00		0.00
11	3"	0.00		0.00		0.00
12	4"	0.00		0.00		0.00
13	6"	0.00		0.00		0.00
14	8"	0.00		0.00		0.00
15	10"	0.00		0.00		0.00
16	12"	0.00		0.00		0.00
17		2,841.17	0.00	2,841.17		$33,311.41
18	Consumption					
19						
20				0.00		0.00
21				0.00		0.00
22				0.00		0.00
23				0.00		0.00
24				0.00		0.00
25				0.00		0.00
26	Total	0.00	0.00	0.00		$0.00
27						
28						
29		8,852.20		8,852.20		3,151.38
30		5,521.80		5,521.80		18,696.81
31		66.00		66.00		148.10
32				0.00		0.00
33				0.00		0.00
34				0.00		0.00
35	Total	14,440.00	0.00	14,440.00		$21,996.29
36						
37				**TOTAL**		$55,307.70
38						
39						
40						
41						

	N	O	P
1			Tennessee-American Water Company
2			COMMERCIAL
3			Bill Analysis for the Month Ended February 29, 2008:
4	Proposed Rate		
5	Revenues		Number of Meters
6	0.00		Quarterly
7	0.00		
8	0.00		
9	0.00		
10	0.00		
11	0.00		
12	0.00		
13	0.00		
14	0.00		
15	0.00		
16	0.00		
17	$0.00		Total Meters
18			
19			Monthly
20	0.00		First 4 (100 CCF)
21	0.00		2nd 61 (100 CCF)
22	0.00		3rd 435 (100 CCF)
23	0.00		4th 4,500 (100 CCF)
24	0.00		5th 10,000 (100CCF)
25	0.00		In Excess 15,000 (100 CCF)
26	$0.00		
27			
28			Monthly Eff 5/22/07
29	0.00		First 4 (100 CCF)
30	0.00		2nd 61 (100 CCF)
31	0.00		3rd 435 (100 CCF)
32	0.00		4th 4,500 (100 CCF)
33	0.00		5th 10,000 (100CCF)
34	0.00		In Excess 15,000 (100 CCF)
35	$0.00		
36			
37	$0.00		
38			
39			
40			
41			

	Q	R	S	T	U	V
1						
2						
3						
4						
5		C2M4			Totals	
6	5/8"	135.40			135.40	
7	3/4"	0.00			0.00	
8	1"	18.47			18.47	
9	1-1/2"	0.00			0.00	
10	2"	7.00			7.00	
11	3"	0.00			0.00	
12	4"	0.00			0.00	
13	6"	0.00			0.00	
14	8"	0.00			0.00	
15	10"	0.00			0.00	
16	12"	0.00			0.00	
17		160.87	0.00	0.00	160.87	
18	Consumption					
19						
20					0.00	
21					0.00	
22					0.00	
23					0.00	
24					0.00	
25					0.00	
26	Total	0.00	0.00	0.00	0.00	
27						
28						
29		443.87			443.87	
30		944.13			944.13	
31		286.00			286.00	
32					0.00	
33					0.00	
34					0.00	
35	Total	1,674.00	0.00	0.00	1,674.00	
36						
37					**TOTAL**	
38						
39						
40						
41						

	W	X	Y
1			
2			
3			
4	Present Rate	Proposed Rate	
5	Revenues	Revenues	
6	1,584.18	0.00	
7	0.00	0.00	
8	538.12	0.00	
9	0.00	0.00	
10	652.89	0.00	
11	0.00	0.00	
12	0.00	0.00	
13	0.00	0.00	
14	0.00	0.00	
15	0.00	0.00	
16	0.00	0.00	
17	$2,775.19	$0.00	
18			
19			
20	0.00	0.00	
21	0.00	0.00	
22	0.00	0.00	
23	0.00	0.00	
24	0.00	0.00	
25	0.00	0.00	
26	$0.00	$0.00	
27			
28			
29	158.02	0.00	
30	3,196.82	0.00	
31	641.78	0.00	
32	0.00	0.00	
33	0.00	0.00	
34	0.00	0.00	
35	$3,996.62	$0.00	
36			
37	$6,771.81	$0.00	
38			
39			
40			
41			

	Z	AA
1	Tennessee-American Water Company	
2	INDUSTRIALS	
3	Bill Analysis for the Month Ended February 29, 2008:	
4		
5	Number of Meters	
6	Quarterly	5/8"
7		3/4"
8		1"
9		1-1/2"
10		2"
11		3"
12		4"
13		6"
14		8"
15		10"
16		12"
17	Total Meters	
18		
19	Monthly	Consumption
20	First 4 (100 CCF)	
21	2nd 61 (100 CCF)	
22	3rd 435 (100 CCF)	
23	4th 4,500 (100 CCF)	
24	5th 10,000 (100CCF)	
25	In Excess 15,000 (100 CCF)	
26		Total
27		
28	Monthly Eff 5/22/07	
29	First 4 (100 CCF)	
30	2nd 61 (100 CCF)	
31	3rd 435 (100 CCF)	
32	4th 4,500 (100 CCF)	
33	5th 10,000 (100CCF)	
34	In Excess 15,000 (100 CCF)	
35		Total
36		
37		
38		
39		
40		
41		

	AB	AC	AD	AE	AF	AG
1						
2						
3						
4					Present Rate	Proposed Rate
5	C3M4		Totals		Revenues	Revenues
6			0.00		0.00	0.00
7			0.00		0.00	0.00
8			0.00		0.00	0.00
9			0.00		0.00	0.00
10			0.00		0.00	0.00
11			0.00		0.00	0.00
12			0.00		0.00	0.00
13			0.00		0.00	0.00
14			0.00		0.00	0.00
15			0.00		0.00	0.00
16			0.00		0.00	0.00
17	0.00	0.00	0.00		$0.00	$0.00
18						
19						
20			0.00		0.00	0.00
21			0.00		0.00	0.00
22			0.00		0.00	0.00
23			0.00		0.00	0.00
24			0.00		0.00	0.00
25			0.00		0.00	0.00
26	0.00	0.00	0.00		$0.00	$0.00
27						
28						
29			0.00		0.00	0.00
30			0.00		0.00	0.00
31			0.00		0.00	0.00
32			0.00		0.00	0.00
33			0.00		0.00	0.00
34			0.00		0.00	0.00
35	0.00	0.00	0.00		$0.00	$0.00
36						
37			**TOTAL**		$0.00	$0.00
38						
39						
40						
41						

	AH	AI
1		Tennessee-American Water Company
2		OTHER PUBLIC AUTHORITY
3		Bill Analysis for the Month Ended February 29, 2008:
4		
5		Number of Meters
6		Monthly
7		Eff 5/22/07
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		Total Meters
18		
19		Monthly
20	0.00	First 4 (100 CCF)
21	0.00	2nd 61 (100 CCF)
22	0.00	3rd 435 (100 CCF)
23	0.00	4th 4,500 (100 CCF)
24	0.00	5th 10,000 (100CCF)
25	0.00	In Excess 15,000 (100 CCF)
26	0.00	
27		
28	$0.00	Monthly Eff 5/22/07
29		First 4 (100 CCF)
30		2nd 61 (100 CCF)
31		3rd 435 (100 CCF)
32		4th 4,500 (100 CCF)
33		5th 10,000 (100CCF)
34		In Excess 15,000 (100 CCF)
35		
36		
37		
38		
39		
40		
41		

	AJ	AK	AL	AM	AN	AO
1						
2						
3						
4						Present Rate
5		C4M4		Totals		Revenues
6	5/8"	4.67		4.67		54.60
7	3/4"	0.00		0.00		0.00
8	1"	1.00		1.00		29.14
9	1-1/2"	1.00		1.00		58.30
10	2"	2.00		2.00		186.54
11	3"	0.00		0.00		0.00
12	4"	0.00		0.00		0.00
13	6"	0.00		0.00		0.00
14	8"	0.00		0.00		0.00
15	10"	0.00		0.00		0.00
16	12"	0.00		0.00		0.00
17		8.67	0.00	8.67		$328.58
18						
19	Consumption					
20				0.00		0.00
21				0.00		0.00
22				0.00		0.00
23				0.00		0.00
24				0.00		0.00
25				0.00		0.00
26	Total	0.00	0.00	0.00		$0.00
27						
28						
29		9.00		9.00		3.20
30		122.00		122.00		413.09
31		230.00		230.00		516.12
32				0.00		0.00
33				0.00		0.00
34				0.00		0.00
35	Total	361.00	0.00	361.00		$932.41
36						
37				**TOTAL**		$1,260.99
38						
39						
40						
41						

	AP	AQ	AR
1			Tennessee-American Water Company
2			OTHER WATER UTILITIES
3			Bill Analysis for the Month Ended February 29, 2008:
4	Proposed Rate		
5	Revenues		Number of Meters
6	0.00		Quarterly
7	0.00		
8	0.00		
9	0.00		
10	0.00		
11	0.00		
12	0.00		
13	0.00		
14	0.00		
15	0.00		
16	0.00		
17	$0.00		Total Meters
18			
19			Monthly
20	0.00		First 4 (100 CCF)
21	0.00		2nd 61 (100 CCF)
22	0.00		3rd 435 (100 CCF)
23	0.00		4th 4,500 (100 CCF)
24	0.00		5th 10,000 (100CCF)
25	0.00		In Excess 15,000 (100 CCF)
26	$0.00		
27			
28			Monthly Eff 5/22/07
29	0.00		First 4 (100 CCF)
30	0.00		2nd 61 (100 CCF)
31	0.00		3rd 435 (100 CCF)
32	0.00		4th 4,500 (100 CCF)
33	0.00		5th 10,000 (100CCF)
34	0.00		In Excess 15,000 (100 CCF)
35	$0.00		
36			
37	$0.00		
38			
39			
40			
41			

	AS	AT	AU	AV	AW	AX
1						
2						
3						
4						Present Rate
5				Totals		Revenues
6	5/8"			0.00		0.00
7	3/4"			0.00		0.00
8	1"			0.00		0.00
9	1-1/2"			0.00		0.00
10	2"			0.00		0.00
11	3"			0.00		0.00
12	4"			0.00		0.00
13	6"			0.00		0.00
14	8"			0.00		0.00
15	10"			0.00		0.00
16	12"			0.00		0.00
17		0.00	0.00	0.00		$0.00
18						
19	Consumption					
20						0.00
21						0.00
22						0.00
23						0.00
24						0.00
25						0.00
26	Total	0.00	0.00	0.00	0.00	0.00
27						
28						
29				0.00		0.00
30				0.00		0.00
31				0.00		0.00
32				0.00		0.00
33				0.00		0.00
34				0.00		0.00
35	Total	0.00	0.00	0.00		$0.00
36						
37				**TOTAL**		$0.00
38						
39						
40						
41						

	AY	AZ	BA
1			Tennessee-American Water Company
2			MISCELLANEOUS
3			Bill Analysis for the Month Ended February 29, 2008:
4	Proposed Rate		
5	Revenues		Number of Meters
6	0.00		Quarterly
7	0.00		
8	0.00		
9	0.00		
10	0.00		
11	0.00		
12	0.00		
13	0.00		
14	0.00		
15	0.00		
16	0.00		
17	$0.00		Total Meters
18			
19			Monthly
20	0.00		First 4 (100 CCF)
21	0.00		2nd 61 (100 CCF)
22	0.00		3rd 435 (100 CCF)
23	0.00		4th 4,500 (100 CCF)
24	0.00		5th 10,000 (100CCF)
25	0.00		In Excess 15,000 (100 CCF)
26	0.00		
27			
28			Monthly Eff 5/22/07
29	0.00		First 4 (100 CCF)
30	0.00		2nd 61 (100 CCF)
31	0.00		3rd 435 (100 CCF)
32	0.00		4th 4,500 (100 CCF)
33	0.00		5th 10,000 (100CCF)
34	0.00		In Excess 15,000 (100 CCF)
35	$0.00		
36			
37	$0.00		
38			
39			
40			
41			

	BB	BC	BD	BE	BF	BG
1						
2						
3						
4						Present Rate
5		C7M4		Totals		Revenues
6	5/8"			0.00		0.00
7	3/4"			0.00		0.00
8	1"			0.00		0.00
9	1-1/2"			0.00		0.00
10	2"			0.00		0.00
11	3"			0.00		0.00
12	4"			0.00		0.00
13	6"			0.00		0.00
14	8"			0.00		0.00
15	10"			0.00		0.00
16	12"			0.00		0.00
17		0.00	0.00	0.00		$0.00
18						
19	Consumption					
20						0.00
21						0.00
22						0.00
23						0.00
24						0.00
25						0.00
26	Total	0.00	0.00	0.00	0.00	0.00
27						
28						
29				0.00		0.00
30				0.00		0.00
31				0.00		0.00
32				0.00		0.00
33				0.00		0.00
34				0.00		0.00
35	Total	0.00	0.00	0.00		$0.00
36						
37				**TOTAL**		$0.00
38						
39						
40						
41						

	BH	BI	BJ	BK	BL
1					
2					
3					
4	Proposed Rate				
5	Revenues				
6	0.00				
7	0.00				
8	0.00				
9	0.00				
10	0.00				
11	0.00				
12	0.00				
13	0.00				
14	0.00				
15	0.00				
16	0.00				
17	$0.00				
18					
19					
20	0.00				
21	0.00				
22	0.00				
23	0.00				
24	0.00				
25	0.00				
26	0.00				
27					
28					
29	0.00				
30	0.00				
31	0.00				
32	0.00				
33	0.00				
34	0.00				
35	$0.00				
36					
37	$0.00				
38					
39					
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41					

	BM	BN	BO	BP	BQ
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	BR	BS	BT	BU	BV
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	BW	BX	BY	BZ
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	CA	CB
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	H	I	J	K	L	M
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	Z	AA
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	AB	AC	AD	AE	AF	AG
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	AH	AI
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	AJ	AK	AL	AM	AN	AO
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	AP	AQ	AR
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	AS	AT	AU	AV	AW	AX
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	AY	AZ	BA
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	BB	BC	BD	BE	BF	BG
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	BH	BI	BJ	BK	BL
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57					
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	BM	BN	BO	BP	BQ
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	BR	BS	BT	BU	BV
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	BW	BX	BY	BZ
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	CA	CB
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57		H8
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	A
1	Tennessee-American Water Company
2	**Ft. Oglethorpe**
3	Bill Analysis for the Month Ended February 29, 2008:
4	
5	Service Charge
6	
7	
8	
9	
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24	
25	
26	
27	
28	
29	**Consumption Res, Com, Ind, OPA, Misc. Customers**
30	
31	
32	
33	**Sale for Resale**
34	
35	
36	
37	
38	
39	
40	
41	

	B	C	D
1			
2			
3			
4			Current
5			Rates
6	Monthly	5/8"	$0.00
7		3/4"	$0.00
8		1"	$0.00
9		1-1/2"	$0.00
10		2"	$0.00
11		3"	$0.00
12		4"	$0.00
13		6"	$0.00
14		8"	$0.00
15		10"	-
16		12"	-
17	Quarterly	5/8"	-
18		3/4"	-
19		1"	-
20		1-1/2"	-
21		2"	-
22		3"	-
23		4"	-
24		6"	-
25		8"	-
26		10"	-
27		12"	-
28			
29			Current
30		Monthly	Rates
31			
32			
33			Current
34		Monthly	Rates
35		All Usage (100 CCF)	$0.7660
36		Catoosa 11/19/05 & Ft. Ogle 10/19/06	$0.7960
37		Waldens Ridge (100 CCF)	$0.9375
38			
39	Eff 6/29/07	Catoosa	$0.8961
40			
41			

	E	F
1		
2		
3		
4	Proposed	
5	Rates	
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17	-	
18	-	
19	-	
20	-	
21	-	
22	-	
23	-	
24	-	
25	-	
26	-	
27	-	
28		
29	Proposed	
30	Rates	
31		
32		
33	Proposed Res	
34	Rates	
35		
36		
37		
38		
39		
40		
41		

	G	H
1	Tennessee-American Water Company	
2	RESIDENTIAL	
3	Bill Analysis for the Month Ended February 29, 2008:	
4		
5	Number of Meters	
6	Monthly	5/8"
7		3/4"
8		1"
9		1-1/2"
10		2"
11		3"
12		4"
13		6"
14		8"
15		10"
16		12"
17	Quarterly	5/8"
18		3/4"
19		1"
20		1-1/2"
21		2"
22		3"
23		4"
24		6"
25		8"
26		10"
27		12"
28	Total Meters	
29		Consumption
30	Monthly	
31	All Usage (100 CCF)	
32		Total
33		
34		
35		
36		
37		
38		
39		
40		
41		

	I	J	K	L	M	N	O
1							
2							
3							
4					Present Rate	Proposed Rate	
5			Totals		Revenues	Revenues	
6			0.00		$0.00	$0.00	
7			0.00		0.00	0.00	
8			0.00		0.00	0.00	
9			0.00		0.00	0.00	
10			0.00		0.00	0.00	
11			0.00		0.00	0.00	
12			0.00		0.00	0.00	
13			0.00		0.00	0.00	
14			0.00		0.00	0.00	
15			0.00		0.00	0.00	
16			0.00		0.00	0.00	
17			0.00		0.00	0.00	
18			0.00		0.00	0.00	
19			0.00		0.00	0.00	
20			0.00		0.00	0.00	
21			0.00		0.00	0.00	
22			0.00		0.00	0.00	
23			0.00		0.00	0.00	
24			0.00		0.00	0.00	
25			0.00		0.00	0.00	
26			0.00		0.00	0.00	
27			0.00		0.00	0.00	
28	0.00	0.00	0.00		$0.00	$0.00	
29							
30							
31			0.00		0.00	0.00	
32	0.00	0.00	0.00		$0.00	$0.00	
33							
34			**TOTAL**		$0.00	$0.00	
35							
36							
37							
38							
39							
40							
41							

	P	Q
1	Tennessee-American Water Company	
2	COMMERCIAL	
3	Bill Analysis for the Month Ended February 29, 2008:	
4		
5	Number of Meters	
6	Monthly	5/8"
7		3/4"
8		1"
9		1-1/2"
10		2"
11		3"
12		4"
13		6"
14		8"
15		10"
16		12"
17	Quarterly	5/8"
18		3/4"
19		1"
20		1-1/2"
21		2"
22		3"
23		4"
24		6"
25		8"
26		10"
27		12"
28	Total Meters	
29		Consumption
30	Monthly	
31	All Usage (100 CCF)	
32		Total
33		
34		
35		
36		
37		
38		
39		
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41		

	R	S	T	U	V	W	X
1							
2							
3							
4					Present Rate	Proposed Rate	
5			Totals		Revenues	Revenues	
6			0.00		$0.00	$0.00	
7			0.00		0.00	0.00	
8			0.00		0.00	0.00	
9			0.00		0.00	0.00	
10			0.00		0.00	0.00	
11			0.00		0.00	0.00	
12			0.00		0.00	0.00	
13			0.00		0.00	0.00	
14			0.00		0.00	0.00	
15			0.00		0.00	0.00	
16			0.00		0.00	0.00	
17			0.00		0.00	0.00	
18			0.00		0.00	0.00	
19			0.00		0.00	0.00	
20			0.00		0.00	0.00	
21			0.00		0.00	0.00	
22			0.00		0.00	0.00	
23			0.00		0.00	0.00	
24			0.00		0.00	0.00	
25			0.00		0.00	0.00	
26			0.00		0.00	0.00	
27			0.00		0.00	0.00	
28	0.00	0.00	0.00		$0.00	$0.00	
29							
30							
31			0.00		0.00	0.00	
32	0.00	0.00	0.00		$0.00	$0.00	
33							
34			**TOTAL**		$0.00	$0.00	
35							
36							
37							
38							
39							
40							
41							

	Y	Z
1	Tennessee-American Water Company	
2	INDUSTRIALS	
3	Bill Analysis for the Month Ended February 29, 2008:	
4		
5	Number of Meters	
6	Monthly	5/8"
7		3/4"
8		1"
9		1-1/2"
10		2"
11		3"
12		4"
13		6"
14		8"
15		10"
16		12"
17	Quarterly	5/8"
18		3/4"
19		1"
20		1-1/2"
21		2"
22		3"
23		4"
24		6"
25		8"
26		10"
27		12"
28	Total Meters	
29		
30	Monthly	Consumption
31	All Usage (100 CCF)	
32		Total
33		
34		
35		
36		
37		
38		
39		
40		
41		

	AA	AB	AC	AD	AE	AF
1						
2						
3						
4					Present Rate	Proposed Rate
5			Totals		Revenues	Revenues
6			0.00		$0.00	$0.00
7			0.00		0.00	0.00
8			0.00		0.00	0.00
9			0.00		0.00	0.00
10			0.00		0.00	0.00
11			0.00		0.00	0.00
12			0.00		0.00	0.00
13			0.00		0.00	0.00
14			0.00		0.00	0.00
15			0.00		0.00	0.00
16			0.00		0.00	0.00
17			0.00		0.00	0.00
18			0.00		0.00	0.00
19			0.00		0.00	0.00
20			0.00		0.00	0.00
21			0.00		0.00	0.00
22			0.00		0.00	0.00
23			0.00		0.00	0.00
24			0.00		0.00	0.00
25			0.00		0.00	0.00
26			0.00		0.00	0.00
27			0.00		0.00	0.00
28	0.00	0.00	0.00		$0.00	$0.00
29						
30						
31			0.00		0.00	0.00
32	0.00	0.00	0.00		$0.00	$0.00
33						
34			**TOTAL**		$0.00	$0.00
35						
36						
37						
38						
39						
40						
41						

	AG	AH
1		Tennessee-American Water Company
2		OTHER PUBLIC AUTHORITY
3		Bill Analysis for the Month Ended February 29, 2008:
4		
5		Number of Meters
6		Monthly
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		Quarterly
18		
19		
20		
21		
22		
23		
24		
25		
26		
27		
28		Total Meters
29		
30		Monthly
31	0.00	All Usage (100 CCF)
32	0.00	
33		
34	$0.00	
35		
36		
37		
38		
39		
40		
41		

	AI	AJ	AK	AL	AM	AN
1						
2						
3						
4						Present Rate
5				Totals		Revenues
6	5/8"			0.00		$0.00
7	3/4"			0.00		0.00
8	1"			0.00		0.00
9	1-1/2"			0.00		0.00
10	2"			0.00		0.00
11	3"			0.00		0.00
12	4"			0.00		0.00
13	6"			0.00		0.00
14	8"			0.00		0.00
15	10"			0.00		0.00
16	12"			0.00		0.00
17	5/8"			0.00		0.00
18	3/4"			0.00		0.00
19	1"			0.00		0.00
20	1-1/2"			0.00		0.00
21	2"			0.00		0.00
22	3"			0.00		0.00
23	4"			0.00		0.00
24	6"			0.00		0.00
25	8"			0.00		0.00
26	10"			0.00		0.00
27	12"			0.00		0.00
28		0.00	0.00	0.00		$0.00
29						
30	Consumption					
31				0.00		0.00
32	Total	0.00	0.00	0.00		$0.00
33						
34				**TOTAL**		$0.00
35						
36						
37						
38						
39						
40						
41						

	AO	AP	AQ
1			Tennessee-American Water Company
2			OTHER WATER UTILITIES
3			Bill Analysis for the Month Ended February 29, 2008:
4	Proposed Rate		
5	Revenues		Number of Meters
6	$0.00		Monthly
7	0.00		Eff 3/09/05
8	0.00		
9	0.00		
10	0.00		
11	0.00		
12	0.00		
13	0.00		
14	0.00		
15	0.00		
16	0.00		
17	0.00		Monthly
18	0.00		Eff 5/22/07
19	0.00		
20	0.00		
21	0.00		
22	0.00		
23	0.00		
24	0.00		
25	0.00		
26	0.00		
27	0.00		
28	$0.00		Total Meters
29			
30			Monthly
31	0.00		All Usage (100 CCF)
32	$0.00		
33			Monthly D5MWM
34	$0.00		Monthly D5MCM, D5MFM & D5MSM
35			Monthly D5MCM Eff 6/29/07
36			
37			
38			
39			
40			
41			

	AR	AS	AT	AU	AV
1					
2					
3					
4				Ft Ogl	Catoosa
5		D5M4	D5M4M	D5MFM	D5MCM
6	5/8"				
7	3/4"				
8	1"				
9	1-1/2"				
10	2"				
11	3"				
12	4"				
13	6"				
14	8"				
15	10"				
16	12"				
17	5/8"				
18	3/4"				
19	1"				
20	1-1/2"				
21	2"				
22	3"				
23	4"				
24	6"				
25	8"				
26	10"				
27	12"				
28		0.00	0.00	0.00	0.00
29					
30	Consumption				
31					
32	Total	0.00	0.00	0.00	0.00
33					
34				38,353.00	
35					20,033.00
36	Total	0.00	0.00	38,353.00	20,033.00
37					
38					
39					
40					
41					

	AW	AX	AY	AZ	BA
1					
2					
3					
4	Signal Mt	Waldens Rdg			Present Rate
5	D5MSM	D5MWM	Totals		Revenues
6			0.00		$0.00
7			0.00		0.00
8			0.00		0.00
9			0.00		0.00
10			0.00		0.00
11			0.00		0.00
12			0.00		0.00
13			0.00		0.00
14			0.00		0.00
15			0.00		0.00
16			0.00		0.00
17			0.00		0.00
18			0.00		0.00
19			0.00		0.00
20			0.00		0.00
21			0.00		0.00
22			0.00		0.00
23			0.00		0.00
24			0.00		0.00
25			0.00		0.00
26			0.00		0.00
27			0.00		0.00
28	0.00		0.00		$0.00
29					
30					
31			0.00		0.00
32	0.00	0.00	0.00	0.00	$0.00
33		35,185.00	35,185.00		32,985.94
34	30,910.00		69,263.00		55,133.35
35			20,033.00		17,951.57
36	30,910.00	35,185.00	124,481.00	0.00	$106,070.86
37					
38		**TOTAL**	124,481.00		$106,070.86
39					
40					
41					

	BB	BC	BD
1			Tennessee-American Water Company
2			MISCELLANEOUS
3			Bill Analysis for the Month Ended February 29, 2008:
4	Proposed Rate		
5	Revenues		Number of Meters
6	$0.00		Monthly
7	0.00		
8	0.00		
9	0.00		
10	0.00		
11	0.00		
12	0.00		
13	0.00		
14	0.00		
15	0.00		
16	0.00		
17	0.00		Quarterly
18	0.00		
19	0.00		
20	0.00		
21	0.00		
22	0.00		
23	0.00		
24	0.00		
25	0.00		
26	0.00		
27	0.00		
28	$0.00		Total Meters
29			
30			Monthly
31	0.00		All Usage (100 CCF)
32	$0.00		
33	0.00		
34	0.00		
35	0.00		
36	$0.00		
37			
38	$0.00		
39			
40			
41			

	BE	BF	BG	BH	BI	BJ
1						
2						
3						
4						Present Rate
5				Totals		Revenues
6	5/8"			0.00		$0.00
7	3/4"			0.00		0.00
8	1"			0.00		0.00
9	1-1/2"			0.00		0.00
10	2"			0.00		0.00
11	3"			0.00		0.00
12	4"			0.00		0.00
13	6"			0.00		0.00
14	8"			0.00		0.00
15	10"			0.00		0.00
16	12"			0.00		0.00
17	5/8"			0.00		0.00
18	3/4"			0.00		0.00
19	1"			0.00		0.00
20	1-1/2"			0.00		0.00
21	2"			0.00		0.00
22	3"			0.00		0.00
23	4"			0.00		0.00
24	6"			0.00		0.00
25	8"			0.00		0.00
26	10"			0.00		0.00
27	12"			0.00		0.00
28		0.00	0.00	0.00		$0.00
29						
30	Consumption					
31				0.00		0.00
32	Total	0.00	0.00	0.00	0.00	$0.00
33						
34				**TOTAL**		$0.00
35						
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41						

	BK	BL	BM	BN	BO
1					
2					
3					
4	Proposed Rate				
5	Revenues				
6	$0.00				
7	0.00				
8	0.00				
9	0.00				
10	0.00				
11	0.00				
12	0.00				
13	0.00				
14	0.00				
15	0.00				
16	0.00				
17	0.00				
18	0.00				
19	0.00				
20	0.00				
21	0.00				
22	0.00				
23	0.00				
24	0.00				
25	0.00				
26	0.00				
27	0.00				
28	$0.00				
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31	0.00				
32	$0.00				
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34	$0.00				
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	BP	BQ	BR	BS	BT
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	AA	AB	AC	AD	AE	AF
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	AR	AS	AT	AU	AV
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	AW	AX	AY	AZ	BA
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	BB	BC	BD
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	BE	BF	BG	BH	BI	BJ
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	BK	BL	BM	BN	BO
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	BP	BQ	BR	BS	BT
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	BU	BV	BW	BX	BY
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64			H7		
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	BZ	CA	CB	CC
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	A	B
1	Tennessee-American Water Company	
2	**Lone Oak**	
3	Bill Analysis for the Month Ended February 29, 2008:	
4		
5	Base Charge	
6		Monthly
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		Quarterly
18		
19		
20		
21		
22		
23		
24		
25		
26		
27		
28		
29	**Consumption Res, Com Customers**	
30		
31		
32		
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39		
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41		

	C	D	E	F
1				
2				
3				
4		Current	Proposed	
5		Rates	Rates	
6	5/8"	$31.39		
7	3/4"	$31.39		
8	1"	$31.39		
9	1-1/2"	$31.39		
10	2"	$31.39		
11	3"	$31.39		
12	4"	$31.39		
13	6"	$31.39		
14	8"	$31.39		
15	10"	-		
16	12"	-		
17	5/8"	94.17	-	
18	3/4"	94.17	-	
19	1"	94.17	-	
20	1-1/2"	94.17	-	
21	2"	94.17	-	
22	3"	94.17	-	
23	4"	94.17	-	
24	6"	94.17	-	
25	8"	94.17	-	
26	10"	-	-	
27	12"	-	-	
28				
29		Current	Proposed	
30	Monthly	Rates	Rates	
31	First 2.67 (100 CCF)	$0.0000		
32	In Excess 2.67 (100 CCF)	$3.9473		
33				
34				
35				
36				
37				
38				
39				
40				
41				

	G	H
1	Tennessee-American Water Company	
2	RESIDENTIAL	
3	Bill Analysis for the Month Ended February 29, 2008:	
4		
5	Base Charge	
6	Monthly	5/8"
7	Eff 3/09/05	3/4"
8		1"
9		1-1/2"
10		2"
11		3"
12		4"
13		6"
14		8"
15		10"
16		12"
17	Quarterly	5/8"
18		3/4"
19		1"
20		1-1/2"
21		2"
22		3"
23		4"
24		6"
25		8"
26		10"
27		12"
28	Total Meters	
29		Consumption
30	Monthly	
31	First 2.67 (100 CCF)	
32	In Excess 2.67 (100 CCF)	
33		Total
34		
35		
36		
37		
38		
39		
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41		

	I	J	K	L	M	N	O
1							
2							
3							
4					Present Rate	Proposed Rate	
5	L1M4		Totals		Revenues	Revenues	
6	111.00		111.00		$3,484.29	$0.00	
7	0.00		0.00		0.00	0.00	
8	0.00		0.00		0.00	0.00	
9	0.00		0.00		0.00	0.00	
10	0.00		0.00		0.00	0.00	
11	0.00		0.00		0.00	0.00	
12	0.00		0.00		0.00	0.00	
13	0.00		0.00		0.00	0.00	
14	0.00		0.00		0.00	0.00	
15	0.00		0.00		0.00	0.00	
16	0.00		0.00		0.00	0.00	
17			0.00		0.00	0.00	
18			0.00		0.00	0.00	
19			0.00		0.00	0.00	
20			0.00		0.00	0.00	
21			0.00		0.00	0.00	
22			0.00		0.00	0.00	
23			0.00		0.00	0.00	
24			0.00		0.00	0.00	
25			0.00		0.00	0.00	
26			0.00		0.00	0.00	
27			0.00		0.00	0.00	
28	111.00	0.00	111.00		$3,484.29	$0.00	
29							
30							
31	250.62		250.62		0.00	0.00	
32	305.38		305.38		1,205.43	0.00	
33	556.00	0.00	556.00		$1,205.43	$0.00	
34							
35			**TOTAL**		$4,689.72	$0.00	
36							
37							
38							
39							
40							
41							

	P	Q
1	Tennessee-American Water Company	
2	COMMERCIAL	
3	Bill Analysis for the Month Ended February 29, 2008:	
4		
5	Base Charge	
6	Monthly	5/8"
7		3/4"
8		1"
9		1-1/2"
10		2"
11		3"
12		4"
13		6"
14		8"
15		10"
16		12"
17	Quarterly	5/8"
18		3/4"
19		1"
20		1-1/2"
21		2"
22		3"
23		4"
24		6"
25		8"
26		10"
27		12"
28	Total Meters	
29		Consumption
30	Monthly	
31	First 2.67 (100 CCF)	
32	In Excess 2.67 (100 CCF)	
33		Total
34		
35		
36		
37		
38		
39		
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41		

	R	S	T	U	V	W	X
1							
2							
3							
4					Present Rate	Proposed Rate	
5	L2M4		Totals		Revenues	Revenues	
6	2.00		2.00		$62.78	$0.00	
7	0.00		0.00		0.00	0.00	
8	0.00		0.00		0.00	0.00	
9	0.00		0.00		0.00	0.00	
10	0.00		0.00		0.00	0.00	
11	0.00		0.00		0.00	0.00	
12	0.00		0.00		0.00	0.00	
13	0.00		0.00		0.00	0.00	
14	0.00		0.00		0.00	0.00	
15	0.00		0.00		0.00	0.00	
16	0.00		0.00		0.00	0.00	
17			0.00		0.00	0.00	
18			0.00		0.00	0.00	
19			0.00		0.00	0.00	
20			0.00		0.00	0.00	
21			0.00		0.00	0.00	
22			0.00		0.00	0.00	
23			0.00		0.00	0.00	
24			0.00		0.00	0.00	
25			0.00		0.00	0.00	
26			0.00		0.00	0.00	
27			0.00		0.00	0.00	
28	2.00	0.00	2.00		$62.78	$0.00	
29							
30							
31	2.67		2.67		0.00	0.00	
32	0.33		0.33		1.30	0.00	
33	3.00	0.00	3.00		$1.30	$0.00	
34							
35			**TOTAL**		$64.08	$0.00	
36							
37							
38							
39							
40							
41							

	Y	Z
1	Tennessee-American Water Company	
2	INDUSTRIALS	
3	Bill Analysis for the Month Ended February 29, 2008:	
4		
5	Base Charge	
6	Monthly	5/8"
7		3/4"
8		1"
9		1-1/2"
10		2"
11		3"
12		4"
13		6"
14		8"
15		10"
16		12"
17	Quarterly	5/8"
18		3/4"
19		1"
20		1-1/2"
21		2"
22		3"
23		4"
24		6"
25		8"
26		10"
27		12"
28	Total Meters	
29		
30	Monthly	Consumption
31	All Usage (100 CCF)	
32		
33		Total
34		
35		
36		
37		
38		
39		
40		
41		

	AA	AB	AC	AD	AE	AF
1						
2						
3						
4					Present Rate	Proposed Rate
5			Totals		Revenues	Revenues
6			0.00		$0.00	$0.00
7			0.00		0.00	0.00
8			0.00		0.00	0.00
9			0.00		0.00	0.00
10			0.00		0.00	0.00
11			0.00		0.00	0.00
12			0.00		0.00	0.00
13			0.00		0.00	0.00
14			0.00		0.00	0.00
15			0.00		0.00	0.00
16			0.00		0.00	0.00
17			0.00		0.00	0.00
18			0.00		0.00	0.00
19			0.00		0.00	0.00
20			0.00		0.00	0.00
21			0.00		0.00	0.00
22			0.00		0.00	0.00
23			0.00		0.00	0.00
24			0.00		0.00	0.00
25			0.00		0.00	0.00
26			0.00		0.00	0.00
27			0.00		0.00	0.00
28	0.00	0.00	0.00		0.00	0.00
29						
30						
31			0.00		0.00	0.00
32						
33	0.00	0.00	0.00		0.00	0.00
34						
35			**TOTAL**		$0.00	$0.00
36						
37						
38						
39						
40						
41						

	AG	AH
1		Tennessee-American Water Company
2		OTHER PUBLIC AUTHORITY
3		Bill Analysis for the Month Ended February 29, 2008:
4		
5		Number of Meters
6		Monthly
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		Quarterly
18		
19		
20		
21		
22		
23		
24		
25		
26		
27		
28		Total Meters
29		
30		Monthly
31	0.00	All Usage (100 CCF)
32		
33	0.00	
34		
35	$0.00	
36		
37		
38		
39		
40		
41		

	AI	AJ	AK	AL	AM	AN
1						
2						
3						
4						Present Rate
5				Totals		Revenues
6	5/8"			0.00		$0.00
7	3/4"			0.00		0.00
8	1"			0.00		0.00
9	1-1/2"			0.00		0.00
10	2"			0.00		0.00
11	3"			0.00		0.00
12	4"			0.00		0.00
13	6"			0.00		0.00
14	8"			0.00		0.00
15	10"			0.00		0.00
16	12"			0.00		0.00
17	5/8"			0.00		0.00
18	3/4"			0.00		0.00
19	1"			0.00		0.00
20	1-1/2"			0.00		0.00
21	2"			0.00		0.00
22	3"			0.00		0.00
23	4"			0.00		0.00
24	6"			0.00		0.00
25	8"			0.00		0.00
26	10"			0.00		0.00
27	12"			0.00		0.00
28		0.00	0.00	0.00		0.00
29						
30	Consumption					
31				0.00		0.00
32						
33	Total	0.00	0.00	0.00		0.00
34						
35				**TOTAL**		$0.00
36						
37						
38						
39						
40						
41						

	AO	AP	AQ
1			Tennessee-American Water Company
2			OTHER WATER UTILITIES
3			Bill Analysis for the Month Ended February 29, 2008:
4	Proposed Rate		
5	Revenues		Number of Meters
6	$0.00		Monthly
7	0.00		
8	0.00		
9	0.00		
10	0.00		
11	0.00		
12	0.00		
13	0.00		
14	0.00		
15	0.00		
16	0.00		
17	0.00		Quarterly
18	0.00		
19	0.00		
20	0.00		
21	0.00		
22	0.00		
23	0.00		
24	0.00		
25	0.00		
26	0.00		
27	0.00		
28	0.00		Total Meters
29			
30			Monthly
31	0.00		All Usage (100 CCF)
32			
33	0.00		
34			
35	$0.00		
36			
37			
38			
39			
40			
41			

	AR	AS	AT	AU	AV	AW	AX
1							
2							
3							
4							
5						Totals	
6	5/8"					0.00	
7	3/4"					0.00	
8	1"					0.00	
9	1-1/2"					0.00	
10	2"					0.00	
11	3"					0.00	
12	4"					0.00	
13	6"					0.00	
14	8"					0.00	
15	10"					0.00	
16	12"					0.00	
17	5/8"					0.00	
18	3/4"					0.00	
19	1"					0.00	
20	1-1/2"					0.00	
21	2"					0.00	
22	3"					0.00	
23	4"					0.00	
24	6"					0.00	
25	8"					0.00	
26	10"					0.00	
27	12"					0.00	
28		0.00	0.00	0.00	0.00	0.00	
29							
30	Consumption						
31						0.00	
32							
33	Total	0.00	0.00	0.00	0.00	0.00	0.00
34							
35						**TOTAL**	
36							
37							
38							
39							
40							
41							

	AY	AZ	BA
1			
2			
3			
4	Present Rate	Proposed Rate	
5	Revenues	Revenues	
6	$0.00	$0.00	
7	0.00	0.00	
8	0.00	0.00	
9	0.00	0.00	
10	0.00	0.00	
11	0.00	0.00	
12	0.00	0.00	
13	0.00	0.00	
14	0.00	0.00	
15	0.00	0.00	
16	0.00	0.00	
17	0.00	0.00	
18	0.00	0.00	
19	0.00	0.00	
20	0.00	0.00	
21	0.00	0.00	
22	0.00	0.00	
23	0.00	0.00	
24	0.00	0.00	
25	0.00	0.00	
26	0.00	0.00	
27	0.00	0.00	
28	0.00	0.00	
29			
30			
31	0.00	0.00	
32			
33	0.00	0.00	
34			
35	$0.00	$0.00	
36			
37			
38			
39			
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	BB	BC
1	Tennessee-American Water Company	
2	MISCELLANEOUS	
3	Bill Analysis for the Month Ended February 29, 2008:	
4		
5	Number of Meters	
6	Monthly	5/8"
7		3/4"
8		1"
9		1-1/2"
10		2"
11		3"
12		4"
13		6"
14		8"
15		10"
16		12"
17	Quarterly	5/8"
18		3/4"
19		1"
20		1-1/2"
21		2"
22		3"
23		4"
24		6"
25		8"
26		10"
27		12"
28	Total Meters	
29		
30	Monthly	Consumption
31	All Usage (100 CCF)	
32		
33		Total
34		
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	BD	BE	BF	BG	BH	BI	BJ
1							
2							
3							
4							Present Rate
5					Totals		Revenues
6					0.00		$0.00
7					0.00		0.00
8					0.00		0.00
9					0.00		0.00
10					0.00		0.00
11					0.00		0.00
12					0.00		0.00
13					0.00		0.00
14					0.00		0.00
15					0.00		0.00
16					0.00		0.00
17					0.00		0.00
18					0.00		0.00
19					0.00		0.00
20					0.00		0.00
21					0.00		0.00
22					0.00		0.00
23					0.00		0.00
24					0.00		0.00
25					0.00		0.00
26					0.00		0.00
27					0.00		0.00
28	0.00	0.00	0.00	0.00	0.00		0.00
29							
30							
31					0.00		0.00
32							
33	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34							
35					**TOTAL**		$0.00
36							
37							
38							
39							
40							
41							

	BK	BL	BM	BN	BO
1					
2					
3					
4	Proposed Rate				
5	Revenues				
6	$0.00				
7	0.00				
8	0.00				
9	0.00				
10	0.00				
11	0.00				
12	0.00				
13	0.00				
14	0.00				
15	0.00				
16	0.00				
17	0.00				
18	0.00				
19	0.00				
20	0.00				
21	0.00				
22	0.00				
23	0.00				
24	0.00				
25	0.00				
26	0.00				
27	0.00				
28	0.00				
29					
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31	0.00				
32					
33	0.00				
34					
35	$0.00				
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	BP	BQ	BR	BS	BT
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	BU	BV	BW	BX	BY
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	C	D	E	F
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	AA	AB	AC	AD	AE	AF
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	AG	AH
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	AI	AJ	AK	AL	AM	AN
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	AO	AP	AQ
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	AR	AS	AT	AU	AV	AW	AX
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	AY	AZ	BA
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	BB	BC
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	BD	BE	BF	BG	BH	BI	BJ
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	BK	BL	BM	BN	BO
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65		H7			
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	BP	BQ	BR	BS	BT
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	BU	BV	BW	BX	BY
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65			H7		
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	BZ	CA	CB	CC
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	CD	CE
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64		H8
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	A	B
1	Tennessee-American Water Company	
2	**Suck Creek**	
3	Bill Analysis for the Month Ended February 29, 2008:	
4		
5	Base Charge	
6		Monthly
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		Quarterly
18		
19		
20		
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24		
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28		
29	**Consumption Res, Com Customers**	
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31		
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41		

	C	D	E	F
1				
2				
3				
4		Current	Proposed	
5		Rates	Rates	
6	5/8"	$22.85		
7	3/4"	$22.85		
8	1"	$22.85		
9	1-1/2"	$22.85		
10	2"	$22.85		
11	3"	$22.85		
12	4"	$22.85		
13	6"	$22.85		
14	8"	$22.85		
15	10"	-		
16	12"	-		
17	5/8"	68.55	-	
18	3/4"	68.55	-	
19	1"	68.55	-	
20	1-1/2"	68.55	-	
21	2"	68.55	-	
22	3"	68.55	-	
23	4"	68.55	-	
24	6"	68.55	-	
25	8"	68.55	-	
26	10"	-	-	
27	12"	-	-	
28				
29		Current	Proposed	
30	Monthly	Rates	Rates	
31	First 2 (100 CCF)	$0.0000		
32	2nd 10.67 (100 CCF)	$3.3000		
33	In Excess 12.67 (100 CCF)	$2.4750		
34				
35				
36				
37				
38				
39				
40				
41				

	G	H
1	Tennessee-American Water Company	
2	RESIDENTIAL	
3	Bill Analysis for the Month Ended February 29, 2008:	
4		
5	Base Charge	
6	Monthly	5/8"
7		3/4"
8		1"
9		1-1/2"
10		2"
11		3"
12		4"
13		6"
14		8"
15		10"
16		12"
17	Quarterly	5/8"
18		3/4"
19		1"
20		1-1/2"
21		2"
22		3"
23		4"
24		6"
25		8"
26		10"
27		12"
28	Total Meters	
29		Consumption
30	Monthly	
31	First 2 (100 CCF)	
32	2nd 10.67 (100 CCF)	
33	In Excess 12.67 (100 CCF)	
34		Total
35		
36		
37		
38		
39		
40		
41		

	I	J	K	L	M	N
1						
2						
3						
4					Present Rate	Proposed Rate
5	S1M4		Totals		Revenues	Revenues
6	212.00		212.00		$4,844.21	$0.00
7	0.00		0.00		0.00	0.00
8	1.00		1.00		22.85	0.00
9	0.00		0.00		0.00	0.00
10	0.00		0.00		0.00	0.00
11	0.00		0.00		0.00	0.00
12	0.00		0.00		0.00	0.00
13	0.00		0.00		0.00	0.00
14	0.00		0.00		0.00	0.00
15	0.00		0.00		0.00	0.00
16	0.00		0.00		0.00	0.00
17			0.00		0.00	0.00
18			0.00		0.00	0.00
19			0.00		0.00	0.00
20			0.00		0.00	0.00
21			0.00		0.00	0.00
22			0.00		0.00	0.00
23			0.00		0.00	0.00
24			0.00		0.00	0.00
25			0.00		0.00	0.00
26			0.00		0.00	0.00
27			0.00		0.00	0.00
28	213.00	0.00	213.00		$4,867.06	$0.00
29						
30						
31	379.54		379.54		0.00	0.00
32	619.11		619.11		2,043.06	0.00
33	73.35		73.35		181.54	0.00
34	1,072.00	0.00	1,072.00		$2,224.60	$0.00
35						
36			**TOTAL**		$7,091.66	$0.00
37						
38						
39						
40						
41						

	O	P	Q
1		Tennessee-American Water Company	
2		COMMERCIAL	
3		Bill Analysis for the Month Ended February 29, 2008:	
4			
5		Base Charge	
6		Monthly	5/8"
7			3/4"
8			1"
9			1-1/2"
10			2"
11			3"
12			4"
13			6"
14			8"
15			10"
16			12"
17		Quarterly	5/8"
18			3/4"
19			1"
20			1-1/2"
21			2"
22			3"
23			4"
24			6"
25			8"
26			10"
27			12"
28		Total Meters	
29			Consumption
30		Monthly	
31		First 2 (100 CCF)	
32		2nd 10.67 (100 CCF)	
33		In Excess 12.67 (100 CCF)	
34			Total
35			
36			
37			
38			
39			
40			
41			

	R	S	T	U	V	W	X
1							
2							
3							
4					Present Rate	Proposed Rate	
5	S2M4		Totals		Revenues	Revenues	
6	4.00		4.00		$91.40	$0.00	
7	0.00		0.00		0.00	0.00	
8	0.00		0.00		0.00	0.00	
9	0.00		0.00		0.00	0.00	
10	0.00		0.00		0.00	0.00	
11	0.00		0.00		0.00	0.00	
12	0.00		0.00		0.00	0.00	
13	0.00		0.00		0.00	0.00	
14	0.00		0.00		0.00	0.00	
15	0.00		0.00		0.00	0.00	
16	0.00		0.00		0.00	0.00	
17			0.00		0.00	0.00	
18			0.00		0.00	0.00	
19			0.00		0.00	0.00	
20			0.00		0.00	0.00	
21			0.00		0.00	0.00	
22			0.00		0.00	0.00	
23			0.00		0.00	0.00	
24			0.00		0.00	0.00	
25			0.00		0.00	0.00	
26			0.00		0.00	0.00	
27			0.00		0.00	0.00	
28	4.00	0.00	4.00		$91.40	$0.00	
29							
30							
31	4.00		4.00		0.00	0.00	
32	4.00		4.00		13.20	0.00	
33			0.00		0.00	0.00	
34	8.00	0.00	8.00		$13.20	$0.00	
35							
36			**TOTAL**		$104.60	$0.00	
37							
38							
39							
40							
41							

	Y	Z
1	Tennessee-American Water Company	
2	INDUSTRIALS	
3	Bill Analysis for the Month Ended February 29, 2008:	
4		
5	Base Charge	
6	Monthly	5/8"
7		3/4"
8		1"
9		1-1/2"
10		2"
11		3"
12		4"
13		6"
14		8"
15		10"
16		12"
17	Quarterly	5/8"
18		3/4"
19		1"
20		1-1/2"
21		2"
22		3"
23		4"
24		6"
25		8"
26		10"
27		12"
28	Total Meters	
29		
30	Monthly	Consumption
31	First 2 (100 CCF)	
32	2nd 10.67 (100 CCF)	
33	In Excess 12.67 (100 CCF)	
34		Total
35		
36		
37		
38		
39		
40		
41		

	AA	AB	AC	AD	AE	AF
1						
2						
3						
4					Present Rate	Proposed Rate
5	S3M4		Totals		Revenues	Revenues
6			0.00		$0.00	$0.00
7			0.00		0.00	0.00
8			0.00		0.00	0.00
9			0.00		0.00	0.00
10			0.00		0.00	0.00
11			0.00		0.00	0.00
12			0.00		0.00	0.00
13			0.00		0.00	0.00
14			0.00		0.00	0.00
15			0.00		0.00	0.00
16			0.00		0.00	0.00
17			0.00		0.00	0.00
18			0.00		0.00	0.00
19			0.00		0.00	0.00
20			0.00		0.00	0.00
21			0.00		0.00	0.00
22			0.00		0.00	0.00
23			0.00		0.00	0.00
24			0.00		0.00	0.00
25			0.00		0.00	0.00
26			0.00		0.00	0.00
27			0.00		0.00	0.00
28	0.00	0.00	0.00		0.00	0.00
29						
30						
31			0.00		0.00	0.00
32			0.00		0.00	0.00
33			0.00		0.00	0.00
34	0.00	0.00	0.00		0.00	0.00
35						
36			**TOTAL**		$0.00	$0.00
37						
38						
39						
40						
41						

	AG	AH
1		Tennessee-American Water Company
2		OTHER PUBLIC AUTHORITY
3		Bill Analysis for the Month Ended February 29, 2008:
4		
5		Number of Meters
6		Monthly
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		Quarterly
18		
19		
20		
21		
22		
23		
24		
25		
26		
27		
28		Total Meters
29		
30		Monthly
31	0.00	First 2 (100 CCF)
32		2nd 10.67 (100 CCF)
33		In Excess 12.67 (100 CCF)
34	0.00	
35		
36	$0.00	
37		
38		
39		
40		
41		

	AI	AJ	AK	AL	AM	AN
1						
2						
3						
4						Present Rate
5		S4M4		Totals		Revenues
6	5/8"			0.00		$0.00
7	3/4"			0.00		0.00
8	1"			0.00		0.00
9	1-1/2"			0.00		0.00
10	2"			0.00		0.00
11	3"			0.00		0.00
12	4"			0.00		0.00
13	6"			0.00		0.00
14	8"			0.00		0.00
15	10"			0.00		0.00
16	12"			0.00		0.00
17	5/8"			0.00		0.00
18	3/4"			0.00		0.00
19	1"			0.00		0.00
20	1-1/2"			0.00		0.00
21	2"			0.00		0.00
22	3"			0.00		0.00
23	4"			0.00		0.00
24	6"			0.00		0.00
25	8"			0.00		0.00
26	10"			0.00		0.00
27	12"			0.00		0.00
28		0.00	0.00	0.00		0.00
29						
30	Consumption					
31				0.00		0.00
32				0.00		0.00
33				0.00		0.00
34	Total	0.00	0.00	0.00		0.00
35						
36				**TOTAL**		$0.00
37						
38						
39						
40						
41						

	AO	AP	AQ
1			Tennessee-American Water Company
2			OTHER WATER UTILITIES
3			Bill Analysis for the Month Ended February 29, 2008:
4	Proposed Rate		
5	Revenues		Number of Meters
6	$0.00		Monthly
7	0.00		
8	0.00		
9	0.00		
10	0.00		
11	0.00		
12	0.00		
13	0.00		
14	0.00		
15	0.00		
16	0.00		
17	0.00		Quarterly
18	0.00		
19	0.00		
20	0.00		
21	0.00		
22	0.00		
23	0.00		
24	0.00		
25	0.00		
26	0.00		
27	0.00		
28	0.00		Total Meters
29			
30			Monthly
31	0.00		All Usage (100 CCF)
32	0.00		
33	0.00		
34	0.00		
35			
36	$0.00		
37			
38			
39			
40			
41			

	AR	AS	AT	AU	AV	AW	AX
1							
2							
3							
4							
5						Totals	
6	5/8"					0.00	
7	3/4"					0.00	
8	1"					0.00	
9	1-1/2"					0.00	
10	2"					0.00	
11	3"					0.00	
12	4"					0.00	
13	6"					0.00	
14	8"					0.00	
15	10"					0.00	
16	12"					0.00	
17	5/8"					0.00	
18	3/4"					0.00	
19	1"					0.00	
20	1-1/2"					0.00	
21	2"					0.00	
22	3"					0.00	
23	4"					0.00	
24	6"					0.00	
25	8"					0.00	
26	10"					0.00	
27	12"					0.00	
28		0.00	0.00	0.00	0.00	0.00	
29							
30	Consumption						
31						0.00	
32							
33							
34	Total	0.00	0.00	0.00	0.00	0.00	0.00
35							
36						**TOTAL**	
37							
38							
39							
40							
41							

	AY	AZ	BA
1			
2			
3			
4	Present Rate	Proposed Rate	
5	Revenues	Revenues	
6	$0.00	$0.00	
7	0.00	0.00	
8	0.00	0.00	
9	0.00	0.00	
10	0.00	0.00	
11	0.00	0.00	
12	0.00	0.00	
13	0.00	0.00	
14	0.00	0.00	
15	0.00	0.00	
16	0.00	0.00	
17	0.00	0.00	
18	0.00	0.00	
19	0.00	0.00	
20	0.00	0.00	
21	0.00	0.00	
22	0.00	0.00	
23	0.00	0.00	
24	0.00	0.00	
25	0.00	0.00	
26	0.00	0.00	
27	0.00	0.00	
28	0.00	0.00	
29			
30			
31	0.00	0.00	
32			
33			
34	0.00	0.00	
35			
36	$0.00	$0.00	
37			
38			
39			
40			
41			

	BB	BC
1	Tennessee-American Water Company	
2	MISCELLANEOUS	
3	Bill Analysis for the Month Ended February 29, 2008:	
4		
5	Number of Meters	
6	Monthly	5/8"
7		3/4"
8		1"
9		1-1/2"
10		2"
11		3"
12		4"
13		6"
14		8"
15		10"
16		12"
17	Quarterly	5/8"
18		3/4"
19		1"
20		1-1/2"
21		2"
22		3"
23		4"
24		6"
25		8"
26		10"
27		12"
28	Total Meters	
29		
30	Monthly	Consumption
31	All Usage (100 CCF)	
32		
33		
34		Total
35		
36		
37		
38		
39		
40		
41		

	BD	BE	BF	BG	BH	BI	BJ
1							
2							
3							
4							Present Rate
5					Totals		Revenues
6					0.00		$0.00
7					0.00		0.00
8					0.00		0.00
9					0.00		0.00
10					0.00		0.00
11					0.00		0.00
12					0.00		0.00
13					0.00		0.00
14					0.00		0.00
15					0.00		0.00
16					0.00		0.00
17					0.00		0.00
18					0.00		0.00
19					0.00		0.00
20					0.00		0.00
21					0.00		0.00
22					0.00		0.00
23					0.00		0.00
24					0.00		0.00
25					0.00		0.00
26					0.00		0.00
27					0.00		0.00
28	0.00	0.00	0.00	0.00	0.00		0.00
29							
30							
31					0.00		0.00
32							
33							
34	0.00	0.00	0.00	0.00	0.00	0.00	0.00
35							
36					**TOTAL**		$0.00
37							
38							
39							
40							
41							

	BK	BL	BM	BN	BO
1					
2					
3					
4	Proposed Rate				
5	Revenues				
6	$0.00				
7	0.00				
8	0.00				
9	0.00				
10	0.00				
11	0.00				
12	0.00				
13	0.00				
14	0.00				
15	0.00				
16	0.00				
17	0.00				
18	0.00				
19	0.00				
20	0.00				
21	0.00				
22	0.00				
23	0.00				
24	0.00				
25	0.00				
26	0.00				
27	0.00				
28	0.00				
29					
30					
31	0.00				
32					
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3							**RATE ST**
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8				**Per**		**Per**	
9		**Feb-08**		**General**		**Rate**	
10				**Ledger**		**Study**	
11		Res		$1,127,519.07		$1,138,768.03	
12		Com		$854,824.10		$861,102.38	
13		Ind		$350,201.28		$307,347.35	
14		OPA		$179,815.64		$179,869.89	
15		OWU		$107,038.60		$107,038.60	
16		Priv Fr		$131,685.97		$0.00	
17		Pub Fr		$0.00		$0.00	
18		Misc		$20.00		$0.00	
19		Adj.		$0.00		$0.00	
20		**Total**		$2,751,104.66		$2,594,126.25	
21							
22		Notes: a)					
23		b)					
24		c)					
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3	**UDY - GENERAL LEDGER REVENUE COMPARISON**					
4	**TENNESSEE WATER**					
5	**02/01/2008 to 02/29/2008**					
6						
7						
8					**Total Rate**	
9	**Fixed**		**Miscellaneous**		**Study / Fixed**	
10	**Charges**		**Charges**		**Misc.**	
11	$0.00		($11,383.88)		$1,127,384.15	
12	$0.00		($6,488.36)		$854,614.02	
13	$0.00		($4,592.76)		$302,754.59	
14	$0.00		($55.50)		$179,814.39	
15	$0.00		$0.00		$107,038.60	
16	$133,750.16		($2,199.19)		$131,550.97	
17	$0.00		$0.00		$0.00	
18	$0.00		$0.00		$0.00	
19	$0.00		$0.00		$0.00	
20	$133,750.16		($24,719.69)		$2,703,156.72	
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9			**%**				
10	**Variance**		**Variance**				
11	($134.92)		-0.012%				
12	($210.08)		-0.025%				
13	($47,446.69)		-13.548%				
14	($1.25)		-0.001%				
15	$0.00		0.000%				
16	($135.00)		-0.103%				
17	$0.00		#DIV/0!				
18	($20.00)		-100.000%				
19	$0.00		#DIV/0!				
20	($47,947.94)		-1.743%				
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3								**RATE STUDY - GENEI**
4								**TE**
5								**02/01**
6								
7								
8						**Per**		
9		**Feb-08**		**Per PMT**		**Rate**		**Fixed**
10				**Report**		**Study**		**Charges**
11		Res		242,437.79		246,245.25		0.00
12		Com		223,464.56		227,000.25		0.00
13		Ind		427,363.04		379,000.50		0.00
14		OPA		53,926.19		54,083.25		0.00
15		OWU		93,118.23		93,360.75		0.00
16		Priv Fr		0.00		0.00		0.00
17		Pub Fr		0.00		0.00		0.00
18		Misc		0.00		0.00		0.00
19		Adj.		0.00		0.00		0.00
20		**Total**		1,040,309.81		999,690.00		0.00
21								
22								
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3	**RAL LEDGER USAGE COMPARISON**						
4	**NNESSEE WATER**						
5	**/2008 to 02/29/2008**						
6							
7							
8				**Total Rate**			
9		**Miscellaneous**		**Study / Fixed**			
10		**Charges**		**Misc.**		**Variance**	
11		(3,835.00)		242,410.25		(27.54)	
12		(3,969.00)		223,031.25		(433.31)	
13		0.00		379,000.50		(48,362.54)	
14		(19.00)		54,064.25		138.06	
15		0.00		93,360.75		242.52	
16		0.00		0.00		0.00	
17		0.00		0.00		0.00	
18		0.00		0.00		0.00	
19		0.00		0.00		0.00	
20		(7,823.00)		991,867.00		(48,442.81)	
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8							
9	**%**						
10	**Variance**						
11	-0.011%						
12	-0.194%						
13	-11.317%						
14	0.256%						
15	0.260%						
16	0.000%						
17	0.000%						
18	0.000%						
19	0.000%						
20	-4.657%						
21							
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	A
1	Tennessee-American Water Company
2	**Chatanooga**
3	Bill Analysis for the Month Ended March 31, 2008:
4	Rates for General Water Service Effective 3/09/05
5	Service Charge
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17	
18	**Consumption Res, Com, Ind, OPA, OWU & Misc. Customers**
19	Effective 3/09/05
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21	
22	
23	
24	
25	
26	
27	**Consumption Res, Com, Ind, OPA, Misc. Customers**
28	Effective 5/22/07
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	B	C	D
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3			
4			Current
5			Rates
6	Monthly Eff 5/22/07	5/8"	$10.42
7		3/4"	17.51
8		1"	29.14
9		1-1/2"	58.30
10		2"	93.27
11		3"	174.89
12		4"	291.49
13		6"	582.99
14		8"	932.77
15		10"	-
16		12"	-
17			
18			Current
19		Monthly	Rates
20		First 4 (100 CCF)	$0.1720
21		2nd 61 (100 CCF)	$2.7300
22		3rd 435 (100 CCF)	$1.7150
23		4th 4,500 (100 CCF)	$1.2820
24		5th 10,000 (100CCF)	$0.9800
25		In Excess 15,000 (100 CCF)	$0.5820
26			
27			Current
28		Monthly	Rates
29		First 4 (100 CCF)	$0.1940
30		2nd 61 (100 CCF)	$3.0730
31		3rd 435 (100 CCF)	$1.9310
32		4th 4,500 (100 CCF)	$1.4430
33		5th 10,000 (100CCF)	$1.1030
34		In Excess 15,000 (100 CCF)	$0.6550
35			
36			
37			
38			
39			
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41			

	E	F	G
1			Tennessee-American Water Company
2			RESIDENTIAL
3			Bill Analysis for the Month Ended March 31, 2008:
4	Proposed		
5	Rates		Number of Meters
6			Monthly
7			Eff 5/22/07
8			
9			
10			
11			
12			
13			
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16			
17			Total Meters
18	Proposed		
19	Rates		Monthly Eff 3/09/05
20			First 4 (100 CCF)
21			2nd 61 (100 CCF)
22			3rd 435 (100 CCF)
23			4th 4,500 (100 CCF)
24			5th 10,000 (100CCF)
25			In Excess 15,000 (100 CCF)
26			
27	Proposed		
28	Rates		Monthly Eff 5/22/07
29			First 4 (100 CCF)
30			2nd 61 (100 CCF)
31			3rd 435 (100 CCF)
32			4th 4,500 (100 CCF)
33			5th 10,000 (100CCF)
34			In Excess 15,000 (100 CCF)
35			
36			
37			
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5		A1M4	A1MSM		WATER
6	5/8"	54,619.33	1.00		
7	3/4"	89.80	0.00		
8	1"	155.63	0.00		
9	1-1/2"	19.13	0.00		
10	2"	10.30	0.00		
11	3"	0.00	0.00		
12	4"	0.00	0.00		
13	6"	0.00	0.00		
14	8"	0.00	0.00		
15	10"	0.00	0.00		
16	12"	0.00	0.00		
17		54,894.20	1.00	0.00	0.00
18	Consumption				
19					
20		5.97			
21					
22					
23					
24					
25					
26	Total	5.97	0.00	0.00	0.00
27					
28					
29		169,347.90	2.00		
30		99,173.27			
31		2,144.86			
32					
33					
34					
35	Total	270,666.03	2.00	0.00	0.00
36					
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4			Present Rate	Proposed Rate	
5	Totals		Revenues	Revenues	
6	54,620.33		569,143.87	0.00	
7	89.80		1,572.40	0.00	
8	155.63		4,535.16	0.00	
9	19.13		1,115.47	0.00	
10	10.30		960.68	0.00	
11	0.00		0.00	0.00	
12	0.00		0.00	0.00	
13	0.00		0.00	0.00	
14	0.00		0.00	0.00	
15	0.00		0.00	0.00	
16	0.00		0.00	0.00	
17	54,895.20		$577,327.58	$0.00	
18					
19					
20	5.97		1.03	0.00	
21	0.00		0.00	0.00	
22	0.00		0.00	0.00	
23	0.00		0.00	0.00	
24	0.00		0.00	0.00	
25	0.00		0.00	0.00	
26	5.97		$1.03	$0.00	
27					
28					
29	169,349.90		32,853.88	0.00	
30	99,173.27		304,759.46	0.00	
31	2,144.86		4,141.72	0.00	
32	0.00		0.00	0.00	
33	0.00		0.00	0.00	
34	0.00		0.00	0.00	
35	270,668.03		$341,755.06	$0.00	
36					
37	**TOTAL**		$919,083.67	$0.00	
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	R	S
1	Tennessee-American Water Company	
2	COMMERCIAL	
3	Bill Analysis for the Month Ended March 31, 2008:	
4		
5	Number of Meters	
6	Monthly	5/8"
7	Eff 5/22/07	3/4"
8		1"
9		1-1/2"
10		2"
11		3"
12		4"
13		6"
14		8"
15		10"
16		12"
17	Total Meters	
18		Consumption
19	Monthly Eff 3/09/05	
20	First 4 (100 CCF)	
21	2nd 61 (100 CCF)	
22	3rd 435 (100 CCF)	
23	4th 4,500 (100 CCF)	
24	5th 10,000 (100CCF)	
25	In Excess 15,000 (100 CCF)	
26		Total
27		
28	Monthly Eff 5/22/07	
29	First 4 (100 CCF)	
30	2nd 61 (100 CCF)	
31	3rd 435 (100 CCF)	
32	4th 4,500 (100 CCF)	
33	5th 10,000 (100CCF)	
34	In Excess 15,000 (100 CCF)	
35		Total
36		
37		
38		
39		
40		
41		

	T	U	V	W	X
1					
2					
3					
4					
5	A2M4	A2MAM	A2MSM	A2M4S	A2MTM
6	4,449.47	0.00	1.00	1.00	1.00
7	126.07	0.00	0.00	0.00	0.00
8	1,239.20	1.00	2.00	3.00	0.00
9	308.37	1.00	3.00	10.00	1.00
10	767.60	4.00	95.57	116.57	0.00
11	36.10	0.00	0.00	0.00	0.00
12	6.00	1.00	6.00	5.00	0.00
13	1.00	1.00	9.00	1.00	0.00
14	0.00	0.00	1.00	0.00	0.00
15	0.00	0.00	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	0.00
17	6,933.81	8.00	117.57	136.57	2.00
18					
19					
20					
21					
22					
23					
24					
25					
26	0.00	0.00	0.00	0.00	0.00
27					
28					
29	18,457.72	31.00	470.26	4.00	8.00
30	78,629.12	360.00	7,055.56	61.00	71.00
31	78,917.16	966.00	37,253.50	321.00	435.00
32	20,056.00	4,500.00	38,072.68		340.00
33	449.00	1,728.00			
34					
35	196,509.00	7,585.00	82,852.00	386.00	854.00
36					
37					
38					
39					
40					
41					

	Y	Z	AA	AB	AC	AD
1						
2						
3						
4				Present Rate	Proposed Rate	
5	A2M4D	Totals		Revenues	Revenues	
6		4,452.47		46,394.76	0.00	
7		126.07		2,207.41	0.00	
8		1,245.20		36,285.18	0.00	
9		323.37		18,852.28	0.00	
10		983.73		91,752.85	0.00	
11		36.10		6,313.54	0.00	
12		18.00		5,246.82	0.00	
13		12.00		6,995.88	0.00	
14		1.00		932.77	0.00	
15		0.00		0.00	0.00	
16		0.00		0.00	0.00	
17	0.00	7,197.94		$214,981.49	$0.00	
18						
19						
20		0.00		0.00	0.00	
21		0.00		0.00	0.00	
22		0.00		0.00	0.00	
23		0.00		0.00	0.00	
24		0.00		0.00	0.00	
25		0.00		0.00	0.00	
26	0.00	0.00		$0.00	$0.00	
27						
28						
29		18,970.98		3,680.37	0.00	
30		86,176.68		264,820.94	0.00	
31		117,892.66		227,650.73	0.00	
32		62,968.68		90,863.81	0.00	
33		2,177.00		2,401.23	0.00	
34		0.00		0.00	0.00	
35	0.00	288,186.00		$589,417.08	$0.00	
36						
37		**TOTAL**		$804,398.57	$0.00	
38						
39						
40						
41						

	AE	AF
1	Tennessee-American Water Company	
2	INDUSTRIALS	
3	Bill Analysis for the Month Ended March 31, 2008:	
4		
5	Number of Meters	
6	Monthly	5/8"
7	Eff 5/22/07	3/4"
8		1"
9		1-1/2"
10		2"
11		3"
12		4"
13		6"
14		8"
15		10"
16		12"
17	Total Meters	
18		
19	Monthly Eff 3/09/05	Consumption
20	First 4 (100 CCF)	
21	2nd 61 (100 CCF)	
22	3rd 435 (100 CCF)	
23	4th 4,500 (100 CCF)	
24	5th 10,000 (100CCF)	
25	In Excess 15,000 (100 CCF)	
26		Total
27		
28	Monthly Eff 5/22/07	Consumption
29	First 4 (100 CCF)	
30	2nd 61 (100 CCF)	
31	3rd 435 (100 CCF)	
32	4th 4,500 (100 CCF)	
33	5th 10,000 (100CCF)	
34	In Excess 15,000 (100 CCF)	
35		Total
36		
37		
38		
39		
40		
41		

	AG	AH	AI	AJ	AK	AL
1						
2						
3						
4						
5	A3M4	A3MSM	A3M4M	A3M4S	Totals	
6	16.00	0.00	0.00	0.00	16.00	
7	1.00	0.00	0.00	0.00	1.00	
8	23.00	0.00	0.00	0.00	23.00	
9	5.00	0.00	1.00	0.00	6.00	
10	47.13	8.00	10.13	12.00	77.27	
11	0.00	0.00	0.00	0.00	0.00	
12	12.13	2.00	4.00	1.00	19.13	
13	3.00	0.00	2.00	0.00	5.00	
14	0.00	0.00	0.00	0.00	0.00	
15	0.00	0.00	0.00	0.00	0.00	
16	0.00	0.00	0.00	0.00	0.00	
17	107.27	10.00	17.13	13.00	147.40	
18						
19						
20					0.00	
21					0.00	
22					0.00	
23					0.00	
24					0.00	
25					0.00	
26	0.00	0.00	0.00	0.00	0.00	
27						
28						
29	279.00	40.00	68.53		387.53	
30	2,534.00	610.00	1,042.13		4,186.13	
31	8,895.00	4,093.00	6,381.00		19,369.00	
32	19,479.00	18,660.00	39,359.34		77,498.34	
33	14,654.00	19,675.00	27,127.00		61,456.00	
34	8,201.00	(260,971.00)	4,594.00		-248,176.00	
35	54,042.00	(217,893.00)	78,572.00	0.00	-85,279.00	
36						
37					**TOTAL**	
38						
39						
40						
41						

	AM	AN	AO
1			
2			
3			
4	Present Rate	Proposed Rate	
5	Revenues	Revenues	
6	166.72	0.00	
7	17.51	0.00	
8	670.22	0.00	
9	349.80	0.00	
10	7,206.67	0.00	
11	0.00	0.00	
12	5,577.18	0.00	
13	2,914.95	0.00	
14	0.00	0.00	
15	0.00	0.00	
16	0.00	0.00	
17	$16,903.05	$0.00	
18			
19			
20	0.00	0.00	0.00
21	0.00	0.00	0.00
22	0.00	0.00	0.00
23	0.00	0.00	0.00
24	0.00	0.00	0.00
25	0.00	0.00	0.00
26	$0.00	$0.00	0.00
27			
28			
29	75.18	0.00	#REF!
30	12,863.98	0.00	#REF!
31	37,401.54	0.00	#REF!
32	111,830.10	0.00	#REF!
33	67,785.97	0.00	#REF!
34	(162,555.28)	0.00	#REF!
35	$67,401.49	$0.00	#REF!
36			
37	$84,304.54	$0.00	$0.00
38			
39			
40			
41			

	AP	AQ
1	Tennessee-American Water Company	
2	OTHER PUBLIC AUTHORITY	
3	Bill Analysis for the Month Ended March 31, 2008:	
4		
5	Number of Meters	
6	Monthly	5/8"
7	Eff 5/22/07	3/4"
8		1"
9		1-1/2"
10		2"
11		3"
12		4"
13		6"
14		8"
15		10"
16		12"
17	Total Meters	
18		
19	Monthly Eff 3/09/05	Consumption
20	First 4 (100 CCF)	
21	2nd 61 (100 CCF)	
22	3rd 435 (100 CCF)	
23	4th 4,500 (100 CCF)	
24	5th 10,000 (100CCF)	
25	In Excess 15,000 (100 CCF)	
26		Total
27		
28	Monthly Eff 5/22/07	Consumption
29	First 4 (100 CCF)	
30	2nd 61 (100 CCF)	
31	3rd 435 (100 CCF)	
32	4th 4,500 (100 CCF)	
33	5th 10,000 (100CCF)	
34	In Excess 15,000 (100 CCF)	
35		Total
36		
37		
38		
39		
40		
41		

	AR	AS	AT	AU	AV
1					
2					
3					
4					
5	A4M4	A4MSM	A4M4A	A4M4S	A4MAM
6	141.50	0.00	0.00	1.00	0.00
7	10.00	0.00	0.00	1.00	0.00
8	112.33	0.00	0.00	1.00	0.00
9	56.00	2.00	0.00	4.00	0.00
10	189.87	34.00	1.00	39.00	1.00
11	4.00	1.00	0.00	1.00	0.00
12	10.00	8.13	0.00	3.10	0.00
13	0.00	2.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00
15	0.00	0.00	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	0.00
17	523.70	47.13	1.00	50.10	1.00
18					
19					
20					
21					
22					
23					
24					
25					
26	0.00	0.00	0.00	0.00	0.00
27					
28					
29	1,311.14	182.00		4.00	
30	9,047.20	2,583.00		61.00	
31	11,370.66	10,479.00		107.00	
32	8,932.00	18,930.00			
33	4,869.00	680.00			
34					
35	35,530.00	32,854.00	0.00	172.00	0.00
36					
37					
38					
39					
40					
41					

	AW	AX	AY	AZ	BA	BB
1						
2						
3						
4				Present Rate	Proposed Rate	
5	A4M4M	Totals		Revenues	Revenues	
6	0.00	142.50		1,484.85	0.00	
7	0.00	11.00		192.61	0.00	
8	1.00	114.33		3,331.68	0.00	
9	1.00	63.00		3,672.90	0.00	
10	10.00	274.87		25,636.81	0.00	
11	0.00	6.00		1,049.34	0.00	
12	0.00	21.23		6,189.73	0.00	
13	0.00	2.00		1,165.98	0.00	
14	0.00	0.00		0.00	0.00	
15	0.00	0.00		0.00	0.00	
16	0.00	0.00		0.00	0.00	
17	12.00	634.93		$42,723.90	$0.00	
18						
19						
20		0.00		0.00	0.00	
21		0.00		0.00	0.00	
22		0.00		0.00	0.00	
23		0.00		0.00	0.00	
24		0.00		0.00	0.00	
25		0.00		0.00	0.00	
26	0.00	0.00		$0.00	$0.00	
27						
28						
29	42.00	1,539.14		298.59	0.00	
30	547.00	12,238.20		37,607.99	0.00	
31	1,173.00	23,129.66		44,663.37	0.00	
32	2,167.00	30,029.00		43,331.85	0.00	
33		5,549.00		6,120.55	0.00	
34		0.00		0.00	0.00	
35	3,929.00	72,485.00		$132,022.35	$0.00	
36						
37		**TOTAL**		$174,746.25	$0.00	
38						
39						
40						
41						

	BC	BD	BE
1	Tennessee-American Water Company		
2	OTHER WATER UTILITIES		
3	Bill Analysis for the Month Ended March 31, 2008:		
4			
5	Number of Meters		A5M4
6	Eff 5/22/07	5/8"	0.00
7		3/4"	0.00
8		1"	0.00
9		1-1/2"	0.00
10		2"	1.00
11		3"	0.00
12		4"	2.00
13		6"	0.00
14		8"	0.00
15		10"	0.00
16		12"	0.00
17	Total Meters		3.00
18			
19	Monthly Eff 3/09/05	Consumption	
20	First 4 (100 CCF)		
21	2nd 61 (100 CCF)		
22	3rd 435 (100 CCF)		
23	4th 4,500 (100 CCF)		
24	5th 10,000 (100CCF)		
25	In Excess 15,000 (100 CCF)		
26		Total	0.00
27			
28	Monthly Eff 5/22/07	Consumption	
29	First 4 (100 CCF)		
30	2nd 61 (100 CCF)		
31	3rd 435 (100 CCF)		
32	4th 4,500 (100 CCF)		
33	5th 10,000 (100CCF)		
34	In Excess 15,000 (100 CCF)		
35		Total	0.00
36			
37			
38			
39			
40			
41			

	BF	BG	BH	BI	BJ	BK
1						
2						
3						
4						Present Rate
5	A5M4M			Totals		Revenues
6	0.00			0.00		0.00
7	0.00			0.00		0.00
8	0.00			0.00		0.00
9	0.00			0.00		0.00
10	0.00			1.00		93.27
11	0.00			0.00		0.00
12	1.00			3.00		874.47
13	0.00			0.00		0.00
14	0.00			0.00		0.00
15	0.00			0.00		0.00
16	0.00			0.00		0.00
17	1.00	0.00	0.00	4.00		$967.74
18						
19						
20				0.00		0.00
21				0.00		0.00
22				0.00		0.00
23				0.00		0.00
24				0.00		0.00
25				0.00		0.00
26	0.00	0.00	0.00	0.00		$0.00
27						
28						
29				0.00		0.00
30				0.00		0.00
31				0.00		0.00
32				0.00		0.00
33				0.00		0.00
34				0.00		0.00
35	0.00	0.00	0.00	0.00		$0.00
36						
37				**TOTAL**		$967.74
38						
39						
40						
41						

	BL	BM	BN
1			Tennessee-American Water Company
2			MISCELLANEOUS
3			Bill Analysis for the Month Ended March 31, 2008:
4	Proposed Rate		
5	Revenues		Number of Meters
6	0.00		Eff 5/22/07
7	0.00		
8	0.00		
9	0.00		
10	0.00		
11	0.00		
12	0.00		
13	0.00		
14	0.00		
15	0.00		
16	0.00		
17	$0.00		Total Meters
18			
19			Monthly Eff 3/09/05
20	0.00		First 4 (100 CCF)
21	0.00		2nd 61 (100 CCF)
22	0.00		3rd 435 (100 CCF)
23	0.00		4th 4,500 (100 CCF)
24	0.00		5th 10,000 (100CCF)
25	0.00		In Excess 15,000 (100 CCF)
26	$0.00		
27			
28			Monthly Eff 3/09/05
29	0.00		First 4 (100 CCF)
30	0.00		2nd 61 (100 CCF)
31	0.00		3rd 435 (100 CCF)
32	0.00		4th 4,500 (100 CCF)
33	0.00		5th 10,000 (100CCF)
34	0.00		In Excess 15,000 (100 CCF)
35	$0.00		
36			
37	$0.00		
38			
39			
40			
41			

	BO	BP	BQ	BR	BS	BT	BU
1							
2							
3							
4							
5		A7M4				Totals	
6	5/8"					0.00	
7	3/4"					0.00	
8	1"					0.00	
9	1-1/2"					0.00	
10	2"					0.00	
11	3"					0.00	
12	4"					0.00	
13	6"					0.00	
14	8"					0.00	
15	10"					0.00	
16	12"					0.00	
17		0.00	0.00	0.00	0.00	0.00	
18							
19	Consumption						
20						0.00	
21						0.00	
22						0.00	
23						0.00	
24						0.00	
25						0.00	
26	Total	0.00	0.00	0.00	0.00	0.00	
27							
28	Consumption						
29						0.00	
30						0.00	
31						0.00	
32						0.00	
33						0.00	
34						0.00	
35	Total	0.00	0.00	0.00	0.00	0.00	
36							
37						**TOTAL**	
38							
39							
40							
41							

	BV	BW	BX	BY	BZ
1					
2					
3					
4	Present Rate	Proposed Rate			
5	Revenues	Revenues			
6	0.00	0.00			
7	0.00	0.00			
8	0.00	0.00			
9	0.00	0.00			
10	0.00	0.00			
11	0.00	0.00			
12	0.00	0.00			
13	0.00	0.00			
14	0.00	0.00			
15	0.00	0.00			
16	0.00	0.00			
17	$0.00	$0.00			
18					
19					
20	0.00	0.00			
21	0.00	0.00			
22	0.00	0.00			
23	0.00	0.00			
24	0.00	0.00			
25	0.00	0.00			
26	$0.00	$0.00			
27					
28					
29	0.00	0.00			
30	0.00	0.00			
31	0.00	0.00			
32	0.00	0.00			
33	0.00	0.00			
34	0.00	0.00			
35	$0.00	$0.00			
36					
37	$0.00	$0.00			
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	CA	CB	CC	CD
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	AG	AH	AI	AJ	AK	AL
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	AM	AN	AO
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	AP	AQ
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	BC	BD	BE
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	BF	BG	BH	BI	BJ	BK
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	BL	BM	BN
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	BO	BP	BQ	BR	BS	BT	BU
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	BV	BW	BX	BY	BZ
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	CA	CB	CC	CD
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	CE	CF	CG	CH	CI
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	CJ	CK	CL	CM
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	CN	CO	CP	CQ
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	A
1	Tennessee-American Water Company
2	**Lookout Mountain**
3	Bill Analysis for the Month Ended March 31, 2008:
4	Rates for General Water Service Effective 3/09/05
5	Service Charge
6	
7	
8	
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14	
15	
16	
17	
18	**Consumption Res, Com, Ind, OPA, Misc. Customers**
19	Effective 5/22/07
20	
21	
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	B	C	D
1			
2			
3			
4			Current
5			Rates
6	Monthly Eff 5/22/07	5/8"	$11.70
7		3/4"	17.51
8		1"	29.14
9		1-1/2"	58.30
10		2"	93.27
11		3"	174.89
12		4"	291.49
13		6"	582.99
14		8"	932.77
15		10"	-
16		12"	-
17			
18			Current
19		Monthly	Rates
20		First 4 (100 CCF)	$0.7210
21		2nd 61 (100 CCF)	$3.9580
22		3rd 435 (100 CCF)	$2.8160
23		4th 4,500 (100 CCF)	$1.9690
24		5th 10,000 (100CCF)	$1.6300
25		In Excess 15,000 (100 CCF)	$1.1810
26			
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	E	F	G
1			Tennessee-American Water Company
2			RESIDENTIAL
3			Bill Analysis for the Month Ended March 31, 2008:
4	Proposed		
5	Rates		Number of Meters
6			Monthly
7			Eff 5/22/07
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			Total Meters
18	Proposed		
19	Rates		Monthly Eff 5/22/07
20			First 4 (100 CCF)
21			2nd 61 (100 CCF)
22			3rd 435 (100 CCF)
23			4th 4,500 (100 CCF)
24			5th 10,000 (100CCF)
25			In Excess 15,000 (100 CCF)
26			
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	H	I	J	K	L	M	N
1							
2							
3							
4							Present Rate
5		B1M4			Totals		Revenues
6	5/8"	1,668.27			1,668.27		19,518.72
7	3/4"	41.67			41.67		729.58
8	1"	111.67			111.67		3,253.97
9	1-1/2"	2.00			2.00		116.60
10	2"	3.00			3.00		279.81
11	3"	0.00			0.00		0.00
12	4"	0.00			0.00		0.00
13	6"	0.00			0.00		0.00
14	8"	0.00			0.00		0.00
15	10"	0.00			0.00		0.00
16	12"	0.00			0.00		0.00
17		1,826.60	0.00	0.00	1,826.60		$23,898.68
18							
19							
20		5,575.83			5,575.83		4,020.17
21		5,565.17			5,565.17		22,026.94
22					0.00		0.00
23					0.00		0.00
24					0.00		0.00
25					0.00		0.00
26	Total	11,141.00	0.00	0.00	11,141.00		$26,047.11
27							
28					**TOTAL**		$49,945.79
29							
30							
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4	Proposed Rate	
5	Revenues	
6	0.00	
7	0.00	
8	0.00	
9	0.00	
10	0.00	
11	0.00	
12	0.00	
13	0.00	
14	0.00	
15	0.00	
16	0.00	
17	$0.00	
18		
19		
20	0.00	0.00
21	0.00	0.00
22	0.00	0.00
23	0.00	0.00
24	0.00	0.00
25	0.00	0.00
26	$0.00	
27		
28	$0.00	
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	Q	R	S
1	Tennessee-American Water Company		
2	COMMERCIAL		
3	Bill Analysis for the Month Ended March 31, 2008:		
4			
5	Number of Meters		B2M4
6	Monthly	5/8"	56.00
7	Eff 5/22/07	3/4"	2.00
8		1"	17.00
9		1-1/2"	3.00
10		2"	7.00
11		3"	0.00
12		4"	0.00
13		6"	0.00
14		8"	0.00
15		10"	0.00
16		12"	0.00
17	Total Meters		85.00
18			
19	Monthly Eff 5/22/07		
20	First 4 (100 CCF)		211.00
21	2nd 61 (100 CCF)		861.00
22	3rd 435 (100 CCF)		401.00
23	4th 4,500 (100 CCF)		
24	5th 10,000 (100CCF)		
25	In Excess 15,000 (100 CCF)		
26		Total	1,473.00
27			
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	T	U	V	W	X	Y
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2						
3						
4						Present Rate
5	B2M4M			Totals		Revenues
6				56.00		655.20
7				2.00		35.02
8				17.00		495.38
9				3.00		174.90
10				7.00		652.89
11				0.00		0.00
12				0.00		0.00
13				0.00		0.00
14				0.00		0.00
15				0.00		0.00
16				0.00		0.00
17	0.00	0.00	0.00	85.00		$2,013.39
18						
19						
20				211.00		152.13
21				861.00		3,407.84
22				401.00		1,129.22
23				0.00		0.00
24				0.00		0.00
25				0.00		0.00
26	0.00	0.00	0.00	1,473.00		$4,689.19
27						
28				**TOTAL**		$6,702.58
29						
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	Z	AA	AB
1			Tennessee-American Water Company
2			INDUSTRIALS
3			Bill Analysis for the Month Ended March 31, 2008:
4	Proposed Rate		
5	Revenues		Number of Meters
6	0.00		Monthly
7	0.00		Eff 5/22/07
8	0.00		
9	0.00		
10	0.00		
11	0.00		
12	0.00		
13	0.00		
14	0.00		
15	0.00		
16	0.00		
17	$0.00		Total Meters
18			
19			Monthly Eff 5/22/07
20	0.00		First 4 (100 CCF)
21	0.00		2nd 61 (100 CCF)
22	0.00		3rd 435 (100 CCF)
23	0.00		4th 4,500 (100 CCF)
24	0.00		5th 10,000 (100CCF)
25	0.00		In Excess 15,000 (100 CCF)
26	$0.00		
27			
28	$0.00		
29			
30			
31			
32			
33			
34			
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	AC	AD	AE	AF	AG	AH
1						
2						
3						
4						Present Rate
5		B3M4		Totals		Revenues
6	5/8"			0.00		0.00
7	3/4"			0.00		0.00
8	1"			0.00		0.00
9	1-1/2"			0.00		0.00
10	2"			0.00		0.00
11	3"			0.00		0.00
12	4"			0.00		0.00
13	6"			0.00		0.00
14	8"			0.00		0.00
15	10"			0.00		0.00
16	12"			0.00		0.00
17		0.00	0.00	0.00		$0.00
18						
19						
20				0.00		0.00
21				0.00		0.00
22				0.00		0.00
23				0.00		0.00
24				0.00		0.00
25				0.00		0.00
26	Total	0.00	0.00	0.00		$0.00
27						
28				**TOTAL**		$0.00
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41						

	AI	AJ
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3		
4	Proposed Rate	
5	Revenues	
6	0.00	
7	0.00	
8	0.00	
9	0.00	
10	0.00	
11	0.00	
12	0.00	
13	0.00	
14	0.00	
15	0.00	
16	0.00	
17	$0.00	
18		
19		#REF!
20	0.00	
21	0.00	
22	0.00	
23	0.00	
24	0.00	
25	0.00	
26	$0.00	
27		
28	$0.00	
29		
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	AK	AL	AM
1	Tennessee-American Water Company		
2	OTHER PUBLIC AUTHORITY		
3	Bill Analysis for the Month Ended March 31, 2008:		
4			
5	Number of Meters		B4M4
6	Monthly	5/8"	13.00
7	Eff 5/22/07	3/4"	1.00
8		1"	10.00
9		1-1/2"	1.00
10		2"	6.00
11		3"	0.00
12		4"	0.00
13		6"	0.00
14		8"	0.00
15		10"	0.00
16		12"	0.00
17	Total Meters		31.00
18			
19	Monthly Eff 5/22/07		
20	First 4 (100 CCF)		51.00
21	2nd 61 (100 CCF)		246.00
22	3rd 435 (100 CCF)		158.00
23	4th 4,500 (100 CCF)		
24	5th 10,000 (100CCF)		
25	In Excess 15,000 (100 CCF)		
26		Total	455.00
27			
28			
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	AN	AO	AP	AQ	AR	AS
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2						
3						
4				Present Rate	Proposed Rate	
5		Totals		Revenues	Revenues	
6		13.00		152.10	0.00	
7		1.00		17.51	0.00	
8		10.00		291.40	0.00	
9		1.00		58.30	0.00	
10		6.00		559.62	0.00	
11		0.00		0.00	0.00	
12		0.00		0.00	0.00	
13		0.00		0.00	0.00	
14		0.00		0.00	0.00	
15		0.00		0.00	0.00	
16		0.00		0.00	0.00	
17	0.00	31.00		$1,078.93	$0.00	
18						
19						
20		51.00		36.77	0.00	
21		246.00		973.67	0.00	
22		158.00		444.93	0.00	
23		0.00		0.00	0.00	
24		0.00		0.00	0.00	
25		0.00		0.00	0.00	
26	0.00	455.00		$1,455.37	$0.00	
27						
28		**TOTAL**		$2,534.30	$0.00	
29						
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34						
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	AT	AU	AV
1	Tennessee-American Water Company		
2	OTHER WATER UTILITIES		
3	Bill Analysis for the Month Ended March 31, 2008:		
4			
5	Number of Meters		
6	Monthly	5/8"	
7	Eff 5/22/07	3/4"	
8		1"	
9		1-1/2"	
10		2"	
11		3"	
12		4"	
13		6"	
14		8"	
15		10"	
16		12"	
17	Total Meters		0.00
18			
19	Monthly Eff 5/22/07		
20	First 4 (100 CCF)		
21	2nd 61 (100 CCF)		
22	3rd 435 (100 CCF)		
23	4th 4,500 (100 CCF)		
24	5th 10,000 (100CCF)		
25	In Excess 15,000 (100 CCF)		
26		Total	0.00
27			
28			
29			
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41			

	AW	AX	AY	AZ	BA	BB
1						
2						
3						
4				Present Rate	Proposed Rate	
5		Totals		Revenues	Revenues	
6		0.00		0.00	0.00	
7		0.00		0.00	0.00	
8		0.00		0.00	0.00	
9		0.00		0.00	0.00	
10		0.00		0.00	0.00	
11		0.00		0.00	0.00	
12		0.00		0.00	0.00	
13		0.00		0.00	0.00	
14		0.00		0.00	0.00	
15		0.00		0.00	0.00	
16		0.00		0.00	0.00	
17	0.00	0.00		$0.00	$0.00	
18						
19						
20		0.00		0.00	0.00	
21		0.00		0.00	0.00	
22		0.00		0.00	0.00	
23		0.00		0.00	0.00	
24		0.00		0.00	0.00	
25		0.00		0.00	0.00	
26	0.00	0.00		$0.00	$0.00	
27						
28		**TOTAL**		$0.00	$0.00	
29						
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	BC	BD	BE
1	Tennessee-American Water Company		
2	MISCELLANEOUS		
3	Bill Analysis for the Month Ended March 31, 2008:		
4			
5	Number of Meters		B7M4
6	Monthly	5/8"	
7	Eff 5/22/07	3/4"	
8		1"	
9		1-1/2"	
10		2"	
11		3"	
12		4"	
13		6"	
14		8"	
15		10"	
16		12"	
17	Total Meters		0.00
18			
19	Monthly Eff 5/22/07		
20	First 4 (100 CCF)		
21	2nd 61 (100 CCF)		
22	3rd 435 (100 CCF)		
23	4th 4,500 (100 CCF)		
24	5th 10,000 (100CCF)		
25	In Excess 15,000 (100 CCF)		
26		Total	0.00
27			
28			
29			
30			
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32			
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34			
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	BF	BG	BH	BI	BJ	BK
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2						
3						
4				Present Rate	Proposed Rate	
5		Totals		Revenues	Revenues	
6		0.00		0.00	0.00	
7		0.00		0.00	0.00	
8		0.00		0.00	0.00	
9		0.00		0.00	0.00	
10		0.00		0.00	0.00	
11		0.00		0.00	0.00	
12		0.00		0.00	0.00	
13		0.00		0.00	0.00	
14		0.00		0.00	0.00	
15		0.00		0.00	0.00	
16		0.00		0.00	0.00	
17	0.00	0.00		$0.00	$0.00	
18						
19						
20		0.00		0.00	0.00	
21		0.00		0.00	0.00	
22		0.00		0.00	0.00	
23		0.00		0.00	0.00	
24		0.00		0.00	0.00	
25		0.00		0.00	0.00	
26	0.00	0.00		$0.00	$0.00	
27						
28		**TOTAL**		$0.00	$0.00	
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	BP	BQ	BR	BS
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	H	I	J	K	L	M	N
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	AK	AL	AM
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	AN	AO	AP	AQ	AR	AS
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	AW	AX	AY	AZ	BA	BB
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	BC	BD	BE
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	BF	BG	BH	BI	BJ	BK
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	BP	BQ	BR	BS
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	BY	BZ	CA	CB
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	A
1	Tennessee-American Water Company
2	**Lakeview**
3	Bill Analysis for the Month Ended March 31, 2008:
4	Rates for General Water Service
5	Service Charge
6	
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16	
17	
18	**Consumption Res, Com, Ind, OPA, OWU & Misc. Customers**
19	Effective 3/09/05
20	
21	
22	
23	
24	
25	
26	
27	**Consumption Res, Com, Ind, OPA, OWU & Misc. Customers**
28	Effective 5/22/07
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	B	C	D
1			
2			
3			
4			Current
5			Rates
6	Monthly Eff 5/22/07	5/8"	$11.70
7		3/4"	17.51
8		1"	29.14
9		1-1/2"	58.30
10		2"	93.27
11		3"	174.89
12		4"	291.49
13		6"	582.99
14		8"	932.77
15		10"	-
16		12"	-
17			
18			Current
19		Monthly	Rates
20		First 4 (100 CCF)	$0.3160
21		2nd 61 (100 CCF)	$3.0080
22		3rd 435 (100 CCF)	$1.9930
23		4th 4,500 (100 CCF)	$1.4250
24		5th 10,000 (100CCF)	$1.1240
25		In Excess 15,000 (100 CCF)	$0.7250
26			
27			Current
28		Monthly	Rates
29		First 4 (100 CCF)	$0.3560
30		2nd 61 (100 CCF)	$3.3860
31		3rd 435 (100 CCF)	$2.2440
32		4th 4,500 (100 CCF)	$1.6040
33		5th 10,000 (100CCF)	$1.2650
34		In Excess 15,000 (100 CCF)	$0.8160
35			
36			
37			
38			
39			
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41			

	E	F	G
1			Tennessee-American Water Company
2			RESIDENTIAL
3			Bill Analysis for the Month Ended March 31, 2008:
4	Proposed		
5	Rates		Number of Meters
6			Quarterly
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			Total Meters
18	Proposed		
19	Rates		Monthly
20			First 4 (100 CCF)
21			2nd 61 (100 CCF)
22			3rd 435 (100 CCF)
23			4th 4,500 (100 CCF)
24			5th 10,000 (100CCF)
25			In Excess 15,000 (100 CCF)
26			
27	Proposed		
28	Rates		Monthly Eff 5/22/07
29			First 4 (100 CCF)
30			2nd 61 (100 CCF)
31			3rd 435 (100 CCF)
32			4th 4,500 (100 CCF)
33			5th 10,000 (100CCF)
34			In Excess 15,000 (100 CCF)
35			
36			
37			
38			
39			
40			
41			

	H	I	J	K	L	M
1						
2						
3						
4						Present Rate
5		C1M4		Totals		Revenues
6	5/8"	2,792.23		2,792.23		32,669.13
7	3/4"	0.00		0.00		0.00
8	1"	4.00		4.00		116.56
9	1-1/2"	0.00		0.00		0.00
10	2"	0.00		0.00		0.00
11	3"	0.00		0.00		0.00
12	4"	0.00		0.00		0.00
13	6"	0.00		0.00		0.00
14	8"	0.00		0.00		0.00
15	10"	0.00		0.00		0.00
16	12"	0.00		0.00		0.00
17		2,796.23	0.00	2,796.23		$32,785.69
18	Consumption					
19						
20				0.00		0.00
21				0.00		0.00
22				0.00		0.00
23				0.00		0.00
24				0.00		0.00
25				0.00		0.00
26	Total	0.00	0.00	0.00		$0.00
27						
28						
29		8,882.38		8,882.38		3,162.13
30		5,461.62		5,461.62		18,493.05
31		65.00		65.00		145.86
32				0.00		0.00
33				0.00		0.00
34				0.00		0.00
35	Total	14,409.00	0.00	14,409.00		$21,801.04
36						
37				**TOTAL**		$54,586.73
38						
39						
40						
41						

	N	O	P
1			Tennessee-American Water Company
2			COMMERCIAL
3			Bill Analysis for the Month Ended March 31, 2008:
4	Proposed Rate		
5	Revenues		Number of Meters
6	0.00		Quarterly
7	0.00		
8	0.00		
9	0.00		
10	0.00		
11	0.00		
12	0.00		
13	0.00		
14	0.00		
15	0.00		
16	0.00		
17	$0.00		Total Meters
18			
19			Monthly
20	0.00		First 4 (100 CCF)
21	0.00		2nd 61 (100 CCF)
22	0.00		3rd 435 (100 CCF)
23	0.00		4th 4,500 (100 CCF)
24	0.00		5th 10,000 (100CCF)
25	0.00		In Excess 15,000 (100 CCF)
26	$0.00		
27			
28			Monthly Eff 5/22/07
29	0.00		First 4 (100 CCF)
30	0.00		2nd 61 (100 CCF)
31	0.00		3rd 435 (100 CCF)
32	0.00		4th 4,500 (100 CCF)
33	0.00		5th 10,000 (100CCF)
34	0.00		In Excess 15,000 (100 CCF)
35	$0.00		
36			
37	$0.00		
38			
39			
40			
41			

	Q	R	S	T	U	V
1						
2						
3						
4						
5		C2M4			Totals	
6	5/8"	137.87			137.87	
7	3/4"	0.00			0.00	
8	1"	19.17			19.17	
9	1-1/2"	0.00			0.00	
10	2"	7.00			7.00	
11	3"	0.00			0.00	
12	4"	0.00			0.00	
13	6"	0.00			0.00	
14	8"	0.00			0.00	
15	10"	0.00			0.00	
16	12"	0.00			0.00	
17		164.03	0.00	0.00	164.03	
18	Consumption					
19						
20					0.00	
21					0.00	
22					0.00	
23					0.00	
24					0.00	
25					0.00	
26	Total	0.00	0.00	0.00	0.00	
27						
28						
29		431.00			431.00	
30		1,083.84			1,083.84	
31		326.16			326.16	
32					0.00	
33					0.00	
34					0.00	
35	Total	1,841.00	0.00	0.00	1,841.00	
36						
37					**TOTAL**	
38						
39						
40						
41						

	W	X	Y
1			
2			
3			
4	Present Rate	Proposed Rate	
5	Revenues	Revenues	
6	1,613.04	0.00	
7	0.00	0.00	
8	558.52	0.00	
9	0.00	0.00	
10	652.89	0.00	
11	0.00	0.00	
12	0.00	0.00	
13	0.00	0.00	
14	0.00	0.00	
15	0.00	0.00	
16	0.00	0.00	
17	$2,824.45	$0.00	
18			
19			
20	0.00	0.00	
21	0.00	0.00	
22	0.00	0.00	
23	0.00	0.00	
24	0.00	0.00	
25	0.00	0.00	
26	$0.00	$0.00	
27			
28			
29	153.44	0.00	
30	3,669.88	0.00	
31	731.90	0.00	
32	0.00	0.00	
33	0.00	0.00	
34	0.00	0.00	
35	$4,555.22	$0.00	
36			
37	$7,379.67	$0.00	
38			
39			
40			
41			

	Z	AA
1	Tennessee-American Water Company	
2	INDUSTRIALS	
3	Bill Analysis for the Month Ended March 31, 2008:	
4		
5	Number of Meters	
6	Quarterly	5/8"
7		3/4"
8		1"
9		1-1/2"
10		2"
11		3"
12		4"
13		6"
14		8"
15		10"
16		12"
17	Total Meters	
18		
19	Monthly	Consumption
20	First 4 (100 CCF)	
21	2nd 61 (100 CCF)	
22	3rd 435 (100 CCF)	
23	4th 4,500 (100 CCF)	
24	5th 10,000 (100CCF)	
25	In Excess 15,000 (100 CCF)	
26		Total
27		
28	Monthly Eff 5/22/07	
29	First 4 (100 CCF)	
30	2nd 61 (100 CCF)	
31	3rd 435 (100 CCF)	
32	4th 4,500 (100 CCF)	
33	5th 10,000 (100CCF)	
34	In Excess 15,000 (100 CCF)	
35		Total
36		
37		
38		
39		
40		
41		

	AB	AC	AD	AE	AF	AG
1						
2						
3						
4					Present Rate	Proposed Rate
5	C3M4		Totals		Revenues	Revenues
6			0.00		0.00	0.00
7			0.00		0.00	0.00
8			0.00		0.00	0.00
9			0.00		0.00	0.00
10			0.00		0.00	0.00
11			0.00		0.00	0.00
12			0.00		0.00	0.00
13			0.00		0.00	0.00
14			0.00		0.00	0.00
15			0.00		0.00	0.00
16			0.00		0.00	0.00
17	0.00	0.00	0.00		$0.00	$0.00
18						
19						
20			0.00		0.00	0.00
21			0.00		0.00	0.00
22			0.00		0.00	0.00
23			0.00		0.00	0.00
24			0.00		0.00	0.00
25			0.00		0.00	0.00
26	0.00	0.00	0.00		$0.00	$0.00
27						
28						
29			0.00		0.00	0.00
30			0.00		0.00	0.00
31			0.00		0.00	0.00
32			0.00		0.00	0.00
33			0.00		0.00	0.00
34			0.00		0.00	0.00
35	0.00	0.00	0.00		$0.00	$0.00
36						
37			**TOTAL**		$0.00	$0.00
38						
39						
40						
41						

	AH	AI
1		Tennessee-American Water Company
2		OTHER PUBLIC AUTHORITY
3		Bill Analysis for the Month Ended March 31, 2008:
4		
5		Number of Meters
6		Monthly
7		Eff 5/22/07
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		Total Meters
18		
19		Monthly
20	0.00	First 4 (100 CCF)
21	0.00	2nd 61 (100 CCF)
22	0.00	3rd 435 (100 CCF)
23	0.00	4th 4,500 (100 CCF)
24	0.00	5th 10,000 (100CCF)
25	0.00	In Excess 15,000 (100 CCF)
26	0.00	
27		
28	$0.00	Monthly Eff 5/22/07
29		First 4 (100 CCF)
30		2nd 61 (100 CCF)
31		3rd 435 (100 CCF)
32		4th 4,500 (100 CCF)
33		5th 10,000 (100CCF)
34		In Excess 15,000 (100 CCF)
35		
36		
37		
38		
39		
40		
41		

	AJ	AK	AL	AM	AN	AO
1						
2						
3						
4						Present Rate
5		C4M4		Totals		Revenues
6	5/8"	5.00		5.00		58.50
7	3/4"	0.00		0.00		0.00
8	1"	1.00		1.00		29.14
9	1-1/2"	1.00		1.00		58.30
10	2"	2.00		2.00		186.54
11	3"	0.00		0.00		0.00
12	4"	0.00		0.00		0.00
13	6"	0.00		0.00		0.00
14	8"	0.00		0.00		0.00
15	10"	0.00		0.00		0.00
16	12"	0.00		0.00		0.00
17		9.00	0.00	9.00		$332.48
18						
19	Consumption					
20				0.00		0.00
21				0.00		0.00
22				0.00		0.00
23				0.00		0.00
24				0.00		0.00
25				0.00		0.00
26	Total	0.00	0.00	0.00		$0.00
27						
28						
29		9.00		9.00		3.20
30		122.00		122.00		413.09
31		65.00		65.00		145.86
32				0.00		0.00
33				0.00		0.00
34				0.00		0.00
35	Total	196.00	0.00	196.00		$562.15
36						
37				**TOTAL**		$894.63
38						
39						
40						
41						

	AP	AQ	AR
1			Tennessee-American Water Company
2			OTHER WATER UTILITIES
3			Bill Analysis for the Month Ended March 31, 2008:
4	Proposed Rate		
5	Revenues		Number of Meters
6	0.00		Quarterly
7	0.00		
8	0.00		
9	0.00		
10	0.00		
11	0.00		
12	0.00		
13	0.00		
14	0.00		
15	0.00		
16	0.00		
17	$0.00		Total Meters
18			
19			Monthly
20	0.00		First 4 (100 CCF)
21	0.00		2nd 61 (100 CCF)
22	0.00		3rd 435 (100 CCF)
23	0.00		4th 4,500 (100 CCF)
24	0.00		5th 10,000 (100CCF)
25	0.00		In Excess 15,000 (100 CCF)
26	$0.00		
27			
28			Monthly Eff 5/22/07
29	0.00		First 4 (100 CCF)
30	0.00		2nd 61 (100 CCF)
31	0.00		3rd 435 (100 CCF)
32	0.00		4th 4,500 (100 CCF)
33	0.00		5th 10,000 (100CCF)
34	0.00		In Excess 15,000 (100 CCF)
35	$0.00		
36			
37	$0.00		
38			
39			
40			
41			

	AS	AT	AU	AV	AW	AX
1						
2						
3						
4						Present Rate
5				Totals		Revenues
6	5/8"			0.00		0.00
7	3/4"			0.00		0.00
8	1"			0.00		0.00
9	1-1/2"			0.00		0.00
10	2"			0.00		0.00
11	3"			0.00		0.00
12	4"			0.00		0.00
13	6"			0.00		0.00
14	8"			0.00		0.00
15	10"			0.00		0.00
16	12"			0.00		0.00
17		0.00	0.00	0.00		$0.00
18						
19	Consumption					
20						0.00
21						0.00
22						0.00
23						0.00
24						0.00
25						0.00
26	Total	0.00	0.00	0.00	0.00	0.00
27						
28						
29				0.00		0.00
30				0.00		0.00
31				0.00		0.00
32				0.00		0.00
33				0.00		0.00
34				0.00		0.00
35	Total	0.00	0.00	0.00		$0.00
36						
37				**TOTAL**		$0.00
38						
39						
40						
41						

	AY	AZ	BA
1			Tennessee-American Water Company
2			MISCELLANEOUS
3			Bill Analysis for the Month Ended March 31, 2008:
4	Proposed Rate		
5	Revenues		Number of Meters
6	0.00		Quarterly
7	0.00		
8	0.00		
9	0.00		
10	0.00		
11	0.00		
12	0.00		
13	0.00		
14	0.00		
15	0.00		
16	0.00		
17	$0.00		Total Meters
18			
19			Monthly
20	0.00		First 4 (100 CCF)
21	0.00		2nd 61 (100 CCF)
22	0.00		3rd 435 (100 CCF)
23	0.00		4th 4,500 (100 CCF)
24	0.00		5th 10,000 (100CCF)
25	0.00		In Excess 15,000 (100 CCF)
26	0.00		
27			
28			Monthly Eff 5/22/07
29	0.00		First 4 (100 CCF)
30	0.00		2nd 61 (100 CCF)
31	0.00		3rd 435 (100 CCF)
32	0.00		4th 4,500 (100 CCF)
33	0.00		5th 10,000 (100CCF)
34	0.00		In Excess 15,000 (100 CCF)
35	$0.00		
36			
37	$0.00		
38			
39			
40			
41			

	BB	BC	BD	BE	BF	BG
1						
2						
3						
4						Present Rate
5		C7M4		Totals		Revenues
6	5/8"			0.00		0.00
7	3/4"			0.00		0.00
8	1"			0.00		0.00
9	1-1/2"			0.00		0.00
10	2"			0.00		0.00
11	3"			0.00		0.00
12	4"			0.00		0.00
13	6"			0.00		0.00
14	8"			0.00		0.00
15	10"			0.00		0.00
16	12"			0.00		0.00
17		0.00	0.00	0.00		$0.00
18						
19	Consumption					
20						0.00
21						0.00
22						0.00
23						0.00
24						0.00
25						0.00
26	Total	0.00	0.00	0.00	0.00	0.00
27						
28						
29				0.00		0.00
30				0.00		0.00
31				0.00		0.00
32				0.00		0.00
33				0.00		0.00
34				0.00		0.00
35	Total	0.00	0.00	0.00		$0.00
36						
37				**TOTAL**		$0.00
38						
39						
40						
41						

	BH	BI	BJ	BK	BL
1					
2					
3					
4	Proposed Rate				
5	Revenues				
6	0.00				
7	0.00				
8	0.00				
9	0.00				
10	0.00				
11	0.00				
12	0.00				
13	0.00				
14	0.00				
15	0.00				
16	0.00				
17	$0.00				
18					
19					
20	0.00				
21	0.00				
22	0.00				
23	0.00				
24	0.00				
25	0.00				
26	0.00				
27					
28					
29	0.00				
30	0.00				
31	0.00				
32	0.00				
33	0.00				
34	0.00				
35	$0.00				
36					
37	$0.00				
38					
39					
40					
41					

	BM	BN	BO	BP	BQ
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	BR	BS	BT	BU	BV
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	AB	AC	AD	AE	AF	AG
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	AJ	AK	AL	AM	AN	AO
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	AS	AT	AU	AV	AW	AX
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	BB	BC	BD	BE	BF	BG
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	BH	BI	BJ	BK	BL
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	BM	BN	BO	BP	BQ
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	BW	BX	BY	BZ
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	CA	CB
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	A
1	Tennessee-American Water Company
2	**Ft. Oglethorpe**
3	Bill Analysis for the Month Ended March 31, 2008:
4	
5	Service Charge
6	
7	
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29	**Consumption Res, Com, Ind, OPA, Misc. Customers**
30	
31	
32	
33	**Sale for Resale**
34	
35	
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37	
38	
39	
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41	

	B	C	D
1			
2			
3			
4			Current
5			Rates
6	Monthly	5/8"	$0.00
7		3/4"	$0.00
8		1"	$0.00
9		1-1/2"	$0.00
10		2"	$0.00
11		3"	$0.00
12		4"	$0.00
13		6"	$0.00
14		8"	$0.00
15		10"	-
16		12"	-
17	Quarterly	5/8"	-
18		3/4"	-
19		1"	-
20		1-1/2"	-
21		2"	-
22		3"	-
23		4"	-
24		6"	-
25		8"	-
26		10"	-
27		12"	-
28			
29			Current
30		Monthly	Rates
31			
32			
33			Current
34		Monthly	Rates
35		All Usage (100 CCF)	$0.7660
36		Catoosa 11/19/05 & Ft. Ogle 10/19/06	$0.7960
37		Waldens Ridge (100 CCF)	$0.9375
38			
39	Eff 6/29/07	Catoosa	$0.8961
40			
41			

	E	F
1		
2		
3		
4	Proposed	
5	Rates	
6		
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9		
10		
11		
12		
13		
14		
15		
16		
17	-	
18	-	
19	-	
20	-	
21	-	
22	-	
23	-	
24	-	
25	-	
26	-	
27	-	
28		
29	Proposed	
30	Rates	
31		
32		
33	Proposed Res	
34	Rates	
35		
36		
37		
38		
39		
40		
41		

	G	H	I
1	Tennessee-American Water Company		
2	RESIDENTIAL		
3	Bill Analysis for the Month Ended March 31, 2008:		
4			
5	Number of Meters		
6	Monthly	5/8"	
7		3/4"	
8		1"	
9		1-1/2"	
10		2"	
11		3"	
12		4"	
13		6"	
14		8"	
15		10"	
16		12"	
17	Quarterly	5/8"	
18		3/4"	
19		1"	
20		1-1/2"	
21		2"	
22		3"	
23		4"	
24		6"	
25		8"	
26		10"	
27		12"	
28	Total Meters		0.00
29		Consumption	
30	Monthly		
31	All Usage (100 CCF)		
32		Total	0.00
33			
34			
35			
36			
37			
38			
39			
40			
41			

	J	K	L	M	N	O
1						
2						
3						
4				Present Rate	Proposed Rate	
5		Totals		Revenues	Revenues	
6		0.00		$0.00	$0.00	
7		0.00		0.00	0.00	
8		0.00		0.00	0.00	
9		0.00		0.00	0.00	
10		0.00		0.00	0.00	
11		0.00		0.00	0.00	
12		0.00		0.00	0.00	
13		0.00		0.00	0.00	
14		0.00		0.00	0.00	
15		0.00		0.00	0.00	
16		0.00		0.00	0.00	
17		0.00		0.00	0.00	
18		0.00		0.00	0.00	
19		0.00		0.00	0.00	
20		0.00		0.00	0.00	
21		0.00		0.00	0.00	
22		0.00		0.00	0.00	
23		0.00		0.00	0.00	
24		0.00		0.00	0.00	
25		0.00		0.00	0.00	
26		0.00		0.00	0.00	
27		0.00		0.00	0.00	
28	0.00	0.00		$0.00	$0.00	
29						
30						
31		0.00		0.00	0.00	
32	0.00	0.00		$0.00	$0.00	
33						
34		**TOTAL**		$0.00	$0.00	
35						
36						
37						
38						
39						
40						
41						

	P	Q	R
1	Tennessee-American Water Company		
2	COMMERCIAL		
3	Bill Analysis for the Month Ended March 31, 2008:		
4			
5	Number of Meters		
6	Monthly	5/8"	
7		3/4"	
8		1"	
9		1-1/2"	
10		2"	
11		3"	
12		4"	
13		6"	
14		8"	
15		10"	
16		12"	
17	Quarterly	5/8"	
18		3/4"	
19		1"	
20		1-1/2"	
21		2"	
22		3"	
23		4"	
24		6"	
25		8"	
26		10"	
27		12"	
28	Total Meters		0.00
29		Consumption	
30	Monthly		
31	All Usage (100 CCF)		
32		Total	0.00
33			
34			
35			
36			
37			
38			
39			
40			
41			

	S	T	U	V	W	X
1						
2						
3						
4				Present Rate	Proposed Rate	
5		Totals		Revenues	Revenues	
6		0.00		$0.00	$0.00	
7		0.00		0.00	0.00	
8		0.00		0.00	0.00	
9		0.00		0.00	0.00	
10		0.00		0.00	0.00	
11		0.00		0.00	0.00	
12		0.00		0.00	0.00	
13		0.00		0.00	0.00	
14		0.00		0.00	0.00	
15		0.00		0.00	0.00	
16		0.00		0.00	0.00	
17		0.00		0.00	0.00	
18		0.00		0.00	0.00	
19		0.00		0.00	0.00	
20		0.00		0.00	0.00	
21		0.00		0.00	0.00	
22		0.00		0.00	0.00	
23		0.00		0.00	0.00	
24		0.00		0.00	0.00	
25		0.00		0.00	0.00	
26		0.00		0.00	0.00	
27		0.00		0.00	0.00	
28	0.00	0.00		$0.00	$0.00	
29						
30						
31		0.00		0.00	0.00	
32	0.00	0.00		$0.00	$0.00	
33						
34		**TOTAL**		$0.00	$0.00	
35						
36						
37						
38						
39						
40						
41						

	Y	Z	AA
1	Tennessee-American Water Company		
2	INDUSTRIALS		
3	Bill Analysis for the Month Ended March 31, 2008:		
4			
5	Number of Meters		
6	Monthly	5/8"	
7		3/4"	
8		1"	
9		1-1/2"	
10		2"	
11		3"	
12		4"	
13		6"	
14		8"	
15		10"	
16		12"	
17	Quarterly	5/8"	
18		3/4"	
19		1"	
20		1-1/2"	
21		2"	
22		3"	
23		4"	
24		6"	
25		8"	
26		10"	
27		12"	
28	Total Meters		0.00
29			
30	Monthly	Consumption	
31	All Usage (100 CCF)		
32		Total	0.00
33			
34			
35			
36			
37			
38			
39			
40			
41			

	AB	AC	AD	AE	AF	AG
1						
2						
3						
4				Present Rate	Proposed Rate	
5		Totals		Revenues	Revenues	
6		0.00		$0.00	$0.00	
7		0.00		0.00	0.00	
8		0.00		0.00	0.00	
9		0.00		0.00	0.00	
10		0.00		0.00	0.00	
11		0.00		0.00	0.00	
12		0.00		0.00	0.00	
13		0.00		0.00	0.00	
14		0.00		0.00	0.00	
15		0.00		0.00	0.00	
16		0.00		0.00	0.00	
17		0.00		0.00	0.00	
18		0.00		0.00	0.00	
19		0.00		0.00	0.00	
20		0.00		0.00	0.00	
21		0.00		0.00	0.00	
22		0.00		0.00	0.00	
23		0.00		0.00	0.00	
24		0.00		0.00	0.00	
25		0.00		0.00	0.00	
26		0.00		0.00	0.00	
27		0.00		0.00	0.00	
28	0.00	0.00		$0.00	$0.00	
29						
30						
31		0.00		0.00	0.00	0.00
32	0.00	0.00		$0.00	$0.00	0.00
33						
34		**TOTAL**		$0.00	$0.00	$0.00
35						
36						
37						
38						
39						
40						
41						

	AH	AI	AJ
1	Tennessee-American Water Company		
2	OTHER PUBLIC AUTHORITY		
3	Bill Analysis for the Month Ended March 31, 2008:		
4			
5	Number of Meters		
6	Monthly	5/8"	
7		3/4"	
8		1"	
9		1-1/2"	
10		2"	
11		3"	
12		4"	
13		6"	
14		8"	
15		10"	
16		12"	
17	Quarterly	5/8"	
18		3/4"	
19		1"	
20		1-1/2"	
21		2"	
22		3"	
23		4"	
24		6"	
25		8"	
26		10"	
27		12"	
28	Total Meters		0.00
29			
30	Monthly	Consumption	
31	All Usage (100 CCF)		
32		Total	0.00
33			
34			
35			
36			
37			
38			
39			
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41			

	AK	AL	AM	AN	AO	AP
1						
2						
3						
4				Present Rate	Proposed Rate	
5		Totals		Revenues	Revenues	
6		0.00		$0.00	$0.00	
7		0.00		0.00	0.00	
8		0.00		0.00	0.00	
9		0.00		0.00	0.00	
10		0.00		0.00	0.00	
11		0.00		0.00	0.00	
12		0.00		0.00	0.00	
13		0.00		0.00	0.00	
14		0.00		0.00	0.00	
15		0.00		0.00	0.00	
16		0.00		0.00	0.00	
17		0.00		0.00	0.00	
18		0.00		0.00	0.00	
19		0.00		0.00	0.00	
20		0.00		0.00	0.00	
21		0.00		0.00	0.00	
22		0.00		0.00	0.00	
23		0.00		0.00	0.00	
24		0.00		0.00	0.00	
25		0.00		0.00	0.00	
26		0.00		0.00	0.00	
27		0.00		0.00	0.00	
28	0.00	0.00		$0.00	$0.00	
29						
30						
31		0.00		0.00	0.00	
32	0.00	0.00		$0.00	$0.00	
33						
34		**TOTAL**		$0.00	$0.00	
35						
36						
37						
38						
39						
40						
41						

	AQ	AR	AS
1	Tennessee-American Water Company		
2	OTHER WATER UTILITIES		
3	Bill Analysis for the Month Ended March 31, 2008:		
4			
5	Number of Meters		D5M4
6	Monthly	5/8"	
7	Eff 3/09/05	3/4"	
8		1"	
9		1-1/2"	
10		2"	
11		3"	
12		4"	
13		6"	
14		8"	
15		10"	
16		12"	
17	Monthly	5/8"	
18	Eff 5/22/07	3/4"	
19		1"	
20		1-1/2"	
21		2"	
22		3"	
23		4"	
24		6"	
25		8"	
26		10"	
27		12"	
28	Total Meters		0.00
29			
30	Monthly	Consumption	
31	All Usage (100 CCF)		
32		Total	0.00
33	Monthly D5MWM		
34	Monthly D5MCM, D5MFM & D5MSM		
35	Monthly D5MCM Eff 6/29/07		
36		Total	0.00
37			
38			
39			
40			
41			

	AT	AU	AV	AW	AX
1					
2					
3					
4		Ft Ogl	Catoosa	Signal Mt	Waldens Rdg
5	D5M4M	D5MFM	D5MCM	D5MSM	D5MWM
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28	0.00	0.00	0.00	0.00	
29					
30					
31					
32	0.00	0.00	0.00	0.00	0.00
33					39,879.00
34		41,022.00		35,080.00	
35			13,622.00		
36	0.00	41,022.00	13,622.00	35,080.00	39,879.00
37					
38					**TOTAL**
39					
40					
41					

	AY	AZ	BA	BB	BC
1					
2					
3					
4			Present Rate	Proposed Rate	
5	Totals		Revenues	Revenues	
6	0.00		$0.00	$0.00	
7	0.00		0.00	0.00	
8	0.00		0.00	0.00	
9	0.00		0.00	0.00	
10	0.00		0.00	0.00	
11	0.00		0.00	0.00	
12	0.00		0.00	0.00	
13	0.00		0.00	0.00	
14	0.00		0.00	0.00	
15	0.00		0.00	0.00	
16	0.00		0.00	0.00	
17	0.00		0.00	0.00	
18	0.00		0.00	0.00	
19	0.00		0.00	0.00	
20	0.00		0.00	0.00	
21	0.00		0.00	0.00	
22	0.00		0.00	0.00	
23	0.00		0.00	0.00	
24	0.00		0.00	0.00	
25	0.00		0.00	0.00	
26	0.00		0.00	0.00	
27	0.00		0.00	0.00	
28	0.00		$0.00	$0.00	
29					
30					
31	0.00		0.00	0.00	
32	0.00	0.00	$0.00	$0.00	
33	39,879.00		37,386.56	0.00	
34	76,102.00		60,577.19	0.00	
35	13,622.00		12,206.67	0.00	
36	129,603.00	0.00	$110,170.42	$0.00	
37					
38	129,603.00		$110,170.42	$0.00	
39					
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41					

	BD	BE	BF
1	Tennessee-American Water Company		
2	MISCELLANEOUS		
3	Bill Analysis for the Month Ended March 31, 2008:		
4			
5	Number of Meters		
6	Monthly	5/8"	
7		3/4"	
8		1"	
9		1-1/2"	
10		2"	
11		3"	
12		4"	
13		6"	
14		8"	
15		10"	
16		12"	
17	Quarterly	5/8"	
18		3/4"	
19		1"	
20		1-1/2"	
21		2"	
22		3"	
23		4"	
24		6"	
25		8"	
26		10"	
27		12"	
28	Total Meters		0.00
29			
30	Monthly	Consumption	
31	All Usage (100 CCF)		
32		Total	0.00
33			
34			
35			
36			
37			
38			
39			
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	BG	BH	BI	BJ	BK	BL
1						
2						
3						
4				Present Rate	Proposed Rate	
5		Totals		Revenues	Revenues	
6		0.00		$0.00	$0.00	
7		0.00		0.00	0.00	
8		0.00		0.00	0.00	
9		0.00		0.00	0.00	
10		0.00		0.00	0.00	
11		0.00		0.00	0.00	
12		0.00		0.00	0.00	
13		0.00		0.00	0.00	
14		0.00		0.00	0.00	
15		0.00		0.00	0.00	
16		0.00		0.00	0.00	
17		0.00		0.00	0.00	
18		0.00		0.00	0.00	
19		0.00		0.00	0.00	
20		0.00		0.00	0.00	
21		0.00		0.00	0.00	
22		0.00		0.00	0.00	
23		0.00		0.00	0.00	
24		0.00		0.00	0.00	
25		0.00		0.00	0.00	
26		0.00		0.00	0.00	
27		0.00		0.00	0.00	
28	0.00	0.00		$0.00	$0.00	
29						
30						
31		0.00		0.00	0.00	
32	0.00	0.00	0.00	$0.00	$0.00	
33						
34		**TOTAL**		$0.00	$0.00	
35						
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	AB	AC	AD	AE	AF	AG
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	AH	AI	AJ
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	AK	AL	AM	AN	AO	AP
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	AQ	AR	AS
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	AT	AU	AV	AW	AX
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	AY	AZ	BA	BB	BC
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	BD	BE	BF
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	BG	BH	BI	BJ	BK	BL
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	BM	BN	BO	BP
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	BQ	BR	BS	BT
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	BU	BV	BW	BX	BY
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	BZ	CA	CB	CC
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	A	B
1	Tennessee-American Water Company	
2	**Lone Oak**	
3	Bill Analysis for the Month Ended March 31, 2008:	
4		
5	Base Charge	
6		Monthly
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		Quarterly
18		
19		
20		
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24		
25		
26		
27		
28		
29	**Consumption Res, Com Customers**	
30		
31		
32		
33		
34		
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36		
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38		
39		
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41		

	C	D	E	F
1				
2				
3				
4		Current	Proposed	
5		Rates	Rates	
6	5/8"	$31.39		
7	3/4"	$31.39		
8	1"	$31.39		
9	1-1/2"	$31.39		
10	2"	$31.39		
11	3"	$31.39		
12	4"	$31.39		
13	6"	$31.39		
14	8"	$31.39		
15	10"	-		
16	12"	-		
17	5/8"	94.17	-	
18	3/4"	94.17	-	
19	1"	94.17	-	
20	1-1/2"	94.17	-	
21	2"	94.17	-	
22	3"	94.17	-	
23	4"	94.17	-	
24	6"	94.17	-	
25	8"	94.17	-	
26	10"	-	-	
27	12"	-	-	
28				
29		Current	Proposed	
30	Monthly	Rates	Rates	
31	First 2.67 (100 CCF)	$0.0000		
32	In Excess 2.67 (100 CCF)	$3.9473		
33				
34				
35				
36				
37				
38				
39				
40				
41				

	G	H
1	Tennessee-American Water Company	
2	RESIDENTIAL	
3	Bill Analysis for the Month Ended March 31, 2008:	
4		
5	Base Charge	
6	Monthly	5/8"
7	Eff 3/09/05	3/4"
8		1"
9		1-1/2"
10		2"
11		3"
12		4"
13		6"
14		8"
15		10"
16		12"
17	Quarterly	5/8"
18		3/4"
19		1"
20		1-1/2"
21		2"
22		3"
23		4"
24		6"
25		8"
26		10"
27		12"
28	Total Meters	
29		Consumption
30	Monthly	
31	First 2.67 (100 CCF)	
32	In Excess 2.67 (100 CCF)	
33		Total
34		
35		
36		
37		
38		
39		
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41		

	I	J	K	L	M	N	O
1							
2							
3							
4					Present Rate	Proposed Rate	
5	L1M4		Totals		Revenues	Revenues	
6	112.03		112.03		$3,516.72	$0.00	
7	0.00		0.00		0.00	0.00	
8	0.00		0.00		0.00	0.00	
9	0.00		0.00		0.00	0.00	
10	0.00		0.00		0.00	0.00	
11	0.00		0.00		0.00	0.00	
12	0.00		0.00		0.00	0.00	
13	0.00		0.00		0.00	0.00	
14	0.00		0.00		0.00	0.00	
15	0.00		0.00		0.00	0.00	
16	0.00		0.00		0.00	0.00	
17			0.00		0.00	0.00	
18			0.00		0.00	0.00	
19			0.00		0.00	0.00	
20			0.00		0.00	0.00	
21			0.00		0.00	0.00	
22			0.00		0.00	0.00	
23			0.00		0.00	0.00	
24			0.00		0.00	0.00	
25			0.00		0.00	0.00	
26			0.00		0.00	0.00	
27			0.00		0.00	0.00	
28	112.03	0.00	112.03		$3,516.72	$0.00	
29							
30							
31	252.95		252.95		0.00	0.00	
32	360.05		360.05		1,421.23	0.00	
33	613.00	0.00	613.00		$1,421.23	$0.00	
34							
35			**TOTAL**		$4,937.95	$0.00	
36							
37							
38							
39							
40							
41							

	P	Q	R
1	Tennessee-American Water Company		
2	COMMERCIAL		
3	Bill Analysis for the Month Ended March 31, 2008:		
4			
5	Base Charge		L2M4
6	Monthly	5/8"	2.00
7		3/4"	0.00
8		1"	0.00
9		1-1/2"	0.00
10		2"	0.00
11		3"	0.00
12		4"	0.00
13		6"	0.00
14		8"	0.00
15		10"	0.00
16		12"	0.00
17	Quarterly	5/8"	
18		3/4"	
19		1"	
20		1-1/2"	
21		2"	
22		3"	
23		4"	
24		6"	
25		8"	
26		10"	
27		12"	
28	Total Meters		2.00
29		Consumption	
30	Monthly		
31	First 2.67 (100 CCF)		2.67
32	In Excess 2.67 (100 CCF)		0.33
33		Total	3.00
34			
35			
36			
37			
38			
39			
40			
41			

	S	T	U	V	W	X
1						
2						
3						
4				Present Rate	Proposed Rate	
5		Totals		Revenues	Revenues	
6		2.00		$62.78	$0.00	
7		0.00		0.00	0.00	
8		0.00		0.00	0.00	
9		0.00		0.00	0.00	
10		0.00		0.00	0.00	
11		0.00		0.00	0.00	
12		0.00		0.00	0.00	
13		0.00		0.00	0.00	
14		0.00		0.00	0.00	
15		0.00		0.00	0.00	
16		0.00		0.00	0.00	
17		0.00		0.00	0.00	
18		0.00		0.00	0.00	
19		0.00		0.00	0.00	
20		0.00		0.00	0.00	
21		0.00		0.00	0.00	
22		0.00		0.00	0.00	
23		0.00		0.00	0.00	
24		0.00		0.00	0.00	
25		0.00		0.00	0.00	
26		0.00		0.00	0.00	
27		0.00		0.00	0.00	
28	0.00	2.00		$62.78	$0.00	
29						
30						
31		2.67		0.00	0.00	
32		0.33		1.30	0.00	
33	0.00	3.00		$1.30	$0.00	
34						
35		**TOTAL**		$64.08	$0.00	
36						
37						
38						
39						
40						
41						

	Y	Z	AA
1	Tennessee-American Water Company		
2	INDUSTRIALS		
3	Bill Analysis for the Month Ended March 31, 2008:		
4			
5	Base Charge		
6	Monthly	5/8"	
7		3/4"	
8		1"	
9		1-1/2"	
10		2"	
11		3"	
12		4"	
13		6"	
14		8"	
15		10"	
16		12"	
17	Quarterly	5/8"	
18		3/4"	
19		1"	
20		1-1/2"	
21		2"	
22		3"	
23		4"	
24		6"	
25		8"	
26		10"	
27		12"	
28	Total Meters		0.00
29			
30	Monthly	Consumption	
31	All Usage (100 CCF)		
32			
33		Total	0.00
34			
35			
36			
37			
38			
39			
40			
41			

	AB	AC	AD	AE	AF	AG
1						
2						
3						
4				Present Rate	Proposed Rate	
5		Totals		Revenues	Revenues	
6		0.00		$0.00	$0.00	
7		0.00		0.00	0.00	
8		0.00		0.00	0.00	
9		0.00		0.00	0.00	
10		0.00		0.00	0.00	
11		0.00		0.00	0.00	
12		0.00		0.00	0.00	
13		0.00		0.00	0.00	
14		0.00		0.00	0.00	
15		0.00		0.00	0.00	
16		0.00		0.00	0.00	
17		0.00		0.00	0.00	
18		0.00		0.00	0.00	
19		0.00		0.00	0.00	
20		0.00		0.00	0.00	
21		0.00		0.00	0.00	
22		0.00		0.00	0.00	
23		0.00		0.00	0.00	
24		0.00		0.00	0.00	
25		0.00		0.00	0.00	
26		0.00		0.00	0.00	
27		0.00		0.00	0.00	
28	0.00	0.00		0.00	0.00	
29						
30						
31		0.00		0.00	0.00	0.00
32						
33	0.00	0.00		0.00	0.00	0.00
34						
35		**TOTAL**		$0.00	$0.00	$0.00
36						
37						
38						
39						
40						
41						

	AH	AI	AJ
1	Tennessee-American Water Company		
2	OTHER PUBLIC AUTHORITY		
3	Bill Analysis for the Month Ended March 31, 2008:		
4			
5	Number of Meters		
6	Monthly	5/8"	
7		3/4"	
8		1"	
9		1-1/2"	
10		2"	
11		3"	
12		4"	
13		6"	
14		8"	
15		10"	
16		12"	
17	Quarterly	5/8"	
18		3/4"	
19		1"	
20		1-1/2"	
21		2"	
22		3"	
23		4"	
24		6"	
25		8"	
26		10"	
27		12"	
28	Total Meters		0.00
29			
30	Monthly	Consumption	
31	All Usage (100 CCF)		
32			
33		Total	0.00
34			
35			
36			
37			
38			
39			
40			
41			

	AK	AL	AM	AN	AO	AP
1						
2						
3						
4				Present Rate	Proposed Rate	
5		Totals		Revenues	Revenues	
6		0.00		$0.00	$0.00	
7		0.00		0.00	0.00	
8		0.00		0.00	0.00	
9		0.00		0.00	0.00	
10		0.00		0.00	0.00	
11		0.00		0.00	0.00	
12		0.00		0.00	0.00	
13		0.00		0.00	0.00	
14		0.00		0.00	0.00	
15		0.00		0.00	0.00	
16		0.00		0.00	0.00	
17		0.00		0.00	0.00	
18		0.00		0.00	0.00	
19		0.00		0.00	0.00	
20		0.00		0.00	0.00	
21		0.00		0.00	0.00	
22		0.00		0.00	0.00	
23		0.00		0.00	0.00	
24		0.00		0.00	0.00	
25		0.00		0.00	0.00	
26		0.00		0.00	0.00	
27		0.00		0.00	0.00	
28	0.00	0.00		0.00	0.00	
29						
30						
31		0.00		0.00	0.00	
32						
33	0.00	0.00		0.00	0.00	
34						
35		**TOTAL**		$0.00	$0.00	
36						
37						
38						
39						
40						
41						

	AQ	AR	AS
1	Tennessee-American Water Company		
2	OTHER WATER UTILITIES		
3	Bill Analysis for the Month Ended March 31, 2008:		
4			
5	Number of Meters		
6	Monthly	5/8"	
7		3/4"	
8		1"	
9		1-1/2"	
10		2"	
11		3"	
12		4"	
13		6"	
14		8"	
15		10"	
16		12"	
17	Quarterly	5/8"	
18		3/4"	
19		1"	
20		1-1/2"	
21		2"	
22		3"	
23		4"	
24		6"	
25		8"	
26		10"	
27		12"	
28	Total Meters		0.00
29			
30	Monthly	Consumption	
31	All Usage (100 CCF)		
32			
33		Total	0.00
34			
35			
36			
37			
38			
39			
40			
41			

	AT	AU	AV	AW	AX	AY
1						
2						
3						
4						Present Rate
5				Totals		Revenues
6				0.00		$0.00
7				0.00		0.00
8				0.00		0.00
9				0.00		0.00
10				0.00		0.00
11				0.00		0.00
12				0.00		0.00
13				0.00		0.00
14				0.00		0.00
15				0.00		0.00
16				0.00		0.00
17				0.00		0.00
18				0.00		0.00
19				0.00		0.00
20				0.00		0.00
21				0.00		0.00
22				0.00		0.00
23				0.00		0.00
24				0.00		0.00
25				0.00		0.00
26				0.00		0.00
27				0.00		0.00
28	0.00	0.00	0.00	0.00		0.00
29						
30						
31				0.00		0.00
32						
33	0.00	0.00	0.00	0.00	0.00	0.00
34						
35				**TOTAL**		$0.00
36						
37						
38						
39						
40						
41						

	AZ	BA	BB
1			Tennessee-American Water Company
2			MISCELLANEOUS
3			Bill Analysis for the Month Ended March 31, 2008:
4	Proposed Rate		
5	Revenues		Number of Meters
6	$0.00		Monthly
7	0.00		
8	0.00		
9	0.00		
10	0.00		
11	0.00		
12	0.00		
13	0.00		
14	0.00		
15	0.00		
16	0.00		
17	0.00		Quarterly
18	0.00		
19	0.00		
20	0.00		
21	0.00		
22	0.00		
23	0.00		
24	0.00		
25	0.00		
26	0.00		
27	0.00		
28	0.00		Total Meters
29			
30			Monthly
31	0.00		All Usage (100 CCF)
32			
33	0.00		
34			
35	$0.00		
36			
37			
38			
39			
40			
41			

	BC	BD	BE	BF	BG	BH	BI
1							
2							
3							
4							
5						Totals	
6	5/8"					0.00	
7	3/4"					0.00	
8	1"					0.00	
9	1-1/2"					0.00	
10	2"					0.00	
11	3"					0.00	
12	4"					0.00	
13	6"					0.00	
14	8"					0.00	
15	10"					0.00	
16	12"					0.00	
17	5/8"					0.00	
18	3/4"					0.00	
19	1"					0.00	
20	1-1/2"					0.00	
21	2"					0.00	
22	3"					0.00	
23	4"					0.00	
24	6"					0.00	
25	8"					0.00	
26	10"					0.00	
27	12"					0.00	
28		0.00	0.00	0.00	0.00	0.00	
29							
30	Consumption						
31						0.00	
32							
33	Total	0.00	0.00	0.00	0.00	0.00	0.00
34							
35						**TOTAL**	
36							
37							
38							
39							
40							
41							

	BJ	BK	BL	BM	BN
1					
2					
3					
4	Present Rate	Proposed Rate			
5	Revenues	Revenues			
6	$0.00	$0.00			
7	0.00	0.00			
8	0.00	0.00			
9	0.00	0.00			
10	0.00	0.00			
11	0.00	0.00			
12	0.00	0.00			
13	0.00	0.00			
14	0.00	0.00			
15	0.00	0.00			
16	0.00	0.00			
17	0.00	0.00			
18	0.00	0.00			
19	0.00	0.00			
20	0.00	0.00			
21	0.00	0.00			
22	0.00	0.00			
23	0.00	0.00			
24	0.00	0.00			
25	0.00	0.00			
26	0.00	0.00			
27	0.00	0.00			
28	0.00	0.00			
29					
30					
31	0.00	0.00			
32					
33	0.00	0.00			
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35	$0.00	$0.00			
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	BO	BP	BQ	BR
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	AB	AC	AD	AE	AF	AG
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	AQ	AR	AS
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	AZ	BA	BB
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	BC	BD	BE	BF	BG	BH	BI
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	BJ	BK	BL	BM	BN
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	BO	BP	BQ	BR
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	BS	BT	BU	BV	BW
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66					

	BX	BY	BZ	CA
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	CB	CC	CD	CE
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	A	B
1	Tennessee-American Water Company	
2	**Suck Creek**	
3	Bill Analysis for the Month Ended March 31, 2008:	
4		
5	Base Charge	
6		Monthly
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		Quarterly
18		
19		
20		
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23		
24		
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28		
29	**Consumption Res, Com Customers**	
30		
31		
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41		

	C	D	E	F
1				
2				
3				
4		Current	Proposed	
5		Rates	Rates	
6	5/8"	$22.85		
7	3/4"	$22.85		
8	1"	$22.85		
9	1-1/2"	$22.85		
10	2"	$22.85		
11	3"	$22.85		
12	4"	$22.85		
13	6"	$22.85		
14	8"	$22.85		
15	10"	-		
16	12"	-		
17	5/8"	68.55	-	
18	3/4"	68.55	-	
19	1"	68.55	-	
20	1-1/2"	68.55	-	
21	2"	68.55	-	
22	3"	68.55	-	
23	4"	68.55	-	
24	6"	68.55	-	
25	8"	68.55	-	
26	10"	-	-	
27	12"	-	-	
28				
29		Current	Proposed	
30	Monthly	Rates	Rates	
31	First 2 (100 CCF)	$0.0000		
32	2nd 10.67 (100 CCF)	$3.3000		
33	In Excess 12.67 (100 CCF)	$2.4750		
34				
35				
36				
37				
38				
39				
40				
41				

	G	H
1	Tennessee-American Water Company	
2	RESIDENTIAL	
3	Bill Analysis for the Month Ended March 31, 2008:	
4		
5	Base Charge	
6	Monthly	5/8"
7		3/4"
8		1"
9		1-1/2"
10		2"
11		3"
12		4"
13		6"
14		8"
15		10"
16		12"
17	Quarterly	5/8"
18		3/4"
19		1"
20		1-1/2"
21		2"
22		3"
23		4"
24		6"
25		8"
26		10"
27		12"
28	Total Meters	
29		Consumption
30	Monthly	
31	First 2 (100 CCF)	
32	2nd 10.67 (100 CCF)	
33	In Excess 12.67 (100 CCF)	
34		Total
35		
36		
37		
38		
39		
40		
41		

	I	J	K	L	M	N
1						
2						
3						
4					Present Rate	Proposed Rate
5	S1M4		Totals		Revenues	Revenues
6	210.87		210.87		$4,818.31	$0.00
7	0.00		0.00		0.00	0.00
8	1.00		1.00		22.85	0.00
9	0.00		0.00		0.00	0.00
10	0.00		0.00		0.00	0.00
11	0.00		0.00		0.00	0.00
12	0.00		0.00		0.00	0.00
13	0.00		0.00		0.00	0.00
14	0.00		0.00		0.00	0.00
15	0.00		0.00		0.00	0.00
16	0.00		0.00		0.00	0.00
17			0.00		0.00	0.00
18			0.00		0.00	0.00
19			0.00		0.00	0.00
20			0.00		0.00	0.00
21			0.00		0.00	0.00
22			0.00		0.00	0.00
23			0.00		0.00	0.00
24			0.00		0.00	0.00
25			0.00		0.00	0.00
26			0.00		0.00	0.00
27			0.00		0.00	0.00
28	211.87	0.00	211.87		$4,841.16	$0.00
29						
30						
31	390.40		390.40		0.00	0.00
32	756.64		756.64		2,496.91	0.00
33	77.96		77.96		192.95	0.00
34	1,225.00	0.00	1,225.00		$2,689.86	$0.00
35						
36			**TOTAL**		$7,531.02	$0.00
37						
38						
39						
40						
41						

	O	P	Q
1		Tennessee-American Water Company	
2		COMMERCIAL	
3		Bill Analysis for the Month Ended March 31, 2008:	
4			
5		Base Charge	
6		Monthly	5/8"
7			3/4"
8			1"
9			1-1/2"
10			2"
11			3"
12			4"
13			6"
14			8"
15			10"
16			12"
17		Quarterly	5/8"
18			3/4"
19			1"
20			1-1/2"
21			2"
22			3"
23			4"
24			6"
25			8"
26			10"
27			12"
28		Total Meters	
29			Consumption
30		Monthly	
31		First 2 (100 CCF)	
32		2nd 10.67 (100 CCF)	
33		In Excess 12.67 (100 CCF)	
34			Total
35			
36			
37			
38			
39			
40			
41			

	R	S	T	U	V	W	X
1							
2							
3							
4					Present Rate	Proposed Rate	
5	S2M4		Totals		Revenues	Revenues	
6	4.00		4.00		$91.40	$0.00	
7	0.00		0.00		0.00	0.00	
8	0.00		0.00		0.00	0.00	
9	0.00		0.00		0.00	0.00	
10	0.00		0.00		0.00	0.00	
11	0.00		0.00		0.00	0.00	
12	0.00		0.00		0.00	0.00	
13	0.00		0.00		0.00	0.00	
14	0.00		0.00		0.00	0.00	
15	0.00		0.00		0.00	0.00	
16	0.00		0.00		0.00	0.00	
17			0.00		0.00	0.00	
18			0.00		0.00	0.00	
19			0.00		0.00	0.00	
20			0.00		0.00	0.00	
21			0.00		0.00	0.00	
22			0.00		0.00	0.00	
23			0.00		0.00	0.00	
24			0.00		0.00	0.00	
25			0.00		0.00	0.00	
26			0.00		0.00	0.00	
27			0.00		0.00	0.00	
28	4.00	0.00	4.00		$91.40	$0.00	
29							
30							
31	3.00		3.00		0.00	0.00	
32	2.00		2.00		6.60	0.00	
33			0.00		0.00	0.00	
34	5.00	0.00	5.00		$6.60	$0.00	
35							
36			**TOTAL**		$98.00	$0.00	
37							
38							
39							
40							
41							

	Y	Z	AA
1	Tennessee-American Water Company		
2	INDUSTRIALS		
3	Bill Analysis for the Month Ended March 31, 2008:		
4			
5	Base Charge		S3M4
6	Monthly	5/8"	
7		3/4"	
8		1"	
9		1-1/2"	
10		2"	
11		3"	
12		4"	
13		6"	
14		8"	
15		10"	
16		12"	
17	Quarterly	5/8"	
18		3/4"	
19		1"	
20		1-1/2"	
21		2"	
22		3"	
23		4"	
24		6"	
25		8"	
26		10"	
27		12"	
28	Total Meters		0.00
29			
30	Monthly	Consumption	
31	First 2 (100 CCF)		
32	2nd 10.67 (100 CCF)		
33	In Excess 12.67 (100 CCF)		
34		Total	0.00
35			
36			
37			
38			
39			
40			
41			

	AB	AC	AD	AE	AF	AG
1						
2						
3						
4				Present Rate	Proposed Rate	
5		Totals		Revenues	Revenues	
6		0.00		$0.00	$0.00	
7		0.00		0.00	0.00	
8		0.00		0.00	0.00	
9		0.00		0.00	0.00	
10		0.00		0.00	0.00	
11		0.00		0.00	0.00	
12		0.00		0.00	0.00	
13		0.00		0.00	0.00	
14		0.00		0.00	0.00	
15		0.00		0.00	0.00	
16		0.00		0.00	0.00	
17		0.00		0.00	0.00	
18		0.00		0.00	0.00	
19		0.00		0.00	0.00	
20		0.00		0.00	0.00	
21		0.00		0.00	0.00	
22		0.00		0.00	0.00	
23		0.00		0.00	0.00	
24		0.00		0.00	0.00	
25		0.00		0.00	0.00	
26		0.00		0.00	0.00	
27		0.00		0.00	0.00	
28	0.00	0.00		0.00	0.00	
29						
30						
31		0.00		0.00	0.00	0.00
32		0.00		0.00	0.00	
33		0.00		0.00	0.00	
34	0.00	0.00		0.00	0.00	0.00
35						
36		**TOTAL**		$0.00	$0.00	$0.00
37						
38						
39						
40						
41						

	AH	AI	AJ
1	Tennessee-American Water Company		
2	OTHER PUBLIC AUTHORITY		
3	Bill Analysis for the Month Ended March 31, 2008:		
4			
5	Number of Meters		S4M4
6	Monthly	5/8"	
7		3/4"	
8		1"	
9		1-1/2"	
10		2"	
11		3"	
12		4"	
13		6"	
14		8"	
15		10"	
16		12"	
17	Quarterly	5/8"	
18		3/4"	
19		1"	
20		1-1/2"	
21		2"	
22		3"	
23		4"	
24		6"	
25		8"	
26		10"	
27		12"	
28	Total Meters		0.00
29			
30	Monthly	Consumption	
31	First 2 (100 CCF)		
32	2nd 10.67 (100 CCF)		
33	In Excess 12.67 (100 CCF)		
34		Total	0.00
35			
36			
37			
38			
39			
40			
41			

	AK	AL	AM	AN	AO	AP
1						
2						
3						
4				Present Rate	Proposed Rate	
5		Totals		Revenues	Revenues	
6		0.00		$0.00	$0.00	
7		0.00		0.00	0.00	
8		0.00		0.00	0.00	
9		0.00		0.00	0.00	
10		0.00		0.00	0.00	
11		0.00		0.00	0.00	
12		0.00		0.00	0.00	
13		0.00		0.00	0.00	
14		0.00		0.00	0.00	
15		0.00		0.00	0.00	
16		0.00		0.00	0.00	
17		0.00		0.00	0.00	
18		0.00		0.00	0.00	
19		0.00		0.00	0.00	
20		0.00		0.00	0.00	
21		0.00		0.00	0.00	
22		0.00		0.00	0.00	
23		0.00		0.00	0.00	
24		0.00		0.00	0.00	
25		0.00		0.00	0.00	
26		0.00		0.00	0.00	
27		0.00		0.00	0.00	
28	0.00	0.00		0.00	0.00	
29						
30						
31		0.00		0.00	0.00	
32		0.00		0.00	0.00	
33		0.00		0.00	0.00	
34	0.00	0.00		0.00	0.00	
35						
36		**TOTAL**		$0.00	$0.00	
37						
38						
39						
40						
41						

	AQ	AR	AS
1	Tennessee-American Water Company		
2	OTHER WATER UTILITIES		
3	Bill Analysis for the Month Ended March 31, 2008:		
4			
5	Number of Meters		
6	Monthly	5/8"	
7		3/4"	
8		1"	
9		1-1/2"	
10		2"	
11		3"	
12		4"	
13		6"	
14		8"	
15		10"	
16		12"	
17	Quarterly	5/8"	
18		3/4"	
19		1"	
20		1-1/2"	
21		2"	
22		3"	
23		4"	
24		6"	
25		8"	
26		10"	
27		12"	
28	Total Meters		0.00
29			
30	Monthly	Consumption	
31	All Usage (100 CCF)		
32			
33			
34		Total	0.00
35			
36			
37			
38			
39			
40			
41			

	AT	AU	AV	AW	AX	AY
1						
2						
3						
4						Present Rate
5				Totals		Revenues
6				0.00		$0.00
7				0.00		0.00
8				0.00		0.00
9				0.00		0.00
10				0.00		0.00
11				0.00		0.00
12				0.00		0.00
13				0.00		0.00
14				0.00		0.00
15				0.00		0.00
16				0.00		0.00
17				0.00		0.00
18				0.00		0.00
19				0.00		0.00
20				0.00		0.00
21				0.00		0.00
22				0.00		0.00
23				0.00		0.00
24				0.00		0.00
25				0.00		0.00
26				0.00		0.00
27				0.00		0.00
28	0.00	0.00	0.00	0.00		0.00
29						
30						
31				0.00		0.00
32						
33						
34	0.00	0.00	0.00	0.00	0.00	0.00
35						
36				**TOTAL**		$0.00
37						
38						
39						
40						
41						

	AZ	BA	BB
1			Tennessee-American Water Company
2			MISCELLANEOUS
3			Bill Analysis for the Month Ended March 31, 2008:
4	Proposed Rate		
5	Revenues		Number of Meters
6	$0.00		Monthly
7	0.00		
8	0.00		
9	0.00		
10	0.00		
11	0.00		
12	0.00		
13	0.00		
14	0.00		
15	0.00		
16	0.00		
17	0.00		Quarterly
18	0.00		
19	0.00		
20	0.00		
21	0.00		
22	0.00		
23	0.00		
24	0.00		
25	0.00		
26	0.00		
27	0.00		
28	0.00		Total Meters
29			
30			Monthly
31	0.00		All Usage (100 CCF)
32			
33			
34	0.00		
35			
36	$0.00		
37			
38			
39			
40			
41			

	BC	BD	BE	BF	BG	BH	BI
1							
2							
3							
4							
5						Totals	
6	5/8"					0.00	
7	3/4"					0.00	
8	1"					0.00	
9	1-1/2"					0.00	
10	2"					0.00	
11	3"					0.00	
12	4"					0.00	
13	6"					0.00	
14	8"					0.00	
15	10"					0.00	
16	12"					0.00	
17	5/8"					0.00	
18	3/4"					0.00	
19	1"					0.00	
20	1-1/2"					0.00	
21	2"					0.00	
22	3"					0.00	
23	4"					0.00	
24	6"					0.00	
25	8"					0.00	
26	10"					0.00	
27	12"					0.00	
28		0.00	0.00	0.00	0.00	0.00	
29							
30	Consumption						
31						0.00	
32							
33							
34	Total	0.00	0.00	0.00	0.00	0.00	0.00
35							
36						**TOTAL**	
37							
38							
39							
40							
41							

	BJ	BK	BL	BM	BN
1					
2					
3					
4	Present Rate	Proposed Rate			
5	Revenues	Revenues			
6	$0.00	$0.00			
7	0.00	0.00			
8	0.00	0.00			
9	0.00	0.00			
10	0.00	0.00			
11	0.00	0.00			
12	0.00	0.00			
13	0.00	0.00			
14	0.00	0.00			
15	0.00	0.00			
16	0.00	0.00			
17	0.00	0.00			
18	0.00	0.00			
19	0.00	0.00			
20	0.00	0.00			
21	0.00	0.00			
22	0.00	0.00			
23	0.00	0.00			
24	0.00	0.00			
25	0.00	0.00			
26	0.00	0.00			
27	0.00	0.00			
28	0.00	0.00			
29					
30					
31	0.00	0.00			
32					
33					
34	0.00	0.00			
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36	$0.00	$0.00			
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	BO	BP	BQ	BR
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	AK	AL	AM	AN	AO	AP
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	AQ	AR	AS
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	AT	AU	AV	AW	AX	AY
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	AZ	BA	BB
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	BC	BD	BE	BF	BG	BH	BI
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	BJ	BK	BL	BM	BN
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3							**RATE STU**
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8				**Per**		**Per**	
9		**Mar-08**		**General**		**Rate**	
10				**Ledger**		**Study**	
11		Res		$1,025,487.17		$1,036,085.16	
12		Com		$814,534.51		$818,642.90	
13		Ind		$258,514.04		$258,513.58	
14		OPA		$178,079.97		$178,175.18	
15		OWU		$111,138.16		$111,138.16	
16		Priv Fr		$133,428.70		$0.00	
17		Pub Fr		$0.00		$0.00	
18		Misc		$20.00		$0.00	
19		Adj.		$0.00		$0.00	
20		**Total**		$2,521,202.55		$2,402,554.98	
21							
22		Notes: a)					
23		b)					
24		c)					
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3	**DY - GENERAL LEDGER REVENUE COMPARISON**					
4	**TENNESSEE WATER**					
5	**03/01/2008 to 03/31/2008**					
6						
7						
8					**Total Rate**	
9	**Fixed**		**Miscellaneous**		**Study / Fixed**	
10	**Charges**		**Charges**		**Misc.**	
11	$0.00		($10,693.23)		$1,025,391.93	
12	$0.00		($4,119.93)		$814,522.97	
13	$0.00		$0.00		$258,513.58	
14	$0.00		($105.67)		$178,069.51	
15	$0.00		$0.00		$111,138.16	
16	$133,750.16		($456.46)		$133,293.70	
17	$0.00		$0.00		$0.00	
18	$0.00		$0.00		$0.00	
19	$0.00		$0.00		$0.00	
20	$133,750.16		($15,375.29)		$2,520,929.85	
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9			**%**				
10	**Variance**		**Variance**				
11	($95.24)		-0.009%				
12	($11.54)		-0.001%				
13	($0.46)		0.000%				
14	($10.46)		-0.006%				
15	$0.00		0.000%				
16	($135.00)		-0.101%				
17	$0.00		#DIV/0!				
18	($20.00)		-100.000%				
19	$0.00		#DIV/0!				
20	($272.70)		-0.011%				
21							
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3								**RATE STUDY - GENERAL L**	
4								**TENNES**	
5								**03/01/2008**	
6									
7									
8						**Per**			
9		**Mar-08**		**Per PMT**		**Rate**		**Fixed**	
10				**Report**		**Study**		**Charges**	
11		Res		219,949.29		223,546.50		0.00	
12		Com		216,770.69		218,631.00		0.00	
13		Ind		-63,793.60		(63,959.25)		0.00	
14		OPA		54,677.41		54,852.00		0.00	
15		OWU		96,949.76		97,202.25		0.00	
16		Priv Fr		0.00		0.00		0.00	
17		Pub Fr		0.00		0.00		0.00	
18		Misc		0.00		0.00		0.00	
19		Adj.		0.00		0.00		0.00	
20		**Total**		524,553.55		530,272.50		0.00	
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3	**EDGER USAGE COMPARISON**						
4	**SEE WATER**						
5	**to 03/31/2008**						
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7							
8			**Total Rate**				
9	**Miscellaneous**		**Study / Fixed**				**%**
10	**Charges**		**Misc.**		**Variance**		**Variance**
11	(3,779.00)		219,767.50		(181.79)		-0.083%
12	(1,706.00)		216,925.00		154.31		0.071%
13	0.00		-63,959.25		(165.65)		0.260%
14	(40.00)		54,812.00		134.59		0.246%
15	0.00		97,202.25		252.49		0.260%
16	0.00		0.00		0.00		0.000%
17	0.00		0.00		0.00		0.000%
18	0.00		0.00		0.00		0.000%
19	0.00		0.00		0.00		0.000%
20	(5,525.00)		524,747.50		193.95		0.037%
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TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 08-00039
FIRST DISCOVERY REQUEST OF THE
CONSUMER ADVOCATE AND PROTECTION DIVISION

Responsible Witness: Michael Miller/Sheila Miller

PART IV: QUESTIONS & REQUESTS REGARDING REVENUES, EXPENSES, TAXES, RATE BASE & MISCELLANEOUS

Question:

2. Provide the billing determinates by customer class, by location for all normalization adjustments, corrections, and allowances for the **test year ended February 2008**. Include in your response the business reasons for each normalization adjustment, correction, and allowance.

Response:

In response to this question, the Company incorporates as if fully set forth here, its objections and response to Part IV, Question 1, except to the extent that this question refers to the twelve month period ended February 2008.

Notwithstanding the objections, please refer to the referenced raw data of billing determinates provided in the response to TN-CAPD-01-PART IV-Q001.

TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 08-00039
FIRST DISCOVERY REQUEST OF THE
CONSUMER ADVOCATE AND PROTECTION DIVISION

Responsible Witness: Michael Miller/Sheila Miller

PART IV: QUESTIONS & REQUESTS REGARDING REVENUES, EXPENSES, TAXES, RATE BASE & MISCELLANEOUS

Question:

3. Provide the number of meters by meter type, by customer class, by location and the volume usage by usage rate schedule, by customer class, by location for the years ended December 31, 2003-2007 and the twelve months ended March 31, 2008.

Response:

The Company objects to this question in part on the grounds that the requested information is not relevant or timely to this proceeding, is unduly burdensome, overbroad, and is not readily available in the format requested. Notwithstanding this objection, the Company provided this information for the last three fiscal years, 2005 – 2007 in response to TRA DR 1 Question 20. The information for 2003 – 2006 was provided to the CAPD in the last TAWC rate case filing, Docket No. 06-00290, TRA DR 1 Question 20. If the CAPD did not retain that information, it is publicly available on the official TRA file. Please see the response to TN-CAPD-01-Part IV-Q001 for reference to the raw data for January-March 2008.

TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 08-00039
FIRST DISCOVERY REQUEST OF THE
CONSUMER ADVOCATE AND PROTECTION DIVISION

Responsible Witness: Sheila Miller

PART IV: QUESTIONS & REQUESTS REGARDING REVENUES, EXPENSES, TAXES, RATE BASE & MISCELLANEOUS

Question:

4. Provide a "mapping" (mapping means to reconcile or trace the data on the exhibits to its source or supporting calculations in the work papers) of each revenue adjustment of TN-TRA-Q013-REVENUES, on page 17 of 99 to the Company's Exhibit No. 4, Schedules 1 and 2 by customer class, by location, by test period, and by attrition year at present rates.

Response:

Please see the response to TRA DR 2 Question 2.

TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 08-00039
FIRST DISCOVERY REQUEST OF THE
CONSUMER ADVOCATE AND PROTECTION DIVISION

Responsible Witness: John Watson

PART IV: QUESTIONS & REQUESTS REGARDING REVENUES, EXPENSES, TAXES, RATE BASE & MISCELLANEOUS

Question:

5. Provide the name, the business address, the date on which service began and if applicable, the date on which the service was terminated, the billing determinates for each industrial customer for the years ended December 31, 2003-2007 by year and the twelve months ended March 31, 2008.

Response:

There are two files containing the information requested. The listing of industrial customers for the years ended December 31, 2003-2007 and from January-March 2008 detailing the usage, revenues, and business address is included on the enclosed CD and labeled as CAPD DR 1 Part 4 Question 5 attachment 1.xls. The second file details the service date and meter information and is included on the enclosed CD and labeled as CAPD DR 1 Part 4 Question 5 attachment 1.xls.

	A	B	C	D	E
1	TENENSSEE AMERICAN WATER COMPANY				
2	CAPD DR 1 Part 4 Question 5 attachment 1				
3	Industrial customers 2003 2007				
4					
5					
6	**District Code**	**Area Code**	**Region Code**	**Rate Class**	**Billed Month**
7	2600	2603	26CC	3	1
8	2600	2603	26CC	3	2
9	2600	2603	26CC	3	3
10	2600	2603	26CC	3	4
11	2600	2603	26CC	3	5
12	2600	2603	26CC	3	6
13	2600	2603	26CC	3	7
14	2600	2603	26CC	3	8
15	2600	2603	26CC	3	9
16	2600	2603	26CC	3	10
17	2600	2603	26CC	3	11
18	2600	2603	26CC	3	12
19					
20	2600	2603	26CC	3	1
21	2600	2603	26CC	3	2
22	2600	2603	26CC	3	3
23	2600	2603	26CC	3	4
24	2600	2603	26CC	3	5
25	2600	2603	26CC	3	6
26	2600	2603	26CC	3	7
27	2600	2603	26CC	3	8
28	2600	2603	26CC	3	9
29	2600	2603	26CC	3	10
30	2600	2603	26CC	3	11
31	2600	2603	26CC	3	12
32					
33	2600	2603	26CC	3	1
34	2600	2603	26CC	3	2
35	2600	2603	26CC	3	3
36	2600	2603	26CC	3	4
37	2600	2603	26CC	3	5
38	2600	2603	26CC	3	6
39	2600	2603	26CC	3	7
40	2600	2603	26CC	3	8
41	2600	2603	26CC	3	9
42	2600	2603	26CC	3	10
43	2600	2603	26CC	3	11
44	2600	2603	26CC	3	12
45					
46	2600	2603	26CC	3	1
47	2600	2603	26CC	3	1
48	2600	2607	26HC	3	3
49	2600	2607	26HC	3	3

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6	**Billed Year**	**Account Number**	**Premise Number**	**Account Name**
7	2004	4291	260002864	SYNAIR CORP
8	2004	4291	260002864	SYNAIR CORP
9	2004	4291	260002864	SYNAIR CORP
10	2004	4291	260002864	SYNAIR CORP
11	2004	4291	260002864	SYNAIR CORP
12	2004	4291	260002864	SYNAIR CORP
13	2004	4291	260002864	SYNAIR CORP
14	2004	4291	260002864	SYNAIR CORP
15	2004	4291	260002864	SYNAIR CORP
16	2004	4291	260002864	SYNAIR CORP
17	2004	4291	260002864	SYNAIR CORP
18	2004	4291	260002864	SYNAIR CORP
19	**2004 Total**			
20	2005	4291	260002864	SYNAIR CORP
21	2005	4291	260002864	SYNAIR CORP
22	2005	4291	260002864	SYNAIR CORP
23	2005	4291	260002864	SYNAIR CORP
24	2005	4291	260002864	SYNAIR CORP
25	2005	4291	260002864	SYNAIR CORP
26	2005	4291	260002864	SYNAIR CORP
27	2005	4291	260002864	SYNAIR CORP
28	2005	4291	260002864	SYNAIR CORP
29	2005	4291	260002864	SYNAIR CORP
30	2005	4291	260002864	SYNAIR CORP
31	2005	4291	260002864	SYNAIR CORP
32	**2005 Total**			
33	2006	4291	260002864	SYNAIR CORP
34	2006	4291	260002864	SYNAIR CORP
35	2006	4291	260002864	SYNAIR CORP
36	2006	4291	260002864	SYNAIR CORP
37	2006	4291	260002864	SYNAIR CORP
38	2006	4291	260002864	SYNAIR CORP
39	2006	4291	260002864	SYNAIR CORP
40	2006	4291	260002864	SYNAIR CORP
41	2006	4291	260002864	SYNAIR CORP
42	2006	4291	260002864	SYNAIR CORP
43	2006	4291	260002864	SYNAIR CORP
44	2006	4291	260002864	SYNAIR CORP
45	**2006 Total**			
46	2004	4447	260002984	SIGNAL MOUNTAIN CEMENT
47	2004	4447	260002984	SIGNAL MOUNTAIN CEMENT
48	2004	4447	260002984	SIGNAL MOUNTAIN CEMENT
49	2004	4447	260002984	SIGNAL MOUNTAIN CEMENT

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6	**Service Address**	**Service City**	**Service State**	**Service Zip**
7	4001 N Hawthorne St	Chattanooga	TN	374061314
8	4001 N Hawthorne St	Chattanooga	TN	374061314
9	4001 N Hawthorne St	Chattanooga	TN	374061314
10	4001 N Hawthorne St	Chattanooga	TN	374061314
11	4001 N Hawthorne St	Chattanooga	TN	374061314
12	4001 N Hawthorne St	Chattanooga	TN	374061314
13	4001 N Hawthorne St	Chattanooga	TN	374061314
14	4001 N Hawthorne St	Chattanooga	TN	374061314
15	4001 N Hawthorne St	Chattanooga	TN	374061314
16	4001 N Hawthorne St	Chattanooga	TN	374061314
17	4001 N Hawthorne St	Chattanooga	TN	374061314
18	4001 N Hawthorne St	Chattanooga	TN	374061314
19				
20	4001 N Hawthorne St	Chattanooga	TN	374061314
21	4001 N Hawthorne St	Chattanooga	TN	374061314
22	4001 N Hawthorne St	Chattanooga	TN	374061314
23	4001 N Hawthorne St	Chattanooga	TN	374061314
24	4001 N Hawthorne St	Chattanooga	TN	374061314
25	4001 N Hawthorne St	Chattanooga	TN	374061314
26	4001 N Hawthorne St	Chattanooga	TN	374061314
27	4001 N Hawthorne St	Chattanooga	TN	374061314
28	4001 N Hawthorne St	Chattanooga	TN	374061314
29	4001 N Hawthorne St	Chattanooga	TN	374061314
30	4001 N Hawthorne St	Chattanooga	TN	374061314
31	4001 N Hawthorne St	Chattanooga	TN	374061314
32				
33	4001 N Hawthorne St	Chattanooga	TN	374061314
34	4001 N Hawthorne St	Chattanooga	TN	374061314
35	4001 N Hawthorne St	Chattanooga	TN	374061314
36	4001 N Hawthorne St	Chattanooga	TN	374061314
37	4001 N Hawthorne St	Chattanooga	TN	374061314
38	4001 N Hawthorne St	Chattanooga	TN	374061314
39	4001 N Hawthorne St	Chattanooga	TN	374061314
40	4001 N Hawthorne St	Chattanooga	TN	374061314
41	4001 N Hawthorne St	Chattanooga	TN	374061314
42	4001 N Hawthorne St	Chattanooga	TN	374061314
43	4001 N Hawthorne St	Chattanooga	TN	374061314
44	4001 N Hawthorne St	Chattanooga	TN	374061314
45				
46	1201 Suck Creek Rd	Chattanooga	TN	374059713
47	1201 Suck Creek Rd	Chattanooga	TN	374059713
48	1201 Suck Creek Rd	Chattanooga	TN	374059713
49	1201 Suck Creek Rd	Chattanooga	TN	374059713

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6	**Utility Usage**	**Unit of Measure**	**Utility Amount**	**Rate Schedule**
7	597.69	1000G	1407.67	A3MSM
8	797.42	1000G	1737.14	A3MSM
9	720.37	1000G	1610.04	A3MSM
10	864	1000G	1846.97	A3MSM
11	737.57	1000G	1638.42	A3MSM
12	1062.98	1000G	2175.21	A3MSM
13	833.32	1000G	1796.38	A3MSM
14	978.45	1000G	2035.77	A3MSM
15	884.94	1000G	1881.52	A3MSM
16	874.47	1000G	1864.25	A3MSM
17	890.92	1000G	1891.39	A3MSM
18	830.33	1000G	1791.44	A3MSM
19	10072.46		21676.2	
20	1064.47	1000G	2177.68	A3MSM
21	1033.05	1000G	2125.85	A3MSM
22	1093.65	1000G	2225.81	A3MSM
23	1427.28	1000G	2870.95	A3MSM
24	1104.12	1000G	2330.18	A3MSM
25	1347.24	1000G	2746.83	A3MSM
26	1437	1000G	2900.67	A3MSM
27	1177.43	1000G	2455.82	A3MSM
28	890.92	1000G	1964.81	A3MSM
29	960.49	1000G	2084.04	A3MSM
30	745.05	1000G	1714.82	A3MSM
31	846.04	1000G	1887.89	A3MSM
32	13126.74		27485.35	
33	1194.63	1000G	2485.3	A3MSM
34	952.27	1000G	2069.94	A3MSM
35	552.05	1000G	1384.07	A3MSM
36	750.29	1000G	1723.8	A3MSM
37	668.01	1000G	1582.78	A3MSM
38	582.73	1000G	1436.63	A3MSM
39	591.7	1000G	1452.01	A3MSM
40	698.68	1000G	1635.34	A3MSM
41	572.25	1000G	1418.68	A3MSM
42	693.44	1000G	1626.36	A3MSM
43	588.71	1000G	1446.88	A3MSM
44	740.57	1000G	1707.13	A3MSM
45	8585.33		19968.92	
46	271.54	1000G	732.74	A3M4
47	312.68	1000G	823.54	A3M4
48	210.2	1000G	597.36	A3M4
49	338.86	1000G	881.33	A3M4

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50	2600	2607	26HC	3	4
51	2600	2607	26HC	3	6
52	2600	2607	26HC	3	6
53	2600	2607	26HC	3	8
54	2600	2607	26HC	3	9
55	2600	2607	26HC	3	10
56	2600	2607	26HC	3	11
57	2600	2607	26HC	3	12
58					
59	2600	2607	26HC	3	1
60	2600	2607	26HC	3	1
61	2600	2607	26HC	3	3
62	2600	2607	26HC	3	3
63	2600	2607	26HC	3	5
64	2600	2607	26HC	3	6
65	2600	2607	26HC	3	6
66	2600	2607	26HC	3	8
67	2600	2607	26HC	3	9
68	2600	2607	26HC	3	10
69	2600	2607	26HC	3	11
70	2600	2607	26HC	3	12
71					
72	2600	2607	26HC	3	1
73	2600	2607	26HC	3	1
74	2600	2607	26HC	3	3
75	2600	2607	26HC	3	3
76	2600	2607	26HC	3	5
77	2600	2607	26HC	3	5
78	2600	2607	26HC	3	6
79	2600	2607	26HC	3	8
80	2600	2607	26HC	3	8
81	2600	2607	26HC	3	9
82	2600	2607	26HC	3	10
83	2600	2607	26HC	3	11
84	2600	2607	26HC	3	12
85					
86	2600	2607	26HC	3	1
87	2600	2607	26HC	3	2
88	2600	2607	26HC	3	3
89	2600	2607	26HC	3	4
90	2600	2607	26HC	3	5
91	2600	2607	26HC	3	6
92	2600	2607	26HC	3	7
93	2600	2607	26HC	3	8
94	2600	2607	26HC	3	9
95	2600	2607	26HC	3	10
96	2600	2607	26HC	3	11
97	2600	2607	26HC	3	12
98					
99	2600	2607	26HC	3	1

	F	G	H	I
50	2004	4447	260002984	SIGNAL MOUNTAIN CEMENT
51	2004	4447	260002984	SIGNAL MOUNTAIN CEMENT
52	2004	4447	260002984	SIGNAL MOUNTAIN CEMENT
53	2004	4447	260002984	SIGNAL MOUNTAIN CEMENT
54	2004	4447	260002984	SIGNAL MOUNTAIN CEMENT
55	2004	4447	260002984	SIGNAL MOUNTAIN CEMENT
56	2004	4447	260002984	SIGNAL MOUNTAIN CEMENT
57	2004	4447	260002984	SIGNAL MOUNTAIN CEMENT
58	**2004 Total**			
59	2005	4447	260002984	SIGNAL MOUNTAIN CEMENT
60	2005	4447	260002984	SIGNAL MOUNTAIN CEMENT
61	2005	4447	260002984	SIGNAL MOUNTAIN CEMENT
62	2005	4447	260002984	SIGNAL MOUNTAIN CEMENT
63	2005	4447	260002984	SIGNAL MOUNTAIN CEMENT
64	2005	4447	260002984	SIGNAL MOUNTAIN CEMENT
65	2005	4447	260002984	SIGNAL MOUNTAIN CEMENT
66	2005	4447	260002984	SIGNAL MOUNTAIN CEMENT
67	2005	4447	260002984	SIGNAL MOUNTAIN CEMENT
68	2005	4447	260002984	SIGNAL MOUNTAIN CEMENT
69	2005	4447	260002984	SIGNAL MOUNTAIN CEMENT
70	2005	4447	260002984	SIGNAL MOUNTAIN CEMENT
71	**2005 Total**			
72	2006	4447	260002984	SIGNAL MOUNTAIN CEMENT
73	2006	4447	260002984	SIGNAL MOUNTAIN CEMENT
74	2006	4447	260002984	SIGNAL MOUNTAIN CEMENT
75	2006	4447	260002984	SIGNAL MOUNTAIN CEMENT
76	2006	4447	260002984	SIGNAL MOUNTAIN CEMENT
77	2006	4447	260002984	SIGNAL MOUNTAIN CEMENT
78	2006	4447	260002984	SIGNAL MOUNTAIN CEMENT
79	2006	4447	260002984	SIGNAL MOUNTAIN CEMENT
80	2006	4447	260002984	SIGNAL MOUNTAIN CEMENT
81	2006	4447	260002984	SIGNAL MOUNTAIN CEMENT
82	2006	4447	260002984	SIGNAL MOUNTAIN CEMENT
83	2006	4447	260002984	SIGNAL MOUNTAIN CEMENT
84	2006	4447	260002984	SIGNAL MOUNTAIN CEMENT
85	**2006 Total**			
86	2007	4447	260002984	SIGNAL MOUNTAIN CEMENT
87	2007	4447	260002984	SIGNAL MOUNTAIN CEMENT
88	2007	4447	260002984	SIGNAL MOUNTAIN CEMENT
89	2007	4447	260002984	SIGNAL MOUNTAIN CEMENT
90	2007	4447	260002984	SIGNAL MOUNTAIN CEMENT
91	2007	4447	260002984	SIGNAL MOUNTAIN CEMENT
92	2007	4447	260002984	SIGNAL MOUNTAIN CEMENT
93	2007	4447	260002984	SIGNAL MOUNTAIN CEMENT
94	2007	4447	260002984	SIGNAL MOUNTAIN CEMENT
95	2007	4447	260002984	SIGNAL MOUNTAIN CEMENT
96	2007	4447	260002984	SIGNAL MOUNTAIN CEMENT
97	2007	4447	260002984	SIGNAL MOUNTAIN CEMENT
98	**2007 Total**			
99	2008	4447	260002984	SIGNAL MOUNTAIN CEMENT

	J	K	L	M
50	1201 Suck Creek Rd	Chattanooga	TN	374059713
51	1201 Suck Creek Rd	Chattanooga	TN	374059713
52	1201 Suck Creek Rd	Chattanooga	TN	374059713
53	1201 Suck Creek Rd	Chattanooga	TN	374059713
54	1201 Suck Creek Rd	Chattanooga	TN	374059713
55	1201 Suck Creek Rd	Chattanooga	TN	374059713
56	1201 Suck Creek Rd	Chattanooga	TN	374059713
57	1201 Suck Creek Rd	Chattanooga	TN	374059713
58				
59	1201 Suck Creek Rd	Chattanooga	TN	374059713
60	1201 Suck Creek Rd	Chattanooga	TN	374059713
61	1201 Suck Creek Rd	Chattanooga	TN	374059713
62	1201 Suck Creek Rd	Chattanooga	TN	374059713
63	1201 Suck Creek Rd	Chattanooga	TN	374059713
64	1201 Suck Creek Rd	Chattanooga	TN	374059713
65	1201 Suck Creek Rd	Chattanooga	TN	374059713
66	1201 Suck Creek Rd	Chattanooga	TN	374059713
67	1201 Suck Creek Rd	Chattanooga	TN	374059713
68	1201 Suck Creek Rd	Chattanooga	TN	374059713
69	1201 Suck Creek Rd	Chattanooga	TN	374059713
70	1201 Suck Creek Rd	Chattanooga	TN	374059713
71				
72	1201 Suck Creek Rd	Chattanooga	TN	374059713
73	1201 Suck Creek Rd	Chattanooga	TN	374059713
74	1201 Suck Creek Rd	Chattanooga	TN	374059713
75	1201 Suck Creek Rd	Chattanooga	TN	374059713
76	1201 Suck Creek Rd	Chattanooga	TN	374059713
77	1201 Suck Creek Rd	Chattanooga	TN	374059713
78	1201 Suck Creek Rd	Chattanooga	TN	374059713
79	1201 Suck Creek Rd	Chattanooga	TN	374059713
80	1201 Suck Creek Rd	Chattanooga	TN	374059713
81	1201 Suck Creek Rd	Chattanooga	TN	374059713
82	1201 Suck Creek Rd	Chattanooga	TN	374059713
83	1201 Suck Creek Rd	Chattanooga	TN	374059713
84	1201 Suck Creek Rd	Chattanooga	TN	374059713
85				
86	1201 Suck Creek Rd	Chattanooga	TN	374059713
87	1201 Suck Creek Rd	Chattanooga	TN	374059713
88	1201 Suck Creek Rd	Chattanooga	TN	374059713
89	1201 Suck Creek Rd	Chattanooga	TN	374059713
90	1201 Suck Creek Rd	Chattanooga	TN	374059713
91	1201 Suck Creek Rd	Chattanooga	TN	374059713
92	1201 Suck Creek Rd	Chattanooga	TN	374059713
93	1201 Suck Creek Rd	Chattanooga	TN	374059713
94	1201 Suck Creek Rd	Chattanooga	TN	374059713
95	1201 Suck Creek Rd	Chattanooga	TN	374059713
96	1201 Suck Creek Rd	Chattanooga	TN	374059713
97	1201 Suck Creek Rd	Chattanooga	TN	374059713
98				
99	1201 Suck Creek Rd	Chattanooga	TN	374059713

	N	O	P	Q
50	394.22	1000G	992.25	A3M4
51	522.14	1000G	1203.26	A3M4
52	587.96	1000G	1311.85	A3M4
53	346.34	1000G	897.84	A3M4
54	234.88	1000G	651.84	A3M4
55	192.99	1000G	559.38	A3M4
56	193.74	1000G	561.03	A3M4
57	219.17	1000G	617.17	A3M4
58	3824.72		9829.59	
59	448.83	1000G	1082.33	A3M4
60	835.57	1000G	1720.31	A3M4
61	1275.42	1000G	2508.23	A3M4
62	1314.32	1000G	2510.07	A3M4
63	1291.13	1000G	2567.83	A3M4
64	1158.73	1000G	2246.22	A3M4
65	2210.49	1000G	4249.93	A3M4
66	1484.88	1000G	2899.87	A3M4
67	1415.31	1000G	2780.64	A3M4
68	1288.14	1000G	2562.7	A3M4
69	187.01	1000G	567.35	A3M4
70	2735.62	1000G	5043.37	A3M4
71	15645.45		30738.85	
72	1564.92	1000G	3037.04	A3M4
73	1573.9	1000G	3052.43	A3M4
74	1400.35	1000G	2755	A3M4
75	1197.63	1000G	2407.58	A3M4
76	1492.36	1000G	2912.69	A3M4
77	1596.34	1000G	3090.89	A3M4
78	1594.09	1000G	3087.04	A3M4
79	1208.1	1000G	2425.53	A3M4
80	1322.55	1000G	2621.68	A3M4
81	1470.67	1000G	2875.51	A3M4
82	1337.51	1000G	2647.32	A3M4
83	768.99	1000G	1673	A3M4
84	1024.83	1000G	2111.44	A3M4
85	17552.24		34697.15	
86	1378.65	1000G	2717.83	A3M4
87	1011.36	1000G	2088.36	A3M4
88	816.12	1000G	1753.76	A3M4
89	903.64	1000G	1903.76	A3M4
90	1039.04	1000G	2154.32	A3M4
91	1281.41	1000G	2871.85	A3M4
92	1315.82	1000G	2938.23	A3M4
93	1184.91	1000G	2685.7	A3M4
94	670.25	1000G	1692.92	A3M4
95	448.08	1000G	1264.35	A3M4
96	461.54	1000G	1290.32	A3M4
97	345.6	1000G	1048.11	A3M4
98	10856.42		24409.51	
99	409.17	1000G	1233.05	A3M4

	A	B	C	D	E
100	2600	2607	26HC	3	2
101	2600	2607	26HC	3	3
102					
103	2600	2603	26CC	3	1
104	2600	2603	26CC	3	1
105	2600	2603	26CC	3	3
106	2600	2603	26CC	3	3
107	2600	2603	26CC	3	4
108	2600	2603	26CC	3	6
109	2600	2603	26CC	3	6
110	2600	2603	26CC	3	8
111	2600	2603	26CC	3	9
112	2600	2603	26CC	3	10
113	2600	2603	26CC	3	11
114	2600	2603	26CC	3	12
115					
116	2600	2603	26CC	3	1
117	2600	2603	26CC	3	1
118	2600	2603	26CC	3	3
119	2600	2603	26CC	3	3
120	2600	2603	26CC	3	5
121	2600	2603	26CC	3	6
122	2600	2603	26CC	3	6
123	2600	2603	26CC	3	8
124	2600	2603	26CC	3	9
125	2600	2603	26CC	3	10
126	2600	2603	26CC	3	11
127	2600	2603	26CC	3	12
128					
129	2600	2603	26CC	3	1
130	2600	2603	26CC	3	1
131	2600	2603	26CC	3	3
132	2600	2603	26CC	3	3
133	2600	2603	26CC	3	5
134	2600	2603	26CC	3	5
135	2600	2603	26CC	3	6
136	2600	2603	26CC	3	8
137	2600	2603	26CC	3	8
138	2600	2603	26CC	3	9
139	2600	2603	26CC	3	10
140	2600	2603	26CC	3	11
141	2600	2603	26CC	3	12
142					
143	2600	2603	26CC	3	1
144	2600	2603	26CC	3	2
145	2600	2603	26CC	3	3
146	2600	2603	26CC	3	4
147	2600	2603	26CC	3	5
148	2600	2603	26CC	3	6
149	2600	2603	26CC	3	7

	F	G	H	I
100	2008	4447	260002984	SIGNAL MOUNTAIN CEMENT
101	2008	4447	260002984	SIGNAL MOUNTAIN CEMENT
102	**2008 Total**			
103	2004	6676	260004486	Power Corporation
104	2004	6676	260004486	Power Corporation
105	2004	6676	260004486	Power Corporation
106	2004	6676	260004486	Power Corporation
107	2004	6676	260004486	Power Corporation
108	2004	6676	260004486	Power Corporation
109	2004	6676	260004486	Power Corporation
110	2004	6676	260004486	Power Corporation
111	2004	6676	260004486	Power Corporation
112	2004	6676	260004486	Power Corporation
113	2004	6676	260004486	Power Corporation
114	2004	6676	260004486	Power Corporation
115	**2004 Total**			
116	2005	6676	260004486	Power Corporation
117	2005	6676	260004486	Power Corporation
118	2005	6676	260004486	Power Corporation
119	2005	6676	260004486	Power Corporation
120	2005	6676	260004486	Power Corporation
121	2005	6676	260004486	Power Corporation
122	2005	6676	260004486	Power Corporation
123	2005	6676	260004486	Power Corporation
124	2005	6676	260004486	Power Corporation
125	2005	6676	260004486	Power Corporation
126	2005	6676	260004486	Power Corporation
127	2005	6676	260004486	Power Corporation
128	**2005 Total**			
129	2006	6676	260004486	Power Corporation
130	2006	6676	260004486	Power Corporation
131	2006	6676	260004486	Power Corporation
132	2006	6676	260004486	Power Corporation
133	2006	6676	260004486	Power Corporation
134	2006	6676	260004486	Power Corporation
135	2006	6676	260004486	Power Corporation
136	2006	6676	260004486	Power Corporation
137	2006	6676	260004486	Power Corporation
138	2006	6676	260004486	Power Corporation
139	2006	6676	260004486	Power Corporation
140	2006	6676	260004486	Power Corporation
141	2006	6676	260004486	Power Corporation
142	**2006 Total**			
143	2007	6676	260004486	Power Corporation
144	2007	6676	260004486	Power Corporation
145	2007	6676	260004486	Power Corporation
146	2007	6676	260004486	Power Corporation
147	2007	6676	260004486	Power Corporation
148	2007	6676	260004486	Power Corporation
149	2007	6676	260004486	Power Corporation

	J	K	L	M
100	1201 Suck Creek Rd	Chattanooga	TN	374059713
101	1201 Suck Creek Rd	Chattanooga	TN	374059713
102				
103	Peerless Ave	Chattanooga	TN	37405
104	Peerless Ave	Chattanooga	TN	37405
105	Peerless Ave	Chattanooga	TN	37405
106	Peerless Ave	Chattanooga	TN	37405
107	Peerless Ave	Chattanooga	TN	37405
108	Peerless Ave	Chattanooga	TN	37405
109	Peerless Ave	Chattanooga	TN	37405
110	Peerless Ave	Chattanooga	TN	37405
111	Peerless Ave	Chattanooga	TN	37405
112	Peerless Ave	Chattanooga	TN	37405
113	Peerless Ave	Chattanooga	TN	37405
114	Peerless Ave	Chattanooga	TN	37405
115				
116	Peerless Ave	Chattanooga	TN	37405
117	Peerless Ave	Chattanooga	TN	37405
118	Peerless Ave	Chattanooga	TN	37405
119	Peerless Ave	Chattanooga	TN	37405
120	Peerless Ave	Chattanooga	TN	37405
121	Peerless Ave	Chattanooga	TN	37405
122	Peerless Ave	Chattanooga	TN	37405
123	Peerless Ave	Chattanooga	TN	37405
124	Peerless Ave	Chattanooga	TN	37405
125	Peerless Ave	Chattanooga	TN	37405
126	Peerless Ave	Chattanooga	TN	37405
127	Peerless Ave	Chattanooga	TN	37405
128				
129	Peerless Ave	Chattanooga	TN	37405
130	Peerless Ave	Chattanooga	TN	37405
131	Peerless Ave	Chattanooga	TN	37405
132	Peerless Ave	Chattanooga	TN	37405
133	Peerless Ave	Chattanooga	TN	37405
134	Peerless Ave	Chattanooga	TN	37405
135	Peerless Ave	Chattanooga	TN	37405
136	Peerless Ave	Chattanooga	TN	37405
137	Peerless Ave	Chattanooga	TN	37405
138	Peerless Ave	Chattanooga	TN	37405
139	Peerless Ave	Chattanooga	TN	37405
140	Peerless Ave	Chattanooga	TN	37405
141	Peerless Ave	Chattanooga	TN	37405
142				
143	Peerless Ave	Chattanooga	TN	37405
144	Peerless Ave	Chattanooga	TN	37405
145	Peerless Ave	Chattanooga	TN	37405
146	Peerless Ave	Chattanooga	TN	37405
147	Peerless Ave	Chattanooga	TN	37405
148	Peerless Ave	Chattanooga	TN	37405
149	Peerless Ave	Chattanooga	TN	37405

	N	O	P	Q
100	309.69	1000G	955.42	A3M4
101	457.8	1000G	1283.11	A3M4
102	1176.66		3471.58	
103	1.49	1000G	9.25	A3M4
104	2.98	1000G	9.58	A3M4
105	1.49	1000G	9.25	A3M4
106	1.49	1000G	9.25	A3M4
107	2.24	1000G	9.42	A3M4
108	1.49	1000G	9.25	A3M4
109	2.24	1000G	9.42	A3M4
110	2.24	1000G	9.42	A3M4
111	1.49	1000G	9.25	A3M4
112	2.24	1000G	9.42	A3M4
113	1.49	1000G	9.25	A3M4
114	1.49	1000G	9.25	A3M4
115	22.37		112.01	
116	0.74	1000G	9.09	A3M4
117	1.49	1000G	9.25	A3M4
118	1.49	1000G	9.25	A3M4
119	2.24	1000G	9.66	A3M4
120	1.49	1000G	9.6	A3M4
121	1.49	1000G	9.6	A3M4
122	1.49	1000G	9.6	A3M4
123	1.49	1000G	9.6	A3M4
124	1.49	1000G	9.6	A3M4
125	1.49	1000G	9.6	A3M4
126	0.74	1000G	9.43	A3M4
127	1.49	1000G	9.6	A3M4
128	17.13		113.88	
129	1.49	1000G	9.6	A3M4
130	1.49	1000G	9.6	A3M4
131	1.49	1000G	9.6	A3M4
132	1.49	1000G	9.6	A3M4
133	1.49	1000G	9.6	A3M4
134	1.49	1000G	9.6	A3M4
135	1.49	1000G	9.6	A3M4
136	1.49	1000G	9.6	A3M4
137	1.49	1000G	9.6	A3M4
138	1.49	1000G	9.6	A3M4
139	1.49	1000G	9.6	A3M4
140	0.74	1000G	9.43	A3M4
141	1.49	1000G	9.6	A3M4
142	18.62		124.63	
143	1.49	1000G	9.6	A3M4
144	1.49	1000G	9.6	A3M4
145	0.74	1000G	9.43	A3M4
146	2.24	1000G	9.78	A3M4
147	1.49	1000G	9.69	A3M4
148	1.49	1000G	10.81	A3M4
149	1.49	1000G	10.81	A3M4

	A	B	C	D	E
150	2600	2603	26CC	3	8
151	2600	2603	26CC	3	9
152	2600	2603	26CC	3	10
153	2600	2603	26CC	3	11
154	2600	2603	26CC	3	12
155					
156	2600	2603	26CC	3	1
157	2600	2603	26CC	3	2
158	2600	2603	26CC	3	3
159					
160	2600	2603	26CC	3	1
161	2600	2603	26CC	3	1
162	2600	2603	26CC	3	3
163	2600	2603	26CC	3	3
164	2600	2603	26CC	3	4
165	2600	2603	26CC	3	6
166	2600	2603	26CC	3	6
167	2600	2603	26CC	3	8
168	2600	2603	26CC	3	9
169	2600	2603	26CC	3	10
170	2600	2603	26CC	3	11
171	2600	2603	26CC	3	12
172					
173	2600	2603	26CC	3	1
174	2600	2603	26CC	3	1
175	2600	2603	26CC	3	3
176	2600	2603	26CC	3	3
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178	2600	2603	26CC	3	6
179	2600	2603	26CC	3	7
180	2600	2603	26CC	3	8
181	2600	2603	26CC	3	9
182	2600	2603	26CC	3	10
183	2600	2603	26CC	3	10
184					
185	2600	2603	26CC	3	1
186	2600	2603	26CC	3	1
187	2600	2603	26CC	3	3
188	2600	2603	26CC	3	3
189	2600	2603	26CC	3	4
190	2600	2603	26CC	3	6
191	2600	2603	26CC	3	6
192	2600	2603	26CC	3	8
193	2600	2603	26CC	3	9
194	2600	2603	26CC	3	10
195	2600	2603	26CC	3	11
196	2600	2603	26CC	3	12
197					
198	2600	2603	26CC	3	1
199	2600	2603	26CC	3	1

	F	G	H	I
150	2007	6676	260004486	Power Corporation
151	2007	6676	260004486	Power Corporation
152	2007	6676	260004486	Power Corporation
153	2007	6676	260004486	Power Corporation
154	2007	6676	260004486	Power Corporation
155	**2007 Total**			
156	2008	6676	260004486	Power Corporation
157	2008	6676	260004486	Power Corporation
158	2008	6676	260004486	Power Corporation
159	**2008 Total**			
160	2004	6859	260004627	Chatt Land Co P&S Prop
161	2004	6859	260004627	Chatt Land Co P&S Prop
162	2004	6859	260004627	Chatt Land Co P&S Prop
163	2004	6859	260004627	Chatt Land Co P&S Prop
164	2004	6859	260004627	Chatt Land Co P&S Prop
165	2004	6859	260004627	Chatt Land Co P&S Prop
166	2004	6859	260004627	Chatt Land Co P&S Prop
167	2004	6859	260004627	Chatt Land Co P&S Prop
168	2004	6859	260004627	Chatt Land Co P&S Prop
169	2004	6859	260004627	Chatt Land Co P&S Prop
170	2004	6859	260004627	Chatt Land Co P&S Prop
171	2004	6859	260004627	Chatt Land Co P&S Prop
172	**2004 Total**			
173	2005	6859	260004627	Chatt Land Co P&S Prop
174	2005	6859	260004627	Chatt Land Co P&S Prop
175	2005	6859	260004627	Chatt Land Co P&S Prop
176	2005	6859	260004627	Chatt Land Co P&S Prop
177	2005	6859	260004627	Chatt Land Co P&S Prop
178	2005	6859	260004627	Chatt Land Co P&S Prop
179	2005	6859	260004627	Chatt Land Co P&S Prop
180	2005	6859	260004627	Chatt Land Co P&S Prop
181	2005	6859	260004627	Chatt Land Co P&S Prop
182	2005	6859	260004627	Chatt Land Co P&S Prop
183	2005	6859	260004627	Chatt Land Co P&S Prop
184	**2005 Total**			
185	2004	6883	260004647	Applied Thermal Coatings
186	2004	6883	260004647	Applied Thermal Coatings
187	2004	6883	260004647	Applied Thermal Coatings
188	2004	6883	260004647	Applied Thermal Coatings
189	2004	6883	260004647	Applied Thermal Coatings
190	2004	6883	260004647	Applied Thermal Coatings
191	2004	6883	260004647	Applied Thermal Coatings
192	2004	6883	260004647	Applied Thermal Coatings
193	2004	6883	260004647	Applied Thermal Coatings
194	2004	6883	260004647	Applied Thermal Coatings
195	2004	6883	260004647	Applied Thermal Coatings
196	2004	6883	260004647	Applied Thermal Coatings
197	**2004 Total**			
198	2005	6883	260004647	Applied Thermal Coatings
199	2005	6883	260004647	Applied Thermal Coatings

	J	K	L	M
150	Peerless Ave	Chattanooga	TN	37405
151	Peerless Ave	Chattanooga	TN	37405
152	Peerless Ave	Chattanooga	TN	37405
153	Peerless Ave	Chattanooga	TN	37405
154	Peerless Ave	Chattanooga	TN	37405
155				
156	Peerless Ave	Chattanooga	TN	37405
157	Peerless Ave	Chattanooga	TN	37405
158	Peerless Ave	Chattanooga	TN	37405
159				
160	200 Manufacturers Rd APT# #A	Chattanooga	TN	374053250
161	200 Manufacturers Rd APT# #A	Chattanooga	TN	374053250
162	200 Manufacturers Rd APT# #A	Chattanooga	TN	374053250
163	200 Manufacturers Rd APT# #A	Chattanooga	TN	374053250
164	200 Manufacturers Rd APT# #A	Chattanooga	TN	374053250
165	200 Manufacturers Rd APT# #A	Chattanooga	TN	374053250
166	200 Manufacturers Rd APT# #A	Chattanooga	TN	374053250
167	200 Manufacturers Rd APT# #A	Chattanooga	TN	374053250
168	200 Manufacturers Rd APT# #A	Chattanooga	TN	374053250
169	200 Manufacturers Rd APT# #A	Chattanooga	TN	374053250
170	200 Manufacturers Rd APT# #A	Chattanooga	TN	374053250
171	200 Manufacturers Rd APT# #A	Chattanooga	TN	374053250
172				
173	200 Manufacturers Rd APT# #A	Chattanooga	TN	374053250
174	200 Manufacturers Rd APT# #A	Chattanooga	TN	374053250
175	200 Manufacturers Rd APT# #A	Chattanooga	TN	374053250
176	200 Manufacturers Rd APT# #A	Chattanooga	TN	374053250
177	200 Manufacturers Rd APT# #A	Chattanooga	TN	374053250
178	200 Manufacturers Rd APT# #A	Chattanooga	TN	374053250
179	200 Manufacturers Rd APT# #A	Chattanooga	TN	374053250
180	200 Manufacturers Rd APT# #A	Chattanooga	TN	374053250
181	200 Manufacturers Rd APT# #A	Chattanooga	TN	374053250
182	200 Manufacturers Rd APT# #A	Chattanooga	TN	374053250
183	200 Manufacturers Rd APT# #A	Chattanooga	TN	374053250
184				
185	200 COMPRESS ST	CHATTANOOGA	TN	374053764
186	200 COMPRESS ST	CHATTANOOGA	TN	374053764
187	200 COMPRESS ST	CHATTANOOGA	TN	374053764
188	200 COMPRESS ST	CHATTANOOGA	TN	374053764
189	200 COMPRESS ST	CHATTANOOGA	TN	374053764
190	200 COMPRESS ST	CHATTANOOGA	TN	374053764
191	200 COMPRESS ST	CHATTANOOGA	TN	374053764
192	200 COMPRESS ST	CHATTANOOGA	TN	374053764
193	200 COMPRESS ST	CHATTANOOGA	TN	374053764
194	200 COMPRESS ST	CHATTANOOGA	TN	374053764
195	200 COMPRESS ST	CHATTANOOGA	TN	374053764
196	200 COMPRESS ST	CHATTANOOGA	TN	374053764
197				
198	200 COMPRESS ST	CHATTANOOGA	TN	374053764
199	200 COMPRESS ST	CHATTANOOGA	TN	374053764

	N	O	P	Q
150	1.49	1000G	10.81	A3M4
151	2.24	1000G	11	A3M4
152	1.49	1000G	10.81	A3M4
153	1.49	1000G	10.81	A3M4
154	1.49	1000G	10.81	A3M4
155	18.63		123.96	
156	1.48	1000G	10.81	A3M4
157	0.74	1000G	10.61	A3M4
158	2.24	1000G	11	A3M4
159	4.46		32.42	
160	3.74	1000G	18.26	A3M4
161	5.23	1000G	23.51	A3M4
162	0	1000G	14.97	A3M4
163	8.22	1000G	34.03	A3M4
164	10.47	1000G	41.91	A3M4
165	5.23	1000G	23.51	A3M4
166	5.98	1000G	26.14	A3M4
167	4.48	1000G	20.89	A3M4
168	3.74	1000G	18.26	A3M4
169	2.99	1000G	15.63	A3M4
170	2.99	1000G	15.63	A3M4
171	14.21	1000G	55.05	A3M4
172	67.28		307.79	
173	3.74	1000G	18.26	A3M4
174	-8.23	1000G	-23.79	A3M4
175	2.99	1000G	15.63	A3M4
176	5.23	1000G	24.09	A3M4
177	3.74	1000G	18.97	A3M4
178	1.49	1000G	15.89	A3M4
179	-2.24	1000G	12.48	A3M4
180	4.48	1000G	21.7	A3M4
181	1.49	1000G	15.89	A3M4
182	0	1000G	3.11	A3M4
183	2.24	1000G	16.07	A3M4
184	14.93		138.3	
185	5.98	1000G	61.04	A3M4
186	23.18	1000G	121.49	A3M4
187	5.98	1000G	61.04	A3M4
188	12.71	1000G	84.69	A3M4
189	9.72	1000G	74.18	A3M4
190	9.72	1000G	74.18	A3M4
191	19.44	1000G	108.35	A3M4
192	14.96	1000G	92.58	A3M4
193	21.69	1000G	116.23	A3M4
194	20.94	1000G	113.6	A3M4
195	20.19	1000G	110.97	A3M4
196	25.43	1000G	129.37	A3M4
197	189.94		1147.72	
198	8.22	1000G	68.93	A3M4
199	20.19	1000G	110.97	A3M4

	A	B	C	D	E
200	2600	2603	26CC	3	3
201	2600	2603	26CC	3	3
202	2600	2603	26CC	3	5
203	2600	2603	26CC	3	6
204	2600	2603	26CC	3	6
205	2600	2603	26CC	3	8
206	2600	2603	26CC	3	9
207	2600	2603	26CC	3	10
208	2600	2603	26CC	3	11
209	2600	2603	26CC	3	12
210					
211	2600	2603	26CC	3	1
212	2600	2603	26CC	3	1
213	2600	2603	26CC	3	3
214	2600	2603	26CC	3	3
215	2600	2603	26CC	3	5
216	2600	2603	26CC	3	5
217	2600	2603	26CC	3	6
218	2600	2603	26CC	3	8
219	2600	2603	26CC	3	8
220	2600	2603	26CC	3	9
221	2600	2603	26CC	3	10
222	2600	2603	26CC	3	11
223	2600	2603	26CC	3	12
224					
225	2600	2603	26CC	3	1
226	2600	2603	26CC	3	2
227	2600	2603	26CC	3	3
228	2600	2603	26CC	3	4
229	2600	2603	26CC	3	5
230	2600	2603	26CC	3	6
231	2600	2603	26CC	3	7
232	2600	2603	26CC	3	8
233	2600	2603	26CC	3	9
234	2600	2603	26CC	3	10
235	2600	2603	26CC	3	11
236	2600	2603	26CC	3	12
237					
238	2600	2603	26CC	3	1
239	2600	2603	26CC	3	2
240	2600	2603	26CC	3	3
241					
242	2600	2603	26CC	3	1
243	2600	2603	26CC	3	2
244	2600	2603	26CC	3	3
245	2600	2603	26CC	3	4
246	2600	2603	26CC	3	5
247	2600	2603	26CC	3	6
248	2600	2603	26CC	3	7
249	2600	2603	26CC	3	8

	F	G	H	I
200	2005	6883	260004647	Applied Thermal Coatings
201	2005	6883	260004647	Applied Thermal Coatings
202	2005	6883	260004647	Applied Thermal Coatings
203	2005	6883	260004647	Applied Thermal Coatings
204	2005	6883	260004647	Applied Thermal Coatings
205	2005	6883	260004647	Applied Thermal Coatings
206	2005	6883	260004647	Applied Thermal Coatings
207	2005	6883	260004647	Applied Thermal Coatings
208	2005	6883	260004647	Applied Thermal Coatings
209	2005	6883	260004647	Applied Thermal Coatings
210	**2005 Total**			
211	2006	6883	260004647	Applied Thermal Coatings
212	2006	6883	260004647	Applied Thermal Coatings
213	2006	6883	260004647	Applied Thermal Coatings
214	2006	6883	260004647	Applied Thermal Coatings
215	2006	6883	260004647	Applied Thermal Coatings
216	2006	6883	260004647	Applied Thermal Coatings
217	2006	6883	260004647	Applied Thermal Coatings
218	2006	6883	260004647	Applied Thermal Coatings
219	2006	6883	260004647	Applied Thermal Coatings
220	2006	6883	260004647	Applied Thermal Coatings
221	2006	6883	260004647	Applied Thermal Coatings
222	2006	6883	260004647	Applied Thermal Coatings
223	2006	6883	260004647	Applied Thermal Coatings
224	**2006 Total**			
225	2007	6883	260004647	Applied Thermal Coatings
226	2007	6883	260004647	Applied Thermal Coatings
227	2007	6883	260004647	Applied Thermal Coatings
228	2007	6883	260004647	Applied Thermal Coatings
229	2007	6883	260004647	Applied Thermal Coatings
230	2007	6883	260004647	Applied Thermal Coatings
231	2007	6883	260004647	Applied Thermal Coatings
232	2007	6883	260004647	Applied Thermal Coatings
233	2007	6883	260004647	Applied Thermal Coatings
234	2007	6883	260004647	Applied Thermal Coatings
235	2007	6883	260004647	Applied Thermal Coatings
236	2007	6883	260004647	Applied Thermal Coatings
237	**2007 Total**			
238	2008	6883	260004647	Applied Thermal Coatings
239	2008	6883	260004647	Applied Thermal Coatings
240	2008	6883	260004647	Applied Thermal Coatings
241	**2008 Total**			
242	2004	12068	260008047	Komatsu American Mfg
243	2004	12068	260008047	Komatsu American Mfg
244	2004	12068	260008047	Komatsu American Mfg
245	2004	12068	260008047	Komatsu American Mfg
246	2004	12068	260008047	Komatsu American Mfg
247	2004	12068	260008047	Komatsu American Mfg
248	2004	12068	260008047	Komatsu American Mfg
249	2004	12068	260008047	Komatsu American Mfg

	J	K	L	M
200	200 COMPRESS ST	CHATTANOOGA	TN	374053764
201	200 COMPRESS ST	CHATTANOOGA	TN	374053764
202	200 COMPRESS ST	CHATTANOOGA	TN	374053764
203	200 COMPRESS ST	CHATTANOOGA	TN	374053764
204	200 COMPRESS ST	CHATTANOOGA	TN	374053764
205	200 COMPRESS ST	CHATTANOOGA	TN	374053764
206	200 COMPRESS ST	CHATTANOOGA	TN	374053764
207	200 COMPRESS ST	CHATTANOOGA	TN	374053764
208	200 COMPRESS ST	CHATTANOOGA	TN	374053764
209	200 COMPRESS ST	CHATTANOOGA	TN	374053764
210				
211	200 COMPRESS ST	CHATTANOOGA	TN	374053764
212	200 COMPRESS ST	CHATTANOOGA	TN	374053764
213	200 COMPRESS ST	CHATTANOOGA	TN	374053764
214	200 COMPRESS ST	CHATTANOOGA	TN	374053764
215	200 COMPRESS ST	CHATTANOOGA	TN	374053764
216	200 COMPRESS ST	CHATTANOOGA	TN	374053764
217	200 COMPRESS ST	CHATTANOOGA	TN	374053764
218	200 COMPRESS ST	CHATTANOOGA	TN	374053764
219	200 COMPRESS ST	CHATTANOOGA	TN	374053764
220	200 COMPRESS ST	CHATTANOOGA	TN	374053764
221	200 COMPRESS ST	CHATTANOOGA	TN	374053764
222	200 COMPRESS ST	CHATTANOOGA	TN	374053764
223	200 COMPRESS ST	CHATTANOOGA	TN	374053764
224				
225	200 COMPRESS ST	CHATTANOOGA	TN	374053764
226	200 COMPRESS ST	CHATTANOOGA	TN	374053764
227	200 COMPRESS ST	CHATTANOOGA	TN	374053764
228	200 COMPRESS ST	CHATTANOOGA	TN	374053764
229	200 COMPRESS ST	CHATTANOOGA	TN	374053764
230	200 COMPRESS ST	CHATTANOOGA	TN	374053764
231	200 COMPRESS ST	CHATTANOOGA	TN	374053764
232	200 COMPRESS ST	CHATTANOOGA	TN	374053764
233	200 COMPRESS ST	CHATTANOOGA	TN	374053764
234	200 COMPRESS ST	CHATTANOOGA	TN	374053764
235	200 COMPRESS ST	CHATTANOOGA	TN	374053764
236	200 COMPRESS ST	CHATTANOOGA	TN	374053764
237				
238	200 COMPRESS ST	CHATTANOOGA	TN	374053764
239	200 COMPRESS ST	CHATTANOOGA	TN	374053764
240	200 COMPRESS ST	CHATTANOOGA	TN	374053764
241				
242	409 Signal Mountain Rd	Chattanooga	TN	374051918
243	409 Signal Mountain Rd	Chattanooga	TN	374051918
244	409 Signal Mountain Rd	Chattanooga	TN	374051918
245	409 Signal Mountain Rd	Chattanooga	TN	374051918
246	409 Signal Mountain Rd	Chattanooga	TN	374051918
247	409 Signal Mountain Rd	Chattanooga	TN	374051918
248	409 Signal Mountain Rd	Chattanooga	TN	374051918
249	409 Signal Mountain Rd	Chattanooga	TN	374051918

	N	O	P	Q
200	13.46	1000G	87.32	A3M4
201	21.69	1000G	119.15	A3M4
202	10.47	1000G	79.78	A3M4
203	9.72	1000G	77.05	A3M4
204	15.7	1000G	98.89	A3M4
205	23.93	1000G	128.92	A3M4
206	58.34	1000G	241.31	A3M4
207	29.17	1000G	148.03	A3M4
208	22.44	1000G	123.46	A3M4
209	7.48	1000G	68.86	A3M4
210	240.81		1352.67	
211	8.22	1000G	71.59	A3M4
212	11.22	1000G	82.51	A3M4
213	23.18	1000G	126.19	A3M4
214	12.71	1000G	87.97	A3M4
215	12.71	1000G	87.97	A3M4
216	21.69	1000G	120.73	A3M4
217	20.19	1000G	115.27	A3M4
218	30.67	1000G	153.49	A3M4
219	75.54	1000G	280.75	A3M4
220	25.43	1000G	134.38	A3M4
221	14.96	1000G	96.16	A3M4
222	10.47	1000G	79.78	A3M4
223	17.95	1000G	107.08	A3M4
224	284.94		1543.87	
225	17.95	1000G	107.08	A3M4
226	20.19	1000G	115.27	A3M4
227	40.39	1000G	188.98	A3M4
228	49.37	1000G	220.73	A3M4
229	27.67	1000G	143.84	A3M4
230	35.9	1000G	194.29	A3M4
231	40.39	1000G	212.73	A3M4
232	35.15	1000G	191.22	A3M4
233	39.64	1000G	209.66	A3M4
234	68.07	1000G	296.74	A3M4
235	53.85	1000G	260.05	A3M4
236	35.15	1000G	191.22	A3M4
237	463.72		2331.81	
238	30.67	1000G	172.78	A3M4
239	47.87	1000G	243.46	A3M4
240	63.58	1000G	285.15	A3M4
241	142.12		701.39	
242	8.97	1000G	30.6	A3M4
243	8.97	1000G	30.6	A3M4
244	6.73	1000G	22.72	A3M4
245	8.97	1000G	30.6	A3M4
246	14.96	1000G	51.63	A3M4
247	9.72	1000G	33.23	A3M4
248	10.47	1000G	35.86	A3M4
249	18.7	1000G	64.77	A3M4

	A	B	C	D	E
250	2600	2603	26CC	3	9
251	2600	2603	26CC	3	10
252	2600	2603	26CC	3	11
253	2600	2603	26CC	3	12
254					
255	2600	2603	26CC	3	1
256	2600	2603	26CC	3	2
257	2600	2603	26CC	3	3
258	2600	2603	26CC	3	4
259	2600	2603	26CC	3	5
260	2600	2603	26CC	3	6
261	2600	2603	26CC	3	7
262	2600	2603	26CC	3	8
263	2600	2603	26CC	3	9
264	2600	2603	26CC	3	10
265	2600	2603	26CC	3	11
266	2600	2603	26CC	3	12
267					
268	2600	2603	26CC	3	1
269	2600	2603	26CC	3	2
270	2600	2603	26CC	3	3
271	2600	2603	26CC	3	3
272	2600	2603	26CC	3	5
273	2600	2603	26CC	3	6
274	2600	2603	26CC	3	7
275	2600	2603	26CC	3	8
276	2600	2603	26CC	3	8
277	2600	2603	26CC	3	10
278	2600	2603	26CC	3	10
279	2600	2603	26CC	3	12
280					
281	2600	2603	26CC	3	1
282	2600	2603	26CC	3	1
283	2600	2603	26CC	3	2
284	2600	2603	26CC	3	3
285	2600	2603	26CC	3	4
286	2600	2603	26CC	3	5
287	2600	2603	26CC	3	6
288	2600	2603	26CC	3	7
289	2600	2603	26CC	3	8
290	2600	2603	26CC	3	9
291	2600	2603	26CC	3	10
292	2600	2603	26CC	3	11
293	2600	2603	26CC	3	12
294					
295	2600	2603	26CC	3	1
296	2600	2603	26CC	3	2
297	2600	2603	26CC	3	3
298					
299	2600	2603	26CC	3	1

	F	G	H	I
250	2004	12068	260008047	Komatsu American Mfg
251	2004	12068	260008047	Komatsu American Mfg
252	2004	12068	260008047	Komatsu American Mfg
253	2004	12068	260008047	Komatsu American Mfg
254	**2004 Total**			
255	2005	12068	260008047	Komatsu American Mfg
256	2005	12068	260008047	Komatsu American Mfg
257	2005	12068	260008047	Komatsu American Mfg
258	2005	12068	260008047	Komatsu American Mfg
259	2005	12068	260008047	Komatsu American Mfg
260	2005	12068	260008047	Komatsu American Mfg
261	2005	12068	260008047	Komatsu American Mfg
262	2005	12068	260008047	Komatsu American Mfg
263	2005	12068	260008047	Komatsu American Mfg
264	2005	12068	260008047	Komatsu American Mfg
265	2005	12068	260008047	Komatsu American Mfg
266	2005	12068	260008047	Komatsu American Mfg
267	**2005 Total**			
268	2006	12068	260008047	Komatsu American Mfg
269	2006	12068	260008047	Komatsu American Mfg
270	2006	12068	260008047	Komatsu American Mfg
271	2006	12068	260008047	Komatsu American Mfg
272	2006	12068	260008047	Komatsu American Mfg
273	2006	12068	260008047	Komatsu American Mfg
274	2006	12068	260008047	Komatsu American Mfg
275	2006	12068	260008047	Komatsu American Mfg
276	2006	12068	260008047	Komatsu American Mfg
277	2006	12068	260008047	Komatsu American Mfg
278	2006	12068	260008047	Komatsu American Mfg
279	2006	12068	260008047	Komatsu American Mfg
280	**2006 Total**			
281	2007	12068	260008047	Komatsu American Mfg
282	2007	12068	260008047	Komatsu American Mfg
283	2007	12068	260008047	Komatsu American Mfg
284	2007	12068	260008047	Komatsu American Mfg
285	2007	12068	260008047	Komatsu American Mfg
286	2007	12068	260008047	Komatsu American Mfg
287	2007	12068	260008047	Komatsu American Mfg
288	2007	12068	260008047	Komatsu American Mfg
289	2007	12068	260008047	Komatsu American Mfg
290	2007	12068	260008047	Komatsu American Mfg
291	2007	12068	260008047	Komatsu American Mfg
292	2007	12068	260008047	Komatsu American Mfg
293	2007	12068	260008047	Komatsu American Mfg
294	**2007 Total**			
295	2008	12068	260008047	Komatsu American Mfg
296	2008	12068	260008047	Komatsu American Mfg
297	2008	12068	260008047	Komatsu American Mfg
298	**2008 Total**			
299	2004	16004	260010996	R L Stowe Mills Inc

	J	K	L	M
250	409 Signal Mountain Rd	Chattanooga	TN	374051918
251	409 Signal Mountain Rd	Chattanooga	TN	374051918
252	409 Signal Mountain Rd	Chattanooga	TN	374051918
253	409 Signal Mountain Rd	Chattanooga	TN	374051918
254				
255	409 Signal Mountain Rd	Chattanooga	TN	374051918
256	409 Signal Mountain Rd	Chattanooga	TN	374051918
257	409 Signal Mountain Rd	Chattanooga	TN	374051918
258	409 Signal Mountain Rd	Chattanooga	TN	374051918
259	409 Signal Mountain Rd	Chattanooga	TN	374051918
260	409 Signal Mountain Rd	Chattanooga	TN	374051918
261	409 Signal Mountain Rd	Chattanooga	TN	374051918
262	409 Signal Mountain Rd	Chattanooga	TN	374051918
263	409 Signal Mountain Rd	Chattanooga	TN	374051918
264	409 Signal Mountain Rd	Chattanooga	TN	374051918
265	409 Signal Mountain Rd	Chattanooga	TN	374051918
266	409 Signal Mountain Rd	Chattanooga	TN	374051918
267				
268	409 Signal Mountain Rd	Chattanooga	TN	374051918
269	409 Signal Mountain Rd	Chattanooga	TN	374051918
270	409 Signal Mountain Rd	Chattanooga	TN	374051918
271	409 Signal Mountain Rd	Chattanooga	TN	374051918
272	409 Signal Mountain Rd	Chattanooga	TN	374051918
273	409 Signal Mountain Rd	Chattanooga	TN	374051918
274	409 Signal Mountain Rd	Chattanooga	TN	374051918
275	409 Signal Mountain Rd	Chattanooga	TN	374051918
276	409 Signal Mountain Rd	Chattanooga	TN	374051918
277	409 Signal Mountain Rd	Chattanooga	TN	374051918
278	409 Signal Mountain Rd	Chattanooga	TN	374051918
279	409 Signal Mountain Rd	Chattanooga	TN	374051918
280				
281	409 Signal Mountain Rd	Chattanooga	TN	374051918
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283	409 Signal Mountain Rd	Chattanooga	TN	374051918
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286	409 Signal Mountain Rd	Chattanooga	TN	374051918
287	409 Signal Mountain Rd	Chattanooga	TN	374051918
288	409 Signal Mountain Rd	Chattanooga	TN	374051918
289	409 Signal Mountain Rd	Chattanooga	TN	374051918
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291	409 Signal Mountain Rd	Chattanooga	TN	374051918
292	409 Signal Mountain Rd	Chattanooga	TN	374051918
293	409 Signal Mountain Rd	Chattanooga	TN	374051918
294				
295	409 Signal Mountain Rd	Chattanooga	TN	374051918
296	409 Signal Mountain Rd	Chattanooga	TN	374051918
297	409 Signal Mountain Rd	Chattanooga	TN	374051918
298				
299	10 Mercer St	Lupton City	TN	37351

	N	O	P	Q
250	10.47	1000G	35.86	A3M4
251	36.65	1000G	127.84	A3M4
252	18.7	1000G	64.77	A3M4
253	8.97	1000G	30.6	A3M4
254	162.28		559.08	
255	13.46	1000G	46.37	A3M4
256	5.98	1000G	20.09	A3M4
257	7.48	1000G	25.35	A3M4
258	8.97	1000G	31.48	A3M4
259	39.64	1000G	143.72	A3M4
260	21.69	1000G	78.2	A3M4
261	23.93	1000G	86.39	A3M4
262	19.44	1000G	70.01	A3M4
263	54.6	1000G	190.2	A3M4
264	42.63	1000G	154.64	A3M4
265	67.32	1000G	219.36	A3M4
266	44.13	1000G	160.1	A3M4
267	349.27		1225.91	
268	8.97	1000G	31.79	A3M4
269	29.17	1000G	105.5	A3M4
270	24.68	1000G	89.12	A3M4
271	28.42	1000G	102.77	A3M4
272	22.44	1000G	80.93	A3M4
273	19.44	1000G	70.01	A3M4
274	21.69	1000G	78.2	A3M4
275	18.7	1000G	67.28	A3M4
276	23.93	1000G	86.39	A3M4
277	20.19	1000G	72.74	A3M4
278	60.59	1000G	203.92	A3M4
279	71.06	1000G	227.93	A3M4
280	349.28		1216.58	
281	14.21	1000G	50.9	A3M4
282	-39.64	1000G	-115.21	A3M4
283	12.71	1000G	45.44	A3M4
284	14.96	1000G	53.63	A3M4
285	13.46	1000G	48.17	A3M4
286	14.21	1000G	51.56	A3M4
287	19.44	1000G	78.81	A3M4
288	12.71	1000G	51.15	A3M4
289	18.7	1000G	75.73	A3M4
290	25.43	1000G	103.39	A3M4
291	70.31	1000G	254.65	A3M4
292	29.91	1000G	121.83	A3M4
293	11.22	1000G	45	A3M4
294	217.63		865.05	
295	9.72	1000G	38.86	A3M4
296	11.96	1000G	48.08	A3M4
297	13.46	1000G	54.22	A3M4
298	35.14		141.16	
299	0	1000G	249.3	A3M4

	A	B	C	D	E
300	2600	2603	26CC	3	2
301	2600	2603	26CC	3	3
302	2600	2603	26CC	3	4
303	2600	2603	26CC	3	5
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306	2600	2603	26CC	3	8
307	2600	2603	26CC	3	9
308	2600	2603	26CC	3	10
309	2600	2603	26CC	3	11
310	2600	2603	26CC	3	12
311					
312	2600	2603	26CC	3	1
313	2600	2603	26CC	3	2
314	2600	2603	26CC	3	3
315	2600	2603	26CC	3	4
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317	2600	2603	26CC	3	6
318	2600	2603	26CC	3	7
319	2600	2603	26CC	3	8
320	2600	2603	26CC	3	9
321	2600	2603	26CC	3	10
322	2600	2603	26CC	3	11
323	2600	2603	26CC	3	12
324					
325	2600	2603	26CC	3	1
326	2600	2603	26CC	3	2
327	2600	2603	26CC	3	3
328	2600	2603	26CC	3	3
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330	2600	2603	26CC	3	6
331	2600	2603	26CC	3	7
332	2600	2603	26CC	3	8
333	2600	2603	26CC	3	8
334	2600	2603	26CC	3	10
335	2600	2603	26CC	3	10
336	2600	2603	26CC	3	12
337					
338	2600	2603	26CC	3	1
339	2600	2603	26CC	3	1
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343	2600	2603	26CC	3	5
344	2600	2603	26CC	3	6
345	2600	2603	26CC	3	7
346	2600	2603	26CC	3	8
347	2600	2603	26CC	3	9
348	2600	2603	26CC	3	10
349	2600	2603	26CC	3	11

	F	G	H	I
300	2004	16004	260010996	R L Stowe Mills Inc
301	2004	16004	260010996	R L Stowe Mills Inc
302	2004	16004	260010996	R L Stowe Mills Inc
303	2004	16004	260010996	R L Stowe Mills Inc
304	2004	16004	260010996	R L Stowe Mills Inc
305	2004	16004	260010996	R L Stowe Mills Inc
306	2004	16004	260010996	R L Stowe Mills Inc
307	2004	16004	260010996	R L Stowe Mills Inc
308	2004	16004	260010996	R L Stowe Mills Inc
309	2004	16004	260010996	R L Stowe Mills Inc
310	2004	16004	260010996	R L Stowe Mills Inc
311	**2004 Total**			
312	2005	16004	260010996	R L Stowe Mills Inc
313	2005	16004	260010996	R L Stowe Mills Inc
314	2005	16004	260010996	R L Stowe Mills Inc
315	2005	16004	260010996	R L Stowe Mills Inc
316	2005	16004	260010996	R L Stowe Mills Inc
317	2005	16004	260010996	R L Stowe Mills Inc
318	2005	16004	260010996	R L Stowe Mills Inc
319	2005	16004	260010996	R L Stowe Mills Inc
320	2005	16004	260010996	R L Stowe Mills Inc
321	2005	16004	260010996	R L Stowe Mills Inc
322	2005	16004	260010996	R L Stowe Mills Inc
323	2005	16004	260010996	R L Stowe Mills Inc
324	**2005 Total**			
325	2006	16004	260010996	R L Stowe Mills Inc
326	2006	16004	260010996	R L Stowe Mills Inc
327	2006	16004	260010996	R L Stowe Mills Inc
328	2006	16004	260010996	R L Stowe Mills Inc
329	2006	16004	260010996	R L Stowe Mills Inc
330	2006	16004	260010996	R L Stowe Mills Inc
331	2006	16004	260010996	R L Stowe Mills Inc
332	2006	16004	260010996	R L Stowe Mills Inc
333	2006	16004	260010996	R L Stowe Mills Inc
334	2006	16004	260010996	R L Stowe Mills Inc
335	2006	16004	260010996	R L Stowe Mills Inc
336	2006	16004	260010996	R L Stowe Mills Inc
337	**2006 Total**			
338	2007	16004	260010996	R L Stowe Mills Inc
339	2007	16004	260010996	R L Stowe Mills Inc
340	2007	16004	260010996	R L Stowe Mills Inc
341	2007	16004	260010996	R L Stowe Mills Inc
342	2007	16004	260010996	R L Stowe Mills Inc
343	2007	16004	260010996	R L Stowe Mills Inc
344	2007	16004	260010996	R L Stowe Mills Inc
345	2007	16004	260010996	R L Stowe Mills Inc
346	2007	16004	260010996	R L Stowe Mills Inc
347	2007	16004	260010996	R L Stowe Mills Inc
348	2007	16004	260010996	R L Stowe Mills Inc
349	2007	16004	260010996	R L Stowe Mills Inc

	J	K	L	M
300	10 Mercer St	Lupton City	TN	37351
301	10 Mercer St	Lupton City	TN	37351
302	10 Mercer St	Lupton City	TN	37351
303	10 Mercer St	Lupton City	TN	37351
304	10 Mercer St	Lupton City	TN	37351
305	10 Mercer St	Lupton City	TN	37351
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308	10 Mercer St	Lupton City	TN	37351
309	10 Mercer St	Lupton City	TN	37351
310	10 Mercer St	Lupton City	TN	37351
311				
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313	10 Mercer St	Lupton City	TN	37351
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315	10 Mercer St	Lupton City	TN	37351
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319	10 Mercer St	Lupton City	TN	37351
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321	10 Mercer St	Lupton City	TN	37351
322	10 Mercer St	Lupton City	TN	37351
323	10 Mercer St	Lupton City	TN	37351
324				
325	10 Mercer St	Lupton City	TN	37351
326	10 Mercer St	Lupton City	TN	37351
327	10 Mercer St	Lupton City	TN	37351
328	10 Mercer St	Lupton City	TN	37351
329	10 Mercer St	Lupton City	TN	37351
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334	10 Mercer St	Lupton City	TN	37351
335	10 Mercer St	Lupton City	TN	37351
336	10 Mercer St	Lupton City	TN	37351
337				
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339	10 Mercer St	Lupton City	TN	37351
340	10 Mercer St	Lupton City	TN	37351
341	10 Mercer St	Lupton City	TN	37351
342	10 Mercer St	Lupton City	TN	37351
343	10 Mercer St	Lupton City	TN	37351
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345	10 Mercer St	Lupton City	TN	37351
346	10 Mercer St	Lupton City	TN	37351
347	10 Mercer St	Lupton City	TN	37351
348	10 Mercer St	Lupton City	TN	37351
349	10 Mercer St	Lupton City	TN	37351

	N	O	P	Q
300	0	1000G	249.3	A3M4
301	0	1000G	249.3	A3M4
302	0	1000G	249.3	A3M4
303	26.92	1000G	334.06	A3M4
304	0	1000G	249.3	A3M4
305	0	1000G	249.3	A3M4
306	0	1000G	249.3	A3M4
307	0	1000G	249.3	A3M4
308	0	1000G	249.3	A3M4
309	0	1000G	249.3	A3M4
310	0	1000G	249.3	A3M4
311	26.92		3076.36	
312	0	1000G	249.3	A3M4
313	0	1000G	207.75	A3M4
314	0	1000G	249.3	A3M4
315	0	1000G	256.35	A3M4
316	0	1000G	258.92	A3M4
317	0	1000G	258.92	A3M4
318	0	1000G	258.92	A3M4
319	0	1000G	258.92	A3M4
320	0	1000G	258.92	A3M4
321	0	1000G	258.92	A3M4
322	0	1000G	258.92	A3M4
323	0	1000G	258.92	A3M4
324	0		3034.06	
325	0	1000G	258.92	A3M4
326	0	1000G	258.92	A3M4
327	0	1000G	258.92	A3M4
328	362.8	1000G	1146.44	A3M4
329	0	1000G	258.92	A3M4
330	0	1000G	258.92	A3M4
331	0	1000G	258.92	A3M4
332	2.99	1000G	302.76	A3M4
333	1865.64	1000G	3657.67	A3M4
334	0	1000G	258.92	A3M4
335	0	1000G	258.92	A3M4
336	0	1000G	258.92	A3M4
337	2231.43		7437.15	
338	0	1000G	258.92	A3M4
339	0	1000G	258.92	A3M4
340	0	1000G	258.92	A3M4
341	0	1000G	258.92	A3M4
342	33.66	1000G	371.54	A3M4
343	0	1000G	262.29	A3M4
344	0	1000G	291.49	A3M4
345	0	1000G	291.49	A3M4
346	474.26	1000G	1513.07	A3M4
347	189.25	1000G	842.75	A3M4
348	2.99	1000G	292.27	A3M4
349	0	1000G	291.49	A3M4

	A	B	C	D	E
350	2600	2603	26CC	3	12
351					
352	2600	2603	26CC	3	1
353	2600	2603	26CC	3	2
354	2600	2603	26CC	3	3
355					
356	2600	2603	26CC	3	1
357	2600	2603	26CC	3	2
358	2600	2603	26CC	3	3
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365	2600	2603	26CC	3	10
366	2600	2603	26CC	3	11
367	2600	2603	26CC	3	12
368					
369	2600	2603	26CC	3	1
370	2600	2603	26CC	3	2
371	2600	2603	26CC	3	3
372	2600	2603	26CC	3	4
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376	2600	2603	26CC	3	8
377	2600	2603	26CC	3	9
378	2600	2603	26CC	3	10
379	2600	2603	26CC	3	11
380	2600	2603	26CC	3	12
381					
382	2600	2603	26CC	3	1
383	2600	2603	26CC	3	2
384	2600	2603	26CC	3	3
385	2600	2603	26CC	3	4
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391	2600	2603	26CC	3	10
392	2600	2603	26CC	3	11
393	2600	2603	26CC	3	12
394					
395	2600	2603	26CC	3	1
396	2600	2603	26CC	3	2
397	2600	2603	26CC	3	3
398	2600	2603	26CC	3	4
399	2600	2603	26CC	3	5

	F	G	H	I
350	2007	16004	260010996	R L Stowe Mills Inc
351	**2007 Total**			
352	2008	16004	260010996	R L Stowe Mills Inc
353	2008	16004	260010996	R L Stowe Mills Inc
354	2008	16004	260010996	R L Stowe Mills Inc
355	**2008 Total**			
356	2004	16222	260011206	Alstom Power Inc
357	2004	16222	260011206	Alstom Power Inc
358	2004	16222	260011206	Alstom Power Inc
359	2004	16222	260011206	Alstom Power Inc
360	2004	16222	260011206	Alstom Power Inc
361	2004	16222	260011206	Alstom Power Inc
362	2004	16222	260011206	Alstom Power Inc
363	2004	16222	260011206	Alstom Power Inc
364	2004	16222	260011206	Alstom Power Inc
365	2004	16222	260011206	Alstom Power Inc
366	2004	16222	260011206	Alstom Power Inc
367	2004	16222	260011206	Alstom Power Inc
368	**2004 Total**			
369	2005	16222	260011206	Alstom Power Inc
370	2005	16222	260011206	Alstom Power Inc
371	2005	16222	260011206	Alstom Power Inc
372	2005	16222	260011206	Alstom Power Inc
373	2005	16222	260011206	Alstom Power Inc
374	2005	16222	260011206	Alstom Power Inc
375	2005	16222	260011206	Alstom Power Inc
376	2005	16222	260011206	Alstom Power Inc
377	2005	16222	260011206	Alstom Power Inc
378	2005	16222	260011206	Alstom Power Inc
379	2005	16222	260011206	Alstom Power Inc
380	2005	16222	260011206	Alstom Power Inc
381	**2005 Total**			
382	2006	16222	260011206	Alstom Power Inc
383	2006	16222	260011206	Alstom Power Inc
384	2006	16222	260011206	Alstom Power Inc
385	2006	16222	260011206	Alstom Power Inc
386	2006	16222	260011206	Alstom Power Inc
387	2006	16222	260011206	Alstom Power Inc
388	2006	16222	260011206	Alstom Power Inc
389	2006	16222	260011206	Alstom Power Inc
390	2006	16222	260011206	Alstom Power Inc
391	2006	16222	260011206	Alstom Power Inc
392	2006	16222	260011206	Alstom Power Inc
393	2006	16222	260011206	Alstom Power Inc
394	**2006 Total**			
395	2007	16222	260011206	Alstom Power Inc
396	2007	16222	260011206	Alstom Power Inc
397	2007	16222	260011206	Alstom Power Inc
398	2007	16222	260011206	Alstom Power Inc
399	2007	16222	260011206	Alstom Power Inc

	J	K	L	M
350	10 Mercer St	Lupton City	TN	37351
351				
352	10 Mercer St	Lupton City	TN	37351
353	10 Mercer St	Lupton City	TN	37351
354	10 Mercer St	Lupton City	TN	37351
355				
356	1335 Ash St	Chattanooga	TN	37402
357	1335 Ash St	Chattanooga	TN	37402
358	1335 Ash St	Chattanooga	TN	37402
359	1335 Ash St	Chattanooga	TN	37402
360	1335 Ash St	Chattanooga	TN	37402
361	1335 Ash St	Chattanooga	TN	37402
362	1335 Ash St	Chattanooga	TN	37402
363	1335 Ash St	Chattanooga	TN	37402
364	1335 Ash St	Chattanooga	TN	37402
365	1335 Ash St	Chattanooga	TN	37402
366	1335 Ash St	Chattanooga	TN	37402
367	1335 Ash St	Chattanooga	TN	37402
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370	1335 Ash St	Chattanooga	TN	37402
371	1335 Ash St	Chattanooga	TN	37402
372	1335 Ash St	Chattanooga	TN	37402
373	1335 Ash St	Chattanooga	TN	37402
374	1335 Ash St	Chattanooga	TN	37402
375	1335 Ash St	Chattanooga	TN	37402
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378	1335 Ash St	Chattanooga	TN	37402
379	1335 Ash St	Chattanooga	TN	37402
380	1335 Ash St	Chattanooga	TN	37402
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384	1335 Ash St	Chattanooga	TN	37402
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387	1335 Ash St	Chattanooga	TN	37402
388	1335 Ash St	Chattanooga	TN	37402
389	1335 Ash St	Chattanooga	TN	37402
390	1335 Ash St	Chattanooga	TN	37402
391	1335 Ash St	Chattanooga	TN	37402
392	1335 Ash St	Chattanooga	TN	37402
393	1335 Ash St	Chattanooga	TN	37402
394				
395	1335 Ash St	Chattanooga	TN	37402
396	1335 Ash St	Chattanooga	TN	37402
397	1335 Ash St	Chattanooga	TN	37402
398	1335 Ash St	Chattanooga	TN	37402
399	1335 Ash St	Chattanooga	TN	37402

	N	O	P	Q
350	0	1000G	349.79	A3M4
351	700.16		5541.86	
352	0	1000G	291.49	A3M4
353	0	1000G	291.49	A3M4
354	0	1000G	291.49	A3M4
355	0		874.47	
356	1.49	1000G	9.25	A3M4
357	1.49	1000G	9.25	A3M4
358	2.24	1000G	9.42	A3M4
359	1.49	1000G	9.25	A3M4
360	2.24	1000G	9.42	A3M4
361	0.74	1000G	9.09	A3M4
362	1.49	1000G	9.25	A3M4
363	2.24	1000G	9.42	A3M4
364	1.49	1000G	9.25	A3M4
365	1.49	1000G	9.25	A3M4
366	1.49	1000G	9.25	A3M4
367	1.49	1000G	9.25	A3M4
368	19.38		111.35	
369	1.49	1000G	9.25	A3M4
370	2.24	1000G	9.42	A3M4
371	1.49	1000G	9.43	A3M4
372	1.49	1000G	9.6	A3M4
373	1.49	1000G	9.6	A3M4
374	1.49	1000G	9.6	A3M4
375	1.49	1000G	9.6	A3M4
376	0.74	1000G	9.43	A3M4
377	2.24	1000G	9.78	A3M4
378	1.49	1000G	9.6	A3M4
379	0.74	1000G	9.43	A3M4
380	1.49	1000G	9.6	A3M4
381	17.88		114.34	
382	0.74	1000G	9.43	A3M4
383	1.49	1000G	9.6	A3M4
384	0.74	1000G	9.43	A3M4
385	1.48	1000G	9.6	A3M4
386	0.74	1000G	9.43	A3M4
387	2.24	1000G	9.78	A3M4
388	0.74	1000G	9.43	A3M4
389	1.49	1000G	9.6	A3M4
390	0.74	1000G	9.43	A3M4
391	0.74	1000G	9.43	A3M4
392	2.24	1000G	9.78	A3M4
393	0.74	1000G	9.43	A3M4
394	14.12		114.37	
395	0.74	1000G	9.43	A3M4
396	1.49	1000G	9.6	A3M4
397	0	1000G	9.26	A3M4
398	0.74	1000G	9.43	A3M4
399	0	1000G	9.26	A3M4

	A	B	C	D	E
400	2600	2603	26CC	3	6
401	2600	2603	26CC	3	7
402	2600	2603	26CC	3	8
403	2600	2603	26CC	3	9
404	2600	2603	26CC	3	10
405	2600	2603	26CC	3	11
406	2600	2603	26CC	3	12
407					
408	2600	2603	26CC	3	1
409	2600	2603	26CC	3	2
410	2600	2603	26CC	3	3
411					
412	2600	2603	26CC	3	1
413	2600	2603	26CC	3	2
414	2600	2603	26CC	3	3
415	2600	2603	26CC	3	4
416	2600	2603	26CC	3	5
417	2600	2603	26CC	3	6
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420	2600	2603	26CC	3	8
421	2600	2603	26CC	3	9
422	2600	2603	26CC	3	10
423					
424	2600	2603	26CC	3	1
425	2600	2603	26CC	3	2
426	2600	2603	26CC	3	3
427	2600	2603	26CC	3	4
428	2600	2603	26CC	3	5
429	2600	2603	26CC	3	6
430	2600	2603	26CC	3	7
431	2600	2603	26CC	3	8
432	2600	2603	26CC	3	9
433	2600	2603	26CC	3	10
434	2600	2603	26CC	3	11
435	2600	2603	26CC	3	12
436					
437	2600	2603	26CC	3	1
438					
439	2600	2603	26CC	3	1
440	2600	2603	26CC	3	2
441	2600	2603	26CC	3	3
442	2600	2603	26CC	3	4
443	2600	2603	26CC	3	4
444	2600	2603	26CC	3	5
445	2600	2603	26CC	3	6
446	2600	2603	26CC	3	7
447	2600	2603	26CC	3	8
448	2600	2603	26CC	3	9
449	2600	2603	26CC	3	10

	F	G	H	I
400	2007	16222	260011206	Alstom Power Inc
401	2007	16222	260011206	Alstom Power Inc
402	2007	16222	260011206	Alstom Power Inc
403	2007	16222	260011206	Alstom Power Inc
404	2007	16222	260011206	Alstom Power Inc
405	2007	16222	260011206	Alstom Power Inc
406	2007	16222	260011206	Alstom Power Inc
407	**2007 Total**			
408	2008	16222	260011206	Alstom Power Inc
409	2008	16222	260011206	Alstom Power Inc
410	2008	16222	260011206	Alstom Power Inc
411	**2008 Total**			
412	2003	16229	260011212	Southern Foundry Supply
413	2003	16229	260011212	Southern Foundry Supply
414	2003	16229	260011212	Southern Foundry Supply
415	2003	16229	260011212	Southern Foundry Supply
416	2003	16229	260011212	Southern Foundry Supply
417	2003	16229	260011212	Southern Foundry Supply
418	2003	16229	260011212	Southern Foundry Supply
419	2003	16229	260011212	Southern Foundry Supply
420	2003	16229	260011212	Southern Foundry Supply
421	2003	16229	260011212	Southern Foundry Supply
422	2003	16229	260011212	Southern Foundry Supply
423	**2003 Total**			
424	2004	16232	260011215	ROBMER PARTNERSHIP
425	2004	16232	260011215	ROBMER PARTNERSHIP
426	2004	16232	260011215	ROBMER PARTNERSHIP
427	2004	16232	260011215	ROBMER PARTNERSHIP
428	2004	16232	260011215	ROBMER PARTNERSHIP
429	2004	16232	260011215	ROBMER PARTNERSHIP
430	2004	16232	260011215	ROBMER PARTNERSHIP
431	2004	16232	260011215	ROBMER PARTNERSHIP
432	2004	16232	260011215	ROBMER PARTNERSHIP
433	2004	16232	260011215	ROBMER PARTNERSHIP
434	2004	16232	260011215	ROBMER PARTNERSHIP
435	2004	16232	260011215	ROBMER PARTNERSHIP
436	**2004 Total**			
437	2005	16232	260011215	ROBMER PARTNERSHIP
438	**2005 Total**			
439	2003	16580	260011519	Massengale Regina
440	2003	16580	260011519	Massengale Regina
441	2003	16580	260011519	Massengale Regina
442	2003	16580	260011519	Massengale Regina
443	2003	16580	260011519	Massengale Regina
444	2003	16580	260011519	Massengale Regina
445	2003	16580	260011519	Massengale Regina
446	2003	16580	260011519	Massengale Regina
447	2003	16580	260011519	Massengale Regina
448	2003	16580	260011519	Massengale Regina
449	2003	16580	260011519	Massengale Regina

	J	K	L	M
400	1335 Ash St	Chattanooga	TN	37402
401	1335 Ash St	Chattanooga	TN	37402
402	1335 Ash St	Chattanooga	TN	37402
403	1335 Ash St	Chattanooga	TN	37402
404	1335 Ash St	Chattanooga	TN	37402
405	1335 Ash St	Chattanooga	TN	37402
406	1335 Ash St	Chattanooga	TN	37402
407				
408	1335 Ash St	Chattanooga	TN	37402
409	1335 Ash St	Chattanooga	TN	37402
410	1335 Ash St	Chattanooga	TN	37402
411				
412	1847 Grove St	Chattanooga	TN	37408
413	1847 Grove St	Chattanooga	TN	37408
414	1847 Grove St	Chattanooga	TN	37408
415	1847 Grove St	Chattanooga	TN	37408
416	1847 Grove St	Chattanooga	TN	37408
417	1847 Grove St	Chattanooga	TN	37408
418	1847 Grove St	Chattanooga	TN	37408
419	1847 Grove St	Chattanooga	TN	37408
420	1847 Grove St	Chattanooga	TN	37408
421	1847 Grove St	Chattanooga	TN	37408
422	1847 Grove St	Chattanooga	TN	37408
423				
424	1901 Riverfront Pky	Chattanooga	TN	374081037
425	1901 Riverfront Pky	Chattanooga	TN	374081037
426	1901 Riverfront Pky	Chattanooga	TN	374081037
427	1901 Riverfront Pky	Chattanooga	TN	374081037
428	1901 Riverfront Pky	Chattanooga	TN	374081037
429	1901 Riverfront Pky	Chattanooga	TN	374081037
430	1901 Riverfront Pky	Chattanooga	TN	374081037
431	1901 Riverfront Pky	Chattanooga	TN	374081037
432	1901 Riverfront Pky	Chattanooga	TN	374081037
433	1901 Riverfront Pky	Chattanooga	TN	374081037
434	1901 Riverfront Pky	Chattanooga	TN	374081037
435	1901 Riverfront Pky	Chattanooga	TN	374081037
436				
437	1901 Riverfront Pky	Chattanooga	TN	374081037
438				
439	1513 Williams St	Chattanooga	TN	374081143
440	1513 Williams St	Chattanooga	TN	374081143
441	1513 Williams St	Chattanooga	TN	374081143
442	1513 Williams St	Chattanooga	TN	374081143
443	1513 Williams St	Chattanooga	TN	374081143
444	1513 Williams St	Chattanooga	TN	374081143
445	1513 Williams St	Chattanooga	TN	374081143
446	1513 Williams St	Chattanooga	TN	374081143
447	1513 Williams St	Chattanooga	TN	374081143
448	1513 Williams St	Chattanooga	TN	374081143
449	1513 Williams St	Chattanooga	TN	374081143

	N	O	P	Q
400	0.74	1000G	10.51	A3M4
401	0	1000G	10.42	A3M4
402	0.74	1000G	10.61	A3M4
403	11.22	1000G	45	A3M4
404	0.74	1000G	10.61	A3M4
405	0.74	1000G	10.61	A3M4
406	0	1000G	10.42	A3M4
407	17.15		155.16	
408	0.74	1000G	10.61	A3M4
409	0.74	1000G	10.61	A3M4
410	0.74	1000G	10.61	A3M4
411	2.22		31.83	
412	127.91	1000G	340.54	A3M4
413	106.97	1000G	296.78	A3M4
414	11.96	1000G	53.69	A3M4
415	11.96	1000G	53.69	A3M4
416	11.96	1000G	56.34	A3M4
417	9.72	1000G	48.92	A3M4
418	9.72	1000G	48.55	A3M4
419	11.22	1000G	50.47	A3M4
420	10.47	1000G	50.67	A3M4
421	9.72	1000G	49.23	A3M4
422	11.96	1000G	57.12	A3M4
423	333.57		1106	
424	0	1000G	8.92	A3M4
425	0	1000G	8.92	A3M4
426	0	1000G	8.92	A3M4
427	0	1000G	8.92	A3M4
428	0	1000G	8.92	A3M4
429	0	1000G	8.92	A3M4
430	0	1000G	8.92	A3M4
431	0	1000G	8.92	A3M4
432	0	1000G	8.92	A3M4
433	0	1000G	8.92	A3M4
434	0	1000G	8.92	A3M4
435	0	1000G	8.92	A3M4
436	0		107.04	
437	0	1000G	8.92	A3M4
438	0		8.92	
439	0.74	1000G	9.19	A3M4
440	0	1000G	9.02	A3M4
441	0	1000G	9.02	A3M4
442	0	1000G	9.02	A3M4
443	0.74	1000G	9.19	A3M4
444	0	1000G	9.43	A3M4
445	0.74	1000G	9.19	A3M4
446	0	1000G	8.26	A3M4
447	0	1000G	8.67	A3M4
448	0	1000G	8.92	A3M4
449	0	1000G	8.92	A3M4

	A	B	C	D	E
450	2600	2603	26CC	3	11
451	2600	2603	26CC	3	12
452					
453	2600	2603	26CC	3	1
454	2600	2603	26CC	3	2
455	2600	2603	26CC	3	3
456	2600	2603	26CC	3	4
457	2600	2603	26CC	3	5
458	2600	2603	26CC	3	6
459	2600	2603	26CC	3	7
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461	2600	2603	26CC	3	9
462	2600	2603	26CC	3	10
463	2600	2603	26CC	3	11
464	2600	2603	26CC	3	12
465					
466	2600	2603	26CC	3	1
467	2600	2603	26CC	3	2
468					
469	2600	2603	26CC	3	1
470	2600	2603	26CC	3	1
471	2600	2603	26CC	3	2
472	2600	2603	26CC	3	2
473	2600	2603	26CC	3	3
474	2600	2603	26CC	3	1
475	2600	2603	26CC	3	1
476	2600	2603	26CC	3	2
477	2600	2603	26CC	3	2
478	2600	2603	26CC	3	3
479	2600	2603	26CC	3	1
480	2600	2603	26CC	3	1
481	2600	2603	26CC	3	2
482	2600	2603	26CC	3	2
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484	2600	2603	26CC	3	4
485	2600	2603	26CC	3	5
486	2600	2603	26CC	3	6
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489	2600	2603	26CC	3	1
490	2600	2603	26CC	3	2
491	2600	2603	26CC	3	2
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495	2600	2603	26CC	3	6
496	2600	2603	26CC	3	7
497	2600	2603	26CC	3	8
498	2600	2603	26CC	3	9
499	2600	2603	26CC	3	10

	F	G	H	I
450	2003	16580	260011519	Massengale Regina
451	2003	16580	260011519	Massengale Regina
452	**2003 Total**			
453	2004	16580	260011519	Massengale Regina
454	2004	16580	260011519	Massengale Regina
455	2004	16580	260011519	Massengale Regina
456	2004	16580	260011519	Massengale Regina
457	2004	16580	260011519	Massengale Regina
458	2004	16580	260011519	Massengale Regina
459	2004	16580	260011519	Massengale Regina
460	2004	16580	260011519	Massengale Regina
461	2004	16580	260011519	Massengale Regina
462	2004	16580	260011519	Massengale Regina
463	2004	16580	260011519	Massengale Regina
464	2004	16580	260011519	Massengale Regina
465	**2004 Total**			
466	2005	16580	260011519	Massengale Regina
467	2005	16580	260011519	Massengale Regina
468	**2005 Total**			
469	2004	17167	260011957	American Mkt Gr Of Tn LLC
470	2004	17167	260011957	American Mkt Gr Of Tn LLC
471	2004	17167	260011957	American Mkt Gr Of Tn LLC
472	2004	17167	260011957	American Mkt Gr Of Tn LLC
473	2004	17167	260011957	American Mkt Gr Of Tn LLC
474	2004	17168	260011958	American Mkt Gr Of Tn LLC
475	2004	17168	260011958	American Mkt Gr Of Tn LLC
476	2004	17168	260011958	American Mkt Gr Of Tn LLC
477	2004	17168	260011958	American Mkt Gr Of Tn LLC
478	2004	17168	260011958	American Mkt Gr Of Tn LLC
479	2004	17204	260011985	Powell, Charles B
480	2004	17204	260011985	Powell, Charles B
481	2004	17204	260011985	Powell, Charles B
482	2004	17204	260011985	Powell, Charles B
483	2004	17204	260011985	Powell, Charles B
484	2004	17204	260011985	Powell, Charles B
485	2004	17204	260011985	Powell, Charles B
486	2004	17204	260011985	Powell, Charles B
487	2004	17204	260011985	Powell, Charles B
488	2004	19915	260013872	SHERMAN & REILLY INC
489	2004	19915	260013872	SHERMAN & REILLY INC
490	2004	19915	260013872	SHERMAN & REILLY INC
491	2004	19915	260013872	SHERMAN & REILLY INC
492	2004	19915	260013872	SHERMAN & REILLY INC
493	2004	19915	260013872	SHERMAN & REILLY INC
494	2004	19915	260013872	SHERMAN & REILLY INC
495	2004	19915	260013872	SHERMAN & REILLY INC
496	2004	19915	260013872	SHERMAN & REILLY INC
497	2004	19915	260013872	SHERMAN & REILLY INC
498	2004	19915	260013872	SHERMAN & REILLY INC
499	2004	19915	260013872	SHERMAN & REILLY INC

	J	K	L	M
450	1513 Williams St	Chattanooga	TN	374081143
451	1513 Williams St	Chattanooga	TN	374081143
452				
453	1513 Williams St	Chattanooga	TN	374081143
454	1513 Williams St	Chattanooga	TN	374081143
455	1513 Williams St	Chattanooga	TN	374081143
456	1513 Williams St	Chattanooga	TN	374081143
457	1513 Williams St	Chattanooga	TN	374081143
458	1513 Williams St	Chattanooga	TN	374081143
459	1513 Williams St	Chattanooga	TN	374081143
460	1513 Williams St	Chattanooga	TN	374081143
461	1513 Williams St	Chattanooga	TN	374081143
462	1513 Williams St	Chattanooga	TN	374081143
463	1513 Williams St	Chattanooga	TN	374081143
464	1513 Williams St	Chattanooga	TN	374081143
465				
466	1513 Williams St	Chattanooga	TN	374081143
467	1513 Williams St	Chattanooga	TN	374081143
468				
469	3001 Broad St	Chattanooga	TN	374083056
470	3001 Broad St	Chattanooga	TN	374083056
471	3001 Broad St	Chattanooga	TN	374083056
472	3001 Broad St	Chattanooga	TN	374083056
473	3001 Broad St	Chattanooga	TN	374083056
474	3001 Broad St	Chattanooga	TN	374083056
475	3001 Broad St	Chattanooga	TN	374083056
476	3001 Broad St	Chattanooga	TN	374083056
477	3001 Broad St	Chattanooga	TN	374083056
478	3001 Broad St	Chattanooga	TN	374083056
479	3403 St Elmo Ave	Chattanooga	TN	374091041
480	3403 St Elmo Ave	Chattanooga	TN	374091041
481	3403 St Elmo Ave	Chattanooga	TN	374091041
482	3403 St Elmo Ave	Chattanooga	TN	374091041
483	3403 St Elmo Ave	Chattanooga	TN	374091041
484	3403 St Elmo Ave	Chattanooga	TN	374091041
485	3403 St Elmo Ave	Chattanooga	TN	374091041
486	3403 St Elmo Ave	Chattanooga	TN	374091041
487	3403 St Elmo Ave	Chattanooga	TN	374091041
488	400 W 33rd St	Chattanooga	TN	374101039
489	400 W 33rd St	Chattanooga	TN	374101039
490	400 W 33rd St	Chattanooga	TN	374101039
491	400 W 33rd St	Chattanooga	TN	374101039
492	400 W 33rd St	Chattanooga	TN	374101039
493	400 W 33rd St	Chattanooga	TN	374101039
494	400 W 33rd St	Chattanooga	TN	374101039
495	400 W 33rd St	Chattanooga	TN	374101039
496	400 W 33rd St	Chattanooga	TN	374101039
497	400 W 33rd St	Chattanooga	TN	374101039
498	400 W 33rd St	Chattanooga	TN	374101039
499	400 W 33rd St	Chattanooga	TN	374101039

	N	O	P	Q
450	0	1000G	8.92	A3M4
451	0	1000G	8.92	A3M4
452	2.22		116.67	
453	0	1000G	8.92	A3M4
454	0	1000G	8.92	A3M4
455	0	1000G	8.92	A3M4
456	0	1000G	8.92	A3M4
457	0	1000G	8.92	A3M4
458	0	1000G	8.92	A3M4
459	0.74	1000G	9.09	A3M4
460	0	1000G	8.92	A3M4
461	0	1000G	8.92	A3M4
462	0	1000G	8.92	A3M4
463	0	1000G	8.92	A3M4
464	0.74	1000G	9.09	A3M4
465	1.48		107.38	
466	1.49	1000G	10.44	A3M4
467	0	1000G	4.76	A3M4
468	1.49		15.2	
469	0	1000G	1.49	A3M4
470	0	1000G	8.92	A3M4
471	0	1000G	-1.49	A3M4
472	0	1000G	8.92	A3M4
473	0	1000G	8.92	A3M4
474	0.74	1000G	5.13	A3M4
475	1.49	1000G	25.25	A3M4
476	-0.74	1000G	-5.13	A3M4
477	6.73	1000G	38.72	A3M4
478	5.98	1000G	36.09	A3M4
479	2.24	1000G	80.27	A3M4
480	14.21	1000G	53.61	A3M4
481	1.49	1000G	80.1	A3M4
482	-14.21	1000G	-53.61	A3M4
483	1.49	1000G	80.1	A3M4
484	1.49	1000G	80.1	A3M4
485	3.74	1000G	83.06	A3M4
486	5.23	1000G	88.31	A3M4
487	0.74	1000G	79.94	A3M4
488	6.73	1000G	26.15	A3M4
489	26.18	1000G	107.05	A3M4
490	-6.73	1000G	-26.15	A3M4
491	29.92	1000G	120.19	A3M4
492	30.67	1000G	122.82	A3M4
493	27.67	1000G	112.3	A3M4
494	30.67	1000G	122.82	A3M4
495	35.15	1000G	138.58	A3M4
496	38.89	1000G	151.72	A3M4
497	33.66	1000G	133.33	A3M4
498	31.41	1000G	125.44	A3M4
499	-18.7	1000G	-40.78	A3M4

	A	B	C	D	E
500	2600	2603	26CC	3	11
501	2600	2603	26CC	3	12
502					
503	2600	2603	26CC	3	1
504	2600	2603	26CC	3	2
505	2600	2603	26CC	3	3
506	2600	2603	26CC	3	4
507	2600	2603	26CC	3	4
508	2600	2603	26CC	3	5
509	2600	2603	26CC	3	6
510	2600	2603	26CC	3	7
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512	2600	2603	26CC	3	9
513	2600	2603	26CC	3	10
514	2600	2603	26CC	3	11
515	2600	2603	26CC	3	12
516					
517	2600	2603	26CC	3	1
518	2600	2603	26CC	3	2
519	2600	2603	26CC	3	3
520	2600	2603	26CC	3	4
521	2600	2603	26CC	3	5
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526	2600	2603	26CC	3	10
527	2600	2603	26CC	3	11
528	2600	2603	26CC	3	12
529					
530	2600	2603	26CC	3	1
531	2600	2603	26CC	3	2
532	2600	2603	26CC	3	3
533	2600	2603	26CC	3	4
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535	2600	2603	26CC	3	6
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538	2600	2603	26CC	3	9
539	2600	2603	26CC	3	10
540	2600	2603	26CC	3	11
541	2600	2603	26CC	3	12
542					
543	2600	2603	26CC	3	1
544	2600	2603	26CC	3	2
545	2600	2603	26CC	3	3
546					
547	2600	2603	26CC	3	1
548	2600	2603	26CC	3	2
549	2600	2603	26CC	3	3

	F	G	H	I
500	2004	19915	260013872	SHERMAN & REILLY INC
501	2004	19915	260013872	SHERMAN & REILLY INC
502	**2004 Total**			
503	2005	19915	260013872	SHERMAN & REILLY INC
504	2005	19915	260013872	SHERMAN & REILLY INC
505	2005	19915	260013872	SHERMAN & REILLY INC
506	2005	19915	260013872	SHERMAN & REILLY INC
507	2005	19915	260013872	SHERMAN & REILLY INC
508	2005	19915	260013872	SHERMAN & REILLY INC
509	2005	19915	260013872	SHERMAN & REILLY INC
510	2005	19915	260013872	SHERMAN & REILLY INC
511	2005	19915	260013872	SHERMAN & REILLY INC
512	2005	19915	260013872	SHERMAN & REILLY INC
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514	2005	19915	260013872	SHERMAN & REILLY INC
515	2005	19915	260013872	SHERMAN & REILLY INC
516	**2005 Total**			
517	2006	19915	260013872	SHERMAN & REILLY INC
518	2006	19915	260013872	SHERMAN & REILLY INC
519	2006	19915	260013872	SHERMAN & REILLY INC
520	2006	19915	260013872	SHERMAN & REILLY INC
521	2006	19915	260013872	SHERMAN & REILLY INC
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523	2006	19915	260013872	SHERMAN & REILLY INC
524	2006	19915	260013872	SHERMAN & REILLY INC
525	2006	19915	260013872	SHERMAN & REILLY INC
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527	2006	19915	260013872	SHERMAN & REILLY INC
528	2006	19915	260013872	SHERMAN & REILLY INC
529	**2006 Total**			
530	2007	19915	260013872	SHERMAN & REILLY INC
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532	2007	19915	260013872	SHERMAN & REILLY INC
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541	2007	19915	260013872	SHERMAN & REILLY INC
542	**2007 Total**			
543	2008	19915	260013872	SHERMAN & REILLY INC
544	2008	19915	260013872	SHERMAN & REILLY INC
545	2008	19915	260013872	SHERMAN & REILLY INC
546	**2008 Total**			
547	2004	21858	260015174	Ken Garner Manufacturing
548	2004	21858	260015174	Ken Garner Manufacturing
549	2004	21858	260015174	Ken Garner Manufacturing

	J	K	L	M
500	400 W 33rd St	Chattanooga	TN	374101039
501	400 W 33rd St	Chattanooga	TN	374101039
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520	400 W 33rd St	Chattanooga	TN	374101039
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528	400 W 33rd St	Chattanooga	TN	374101039
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532	400 W 33rd St	Chattanooga	TN	374101039
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540	400 W 33rd St	Chattanooga	TN	374101039
541	400 W 33rd St	Chattanooga	TN	374101039
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543	400 W 33rd St	Chattanooga	TN	374101039
544	400 W 33rd St	Chattanooga	TN	374101039
545	400 W 33rd St	Chattanooga	TN	374101039
546				
547	1201 E 28th St	Cahttanooga	TN	374045640
548	1201 E 28th St	Cahttanooga	TN	374045640
549	1201 E 28th St	Cahttanooga	TN	374045640

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500	28.42	1000G	114.93	A3M4
501	26.18	1000G	107.05	A3M4
502	350.74		2014.15	
503	31.41	1000G	125.44	A3M4
504	30.67	1000G	122.82	A3M4
505	26.18	1000G	109.12	A3M4
506	-1.49	1000G	-5.36	CROE3
507	9.72	1000G	51.14	A3M4
508	25.43	1000G	108.47	A3M4
509	22.44	1000G	97.55	A3M4
510	26.18	1000G	111.2	A3M4
511	26.18	1000G	111.2	A3M4
512	29.17	1000G	124.21	A3M4
513	0	1000G	25.88	A3M4
514	25.43	1000G	108.47	A3M4
515	56.85	1000G	211.97	A3M4
516	308.17		1302.11	
517	32.91	1000G	135.77	A3M4
518	20.19	1000G	89.36	A3M4
519	26.92	1000G	113.93	A3M4
520	24.68	1000G	105.74	A3M4
521	24.68	1000G	105.74	A3M4
522	27.67	1000G	116.66	A3M4
523	27.67	1000G	116.66	A3M4
524	32.91	1000G	135.77	A3M4
525	26.18	1000G	111.2	A3M4
526	32.91	1000G	135.77	A3M4
527	26.92	1000G	113.93	A3M4
528	26.18	1000G	111.2	A3M4
529	329.82		1391.73	
530	23.93	1000G	103.01	A3M4
531	26.18	1000G	111.2	A3M4
532	25.43	1000G	108.47	A3M4
533	27.67	1000G	116.66	A3M4
534	26.18	1000G	111.2	A3M4
535	28.42	1000G	132.53	A3M4
536	25.43	1000G	122.11	A3M4
537	26.92	1000G	128.26	A3M4
538	28.42	1000G	134.4	A3M4
539	30.67	1000G	143.62	A3M4
540	28.42	1000G	134.4	A3M4
541	25.43	1000G	122.11	A3M4
542	323.1		1467.97	
543	21.69	1000G	106.75	A3M4
544	24.68	1000G	119.04	A3M4
545	27.67	1000G	131.33	A3M4
546	74.04		357.12	
547	209.45	1000G	595.71	A3M4
548	183.27	1000G	537.92	A3M4
549	196.73	1000G	567.64	A3M4

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569	2600	2603	26CC	3	10
570	2600	2603	26CC	3	11
571	2600	2603	26CC	3	12
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573	2600	2603	26CC	3	1
574	2600	2603	26CC	3	2
575	2600	2603	26CC	3	3
576	2600	2603	26CC	3	4
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	F	G	H	I
550	2004	21858	260015174	Ken Garner Manufacturing
551	2004	21858	260015174	Ken Garner Manufacturing
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553	2004	21858	260015174	Ken Garner Manufacturing
554	2004	21858	260015174	Ken Garner Manufacturing
555	2004	21858	260015174	Ken Garner Manufacturing
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557	2004	21858	260015174	Ken Garner Manufacturing
558	2004	21858	260015174	Ken Garner Manufacturing
559	**2004 Total**			
560	2005	21858	260015174	Ken Garner Manufacturing
561	2005	21858	260015174	Ken Garner Manufacturing
562	2005	21858	260015174	Ken Garner Manufacturing
563	2005	21858	260015174	Ken Garner Manufacturing
564	2005	21858	260015174	Ken Garner Manufacturing
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571	2005	21858	260015174	Ken Garner Manufacturing
572	**2005 Total**			
573	2006	21858	260015174	Ken Garner Manufacturing
574	2006	21858	260015174	Ken Garner Manufacturing
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581	2006	21858	260015174	Ken Garner Manufacturing
582	2006	21858	260015174	Ken Garner Manufacturing
583	2006	21858	260015174	Ken Garner Manufacturing
584	2006	21858	260015174	Ken Garner Manufacturing
585	**2006 Total**			
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587	2007	21858	260015174	Ken Garner Manufacturing
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598	2007	21858	260015174	Ken Garner Manufacturing
599	**2007 Total**			

	J	K	L	M
550	1201 E 28th St	Cahttanooga	TN	374045640
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580	1201 E 28th St	Cahttanooga	TN	374045640
581	1201 E 28th St	Cahttanooga	TN	374045640
582	1201 E 28th St	Cahttanooga	TN	374045640
583	1201 E 28th St	Cahttanooga	TN	374045640
584	1201 E 28th St	Cahttanooga	TN	374045640
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551	317.17	1000G	833.45	A3M4
552	406.19	1000G	1011.99	A3M4
553	303.7	1000G	803.73	A3M4
554	391.97	1000G	988.55	A3M4
555	370.28	1000G	950.67	A3M4
556	364.3	1000G	937.46	A3M4
557	370.28	1000G	950.67	A3M4
558	273.03	1000G	736.04	A3M4
559	3678.85		9692.8	
560	253.58	1000G	693.11	A3M4
561	239.37	1000G	661.75	A3M4
562	231.89	1000G	645.24	A3M4
563	153.35	1000G	485.9	A3M4
564	257.32	1000G	728.56	A3M4
565	406.19	1000G	1051.23	A3M4
566	391.23	1000G	1025.59	A3M4
567	311.93	1000G	853.75	A3M4
568	312.68	1000G	855.47	A3M4
569	285.75	1000G	793.73	A3M4
570	323.9	1000G	881.19	A3M4
571	224.41	1000G	653.1	A3M4
572	3391.6		9328.62	
573	125.67	1000G	426.72	A3M4
574	138.38	1000G	455.87	A3M4
575	154.84	1000G	493.6	A3M4
576	148.11	1000G	478.17	A3M4
577	283.51	1000G	788.58	A3M4
578	159.33	1000G	503.89	A3M4
579	377.01	1000G	1001.23	A3M4
580	132.39	1000G	442.15	A3M4
581	288	1000G	798.87	A3M4
582	201.22	1000G	599.93	A3M4
583	187.76	1000G	569.06	A3M4
584	130.16	1000G	437.01	A3M4
585	2326.38		6995.08	
586	115.94	1000G	404.42	A3M4
587	190.75	1000G	575.92	A3M4
588	109.96	1000G	390.7	A3M4
589	138.38	1000G	455.87	A3M4
590	144.37	1000G	469.59	A3M4
591	153.35	1000G	498.67	A3M4
592	166.81	1000G	586.6	A3M4
593	180.28	1000G	621.36	A3M4
594	181.77	1000G	625.22	A3M4
595	204.96	1000G	685.08	A3M4
596	196.73	1000G	663.84	A3M4
597	133.15	1000G	499.7	A3M4
598	119.68	1000G	464.95	A3M4
599	2036.13		6941.92	

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618	2600	2603	26CC	3	2
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620	2600	2603	26CC	3	4
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626	2600	2603	26CC	3	10
627	2600	2603	26CC	3	11
628	2600	2603	26CC	3	12
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649	2600	2603	26CC	3	7

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601	2008	21858	260015174	Ken Garner Manufacturing
602	2008	21858	260015174	Ken Garner Manufacturing
603	**2008 Total**			
604	2004	22001	260015280	Corley Mfg Co
605	2004	22001	260015280	Corley Mfg Co
606	2004	22001	260015280	Corley Mfg Co
607	2004	22001	260015280	Corley Mfg Co
608	2004	22001	260015280	Corley Mfg Co
609	2004	22001	260015280	Corley Mfg Co
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611	2004	22001	260015280	Corley Mfg Co
612	2004	22001	260015280	Corley Mfg Co
613	2004	22001	260015280	Corley Mfg Co
614	2004	22001	260015280	Corley Mfg Co
615	2004	22001	260015280	Corley Mfg Co
616	**2004 Total**			
617	2005	22001	260015280	Corley Mfg Co
618	2005	22001	260015280	Corley Mfg Co
619	2005	22001	260015280	Corley Mfg Co
620	2005	22001	260015280	Corley Mfg Co
621	2005	22001	260015280	Corley Mfg Co
622	2005	22001	260015280	Corley Mfg Co
623	2005	22001	260015280	Corley Mfg Co
624	2005	22001	260015280	Corley Mfg Co
625	2005	22001	260015280	Corley Mfg Co
626	2005	22001	260015280	Corley Mfg Co
627	2005	22001	260015280	Corley Mfg Co
628	2005	22001	260015280	Corley Mfg Co
629	**2005 Total**			
630	2006	22001	260015280	Corley Mfg Co
631	2006	22001	260015280	Corley Mfg Co
632	2006	22001	260015280	Corley Mfg Co
633	2006	22001	260015280	Corley Mfg Co
634	2006	22001	260015280	Corley Mfg Co
635	2006	22001	260015280	Corley Mfg Co
636	2006	22001	260015280	Corley Mfg Co
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640	2006	22001	260015280	Corley Mfg Co
641	2006	22001	260015280	Corley Mfg Co
642	**2006 Total**			
643	2007	22001	260015280	Corley Mfg Co
644	2007	22001	260015280	Corley Mfg Co
645	2007	22001	260015280	Corley Mfg Co
646	2007	22001	260015280	Corley Mfg Co
647	2007	22001	260015280	Corley Mfg Co
648	2007	22001	260015280	Corley Mfg Co
649	2007	22001	260015280	Corley Mfg Co

	J	K	L	M
600	1201 E 28th St	Cahttanooga	TN	374045640
601	1201 E 28th St	Cahttanooga	TN	374045640
602	1201 E 28th St	Cahttanooga	TN	374045640
603				
604	2900 Crescent Cir	Chattanooga	TN	374071322
605	2900 Crescent Cir	Chattanooga	TN	374071322
606	2900 Crescent Cir	Chattanooga	TN	374071322
607	2900 Crescent Cir	Chattanooga	TN	374071322
608	2900 Crescent Cir	Chattanooga	TN	374071322
609	2900 Crescent Cir	Chattanooga	TN	374071322
610	2900 Crescent Cir	Chattanooga	TN	374071322
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612	2900 Crescent Cir	Chattanooga	TN	374071322
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615	2900 Crescent Cir	Chattanooga	TN	374071322
616				
617	2900 Crescent Cir	Chattanooga	TN	374071322
618	2900 Crescent Cir	Chattanooga	TN	374071322
619	2900 Crescent Cir	Chattanooga	TN	374071322
620	2900 Crescent Cir	Chattanooga	TN	374071322
621	2900 Crescent Cir	Chattanooga	TN	374071322
622	2900 Crescent Cir	Chattanooga	TN	374071322
623	2900 Crescent Cir	Chattanooga	TN	374071322
624	2900 Crescent Cir	Chattanooga	TN	374071322
625	2900 Crescent Cir	Chattanooga	TN	374071322
626	2900 Crescent Cir	Chattanooga	TN	374071322
627	2900 Crescent Cir	Chattanooga	TN	374071322
628	2900 Crescent Cir	Chattanooga	TN	374071322
629				
630	2900 Crescent Cir	Chattanooga	TN	374071322
631	2900 Crescent Cir	Chattanooga	TN	374071322
632	2900 Crescent Cir	Chattanooga	TN	374071322
633	2900 Crescent Cir	Chattanooga	TN	374071322
634	2900 Crescent Cir	Chattanooga	TN	374071322
635	2900 Crescent Cir	Chattanooga	TN	374071322
636	2900 Crescent Cir	Chattanooga	TN	374071322
637	2900 Crescent Cir	Chattanooga	TN	374071322
638	2900 Crescent Cir	Chattanooga	TN	374071322
639	2900 Crescent Cir	Chattanooga	TN	374071322
640	2900 Crescent Cir	Chattanooga	TN	374071322
641	2900 Crescent Cir	Chattanooga	TN	374071322
642				
643	2900 Crescent Cir	Chattanooga	TN	374071322
644	2900 Crescent Cir	Chattanooga	TN	374071322
645	2900 Crescent Cir	Chattanooga	TN	374071322
646	2900 Crescent Cir	Chattanooga	TN	374071322
647	2900 Crescent Cir	Chattanooga	TN	374071322
648	2900 Crescent Cir	Chattanooga	TN	374071322
649	2900 Crescent Cir	Chattanooga	TN	374071322

	N	O	P	Q
600	124.92	1000G	478.46	A3M4
601	136.14	1000G	507.43	A3M4
602	151.1	1000G	546.05	A3M4
603	412.16		1531.94	
604	3.74	1000G	28.21	A3M4
605	4.48	1000G	30.84	A3M4
606	4.48	1000G	30.84	A3M4
607	5.98	1000G	36.09	A3M4
608	4.48	1000G	30.84	A3M4
609	5.23	1000G	33.46	A3M4
610	4.48	1000G	30.84	A3M4
611	5.23	1000G	33.46	A3M4
612	4.48	1000G	30.84	A3M4
613	5.98	1000G	36.09	A3M4
614	4.48	1000G	30.84	A3M4
615	5.23	1000G	33.46	A3M4
616	58.27		385.81	
617	3.74	1000G	28.21	A3M4
618	5.23	1000G	33.46	A3M4
619	4.48	1000G	30.84	A3M4
620	4.48	1000G	31.76	A3M4
621	5.23	1000G	34.76	A3M4
622	4.48	1000G	32.03	A3M4
623	4.48	1000G	32.03	A3M4
624	5.23	1000G	34.76	A3M4
625	5.23	1000G	34.76	A3M4
626	4.48	1000G	32.03	A3M4
627	5.23	1000G	34.76	A3M4
628	3.74	1000G	29.3	A3M4
629	56.03		388.7	
630	4.48	1000G	32.03	A3M4
631	4.48	1000G	32.03	A3M4
632	4.48	1000G	32.03	A3M4
633	4.48	1000G	32.03	A3M4
634	4.48	1000G	32.03	A3M4
635	5.23	1000G	34.76	A3M4
636	4.48	1000G	32.03	A3M4
637	5.23	1000G	34.76	A3M4
638	5.23	1000G	34.76	A3M4
639	5.23	1000G	34.76	A3M4
640	4.48	1000G	32.03	A3M4
641	5.23	1000G	34.76	A3M4
642	57.51		398.01	
643	6.73	1000G	40.22	A3M4
644	7.48	1000G	42.95	A3M4
645	5.98	1000G	37.49	A3M4
646	8.22	1000G	45.68	A3M4
647	7.48	1000G	42.95	A3M4
648	6.73	1000G	41.49	A3M4
649	6.73	1000G	45.29	A3M4

	A	B	C	D	E
650	2600	2603	26CC	3	8
651	2600	2603	26CC	3	8
652	2600	2603	26CC	3	10
653	2600	2603	26CC	3	10
654	2600	2603	26CC	3	11
655					
656	2600	2603	26CC	3	1
657	2600	2603	26CC	3	1
658	2600	2603	26CC	3	2
659					
660	2600	2603	26CC	3	1
661	2600	2603	26CC	3	2
662	2600	2603	26CC	3	3
663	2600	2603	26CC	3	4
664	2600	2603	26CC	3	5
665	2600	2603	26CC	3	6
666	2600	2603	26CC	3	7
667	2600	2603	26CC	3	8
668	2600	2603	26CC	3	9
669	2600	2603	26CC	3	10
670	2600	2603	26CC	3	11
671	2600	2603	26CC	3	12
672					
673	2600	2603	26CC	3	1
674	2600	2603	26CC	3	2
675	2600	2603	26CC	3	3
676	2600	2603	26CC	3	4
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678	2600	2603	26CC	3	6
679	2600	2603	26CC	3	7
680	2600	2603	26CC	3	8
681	2600	2603	26CC	3	9
682	2600	2603	26CC	3	10
683	2600	2603	26CC	3	11
684	2600	2603	26CC	3	12
685					
686	2600	2603	26CC	3	1
687	2600	2603	26CC	3	2
688	2600	2603	26CC	3	3
689	2600	2603	26CC	3	4
690	2600	2603	26CC	3	5
691	2600	2603	26CC	3	6
692	2600	2603	26CC	3	7
693	2600	2603	26CC	3	8
694	2600	2603	26CC	3	9
695	2600	2603	26CC	3	10
696	2600	2603	26CC	3	11
697	2600	2603	26CC	3	12
698					
699	2600	2603	26CC	3	1

	F	G	H	I
650	2007	22001	260015280	Corley Mfg Co
651	2007	22001	260015280	Corley Mfg Co
652	2007	22001	260015280	Corley Mfg Co
653	2007	22001	260015280	Corley Mfg Co
654	2007	22001	260015280	Corley Mfg Co
655	**2007 Total**			
656	2008	22001	260015280	Corley Mfg Co
657	2008	22001	260015280	Corley Mfg Co
658	2008	22001	260015280	Corley Mfg Co
659	**2008 Total**			
660	2004	22894	260015878	D M Steward Mfg Co
661	2004	22894	260015878	D M Steward Mfg Co
662	2004	22894	260015878	D M Steward Mfg Co
663	2004	22894	260015878	D M Steward Mfg Co
664	2004	22894	260015878	D M Steward Mfg Co
665	2004	22894	260015878	D M Steward Mfg Co
666	2004	22894	260015878	D M Steward Mfg Co
667	2004	22894	260015878	D M Steward Mfg Co
668	2004	22894	260015878	D M Steward Mfg Co
669	2004	22894	260015878	D M Steward Mfg Co
670	2004	22894	260015878	D M Steward Mfg Co
671	2004	22894	260015878	D M Steward Mfg Co
672	**2004 Total**			
673	2005	22894	260015878	D M Steward Mfg Co
674	2005	22894	260015878	D M Steward Mfg Co
675	2005	22894	260015878	D M Steward Mfg Co
676	2005	22894	260015878	D M Steward Mfg Co
677	2005	22894	260015878	D M Steward Mfg Co
678	2005	22894	260015878	D M Steward Mfg Co
679	2005	22894	260015878	D M Steward Mfg Co
680	2005	22894	260015878	D M Steward Mfg Co
681	2005	22894	260015878	D M Steward Mfg Co
682	2005	22894	260015878	D M Steward Mfg Co
683	2005	22894	260015878	D M Steward Mfg Co
684	2005	22894	260015878	D M Steward Mfg Co
685	**2005 Total**			
686	2006	22894	260015878	D M Steward Mfg Co
687	2006	22894	260015878	D M Steward Mfg Co
688	2006	22894	260015878	D M Steward Mfg Co
689	2006	22894	260015878	D M Steward Mfg Co
690	2006	22894	260015878	D M Steward Mfg Co
691	2006	22894	260015878	D M Steward Mfg Co
692	2006	22894	260015878	D M Steward Mfg Co
693	2006	22894	260015878	D M Steward Mfg Co
694	2006	22894	260015878	D M Steward Mfg Co
695	2006	22894	260015878	D M Steward Mfg Co
696	2006	22894	260015878	D M Steward Mfg Co
697	2006	22894	260015878	D M Steward Mfg Co
698	**2006 Total**			
699	2007	22894	260015878	D M Steward Mfg Co

	J	K	L	M
650	2900 Crescent Cir	Chattanooga	TN	374071322
651	2900 Crescent Cir	Chattanooga	TN	374071322
652	2900 Crescent Cir	Chattanooga	TN	374071322
653	2900 Crescent Cir	Chattanooga	TN	374071322
654	2900 Crescent Cir	Chattanooga	TN	374071322
655				
656	2900 Crescent Cir	Chattanooga	TN	374071322
657	2900 Crescent Cir	Chattanooga	TN	374071322
658	2900 Crescent Cir	Chattanooga	TN	374071322
659				
660	1200 E 36th St	Chattanooga	TN	374072489
661	1200 E 36th St	Chattanooga	TN	374072489
662	1200 E 36th St	Chattanooga	TN	374072489
663	1200 E 36th St	Chattanooga	TN	374072489
664	1200 E 36th St	Chattanooga	TN	374072489
665	1200 E 36th St	Chattanooga	TN	374072489
666	1200 E 36th St	Chattanooga	TN	374072489
667	1200 E 36th St	Chattanooga	TN	374072489
668	1200 E 36th St	Chattanooga	TN	374072489
669	1200 E 36th St	Chattanooga	TN	374072489
670	1200 E 36th St	Chattanooga	TN	374072489
671	1200 E 36th St	Chattanooga	TN	374072489
672				
673	1200 E 36th St	Chattanooga	TN	374072489
674	1200 E 36th St	Chattanooga	TN	374072489
675	1200 E 36th St	Chattanooga	TN	374072489
676	1200 E 36th St	Chattanooga	TN	374072489
677	1200 E 36th St	Chattanooga	TN	374072489
678	1200 E 36th St	Chattanooga	TN	374072489
679	1200 E 36th St	Chattanooga	TN	374072489
680	1200 E 36th St	Chattanooga	TN	374072489
681	1200 E 36th St	Chattanooga	TN	374072489
682	1200 E 36th St	Chattanooga	TN	374072489
683	1200 E 36th St	Chattanooga	TN	374072489
684	1200 E 36th St	Chattanooga	TN	374072489
685				
686	1200 E 36th St	Chattanooga	TN	374072489
687	1200 E 36th St	Chattanooga	TN	374072489
688	1200 E 36th St	Chattanooga	TN	374072489
689	1200 E 36th St	Chattanooga	TN	374072489
690	1200 E 36th St	Chattanooga	TN	374072489
691	1200 E 36th St	Chattanooga	TN	374072489
692	1200 E 36th St	Chattanooga	TN	374072489
693	1200 E 36th St	Chattanooga	TN	374072489
694	1200 E 36th St	Chattanooga	TN	374072489
695	1200 E 36th St	Chattanooga	TN	374072489
696	1200 E 36th St	Chattanooga	TN	374072489
697	1200 E 36th St	Chattanooga	TN	374072489
698				
699	1200 E 36th St	Chattanooga	TN	374072489

	N	O	P	Q
650	6.73	1000G	45.29	A3M4
651	6.73	1000G	45.29	A3M4
652	5.98	1000G	42.21	A3M4
653	6.73	1000G	45.29	A3M4
654	5.23	1000G	39.14	A3M4
655	80.75		513.29	
656	4.48	1000G	36.07	A3M4
657	5.23	1000G	39.14	A3M4
658	6.73	1000G	45.29	A3M4
659	16.44		120.5	
660	76.3	1000G	301.83	A3M4
661	82.28	1000G	315.04	A3M4
662	77.79	1000G	305.13	A3M4
663	119.68	1000G	397.59	A3M4
664	132.4	1000G	425.65	A3M4
665	157.83	1000G	481.79	A3M4
666	168.31	1000G	504.9	A3M4
667	195.24	1000G	564.34	A3M4
668	165.31	1000G	498.3	A3M4
669	165.31	1000G	498.3	A3M4
670	118.94	1000G	395.93	A3M4
671	115.94	1000G	389.33	A3M4
672	1575.33		5078.13	
673	81.53	1000G	313.38	A3M4
674	69.56	1000G	286.97	A3M4
675	74.8	1000G	298.53	A3M4
676	77.04	1000G	312.58	A3M4
677	97.24	1000G	361.55	A3M4
678	112.2	1000G	395.85	A3M4
679	141.38	1000G	462.73	A3M4
680	177.28	1000G	545.05	A3M4
681	167.56	1000G	522.76	A3M4
682	172.8	1000G	534.76	A3M4
683	132.4	1000G	442.15	A3M4
684	98.74	1000G	364.98	A3M4
685	1402.53		4841.29	
686	77.04	1000G	315.24	A3M4
687	68.82	1000G	296.38	A3M4
688	72.56	1000G	304.95	A3M4
689	76.3	1000G	313.53	A3M4
690	103.23	1000G	375.27	A3M4
691	115.94	1000G	404.42	A3M4
692	145.87	1000G	473.02	A3M4
693	177.28	1000G	545.05	A3M4
694	174.29	1000G	538.19	A3M4
695	157.83	1000G	500.46	A3M4
696	142.12	1000G	464.45	A3M4
697	102.48	1000G	373.55	A3M4
698	1413.76		4904.51	
699	62.83	1000G	282.66	A3M4

	A	B	C	D	E
700	2600	2603	26CC	3	2
701	2600	2603	26CC	3	3
702	2600	2603	26CC	3	4
703	2600	2603	26CC	3	5
704	2600	2603	26CC	3	6
705	2600	2603	26CC	3	7
706	2600	2603	26CC	3	8
707	2600	2603	26CC	3	8
708	2600	2603	26CC	3	10
709	2600	2603	26CC	3	10
710	2600	2603	26CC	3	11
711					
712	2600	2603	26CC	3	1
713	2600	2603	26CC	3	1
714	2600	2603	26CC	3	2
715					
716	2600	2603	26CC	3	1
717	2600	2603	26CC	3	2
718	2600	2603	26CC	3	3
719	2600	2603	26CC	3	4
720	2600	2603	26CC	3	5
721	2600	2603	26CC	3	6
722	2600	2603	26CC	3	7
723	2600	2603	26CC	3	8
724	2600	2603	26CC	3	9
725	2600	2603	26CC	3	10
726	2600	2603	26CC	3	11
727	2600	2603	26CC	3	12
728					
729	2600	2603	26CC	3	1
730	2600	2603	26CC	3	2
731	2600	2603	26CC	3	3
732	2600	2603	26CC	3	4
733	2600	2603	26CC	3	5
734	2600	2603	26CC	3	6
735	2600	2603	26CC	3	7
736	2600	2603	26CC	3	8
737	2600	2603	26CC	3	9
738	2600	2603	26CC	3	10
739	2600	2603	26CC	3	11
740	2600	2603	26CC	3	12
741					
742	2600	2603	26CC	3	1
743	2600	2603	26CC	3	2
744	2600	2603	26CC	3	3
745	2600	2603	26CC	3	4
746	2600	2603	26CC	3	5
747	2600	2603	26CC	3	6
748	2600	2603	26CC	3	7
749	2600	2603	26CC	3	8

	F	G	H	I
700	2007	22894	260015878	D M Steward Mfg Co
701	2007	22894	260015878	D M Steward Mfg Co
702	2007	22894	260015878	D M Steward Mfg Co
703	2007	22894	260015878	D M Steward Mfg Co
704	2007	22894	260015878	D M Steward Mfg Co
705	2007	22894	260015878	D M Steward Mfg Co
706	2007	22894	260015878	D M Steward Mfg Co
707	2007	22894	260015878	D M Steward Mfg Co
708	2007	22894	260015878	D M Steward Mfg Co
709	2007	22894	260015878	D M Steward Mfg Co
710	2007	22894	260015878	D M Steward Mfg Co
711	**2007 Total**			
712	2008	22894	260015878	D M Steward Mfg Co
713	2008	22894	260015878	D M Steward Mfg Co
714	2008	22894	260015878	D M Steward Mfg Co
715	**2008 Total**			
716	2004	24134	260016675	Oneal Steel Inc
717	2004	24134	260016675	Oneal Steel Inc
718	2004	24134	260016675	Oneal Steel Inc
719	2004	24134	260016675	Oneal Steel Inc
720	2004	24134	260016675	Oneal Steel Inc
721	2004	24134	260016675	Oneal Steel Inc
722	2004	24134	260016675	Oneal Steel Inc
723	2004	24134	260016675	Oneal Steel Inc
724	2004	24134	260016675	Oneal Steel Inc
725	2004	24134	260016675	Oneal Steel Inc
726	2004	24134	260016675	Oneal Steel Inc
727	2004	24134	260016675	Oneal Steel Inc
728	**2004 Total**			
729	2005	24134	260016675	Oneal Steel Inc
730	2005	24134	260016675	Oneal Steel Inc
731	2005	24134	260016675	Oneal Steel Inc
732	2005	24134	260016675	Oneal Steel Inc
733	2005	24134	260016675	Oneal Steel Inc
734	2005	24134	260016675	Oneal Steel Inc
735	2005	24134	260016675	Oneal Steel Inc
736	2005	24134	260016675	Oneal Steel Inc
737	2005	24134	260016675	Oneal Steel Inc
738	2005	24134	260016675	Oneal Steel Inc
739	2005	24134	260016675	Oneal Steel Inc
740	2005	24134	260016675	Oneal Steel Inc
741	**2005 Total**			
742	2006	24134	260016675	Oneal Steel Inc
743	2006	24134	260016675	Oneal Steel Inc
744	2006	24134	260016675	Oneal Steel Inc
745	2006	24134	260016675	Oneal Steel Inc
746	2006	24134	260016675	Oneal Steel Inc
747	2006	24134	260016675	Oneal Steel Inc
748	2006	24134	260016675	Oneal Steel Inc
749	2006	24134	260016675	Oneal Steel Inc

	J	K	L	M
700	1200 E 36th St	Chattanooga	TN	374072489
701	1200 E 36th St	Chattanooga	TN	374072489
702	1200 E 36th St	Chattanooga	TN	374072489
703	1200 E 36th St	Chattanooga	TN	374072489
704	1200 E 36th St	Chattanooga	TN	374072489
705	1200 E 36th St	Chattanooga	TN	374072489
706	1200 E 36th St	Chattanooga	TN	374072489
707	1200 E 36th St	Chattanooga	TN	374072489
708	1200 E 36th St	Chattanooga	TN	374072489
709	1200 E 36th St	Chattanooga	TN	374072489
710	1200 E 36th St	Chattanooga	TN	374072489
711				
712	1200 E 36th St	Chattanooga	TN	374072489
713	1200 E 36th St	Chattanooga	TN	374072489
714	1200 E 36th St	Chattanooga	TN	374072489
715				
716	3712 7th Ave	Chattanooga	TN	374072150
717	3712 7th Ave	Chattanooga	TN	374072150
718	3712 7th Ave	Chattanooga	TN	374072150
719	3712 7th Ave	Chattanooga	TN	374072150
720	3712 7th Ave	Chattanooga	TN	374072150
721	3712 7th Ave	Chattanooga	TN	374072150
722	3712 7th Ave	Chattanooga	TN	374072150
723	3712 7th Ave	Chattanooga	TN	374072150
724	3712 7th Ave	Chattanooga	TN	374072150
725	3712 7th Ave	Chattanooga	TN	374072150
726	3712 7th Ave	Chattanooga	TN	374072150
727	3712 7th Ave	Chattanooga	TN	374072150
728				
729	3712 7th Ave	Chattanooga	TN	374072150
730	3712 7th Ave	Chattanooga	TN	374072150
731	3712 7th Ave	Chattanooga	TN	374072150
732	3712 7th Ave	Chattanooga	TN	374072150
733	3712 7th Ave	Chattanooga	TN	374072150
734	3712 7th Ave	Chattanooga	TN	374072150
735	3712 7th Ave	Chattanooga	TN	374072150
736	3712 7th Ave	Chattanooga	TN	374072150
737	3712 7th Ave	Chattanooga	TN	374072150
738	3712 7th Ave	Chattanooga	TN	374072150
739	3712 7th Ave	Chattanooga	TN	374072150
740	3712 7th Ave	Chattanooga	TN	374072150
741				
742	3712 7th Ave	Chattanooga	TN	374072150
743	3712 7th Ave	Chattanooga	TN	374072150
744	3712 7th Ave	Chattanooga	TN	374072150
745	3712 7th Ave	Chattanooga	TN	374072150
746	3712 7th Ave	Chattanooga	TN	374072150
747	3712 7th Ave	Chattanooga	TN	374072150
748	3712 7th Ave	Chattanooga	TN	374072150
749	3712 7th Ave	Chattanooga	TN	374072150

	N	O	P	Q
700	77.04	1000G	315.24	A3M4
701	66.57	1000G	291.23	A3M4
702	80.04	1000G	322.1	A3M4
703	103.23	1000G	375.27	A3M4
704	136.89	1000G	466.67	A3M4
705	52.36	1000G	291.16	A3M4
706	23.18	1000G	177.02	A3M4
707	24.68	1000G	183.17	A3M4
708	14.21	1000G	140.15	A3M4
709	19.44	1000G	161.66	A3M4
710	14.21	1000G	140.15	A3M4
711	674.68		3146.48	
712	10.47	1000G	124.78	A3M4
713	17.95	1000G	155.51	A3M4
714	17.95	1000G	155.51	A3M4
715	46.37		435.8	
716	1.49	1000G	15.3	A3M4
717	2.99	1000G	15.63	A3M4
718	2.99	1000G	15.63	A3M4
719	2.99	1000G	15.63	A3M4
720	3.74	1000G	18.26	A3M4
721	3.74	1000G	18.26	A3M4
722	2.99	1000G	15.63	A3M4
723	3.74	1000G	18.26	A3M4
724	3.74	1000G	18.26	A3M4
725	4.48	1000G	20.89	A3M4
726	3.74	1000G	18.26	A3M4
727	3.74	1000G	18.26	A3M4
728	40.37		208.27	
729	2.99	1000G	15.63	A3M4
730	2.99	1000G	15.63	A3M4
731	3.74	1000G	18.26	A3M4
732	2.99	1000G	16.1	A3M4
733	4.48	1000G	21.7	A3M4
734	3.74	1000G	18.97	A3M4
735	3.74	1000G	18.97	A3M4
736	3.74	1000G	18.97	A3M4
737	3.74	1000G	18.97	A3M4
738	3.74	1000G	18.97	A3M4
739	3.74	1000G	18.97	A3M4
740	3.74	1000G	18.97	A3M4
741	43.37		220.11	
742	3.74	1000G	18.97	A3M4
743	2.99	1000G	16.24	A3M4
744	3.74	1000G	18.97	A3M4
745	3.74	1000G	18.97	A3M4
746	14.21	1000G	57.19	A3M4
747	2.99	1000G	16.24	A3M4
748	3.74	1000G	18.97	A3M4
749	3.74	1000G	18.97	A3M4

	A	B	C	D	E
750	2600	2603	26CC	3	9
751	2600	2603	26CC	3	10
752	2600	2603	26CC	3	11
753	2600	2603	26CC	3	12
754					
755	2600	2603	26CC	3	1
756	2600	2603	26CC	3	2
757	2600	2603	26CC	3	3
758	2600	2603	26CC	3	4
759	2600	2603	26CC	3	5
760	2600	2603	26CC	3	6
761	2600	2603	26CC	3	7
762	2600	2603	26CC	3	8
763	2600	2603	26CC	3	8
764	2600	2603	26CC	3	10
765	2600	2603	26CC	3	10
766	2600	2603	26CC	3	11
767					
768	2600	2603	26CC	3	1
769	2600	2603	26CC	3	1
770	2600	2603	26CC	3	2
771					
772	2600	2603	26CC	3	1
773	2600	2603	26CC	3	2
774	2600	2603	26CC	3	3
775	2600	2603	26CC	3	4
776	2600	2603	26CC	3	5
777	2600	2603	26CC	3	6
778	2600	2603	26CC	3	7
779	2600	2603	26CC	3	8
780	2600	2603	26CC	3	9
781	2600	2603	26CC	3	10
782	2600	2603	26CC	3	11
783	2600	2603	26CC	3	12
784					
785	2600	2603	26CC	3	1
786	2600	2603	26CC	3	2
787	2600	2603	26CC	3	3
788	2600	2603	26CC	3	4
789	2600	2603	26CC	3	5
790	2600	2603	26CC	3	6
791	2600	2603	26CC	3	7
792	2600	2603	26CC	3	8
793	2600	2603	26CC	3	9
794	2600	2603	26CC	3	10
795	2600	2603	26CC	3	11
796	2600	2603	26CC	3	12
797					
798	2600	2603	26CC	3	1
799	2600	2603	26CC	3	2

	F	G	H	I
750	2006	24134	260016675	Oneal Steel Inc
751	2006	24134	260016675	Oneal Steel Inc
752	2006	24134	260016675	Oneal Steel Inc
753	2006	24134	260016675	Oneal Steel Inc
754	**2006 Total**			
755	2007	24134	260016675	Oneal Steel Inc
756	2007	24134	260016675	Oneal Steel Inc
757	2007	24134	260016675	Oneal Steel Inc
758	2007	24134	260016675	Oneal Steel Inc
759	2007	24134	260016675	Oneal Steel Inc
760	2007	24134	260016675	Oneal Steel Inc
761	2007	24134	260016675	Oneal Steel Inc
762	2007	24134	260016675	Oneal Steel Inc
763	2007	24134	260016675	Oneal Steel Inc
764	2007	24134	260016675	Oneal Steel Inc
765	2007	24134	260016675	Oneal Steel Inc
766	2007	24134	260016675	Oneal Steel Inc
767	**2007 Total**			
768	2008	24134	260016675	Oneal Steel Inc
769	2008	24134	260016675	Oneal Steel Inc
770	2008	24134	260016675	Oneal Steel Inc
771	**2008 Total**			
772	2004	24197	260016709	Oneal Steel Inc
773	2004	24197	260016709	Oneal Steel Inc
774	2004	24197	260016709	Oneal Steel Inc
775	2004	24197	260016709	Oneal Steel Inc
776	2004	24197	260016709	Oneal Steel Inc
777	2004	24197	260016709	Oneal Steel Inc
778	2004	24197	260016709	Oneal Steel Inc
779	2004	24197	260016709	Oneal Steel Inc
780	2004	24197	260016709	Oneal Steel Inc
781	2004	24197	260016709	Oneal Steel Inc
782	2004	24197	260016709	Oneal Steel Inc
783	2004	24197	260016709	Oneal Steel Inc
784	**2004 Total**			
785	2005	24197	260016709	Oneal Steel Inc
786	2005	24197	260016709	Oneal Steel Inc
787	2005	24197	260016709	Oneal Steel Inc
788	2005	24197	260016709	Oneal Steel Inc
789	2005	24197	260016709	Oneal Steel Inc
790	2005	24197	260016709	Oneal Steel Inc
791	2005	24197	260016709	Oneal Steel Inc
792	2005	24197	260016709	Oneal Steel Inc
793	2005	24197	260016709	Oneal Steel Inc
794	2005	24197	260016709	Oneal Steel Inc
795	2005	24197	260016709	Oneal Steel Inc
796	2005	24197	260016709	Oneal Steel Inc
797	**2005 Total**			
798	2006	24197	260016709	Oneal Steel Inc
799	2006	24197	260016709	Oneal Steel Inc

	J	K	L	M
750	3712 7th Ave	Chattanooga	TN	374072150
751	3712 7th Ave	Chattanooga	TN	374072150
752	3712 7th Ave	Chattanooga	TN	374072150
753	3712 7th Ave	Chattanooga	TN	374072150
754				
755	3712 7th Ave	Chattanooga	TN	374072150
756	3712 7th Ave	Chattanooga	TN	374072150
757	3712 7th Ave	Chattanooga	TN	374072150
758	3712 7th Ave	Chattanooga	TN	374072150
759	3712 7th Ave	Chattanooga	TN	374072150
760	3712 7th Ave	Chattanooga	TN	374072150
761	3712 7th Ave	Chattanooga	TN	374072150
762	3712 7th Ave	Chattanooga	TN	374072150
763	3712 7th Ave	Chattanooga	TN	374072150
764	3712 7th Ave	Chattanooga	TN	374072150
765	3712 7th Ave	Chattanooga	TN	374072150
766	3712 7th Ave	Chattanooga	TN	374072150
767				
768	3712 7th Ave	Chattanooga	TN	374072150
769	3712 7th Ave	Chattanooga	TN	374072150
770	3712 7th Ave	Chattanooga	TN	374072150
771				
772	2500 E 38th St	Chattanooga	TN	374072241
773	2500 E 38th St	Chattanooga	TN	374072241
774	2500 E 38th St	Chattanooga	TN	374072241
775	2500 E 38th St	Chattanooga	TN	374072241
776	2500 E 38th St	Chattanooga	TN	374072241
777	2500 E 38th St	Chattanooga	TN	374072241
778	2500 E 38th St	Chattanooga	TN	374072241
779	2500 E 38th St	Chattanooga	TN	374072241
780	2500 E 38th St	Chattanooga	TN	374072241
781	2500 E 38th St	Chattanooga	TN	374072241
782	2500 E 38th St	Chattanooga	TN	374072241
783	2500 E 38th St	Chattanooga	TN	374072241
784				
785	2500 E 38th St	Chattanooga	TN	374072241
786	2500 E 38th St	Chattanooga	TN	374072241
787	2500 E 38th St	Chattanooga	TN	374072241
788	2500 E 38th St	Chattanooga	TN	374072241
789	2500 E 38th St	Chattanooga	TN	374072241
790	2500 E 38th St	Chattanooga	TN	374072241
791	2500 E 38th St	Chattanooga	TN	374072241
792	2500 E 38th St	Chattanooga	TN	374072241
793	2500 E 38th St	Chattanooga	TN	374072241
794	2500 E 38th St	Chattanooga	TN	374072241
795	2500 E 38th St	Chattanooga	TN	374072241
796	2500 E 38th St	Chattanooga	TN	374072241
797				
798	2500 E 38th St	Chattanooga	TN	374072241
799	2500 E 38th St	Chattanooga	TN	374072241

	N	O	P	Q
750	3.74	1000G	18.97	A3M4
751	2.99	1000G	16.24	A3M4
752	3.74	1000G	18.97	A3M4
753	3.74	1000G	18.97	A3M4
754	53.1		257.67	
755	3.74	1000G	18.97	A3M4
756	3.74	1000G	18.97	A3M4
757	3.74	1000G	18.97	A3M4
758	3.74	1000G	18.97	A3M4
759	4.48	1000G	21.7	A3M4
760	3.74	1000G	19.57	A3M4
761	3.74	1000G	21.36	A3M4
762	3.74	1000G	21.36	A3M4
763	4.48	1000G	24.44	A3M4
764	3.74	1000G	21.36	A3M4
765	4.48	1000G	24.44	A3M4
766	3.74	1000G	21.36	A3M4
767	47.1		251.47	
768	3.74	1000G	21.36	A3M4
769	4.48	1000G	24.44	A3M4
770	4.48	1000G	24.44	A3M4
771	12.7		70.24	
772	23.18	1000G	80.54	A3M4
773	36.65	1000G	127.84	A3M4
774	4.48	1000G	14.84	A3M4
775	9.72	1000G	33.23	A3M4
776	3.74	1000G	12.21	A3M4
777	4.48	1000G	14.84	A3M4
778	3.74	1000G	12.21	A3M4
779	3.74	1000G	12.21	A3M4
780	4.48	1000G	14.84	A3M4
781	3.74	1000G	12.21	A3M4
782	4.48	1000G	14.84	A3M4
783	3.74	1000G	12.21	A3M4
784	106.17		362.02	
785	4.48	1000G	14.84	A3M4
786	3.74	1000G	12.21	A3M4
787	5.23	1000G	17.46	A3M4
788	9.72	1000G	34.22	A3M4
789	10.47	1000G	37.25	A3M4
790	4.48	1000G	15.41	A3M4
791	7.48	1000G	26.33	A3M4
792	5.98	1000G	20.87	A3M4
793	5.23	1000G	18.14	A3M4
794	5.23	1000G	18.14	A3M4
795	5.23	1000G	18.14	A3M4
796	3.74	1000G	12.68	A3M4
797	71.01		245.69	
798	14.21	1000G	50.9	A3M4
799	9.72	1000G	34.52	A3M4

	A	B	C	D	E
800	2600	2603	26CC	3	3
801	2600	2603	26CC	3	4
802	2600	2603	26CC	3	5
803	2600	2603	26CC	3	6
804	2600	2603	26CC	3	7
805	2600	2603	26CC	3	8
806	2600	2603	26CC	3	9
807	2600	2603	26CC	3	10
808	2600	2603	26CC	3	11
809	2600	2603	26CC	3	12
810					
811	2600	2603	26CC	3	1
812	2600	2603	26CC	3	2
813	2600	2603	26CC	3	3
814	2600	2603	26CC	3	4
815	2600	2603	26CC	3	5
816	2600	2603	26CC	3	6
817	2600	2603	26CC	3	7
818	2600	2603	26CC	3	8
819	2600	2603	26CC	3	8
820	2600	2603	26CC	3	10
821	2600	2603	26CC	3	10
822	2600	2603	26CC	3	11
823					
824	2600	2603	26CC	3	1
825	2600	2603	26CC	3	1
826	2600	2603	26CC	3	2
827					
828	2600	2603	26CC	3	1
829	2600	2603	26CC	3	2
830	2600	2603	26CC	3	2
831	2600	2603	26CC	3	4
832	2600	2603	26CC	3	5
833	2600	2603	26CC	3	6
834	2600	2603	26CC	3	7
835	2600	2603	26CC	3	8
836	2600	2603	26CC	3	9
837	2600	2603	26CC	3	10
838	2600	2603	26CC	3	11
839	2600	2603	26CC	3	12
840					
841	2600	2603	26CC	3	1
842	2600	2603	26CC	3	2
843	2600	2603	26CC	3	3
844	2600	2603	26CC	3	3
845					
846	2600	2603	26CC	3	1
847	2600	2603	26CC	3	2
848	2600	2603	26CC	3	3
849	2600	2603	26CC	3	3

	F	G	H	I
800	2006	24197	260016709	Oneal Steel Inc
801	2006	24197	260016709	Oneal Steel Inc
802	2006	24197	260016709	Oneal Steel Inc
803	2006	24197	260016709	Oneal Steel Inc
804	2006	24197	260016709	Oneal Steel Inc
805	2006	24197	260016709	Oneal Steel Inc
806	2006	24197	260016709	Oneal Steel Inc
807	2006	24197	260016709	Oneal Steel Inc
808	2006	24197	260016709	Oneal Steel Inc
809	2006	24197	260016709	Oneal Steel Inc
810	**2006 Total**			
811	2007	24197	260016709	Oneal Steel Inc
812	2007	24197	260016709	Oneal Steel Inc
813	2007	24197	260016709	Oneal Steel Inc
814	2007	24197	260016709	Oneal Steel Inc
815	2007	24197	260016709	Oneal Steel Inc
816	2007	24197	260016709	Oneal Steel Inc
817	2007	24197	260016709	Oneal Steel Inc
818	2007	24197	260016709	Oneal Steel Inc
819	2007	24197	260016709	Oneal Steel Inc
820	2007	24197	260016709	Oneal Steel Inc
821	2007	24197	260016709	Oneal Steel Inc
822	2007	24197	260016709	Oneal Steel Inc
823	**2007 Total**			
824	2008	24197	260016709	Oneal Steel Inc
825	2008	24197	260016709	Oneal Steel Inc
826	2008	24197	260016709	Oneal Steel Inc
827	**2008 Total**			
828	2004	24664	260017054	CUSTOMER ENGINEERED PRODUCTS
829	2004	24664	260017054	CUSTOMER ENGINEERED PRODUCTS
830	2004	24664	260017054	CUSTOMER ENGINEERED PRODUCTS
831	2004	24664	260017054	CUSTOMER ENGINEERED PRODUCTS
832	2004	24664	260017054	CUSTOMER ENGINEERED PRODUCTS
833	2004	24664	260017054	CUSTOMER ENGINEERED PRODUCTS
834	2004	24664	260017054	CUSTOMER ENGINEERED PRODUCTS
835	2004	24664	260017054	CUSTOMER ENGINEERED PRODUCTS
836	2004	24664	260017054	CUSTOMER ENGINEERED PRODUCTS
837	2004	24664	260017054	CUSTOMER ENGINEERED PRODUCTS
838	2004	24664	260017054	CUSTOMER ENGINEERED PRODUCTS
839	2004	24664	260017054	CUSTOMER ENGINEERED PRODUCTS
840	**2004 Total**			
841	2005	24664	260017054	CUSTOMER ENGINEERED PRODUCTS
842	2005	24664	260017054	CUSTOMER ENGINEERED PRODUCTS
843	2005	24664	260017054	CUSTOMER ENGINEERED PRODUCTS
844	2005	24664	260017054	CUSTOMER ENGINEERED PRODUCTS
845	**2005 Total**			
846	2004	25082	260017360	S & W Holdings LLC
847	2004	25082	260017360	S & W Holdings LLC
848	2004	25082	260017360	S & W Holdings LLC
849	2004	25082	260017360	S & W Holdings LLC

	J	K	L	M
800	2500 E 38th St	Chattanooga	TN	374072241
801	2500 E 38th St	Chattanooga	TN	374072241
802	2500 E 38th St	Chattanooga	TN	374072241
803	2500 E 38th St	Chattanooga	TN	374072241
804	2500 E 38th St	Chattanooga	TN	374072241
805	2500 E 38th St	Chattanooga	TN	374072241
806	2500 E 38th St	Chattanooga	TN	374072241
807	2500 E 38th St	Chattanooga	TN	374072241
808	2500 E 38th St	Chattanooga	TN	374072241
809	2500 E 38th St	Chattanooga	TN	374072241
810				
811	2500 E 38th St	Chattanooga	TN	374072241
812	2500 E 38th St	Chattanooga	TN	374072241
813	2500 E 38th St	Chattanooga	TN	374072241
814	2500 E 38th St	Chattanooga	TN	374072241
815	2500 E 38th St	Chattanooga	TN	374072241
816	2500 E 38th St	Chattanooga	TN	374072241
817	2500 E 38th St	Chattanooga	TN	374072241
818	2500 E 38th St	Chattanooga	TN	374072241
819	2500 E 38th St	Chattanooga	TN	374072241
820	2500 E 38th St	Chattanooga	TN	374072241
821	2500 E 38th St	Chattanooga	TN	374072241
822	2500 E 38th St	Chattanooga	TN	374072241
823				
824	2500 E 38th St	Chattanooga	TN	374072241
825	2500 E 38th St	Chattanooga	TN	374072241
826	2500 E 38th St	Chattanooga	TN	374072241
827				
828	4015 Calhoun Ave	Chattanooga	TN	374072536
829	4015 Calhoun Ave	Chattanooga	TN	374072536
830	4015 Calhoun Ave	Chattanooga	TN	374072536
831	4015 Calhoun Ave	Chattanooga	TN	374072536
832	4015 Calhoun Ave	Chattanooga	TN	374072536
833	4015 Calhoun Ave	Chattanooga	TN	374072536
834	4015 Calhoun Ave	Chattanooga	TN	374072536
835	4015 Calhoun Ave	Chattanooga	TN	374072536
836	4015 Calhoun Ave	Chattanooga	TN	374072536
837	4015 Calhoun Ave	Chattanooga	TN	374072536
838	4015 Calhoun Ave	Chattanooga	TN	374072536
839	4015 Calhoun Ave	Chattanooga	TN	374072536
840				
841	4015 Calhoun Ave	Chattanooga	TN	374072536
842	4015 Calhoun Ave	Chattanooga	TN	374072536
843	4015 Calhoun Ave	Chattanooga	TN	374072536
844	4015 Calhoun Ave	Chattanooga	TN	374072536
845				
846	5009 Divine Ave	Chattanooga	TN	37407
847	5009 Divine Ave	Chattanooga	TN	37407
848	5009 Divine Ave	Chattanooga	TN	37407
849	5009 Divine Ave	Chattanooga	TN	37407

	N	O	P	Q
800	7.48	1000G	26.33	A3M4
801	5.98	1000G	20.87	A3M4
802	17.95	1000G	64.55	A3M4
803	7.48	1000G	26.33	A3M4
804	5.23	1000G	18.14	A3M4
805	5.98	1000G	20.87	A3M4
806	5.23	1000G	18.14	A3M4
807	5.98	1000G	20.87	A3M4
808	6.73	1000G	23.6	A3M4
809	6.73	1000G	23.6	A3M4
810	98.7		348.72	
811	7.48	1000G	26.33	A3M4
812	8.22	1000G	29.06	A3M4
813	8.22	1000G	29.06	A3M4
814	8.97	1000G	31.79	A3M4
815	9.72	1000G	34.52	A3M4
816	7.48	1000G	27.17	A3M4
817	8.97	1000G	35.78	A3M4
818	10.47	1000G	41.93	A3M4
819	11.96	1000G	48.08	A3M4
820	6.73	1000G	26.57	A3M4
821	13.46	1000G	54.22	A3M4
822	5.23	1000G	20.42	A3M4
823	106.91		404.93	
824	6.73	1000G	26.57	A3M4
825	7.48	1000G	29.64	A3M4
826	6.73	1000G	26.57	A3M4
827	20.94		82.78	
828	0	1000G	24.92	A3M4
829	0	1000G	9.14	A3M4
830	0	1000G	24.92	A3M4
831	0	1000G	19.11	A3M4
832	0	1000G	24.92	A3M4
833	0	1000G	24.92	A3M4
834	2.99	1000G	25.58	A3M4
835	0	1000G	24.92	A3M4
836	0	1000G	24.92	A3M4
837	0	1000G	24.92	A3M4
838	0	1000G	24.92	A3M4
839	0	1000G	24.92	A3M4
840	2.99		278.11	
841	0	1000G	24.92	A3M4
842	0	1000G	24.92	A3M4
843	0	1000G	4.98	A3M4
844	0	1000G	24.92	A3M4
845	0		79.74	
846	16.45	1000G	56.88	A3M4
847	14.96	1000G	51.63	A3M4
848	13.46	1000G	46.59	A3M4
849	16.45	1000G	56.88	A3M4

	A	B	C	D	E
850					
851	2600	2603	26CC	3	1
852	2600	2603	26CC	3	2
853	2600	2603	26CC	3	3
854	2600	2603	26CC	3	4
855	2600	2603	26CC	3	5
856	2600	2603	26CC	3	6
857	2600	2603	26CC	3	7
858					
859	2600	2603	26CC	3	1
860	2600	2603	26CC	3	2
861	2600	2603	26CC	3	3
862	2600	2603	26CC	3	4
863	2600	2603	26CC	3	5
864	2600	2603	26CC	3	6
865	2600	2603	26CC	3	7
866	2600	2603	26CC	3	8
867	2600	2603	26CC	3	9
868	2600	2603	26CC	3	10
869	2600	2603	26CC	3	11
870	2600	2603	26CC	3	12
871					
872	2600	2603	26CC	3	1
873	2600	2603	26CC	3	2
874	2600	2603	26CC	3	3
875	2600	2603	26CC	3	4
876	2600	2603	26CC	3	5
877	2600	2603	26CC	3	6
878	2600	2603	26CC	3	7
879	2600	2603	26CC	3	8
880	2600	2603	26CC	3	9
881	2600	2603	26CC	3	10
882	2600	2603	26CC	3	10
883	2600	2603	26CC	3	11
884	2600	2603	26CC	3	11
885	2600	2603	26CC	3	12
886					
887	2600	2603	26CC	3	1
888	2600	2603	26CC	3	2
889	2600	2603	26CC	3	3
890	2600	2603	26CC	3	4
891	2600	2603	26CC	3	5
892	2600	2603	26CC	3	6
893	2600	2603	26CC	3	7
894	2600	2603	26CC	3	8
895	2600	2603	26CC	3	9
896	2600	2603	26CC	3	10
897	2600	2603	26CC	3	11
898	2600	2603	26CC	3	12
899					

	F	G	H	I
850	**2004 Total**			
851	2003	30951	260021030	Rivoli Mills Inc
852	2003	30951	260021030	Rivoli Mills Inc
853	2003	30951	260021030	Rivoli Mills Inc
854	2003	30951	260021030	Rivoli Mills Inc
855	2003	30951	260021030	Rivoli Mills Inc
856	2003	30951	260021030	Rivoli Mills Inc
857	2003	30951	260021030	Rivoli Mills Inc
858	**2003 Total**			
859	2004	31457	260021379	P & C CONSTRUCTION
860	2004	31457	260021379	P & C CONSTRUCTION
861	2004	31457	260021379	P & C CONSTRUCTION
862	2004	31457	260021379	P & C CONSTRUCTION
863	2004	31457	260021379	P & C CONSTRUCTION
864	2004	31457	260021379	P & C CONSTRUCTION
865	2004	31457	260021379	P & C CONSTRUCTION
866	2004	31457	260021379	P & C CONSTRUCTION
867	2004	31457	260021379	P & C CONSTRUCTION
868	2004	31457	260021379	P & C CONSTRUCTION
869	2004	31457	260021379	P & C CONSTRUCTION
870	2004	31457	260021379	P & C CONSTRUCTION
871	**2004 Total**			
872	2005	31457	260021379	P & C CONSTRUCTION
873	2005	31457	260021379	P & C CONSTRUCTION
874	2005	31457	260021379	P & C CONSTRUCTION
875	2005	31457	260021379	P & C CONSTRUCTION
876	2005	31457	260021379	P & C CONSTRUCTION
877	2005	31457	260021379	P & C CONSTRUCTION
878	2005	31457	260021379	P & C CONSTRUCTION
879	2005	31457	260021379	P & C CONSTRUCTION
880	2005	31457	260021379	P & C CONSTRUCTION
881	2005	31457	260021379	P & C CONSTRUCTION
882	2005	31457	260021379	P & C CONSTRUCTION
883	2005	31457	260021379	P & C CONSTRUCTION
884	2005	31457	260021379	P & C CONSTRUCTION
885	2005	31457	260021379	P & C CONSTRUCTION
886	**2005 Total**			
887	2006	31457	260021379	P & C CONSTRUCTION
888	2006	31457	260021379	P & C CONSTRUCTION
889	2006	31457	260021379	P & C CONSTRUCTION
890	2006	31457	260021379	P & C CONSTRUCTION
891	2006	31457	260021379	P & C CONSTRUCTION
892	2006	31457	260021379	P & C CONSTRUCTION
893	2006	31457	260021379	P & C CONSTRUCTION
894	2006	31457	260021379	P & C CONSTRUCTION
895	2006	31457	260021379	P & C CONSTRUCTION
896	2006	31457	260021379	P & C CONSTRUCTION
897	2006	31457	260021379	P & C CONSTRUCTION
898	2006	31457	260021379	P & C CONSTRUCTION
899	**2006 Total**			

	J	K	L	M
850				
851	2301 E 28TH ST	CHATTANOOGA	TN	374073629
852	2301 E 28TH ST	CHATTANOOGA	TN	374073629
853	2301 E 28TH ST	CHATTANOOGA	TN	374073629
854	2301 E 28TH ST	CHATTANOOGA	TN	374073629
855	2301 E 28TH ST	CHATTANOOGA	TN	374073629
856	2301 E 28TH ST	CHATTANOOGA	TN	374073629
857	2301 E 28TH ST	CHATTANOOGA	TN	374073629
858				
859	19TH & BUCKLEY ST	CHATTANOOGA	TN	37404
860	19TH & BUCKLEY ST	CHATTANOOGA	TN	37404
861	19TH & BUCKLEY ST	CHATTANOOGA	TN	37404
862	19TH & BUCKLEY ST	CHATTANOOGA	TN	37404
863	19TH & BUCKLEY ST	CHATTANOOGA	TN	37404
864	19TH & BUCKLEY ST	CHATTANOOGA	TN	37404
865	19TH & BUCKLEY ST	CHATTANOOGA	TN	37404
866	19TH & BUCKLEY ST	CHATTANOOGA	TN	37404
867	19TH & BUCKLEY ST	CHATTANOOGA	TN	37404
868	19TH & BUCKLEY ST	CHATTANOOGA	TN	37404
869	19TH & BUCKLEY ST	CHATTANOOGA	TN	37404
870	19TH & BUCKLEY ST	CHATTANOOGA	TN	37404
871				
872	19TH & BUCKLEY ST	CHATTANOOGA	TN	37404
873	19TH & BUCKLEY ST	CHATTANOOGA	TN	37404
874	19TH & BUCKLEY ST	CHATTANOOGA	TN	37404
875	19TH & BUCKLEY ST	CHATTANOOGA	TN	37404
876	19TH & BUCKLEY ST	CHATTANOOGA	TN	37404
877	19TH & BUCKLEY ST	CHATTANOOGA	TN	37404
878	19TH & BUCKLEY ST	CHATTANOOGA	TN	37404
879	19TH & BUCKLEY ST	CHATTANOOGA	TN	37404
880	19TH & BUCKLEY ST	CHATTANOOGA	TN	37404
881	19TH & BUCKLEY ST	CHATTANOOGA	TN	37404
882	19TH & BUCKLEY ST	CHATTANOOGA	TN	37404
883	19TH & BUCKLEY ST	CHATTANOOGA	TN	37404
884	19TH & BUCKLEY ST	CHATTANOOGA	TN	37404
885	19TH & BUCKLEY ST	CHATTANOOGA	TN	37404
886				
887	19TH & BUCKLEY ST	CHATTANOOGA	TN	37404
888	19TH & BUCKLEY ST	CHATTANOOGA	TN	37404
889	19TH & BUCKLEY ST	CHATTANOOGA	TN	37404
890	19TH & BUCKLEY ST	CHATTANOOGA	TN	37404
891	19TH & BUCKLEY ST	CHATTANOOGA	TN	37404
892	19TH & BUCKLEY ST	CHATTANOOGA	TN	37404
893	19TH & BUCKLEY ST	CHATTANOOGA	TN	37404
894	19TH & BUCKLEY ST	CHATTANOOGA	TN	37404
895	19TH & BUCKLEY ST	CHATTANOOGA	TN	37404
896	19TH & BUCKLEY ST	CHATTANOOGA	TN	37404
897	19TH & BUCKLEY ST	CHATTANOOGA	TN	37404
898	19TH & BUCKLEY ST	CHATTANOOGA	TN	37404
899				

	N	O	P	Q
850	61.32		211.98	
851	5.98	1000G	35.08	A3M4
852	9.72	1000G	47.94	A3M4
853	5.23	1000G	33.72	A3M4
854	2.99	1000G	25.58	A3M4
855	8.22	1000G	42.51	A3M4
856	0	1000G	22.85	A3M4
857	0	1000G	31.39	A3M4
858	32.14		239.07	
859	1.49	1000G	9.25	A3M4
860	16.45	1000G	56.88	A3M4
861	8.97	1000G	30.6	A3M4
862	4.48	1000G	14.84	A3M4
863	5.23	1000G	17.46	A3M4
864	5.23	1000G	17.46	A3M4
865	5.98	1000G	20.09	A3M4
866	6.73	1000G	22.72	A3M4
867	4.48	1000G	14.84	A3M4
868	4.48	1000G	14.84	A3M4
869	3.74	1000G	12.21	A3M4
870	5.23	1000G	17.46	A3M4
871	72.49		248.65	
872	27.67	1000G	96.3	A3M4
873	16.45	1000G	56.88	A3M4
874	-8.97	1000G	-32.46	A3M4
875	2.99	1000G	9.88	A3M4
876	3.74	1000G	12.68	A3M4
877	3.74	1000G	12.68	A3M4
878	3.74	1000G	12.68	A3M4
879	5.23	1000G	18.14	A3M4
880	4.48	1000G	15.41	A3M4
881	-167.56	1000G	-443.03	CRLK3
882	172.8	1000G	461.17	A3M4
883	-2.99	1000G	-10.92	CRLK3
884	8.22	1000G	29.06	A3M4
885	2.99	1000G	9.95	A3M4
886	72.53		248.42	
887	2.24	1000G	9.78	A3M4
888	3.74	1000G	12.68	A3M4
889	3.74	1000G	12.68	A3M4
890	5.23	1000G	18.14	A3M4
891	5.23	1000G	18.14	A3M4
892	4.48	1000G	15.41	A3M4
893	3.74	1000G	12.68	A3M4
894	4.48	1000G	15.41	A3M4
895	3.74	1000G	12.68	A3M4
896	3.74	1000G	12.68	A3M4
897	3.74	1000G	12.68	A3M4
898	2.99	1000G	9.95	A3M4
899	47.09		162.91	

	A	B	C	D	E
900	2600	2603	26CC	3	1
901	2600	2603	26CC	3	2
902	2600	2603	26CC	3	3
903	2600	2603	26CC	3	4
904	2600	2603	26CC	3	5
905	2600	2603	26CC	3	6
906	2600	2603	26CC	3	7
907	2600	2603	26CC	3	8
908	2600	2603	26CC	3	8
909	2600	2603	26CC	3	10
910	2600	2603	26CC	3	10
911	2600	2603	26CC	3	12
912					
913	2600	2603	26CC	3	1
914	2600	2603	26CC	3	1
915	2600	2603	26CC	3	2
916					
917	2600	2603	26CC	3	1
918	2600	2603	26CC	3	2
919	2600	2603	26CC	3	3
920	2600	2603	26CC	3	4
921	2600	2603	26CC	3	5
922	2600	2603	26CC	3	6
923	2600	2603	26CC	3	7
924	2600	2603	26CC	3	8
925	2600	2603	26CC	3	9
926	2600	2603	26CC	3	10
927	2600	2603	26CC	3	11
928	2600	2603	26CC	3	12
929					
930	2600	2603	26CC	3	1
931	2600	2603	26CC	3	2
932	2600	2603	26CC	3	3
933	2600	2603	26CC	3	4
934	2600	2603	26CC	3	5
935	2600	2603	26CC	3	6
936	2600	2603	26CC	3	7
937	2600	2603	26CC	3	7
938					
939	2600	2603	26CC	3	1
940	2600	2603	26CC	3	2
941	2600	2603	26CC	3	3
942	2600	2603	26CC	3	4
943	2600	2603	26CC	3	5
944	2600	2603	26CC	3	6
945	2600	2603	26CC	3	7
946	2600	2603	26CC	3	8
947	2600	2603	26CC	3	9
948	2600	2603	26CC	3	10
949	2600	2603	26CC	3	11

	F	G	H	I
900	2007	31457	260021379	P & C CONSTRUCTION
901	2007	31457	260021379	P & C CONSTRUCTION
902	2007	31457	260021379	P & C CONSTRUCTION
903	2007	31457	260021379	P & C CONSTRUCTION
904	2007	31457	260021379	P & C CONSTRUCTION
905	2007	31457	260021379	P & C CONSTRUCTION
906	2007	31457	260021379	P & C CONSTRUCTION
907	2007	31457	260021379	P & C CONSTRUCTION
908	2007	31457	260021379	P & C CONSTRUCTION
909	2007	31457	260021379	P & C CONSTRUCTION
910	2007	31457	260021379	P & C CONSTRUCTION
911	2007	31457	260021379	P & C CONSTRUCTION
912	**2007 Total**			
913	2008	31457	260021379	P & C CONSTRUCTION
914	2008	31457	260021379	P & C CONSTRUCTION
915	2008	31457	260021379	P & C CONSTRUCTION
916	**2008 Total**			
917	2004	32642	260022215	Dixie Group Inc
918	2004	32642	260022215	Dixie Group Inc
919	2004	32642	260022215	Dixie Group Inc
920	2004	32642	260022215	Dixie Group Inc
921	2004	32642	260022215	Dixie Group Inc
922	2004	32642	260022215	Dixie Group Inc
923	2004	32642	260022215	Dixie Group Inc
924	2004	32642	260022215	Dixie Group Inc
925	2004	32642	260022215	Dixie Group Inc
926	2004	32642	260022215	Dixie Group Inc
927	2004	32642	260022215	Dixie Group Inc
928	2004	32642	260022215	Dixie Group Inc
929	**2004 Total**			
930	2005	32642	260022215	Dixie Group Inc
931	2005	32642	260022215	Dixie Group Inc
932	2005	32642	260022215	Dixie Group Inc
933	2005	32642	260022215	Dixie Group Inc
934	2005	32642	260022215	Dixie Group Inc
935	2005	32642	260022215	Dixie Group Inc
936	2005	32642	260022215	Dixie Group Inc
937	2005	32642	260022215	Dixie Group Inc
938	**2005 Total**			
939	2004	35533	260024099	Lucey Boiler Co
940	2004	35533	260024099	Lucey Boiler Co
941	2004	35533	260024099	Lucey Boiler Co
942	2004	35533	260024099	Lucey Boiler Co
943	2004	35533	260024099	Lucey Boiler Co
944	2004	35533	260024099	Lucey Boiler Co
945	2004	35533	260024099	Lucey Boiler Co
946	2004	35533	260024099	Lucey Boiler Co
947	2004	35533	260024099	Lucey Boiler Co
948	2004	35533	260024099	Lucey Boiler Co
949	2004	35533	260024099	Lucey Boiler Co

	J	K	L	M
900	19TH & BUCKLEY ST	CHATTANOOGA	TN	37404
901	19TH & BUCKLEY ST	CHATTANOOGA	TN	37404
902	19TH & BUCKLEY ST	CHATTANOOGA	TN	37404
903	19TH & BUCKLEY ST	CHATTANOOGA	TN	37404
904	19TH & BUCKLEY ST	CHATTANOOGA	TN	37404
905	19TH & BUCKLEY ST	CHATTANOOGA	TN	37404
906	19TH & BUCKLEY ST	CHATTANOOGA	TN	37404
907	19TH & BUCKLEY ST	CHATTANOOGA	TN	37404
908	19TH & BUCKLEY ST	CHATTANOOGA	TN	37404
909	19TH & BUCKLEY ST	CHATTANOOGA	TN	37404
910	19TH & BUCKLEY ST	CHATTANOOGA	TN	37404
911	19TH & BUCKLEY ST	CHATTANOOGA	TN	37404
912				
913	19TH & BUCKLEY ST	CHATTANOOGA	TN	37404
914	19TH & BUCKLEY ST	CHATTANOOGA	TN	37404
915	19TH & BUCKLEY ST	CHATTANOOGA	TN	37404
916				
917	1000 S Watkins St	Chattanooga	TN	374044633
918	1000 S Watkins St	Chattanooga	TN	374044633
919	1000 S Watkins St	Chattanooga	TN	374044633
920	1000 S Watkins St	Chattanooga	TN	374044633
921	1000 S Watkins St	Chattanooga	TN	374044633
922	1000 S Watkins St	Chattanooga	TN	374044633
923	1000 S Watkins St	Chattanooga	TN	374044633
924	1000 S Watkins St	Chattanooga	TN	374044633
925	1000 S Watkins St	Chattanooga	TN	374044633
926	1000 S Watkins St	Chattanooga	TN	374044633
927	1000 S Watkins St	Chattanooga	TN	374044633
928	1000 S Watkins St	Chattanooga	TN	374044633
929				
930	1000 S Watkins St	Chattanooga	TN	374044633
931	1000 S Watkins St	Chattanooga	TN	374044633
932	1000 S Watkins St	Chattanooga	TN	374044633
933	1000 S Watkins St	Chattanooga	TN	374044633
934	1000 S Watkins St	Chattanooga	TN	374044633
935	1000 S Watkins St	Chattanooga	TN	374044633
936	1000 S Watkins St	Chattanooga	TN	374044633
937	1000 S Watkins St	Chattanooga	TN	374044633
938				
939	901 S Holtzclaw Ave	Chattanooga	TN	374044104
940	901 S Holtzclaw Ave	Chattanooga	TN	374044104
941	901 S Holtzclaw Ave	Chattanooga	TN	374044104
942	901 S Holtzclaw Ave	Chattanooga	TN	374044104
943	901 S Holtzclaw Ave	Chattanooga	TN	374044104
944	901 S Holtzclaw Ave	Chattanooga	TN	374044104
945	901 S Holtzclaw Ave	Chattanooga	TN	374044104
946	901 S Holtzclaw Ave	Chattanooga	TN	374044104
947	901 S Holtzclaw Ave	Chattanooga	TN	374044104
948	901 S Holtzclaw Ave	Chattanooga	TN	374044104
949	901 S Holtzclaw Ave	Chattanooga	TN	374044104

	N	O	P	Q
900	3.74	1000G	12.68	A3M4
901	2.99	1000G	9.95	A3M4
902	3.74	1000G	12.68	A3M4
903	4.48	1000G	15.41	A3M4
904	3.74	1000G	12.68	A3M4
905	2.99	1000G	10.32	A3M4
906	6.73	1000G	26.57	A3M4
907	4.48	1000G	17.35	A3M4
908	5.23	1000G	20.42	A3M4
909	4.48	1000G	17.35	A3M4
910	5.98	1000G	23.49	A3M4
911	5.23	1000G	20.42	A3M4
912	53.81		199.32	
913	2.99	1000G	11.2	A3M4
914	2.99	1000G	11.2	A3M4
915	2.99	1000G	11.2	A3M4
916	8.97		33.6	
917	0.74	1000G	9.09	A3M4
918	0	1000G	8.92	A3M4
919	0.74	1000G	9.09	A3M4
920	0	1000G	8.92	A3M4
921	0	1000G	8.92	A3M4
922	0.74	1000G	9.09	A3M4
923	0	1000G	8.92	A3M4
924	0.74	1000G	9.09	A3M4
925	0	1000G	8.92	A3M4
926	0	1000G	8.92	A3M4
927	0	1000G	8.92	A3M4
928	0.74	1000G	9.09	A3M4
929	3.7		107.89	
930	0.74	1000G	9.09	A3M4
931	0	1000G	8.92	A3M4
932	0	1000G	8.92	A3M4
933	2.24	1000G	9.73	A3M4
934	0	1000G	9.26	A3M4
935	0.74	1000G	9.43	A3M4
936	0	1000G	2.78	A3M4
937	56.1	1000G	193.63	A3M4
938	59.82		251.76	
939	15.7	1000G	125.11	A3M4
940	8.97	1000G	101.45	A3M4
941	11.22	1000G	109.34	A3M4
942	11.22	1000G	109.34	A3M4
943	10.47	1000G	106.71	A3M4
944	8.97	1000G	101.45	A3M4
945	6.73	1000G	93.57	A3M4
946	5.23	1000G	88.31	A3M4
947	5.98	1000G	90.94	A3M4
948	8.97	1000G	101.45	A3M4
949	7.48	1000G	96.2	A3M4

	A	B	C	D	E
950	2600	2603	26CC	3	12
951					
952	2600	2603	26CC	3	1
953	2600	2603	26CC	3	2
954	2600	2603	26CC	3	3
955	2600	2603	26CC	3	4
956	2600	2603	26CC	3	5
957	2600	2603	26CC	3	6
958	2600	2603	26CC	3	7
959	2600	2603	26CC	3	8
960	2600	2603	26CC	3	9
961	2600	2603	26CC	3	10
962	2600	2603	26CC	3	11
963	2600	2603	26CC	3	12
964					
965	2600	2603	26CC	3	1
966	2600	2603	26CC	3	2
967	2600	2603	26CC	3	3
968	2600	2603	26CC	3	4
969	2600	2603	26CC	3	5
970	2600	2603	26CC	3	6
971	2600	2603	26CC	3	7
972	2600	2603	26CC	3	8
973	2600	2603	26CC	3	9
974	2600	2603	26CC	3	10
975	2600	2603	26CC	3	11
976	2600	2603	26CC	3	12
977					
978	2600	2603	26CC	3	1
979	2600	2603	26CC	3	2
980	2600	2603	26CC	3	3
981	2600	2603	26CC	3	4
982	2600	2603	26CC	3	5
983	2600	2603	26CC	3	6
984	2600	2603	26CC	3	7
985	2600	2603	26CC	3	8
986	2600	2603	26CC	3	8
987	2600	2603	26CC	3	10
988	2600	2603	26CC	3	10
989	2600	2603	26CC	3	12
990					
991	2600	2603	26CC	3	1
992	2600	2603	26CC	3	1
993	2600	2603	26CC	3	2
994					
995	2600	2603	26CC	3	1
996	2600	2603	26CC	3	2
997	2600	2603	26CC	3	3
998	2600	2603	26CC	3	4
999	2600	2603	26CC	3	5

	F	G	H	I
950	2004	35533	260024099	Lucey Boiler Co
951	**2004 Total**			
952	2005	35533	260024099	Lucey Boiler Co
953	2005	35533	260024099	Lucey Boiler Co
954	2005	35533	260024099	Lucey Boiler Co
955	2005	35533	260024099	Lucey Boiler Co
956	2005	35533	260024099	Lucey Boiler Co
957	2005	35533	260024099	Lucey Boiler Co
958	2005	35533	260024099	Lucey Boiler Co
959	2005	35533	260024099	Lucey Boiler Co
960	2005	35533	260024099	Lucey Boiler Co
961	2005	35533	260024099	Lucey Boiler Co
962	2005	35533	260024099	Lucey Boiler Co
963	2005	35533	260024099	Lucey Boiler Co
964	**2005 Total**			
965	2006	35533	260024099	Lucey Boiler Co
966	2006	35533	260024099	Lucey Boiler Co
967	2006	35533	260024099	Lucey Boiler Co
968	2006	35533	260024099	Lucey Boiler Co
969	2006	35533	260024099	Lucey Boiler Co
970	2006	35533	260024099	Lucey Boiler Co
971	2006	35533	260024099	Lucey Boiler Co
972	2006	35533	260024099	Lucey Boiler Co
973	2006	35533	260024099	Lucey Boiler Co
974	2006	35533	260024099	Lucey Boiler Co
975	2006	35533	260024099	Lucey Boiler Co
976	2006	35533	260024099	Lucey Boiler Co
977	**2006 Total**			
978	2007	35533	260024099	Lucey Boiler Co
979	2007	35533	260024099	Lucey Boiler Co
980	2007	35533	260024099	Lucey Boiler Co
981	2007	35533	260024099	Lucey Boiler Co
982	2007	35533	260024099	Lucey Boiler Co
983	2007	35533	260024099	Lucey Boiler Co
984	2007	35533	260024099	Lucey Boiler Co
985	2007	35533	260024099	Lucey Boiler Co
986	2007	35533	260024099	Lucey Boiler Co
987	2007	35533	260024099	Lucey Boiler Co
988	2007	35533	260024099	Lucey Boiler Co
989	2007	35533	260024099	Lucey Boiler Co
990	**2007 Total**			
991	2008	35533	260024099	Lucey Boiler Co
992	2008	35533	260024099	Lucey Boiler Co
993	2008	35533	260024099	Lucey Boiler Co
994	**2008 Total**			
995	2004	35586	260024138	Dixie Industries Div
996	2004	35586	260024138	Dixie Industries Div
997	2004	35586	260024138	Dixie Industries Div
998	2004	35586	260024138	Dixie Industries Div
999	2004	35586	260024138	Dixie Industries Div

	J	K	L	M
950	901 S Holtzclaw Ave	Chattanooga	TN	374044104
951				
952	901 S Holtzclaw Ave	Chattanooga	TN	374044104
953	901 S Holtzclaw Ave	Chattanooga	TN	374044104
954	901 S Holtzclaw Ave	Chattanooga	TN	374044104
955	901 S Holtzclaw Ave	Chattanooga	TN	374044104
956	901 S Holtzclaw Ave	Chattanooga	TN	374044104
957	901 S Holtzclaw Ave	Chattanooga	TN	374044104
958	901 S Holtzclaw Ave	Chattanooga	TN	374044104
959	901 S Holtzclaw Ave	Chattanooga	TN	374044104
960	901 S Holtzclaw Ave	Chattanooga	TN	374044104
961	901 S Holtzclaw Ave	Chattanooga	TN	374044104
962	901 S Holtzclaw Ave	Chattanooga	TN	374044104
963	901 S Holtzclaw Ave	Chattanooga	TN	374044104
964				
965	901 S Holtzclaw Ave	Chattanooga	TN	374044104
966	901 S Holtzclaw Ave	Chattanooga	TN	374044104
967	901 S Holtzclaw Ave	Chattanooga	TN	374044104
968	901 S Holtzclaw Ave	Chattanooga	TN	374044104
969	901 S Holtzclaw Ave	Chattanooga	TN	374044104
970	901 S Holtzclaw Ave	Chattanooga	TN	374044104
971	901 S Holtzclaw Ave	Chattanooga	TN	374044104
972	901 S Holtzclaw Ave	Chattanooga	TN	374044104
973	901 S Holtzclaw Ave	Chattanooga	TN	374044104
974	901 S Holtzclaw Ave	Chattanooga	TN	374044104
975	901 S Holtzclaw Ave	Chattanooga	TN	374044104
976	901 S Holtzclaw Ave	Chattanooga	TN	374044104
977				
978	901 S Holtzclaw Ave	Chattanooga	TN	374044104
979	901 S Holtzclaw Ave	Chattanooga	TN	374044104
980	901 S Holtzclaw Ave	Chattanooga	TN	374044104
981	901 S Holtzclaw Ave	Chattanooga	TN	374044104
982	901 S Holtzclaw Ave	Chattanooga	TN	374044104
983	901 S Holtzclaw Ave	Chattanooga	TN	374044104
984	901 S Holtzclaw Ave	Chattanooga	TN	374044104
985	901 S Holtzclaw Ave	Chattanooga	TN	374044104
986	901 S Holtzclaw Ave	Chattanooga	TN	374044104
987	901 S Holtzclaw Ave	Chattanooga	TN	374044104
988	901 S Holtzclaw Ave	Chattanooga	TN	374044104
989	901 S Holtzclaw Ave	Chattanooga	TN	374044104
990				
991	901 S Holtzclaw Ave	Chattanooga	TN	374044104
992	901 S Holtzclaw Ave	Chattanooga	TN	374044104
993	901 S Holtzclaw Ave	Chattanooga	TN	374044104
994				
995	1202 S Greenwood Ave	Chattanooga	TN	374044213
996	1202 S Greenwood Ave	Chattanooga	TN	374044213
997	1202 S Greenwood Ave	Chattanooga	TN	374044213
998	1202 S Greenwood Ave	Chattanooga	TN	374044213
999	1202 S Greenwood Ave	Chattanooga	TN	374044213

	N	O	P	Q
950	6.73	1000G	93.57	A3M4
951	107.67		1217.44	
952	2.99	1000G	80.43	A3M4
953	8.97	1000G	101.45	A3M4
954	0.74	1000G	79.94	A3M4
955	11.96	1000G	115.58	A3M4
956	-2.25	1000G	64.6	A3M4
957	5.23	1000G	91.73	A3M4
958	4.48	1000G	98.69	A3M4
959	3.74	1000G	86.27	A3M4
960	5.98	1000G	94.46	A3M4
961	7.48	1000G	99.92	A3M4
962	0	1000G	82.85	A3M4
963	7.48	1000G	99.92	A3M4
964	56.8		1095.84	
965	5.23	1000G	91.73	A3M4
966	4.48	1000G	89	A3M4
967	7.48	1000G	99.92	A3M4
968	11.22	1000G	113.57	A3M4
969	0	1000G	82.85	A3M4
970	213.94	1000G	629.09	A3M4
971	115.2	1000G	402.71	A3M4
972	5.23	1000G	91.73	A3M4
973	8.22	1000G	102.65	A3M4
974	11.96	1000G	116.3	A3M4
975	14.96	1000G	127.22	A3M4
976	36.65	1000G	206.39	A3M4
977	434.57		2153.16	
978	9.72	1000G	108.11	A3M4
979	5.98	1000G	94.46	A3M4
980	7.48	1000G	99.92	A3M4
981	7.48	1000G	99.92	A3M4
982	7.48	1000G	99.92	A3M4
983	5.23	1000G	95.19	A3M4
984	7.48	1000G	112.49	A3M4
985	8.97	1000G	118.63	A3M4
986	16.45	1000G	149.36	A3M4
987	4.48	1000G	100.2	A3M4
988	5.23	1000G	103.27	A3M4
989	6.73	1000G	109.42	A3M4
990	92.71		1290.89	
991	4.48	1000G	100.2	A3M4
992	11.96	1000G	130.93	A3M4
993	7.48	1000G	112.49	A3M4
994	23.92		343.62	
995	-8.22	1000G	-10.14	A3M4
996	2.99	1000G	9.58	A3M4
997	1.49	1000G	9.25	A3M4
998	3.74	1000G	12.21	A3M4
999	1.49	1000G	9.25	A3M4

	A	B	C	D	E
1000	2600	2603	26CC	3	6
1001	2600	2603	26CC	3	7
1002	2600	2603	26CC	3	8
1003	2600	2603	26CC	3	9
1004	2600	2603	26CC	3	10
1005	2600	2603	26CC	3	11
1006	2600	2603	26CC	3	12
1007					
1008	2600	2603	26CC	3	1
1009	2600	2603	26CC	3	2
1010	2600	2603	26CC	3	3
1011	2600	2603	26CC	3	4
1012	2600	2603	26CC	3	5
1013	2600	2603	26CC	3	6
1014	2600	2603	26CC	3	7
1015	2600	2603	26CC	3	8
1016	2600	2603	26CC	3	9
1017	2600	2603	26CC	3	10
1018	2600	2603	26CC	3	11
1019	2600	2603	26CC	3	12
1020					
1021	2600	2603	26CC	3	1
1022	2600	2603	26CC	3	2
1023	2600	2603	26CC	3	3
1024	2600	2603	26CC	3	4
1025	2600	2603	26CC	3	5
1026	2600	2603	26CC	3	6
1027	2600	2603	26CC	3	7
1028	2600	2603	26CC	3	8
1029	2600	2603	26CC	3	9
1030	2600	2603	26CC	3	10
1031	2600	2603	26CC	3	11
1032	2600	2603	26CC	3	12
1033					
1034	2600	2603	26CC	3	1
1035	2600	2603	26CC	3	2
1036	2600	2603	26CC	3	3
1037	2600	2603	26CC	3	4
1038	2600	2603	26CC	3	5
1039	2600	2603	26CC	3	6
1040	2600	2603	26CC	3	7
1041	2600	2603	26CC	3	8
1042	2600	2603	26CC	3	8
1043	2600	2603	26CC	3	10
1044	2600	2603	26CC	3	10
1045	2600	2603	26CC	3	12
1046					
1047	2600	2603	26CC	3	1
1048	2600	2603	26CC	3	1
1049	2600	2603	26CC	3	2

	F	G	H	I
1000	2004	35586	260024138	Dixie Industries Div
1001	2004	35586	260024138	Dixie Industries Div
1002	2004	35586	260024138	Dixie Industries Div
1003	2004	35586	260024138	Dixie Industries Div
1004	2004	35586	260024138	Dixie Industries Div
1005	2004	35586	260024138	Dixie Industries Div
1006	2004	35586	260024138	Dixie Industries Div
1007	**2004 Total**			
1008	2005	35586	260024138	Dixie Industries Div
1009	2005	35586	260024138	Dixie Industries Div
1010	2005	35586	260024138	Dixie Industries Div
1011	2005	35586	260024138	Dixie Industries Div
1012	2005	35586	260024138	Dixie Industries Div
1013	2005	35586	260024138	Dixie Industries Div
1014	2005	35586	260024138	Dixie Industries Div
1015	2005	35586	260024138	Dixie Industries Div
1016	2005	35586	260024138	Dixie Industries Div
1017	2005	35586	260024138	Dixie Industries Div
1018	2005	35586	260024138	Dixie Industries Div
1019	2005	35586	260024138	Dixie Industries Div
1020	**2005 Total**			
1021	2006	35586	260024138	Dixie Industries Div
1022	2006	35586	260024138	Dixie Industries Div
1023	2006	35586	260024138	Dixie Industries Div
1024	2006	35586	260024138	Dixie Industries Div
1025	2006	35586	260024138	Dixie Industries Div
1026	2006	35586	260024138	Dixie Industries Div
1027	2006	35586	260024138	Dixie Industries Div
1028	2006	35586	260024138	Dixie Industries Div
1029	2006	35586	260024138	Dixie Industries Div
1030	2006	35586	260024138	Dixie Industries Div
1031	2006	35586	260024138	Dixie Industries Div
1032	2006	35586	260024138	Dixie Industries Div
1033	**2006 Total**			
1034	2007	35586	260024138	Dixie Industries Div
1035	2007	35586	260024138	Dixie Industries Div
1036	2007	35586	260024138	Dixie Industries Div
1037	2007	35586	260024138	Dixie Industries Div
1038	2007	35586	260024138	Dixie Industries Div
1039	2007	35586	260024138	Dixie Industries Div
1040	2007	35586	260024138	Dixie Industries Div
1041	2007	35586	260024138	Dixie Industries Div
1042	2007	35586	260024138	Dixie Industries Div
1043	2007	35586	260024138	Dixie Industries Div
1044	2007	35586	260024138	Dixie Industries Div
1045	2007	35586	260024138	Dixie Industries Div
1046	**2007 Total**			
1047	2008	35586	260024138	Dixie Industries Div
1048	2008	35586	260024138	Dixie Industries Div
1049	2008	35586	260024138	Dixie Industries Div

	J	K	L	M
1000	1202 S Greenwood Ave	Chattanooga	TN	374044213
1001	1202 S Greenwood Ave	Chattanooga	TN	374044213
1002	1202 S Greenwood Ave	Chattanooga	TN	374044213
1003	1202 S Greenwood Ave	Chattanooga	TN	374044213
1004	1202 S Greenwood Ave	Chattanooga	TN	374044213
1005	1202 S Greenwood Ave	Chattanooga	TN	374044213
1006	1202 S Greenwood Ave	Chattanooga	TN	374044213
1007				
1008	1202 S Greenwood Ave	Chattanooga	TN	374044213
1009	1202 S Greenwood Ave	Chattanooga	TN	374044213
1010	1202 S Greenwood Ave	Chattanooga	TN	374044213
1011	1202 S Greenwood Ave	Chattanooga	TN	374044213
1012	1202 S Greenwood Ave	Chattanooga	TN	374044213
1013	1202 S Greenwood Ave	Chattanooga	TN	374044213
1014	1202 S Greenwood Ave	Chattanooga	TN	374044213
1015	1202 S Greenwood Ave	Chattanooga	TN	374044213
1016	1202 S Greenwood Ave	Chattanooga	TN	374044213
1017	1202 S Greenwood Ave	Chattanooga	TN	374044213
1018	1202 S Greenwood Ave	Chattanooga	TN	374044213
1019	1202 S Greenwood Ave	Chattanooga	TN	374044213
1020				
1021	1202 S Greenwood Ave	Chattanooga	TN	374044213
1022	1202 S Greenwood Ave	Chattanooga	TN	374044213
1023	1202 S Greenwood Ave	Chattanooga	TN	374044213
1024	1202 S Greenwood Ave	Chattanooga	TN	374044213
1025	1202 S Greenwood Ave	Chattanooga	TN	374044213
1026	1202 S Greenwood Ave	Chattanooga	TN	374044213
1027	1202 S Greenwood Ave	Chattanooga	TN	374044213
1028	1202 S Greenwood Ave	Chattanooga	TN	374044213
1029	1202 S Greenwood Ave	Chattanooga	TN	374044213
1030	1202 S Greenwood Ave	Chattanooga	TN	374044213
1031	1202 S Greenwood Ave	Chattanooga	TN	374044213
1032	1202 S Greenwood Ave	Chattanooga	TN	374044213
1033				
1034	1202 S Greenwood Ave	Chattanooga	TN	374044213
1035	1202 S Greenwood Ave	Chattanooga	TN	374044213
1036	1202 S Greenwood Ave	Chattanooga	TN	374044213
1037	1202 S Greenwood Ave	Chattanooga	TN	374044213
1038	1202 S Greenwood Ave	Chattanooga	TN	374044213
1039	1202 S Greenwood Ave	Chattanooga	TN	374044213
1040	1202 S Greenwood Ave	Chattanooga	TN	374044213
1041	1202 S Greenwood Ave	Chattanooga	TN	374044213
1042	1202 S Greenwood Ave	Chattanooga	TN	374044213
1043	1202 S Greenwood Ave	Chattanooga	TN	374044213
1044	1202 S Greenwood Ave	Chattanooga	TN	374044213
1045	1202 S Greenwood Ave	Chattanooga	TN	374044213
1046				
1047	1202 S Greenwood Ave	Chattanooga	TN	374044213
1048	1202 S Greenwood Ave	Chattanooga	TN	374044213
1049	1202 S Greenwood Ave	Chattanooga	TN	374044213

	N	O	P	Q
1000	2.99	1000G	9.58	A3M4
1001	3.74	1000G	12.21	A3M4
1002	4.48	1000G	14.84	A3M4
1003	2.99	1000G	9.58	A3M4
1004	8.22	1000G	27.98	A3M4
1005	0	1000G	8.92	A3M4
1006	2.24	1000G	9.42	A3M4
1007	26.15		122.68	
1008	6.73	1000G	22.72	A3M4
1009	2.99	1000G	9.58	A3M4
1010	-0.75	1000G	8.76	A3M4
1011	0.74	1000G	9.37	A3M4
1012	1.49	1000G	9.6	A3M4
1013	5.23	1000G	18.14	A3M4
1014	4.48	1000G	15.28	A3M4
1015	20.94	1000G	75.47	A3M4
1016	7.48	1000G	26.33	A3M4
1017	8.22	1000G	29.06	A3M4
1018	2.24	1000G	9.78	A3M4
1019	1.49	1000G	9.6	A3M4
1020	61.28		243.69	
1021	1.49	1000G	9.6	A3M4
1022	2.24	1000G	9.78	A3M4
1023	1.49	1000G	9.6	A3M4
1024	0	1000G	9.26	A3M4
1025	5.98	1000G	20.87	A3M4
1026	6.73	1000G	23.6	A3M4
1027	14.21	1000G	50.9	A3M4
1028	34.41	1000G	124.61	A3M4
1029	28.42	1000G	102.77	A3M4
1030	18.7	1000G	67.28	A3M4
1031	10.47	1000G	37.25	A3M4
1032	7.47	1000G	26.33	A3M4
1033	131.61		491.85	
1034	1.49	1000G	9.6	A3M4
1035	15.7	1000G	56.36	A3M4
1036	4.48	1000G	15.41	A3M4
1037	0	1000G	9.26	A3M4
1038	8.22	1000G	29.06	A3M4
1039	6.73	1000G	24.49	A3M4
1040	3.74	1000G	14.27	A3M4
1041	2.24	1000G	11	A3M4
1042	13.46	1000G	54.22	A3M4
1043	12.71	1000G	51.15	A3M4
1044	15.7	1000G	63.44	A3M4
1045	9.72	1000G	38.86	A3M4
1046	94.19		377.12	
1047	0.74	1000G	10.61	A3M4
1048	2.24	1000G	11	A3M4
1049	0.74	1000G	10.61	A3M4

	A	B	C	D	E
1050					
1051	2600	2603	26CC	3	1
1052	2600	2603	26CC	3	2
1053	2600	2603	26CC	3	3
1054	2600	2603	26CC	3	4
1055	2600	2603	26CC	3	5
1056	2600	2603	26CC	3	6
1057	2600	2603	26CC	3	7
1058	2600	2603	26CC	3	8
1059	2600	2603	26CC	3	9
1060	2600	2603	26CC	3	10
1061	2600	2603	26CC	3	11
1062	2600	2603	26CC	3	12
1063					
1064	2600	2603	26CC	3	1
1065	2600	2603	26CC	3	2
1066	2600	2603	26CC	3	3
1067	2600	2603	26CC	3	4
1068	2600	2603	26CC	3	5
1069	2600	2603	26CC	3	6
1070	2600	2603	26CC	3	7
1071	2600	2603	26CC	3	8
1072	2600	2603	26CC	3	9
1073	2600	2603	26CC	3	10
1074	2600	2603	26CC	3	11
1075	2600	2603	26CC	3	12
1076					
1077	2600	2603	26CC	3	1
1078	2600	2603	26CC	3	2
1079	2600	2603	26CC	3	3
1080	2600	2603	26CC	3	4
1081	2600	2603	26CC	3	5
1082	2600	2603	26CC	3	6
1083	2600	2603	26CC	3	7
1084	2600	2603	26CC	3	8
1085	2600	2603	26CC	3	9
1086	2600	2603	26CC	3	10
1087	2600	2603	26CC	3	11
1088	2600	2603	26CC	3	12
1089					
1090	2600	2603	26CC	3	1
1091	2600	2603	26CC	3	2
1092	2600	2603	26CC	3	3
1093	2600	2603	26CC	3	4
1094	2600	2603	26CC	3	5
1095	2600	2603	26CC	3	6
1096	2600	2603	26CC	3	7
1097	2600	2603	26CC	3	8
1098	2600	2603	26CC	3	8
1099	2600	2603	26CC	3	10

	F	G	H	I
1050	**2008 Total**			
1051	2004	37044	260025126	Happy Bag Company
1052	2004	37044	260025126	Happy Bag Company
1053	2004	37044	260025126	Happy Bag Company
1054	2004	37044	260025126	Happy Bag Company
1055	2004	37044	260025126	Happy Bag Company
1056	2004	37044	260025126	Happy Bag Company
1057	2004	37044	260025126	Happy Bag Company
1058	2004	37044	260025126	Happy Bag Company
1059	2004	37044	260025126	Happy Bag Company
1060	2004	37044	260025126	Happy Bag Company
1061	2004	37044	260025126	Happy Bag Company
1062	2004	37044	260025126	Happy Bag Company
1063	**2004 Total**			
1064	2005	37044	260025126	Happy Bag Company
1065	2005	37044	260025126	Happy Bag Company
1066	2005	37044	260025126	Happy Bag Company
1067	2005	37044	260025126	Happy Bag Company
1068	2005	37044	260025126	Happy Bag Company
1069	2005	37044	260025126	Happy Bag Company
1070	2005	37044	260025126	Happy Bag Company
1071	2005	37044	260025126	Happy Bag Company
1072	2005	37044	260025126	Happy Bag Company
1073	2005	37044	260025126	Happy Bag Company
1074	2005	37044	260025126	Happy Bag Company
1075	2005	37044	260025126	Happy Bag Company
1076	**2005 Total**			
1077	2006	37044	260025126	Happy Bag Company
1078	2006	37044	260025126	Happy Bag Company
1079	2006	37044	260025126	Happy Bag Company
1080	2006	37044	260025126	Happy Bag Company
1081	2006	37044	260025126	Happy Bag Company
1082	2006	37044	260025126	Happy Bag Company
1083	2006	37044	260025126	Happy Bag Company
1084	2006	37044	260025126	Happy Bag Company
1085	2006	37044	260025126	Happy Bag Company
1086	2006	37044	260025126	Happy Bag Company
1087	2006	37044	260025126	Happy Bag Company
1088	2006	37044	260025126	Happy Bag Company
1089	**2006 Total**			
1090	2007	37044	260025126	Happy Bag Company
1091	2007	37044	260025126	Happy Bag Company
1092	2007	37044	260025126	Happy Bag Company
1093	2007	37044	260025126	Happy Bag Company
1094	2007	37044	260025126	Happy Bag Company
1095	2007	37044	260025126	Happy Bag Company
1096	2007	37044	260025126	Happy Bag Company
1097	2007	37044	260025126	Happy Bag Company
1098	2007	37044	260025126	Happy Bag Company
1099	2007	37044	260025126	Happy Bag Company

	J	K	L	M
1050				
1051	1305 E Main St	Chattanooga	TN	374044940
1052	1305 E Main St	Chattanooga	TN	374044940
1053	1305 E Main St	Chattanooga	TN	374044940
1054	1305 E Main St	Chattanooga	TN	374044940
1055	1305 E Main St	Chattanooga	TN	374044940
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1059	1305 E Main St	Chattanooga	TN	374044940
1060	1305 E Main St	Chattanooga	TN	374044940
1061	1305 E Main St	Chattanooga	TN	374044940
1062	1305 E Main St	Chattanooga	TN	374044940
1063				
1064	1305 E Main St	Chattanooga	TN	374044940
1065	1305 E Main St	Chattanooga	TN	374044940
1066	1305 E Main St	Chattanooga	TN	374044940
1067	1305 E Main St	Chattanooga	TN	374044940
1068	1305 E Main St	Chattanooga	TN	374044940
1069	1305 E Main St	Chattanooga	TN	374044940
1070	1305 E Main St	Chattanooga	TN	374044940
1071	1305 E Main St	Chattanooga	TN	374044940
1072	1305 E Main St	Chattanooga	TN	374044940
1073	1305 E Main St	Chattanooga	TN	374044940
1074	1305 E Main St	Chattanooga	TN	374044940
1075	1305 E Main St	Chattanooga	TN	374044940
1076				
1077	1305 E Main St	Chattanooga	TN	374044940
1078	1305 E Main St	Chattanooga	TN	374044940
1079	1305 E Main St	Chattanooga	TN	374044940
1080	1305 E Main St	Chattanooga	TN	374044940
1081	1305 E Main St	Chattanooga	TN	374044940
1082	1305 E Main St	Chattanooga	TN	374044940
1083	1305 E Main St	Chattanooga	TN	374044940
1084	1305 E Main St	Chattanooga	TN	374044940
1085	1305 E Main St	Chattanooga	TN	374044940
1086	1305 E Main St	Chattanooga	TN	374044940
1087	1305 E Main St	Chattanooga	TN	374044940
1088	1305 E Main St	Chattanooga	TN	374044940
1089				
1090	1305 E Main St	Chattanooga	TN	374044940
1091	1305 E Main St	Chattanooga	TN	374044940
1092	1305 E Main St	Chattanooga	TN	374044940
1093	1305 E Main St	Chattanooga	TN	374044940
1094	1305 E Main St	Chattanooga	TN	374044940
1095	1305 E Main St	Chattanooga	TN	374044940
1096	1305 E Main St	Chattanooga	TN	374044940
1097	1305 E Main St	Chattanooga	TN	374044940
1098	1305 E Main St	Chattanooga	TN	374044940
1099	1305 E Main St	Chattanooga	TN	374044940

	N	O	P	Q
1050	3.72		32.22	
1051	1.49	1000G	9.25	A3M4
1052	1.49	1000G	9.25	A3M4
1053	2.24	1000G	9.42	A3M4
1054	1.49	1000G	9.25	A3M4
1055	2.99	1000G	9.58	A3M4
1056	1.49	1000G	9.25	A3M4
1057	3.74	1000G	12.21	A3M4
1058	1.49	1000G	9.25	A3M4
1059	2.24	1000G	9.42	A3M4
1060	2.99	1000G	9.58	A3M4
1061	1.49	1000G	9.25	A3M4
1062	3.74	1000G	12.21	A3M4
1063	26.88		117.92	
1064	1.49	1000G	9.25	A3M4
1065	2.99	1000G	9.58	A3M4
1066	2.99	1000G	9.58	A3M4
1067	1.49	1000G	9.52	A3M4
1068	5.98	1000G	20.87	A3M4
1069	2.99	1000G	9.95	A3M4
1070	2.99	1000G	9.95	A3M4
1071	2.24	1000G	9.78	A3M4
1072	12.71	1000G	45.44	A3M4
1073	2.99	1000G	9.95	A3M4
1074	2.24	1000G	9.78	A3M4
1075	2.24	1000G	9.78	A3M4
1076	43.34		163.43	
1077	1.49	1000G	9.6	A3M4
1078	2.24	1000G	9.78	A3M4
1079	2.24	1000G	9.78	A3M4
1080	2.99	1000G	9.95	A3M4
1081	2.24	1000G	9.78	A3M4
1082	2.24	1000G	9.78	A3M4
1083	2.24	1000G	9.78	A3M4
1084	2.24	1000G	9.78	A3M4
1085	2.24	1000G	9.78	A3M4
1086	2.24	1000G	9.78	A3M4
1087	2.24	1000G	9.78	A3M4
1088	2.24	1000G	9.78	A3M4
1089	26.88		117.35	
1090	2.24	1000G	9.78	A3M4
1091	2.24	1000G	9.78	A3M4
1092	1.49	1000G	9.6	A3M4
1093	1.49	1000G	9.6	A3M4
1094	2.24	1000G	9.78	A3M4
1095	2.24	1000G	10.1	A3M4
1096	2.24	1000G	11	A3M4
1097	1.49	1000G	10.81	A3M4
1098	2.24	1000G	11	A3M4
1099	2.24	1000G	11	A3M4

	A	B	C	D	E
1100	2600	2603	26CC	3	10
1101	2600	2603	26CC	3	11
1102					
1103	2600	2603	26CC	3	1
1104	2600	2603	26CC	3	1
1105	2600	2603	26CC	3	2
1106					
1107	2600	2603	26CC	3	1
1108	2600	2603	26CC	3	2
1109	2600	2603	26CC	3	3
1110	2600	2603	26CC	3	4
1111	2600	2603	26CC	3	5
1112	2600	2603	26CC	3	6
1113	2600	2603	26CC	3	7
1114	2600	2603	26CC	3	8
1115	2600	2603	26CC	3	9
1116	2600	2603	26CC	3	10
1117	2600	2603	26CC	3	11
1118	2600	2603	26CC	3	12
1119					
1120	2600	2603	26CC	3	1
1121	2600	2603	26CC	3	2
1122	2600	2603	26CC	3	3
1123	2600	2603	26CC	3	4
1124	2600	2603	26CC	3	5
1125	2600	2603	26CC	3	6
1126	2600	2603	26CC	3	7
1127	2600	2603	26CC	3	8
1128	2600	2603	26CC	3	9
1129	2600	2603	26CC	3	10
1130	2600	2603	26CC	3	11
1131	2600	2603	26CC	3	12
1132					
1133	2600	2603	26CC	3	1
1134	2600	2603	26CC	3	2
1135	2600	2603	26CC	3	3
1136	2600	2603	26CC	3	4
1137	2600	2603	26CC	3	5
1138	2600	2603	26CC	3	6
1139	2600	2603	26CC	3	7
1140	2600	2603	26CC	3	8
1141	2600	2603	26CC	3	9
1142	2600	2603	26CC	3	10
1143	2600	2603	26CC	3	11
1144	2600	2603	26CC	3	12
1145					
1146	2600	2603	26CC	3	1
1147	2600	2603	26CC	3	2
1148	2600	2603	26CC	3	3
1149	2600	2603	26CC	3	4

	F	G	H	I
1100	2007	37044	260025126	Happy Bag Company
1101	2007	37044	260025126	Happy Bag Company
1102	**2007 Total**			
1103	2008	37044	260025126	Happy Bag Company
1104	2008	37044	260025126	Happy Bag Company
1105	2008	37044	260025126	Happy Bag Company
1106	**2008 Total**			
1107	2004	37178	260025211	Custom Werks
1108	2004	37178	260025211	Custom Werks
1109	2004	37178	260025211	Custom Werks
1110	2004	37178	260025211	Custom Werks
1111	2004	37178	260025211	Custom Werks
1112	2004	37178	260025211	Custom Werks
1113	2004	37178	260025211	Custom Werks
1114	2004	37178	260025211	Custom Werks
1115	2004	37178	260025211	Custom Werks
1116	2004	37178	260025211	Custom Werks
1117	2004	37178	260025211	Custom Werks
1118	2004	37178	260025211	Custom Werks
1119	**2004 Total**			
1120	2005	37178	260025211	Custom Werks
1121	2005	37178	260025211	Custom Werks
1122	2005	37178	260025211	Custom Werks
1123	2005	37178	260025211	Custom Werks
1124	2005	37178	260025211	Custom Werks
1125	2005	37178	260025211	Custom Werks
1126	2005	37178	260025211	Custom Werks
1127	2005	37178	260025211	Custom Werks
1128	2005	37178	260025211	Custom Werks
1129	2005	37178	260025211	Custom Werks
1130	2005	37178	260025211	Custom Werks
1131	2005	37178	260025211	Custom Werks
1132	**2005 Total**			
1133	2006	37178	260025211	Custom Werks
1134	2006	37178	260025211	Custom Werks
1135	2006	37178	260025211	Custom Werks
1136	2006	37178	260025211	Custom Werks
1137	2006	37178	260025211	Custom Werks
1138	2006	37178	260025211	Custom Werks
1139	2006	37178	260025211	Custom Werks
1140	2006	37178	260025211	Custom Werks
1141	2006	37178	260025211	Custom Werks
1142	2006	37178	260025211	Custom Werks
1143	2006	37178	260025211	Custom Werks
1144	2006	37178	260025211	Custom Werks
1145	**2006 Total**			
1146	2007	37178	260025211	Custom Werks
1147	2007	37178	260025211	Custom Werks
1148	2007	37178	260025211	Custom Werks
1149	2007	37178	260025211	Custom Werks

	J	K	L	M
1100	1305 E Main St	Chattanooga	TN	374044940
1101	1305 E Main St	Chattanooga	TN	374044940
1102				
1103	1305 E Main St	Chattanooga	TN	374044940
1104	1305 E Main St	Chattanooga	TN	374044940
1105	1305 E Main St	Chattanooga	TN	374044940
1106				
1107	1220 E Main St	Chattanooga	TN	374081612
1108	1220 E Main St	Chattanooga	TN	374081612
1109	1220 E Main St	Chattanooga	TN	374081612
1110	1220 E Main St	Chattanooga	TN	374081612
1111	1220 E Main St	Chattanooga	TN	374081612
1112	1220 E Main St	Chattanooga	TN	374081612
1113	1220 E Main St	Chattanooga	TN	374081612
1114	1220 E Main St	Chattanooga	TN	374081612
1115	1220 E Main St	Chattanooga	TN	374081612
1116	1220 E Main St	Chattanooga	TN	374081612
1117	1220 E Main St	Chattanooga	TN	374081612
1118	1220 E Main St	Chattanooga	TN	374081612
1119				
1120	1220 E Main St	Chattanooga	TN	374081612
1121	1220 E Main St	Chattanooga	TN	374081612
1122	1220 E Main St	Chattanooga	TN	374081612
1123	1220 E Main St	Chattanooga	TN	374081612
1124	1220 E Main St	Chattanooga	TN	374081612
1125	1220 E Main St	Chattanooga	TN	374081612
1126	1220 E Main St	Chattanooga	TN	374081612
1127	1220 E Main St	Chattanooga	TN	374081612
1128	1220 E Main St	Chattanooga	TN	374081612
1129	1220 E Main St	Chattanooga	TN	374081612
1130	1220 E Main St	Chattanooga	TN	374081612
1131	1220 E Main St	Chattanooga	TN	374081612
1132				
1133	1220 E Main St	Chattanooga	TN	374081612
1134	1220 E Main St	Chattanooga	TN	374081612
1135	1220 E Main St	Chattanooga	TN	374081612
1136	1220 E Main St	Chattanooga	TN	374081612
1137	1220 E Main St	Chattanooga	TN	374081612
1138	1220 E Main St	Chattanooga	TN	374081612
1139	1220 E Main St	Chattanooga	TN	374081612
1140	1220 E Main St	Chattanooga	TN	374081612
1141	1220 E Main St	Chattanooga	TN	374081612
1142	1220 E Main St	Chattanooga	TN	374081612
1143	1220 E Main St	Chattanooga	TN	374081612
1144	1220 E Main St	Chattanooga	TN	374081612
1145				
1146	1220 E Main St	Chattanooga	TN	374081612
1147	1220 E Main St	Chattanooga	TN	374081612
1148	1220 E Main St	Chattanooga	TN	374081612
1149	1220 E Main St	Chattanooga	TN	374081612

	N	O	P	Q
1100	2.99	1000G	11.2	A3M4
1101	2.24	1000G	11	A3M4
1102	25.38		124.65	
1103	1.49	1000G	10.81	A3M4
1104	1.49	1000G	10.81	A3M4
1105	2.24	1000G	11	A3M4
1106	5.22		32.62	
1107	8.97	1000G	46.6	A3M4
1108	10.47	1000G	51.86	A3M4
1109	0.74	1000G	25.09	A3M4
1110	21.69	1000G	91.28	A3M4
1111	9.72	1000G	49.23	A3M4
1112	10.47	1000G	51.86	A3M4
1113	11.22	1000G	54.49	A3M4
1114	11.22	1000G	54.49	A3M4
1115	8.97	1000G	46.6	A3M4
1116	10.47	1000G	51.86	A3M4
1117	10.47	1000G	51.86	A3M4
1118	10.47	1000G	51.86	A3M4
1119	124.88		627.08	
1120	9.72	1000G	49.23	A3M4
1121	9.72	1000G	49.23	A3M4
1122	8.97	1000G	46.6	A3M4
1123	21.69	1000G	94.03	A3M4
1124	4.48	1000G	32.03	A3M4
1125	14.21	1000G	67.52	A3M4
1126	14.96	1000G	70.25	A3M4
1127	12.71	1000G	62.06	A3M4
1128	12.71	1000G	62.06	A3M4
1129	13.46	1000G	64.79	A3M4
1130	13.46	1000G	64.79	A3M4
1131	11.22	1000G	56.6	A3M4
1132	147.31		719.19	
1133	10.47	1000G	55.96	A3M4
1134	7.48	1000G	42.95	A3M4
1135	9.72	1000G	51.14	A3M4
1136	13.45	1000G	64.79	A3M4
1137	14.96	1000G	70.25	A3M4
1138	14.21	1000G	67.52	A3M4
1139	100.23	1000G	311.44	A3M4
1140	11.22	1000G	56.6	A3M4
1141	11.22	1000G	56.6	A3M4
1142	15.7	1000G	72.98	A3M4
1143	14.21	1000G	67.52	A3M4
1144	13.46	1000G	64.79	A3M4
1145	236.33		982.54	
1146	11.22	1000G	56.6	A3M4
1147	10.47	1000G	53.87	A3M4
1148	9.72	1000G	51.14	A3M4
1149	14.96	1000G	70.25	A3M4

	A	B	C	D	E
1150	2600	2603	26CC	3	5
1151	2600	2603	26CC	3	6
1152	2600	2603	26CC	3	7
1153	2600	2603	26CC	3	8
1154	2600	2603	26CC	3	8
1155	2600	2603	26CC	3	10
1156	2600	2603	26CC	3	10
1157	2600	2603	26CC	3	11
1158					
1159	2600	2603	26CC	3	1
1160	2600	2603	26CC	3	1
1161	2600	2603	26CC	3	2
1162					
1163	2600	2603	26CC	3	1
1164	2600	2603	26CC	3	2
1165	2600	2603	26CC	3	3
1166	2600	2603	26CC	3	4
1167	2600	2603	26CC	3	5
1168	2600	2603	26CC	3	6
1169	2600	2603	26CC	3	7
1170	2600	2603	26CC	3	8
1171	2600	2603	26CC	3	9
1172	2600	2603	26CC	3	10
1173	2600	2603	26CC	3	11
1174	2600	2603	26CC	3	12
1175					
1176	2600	2603	26CC	3	1
1177	2600	2603	26CC	3	2
1178	2600	2603	26CC	3	3
1179	2600	2603	26CC	3	4
1180	2600	2603	26CC	3	5
1181	2600	2603	26CC	3	6
1182	2600	2603	26CC	3	7
1183	2600	2603	26CC	3	8
1184	2600	2603	26CC	3	9
1185	2600	2603	26CC	3	10
1186	2600	2603	26CC	3	11
1187	2600	2603	26CC	3	12
1188	2600	2603	26CC	3	12
1189	2600	2603	26CC	3	12
1190					
1191	2600	2603	26CC	3	1
1192	2600	2603	26CC	3	2
1193	2600	2603	26CC	3	3
1194	2600	2603	26CC	3	4
1195	2600	2603	26CC	3	5
1196	2600	2603	26CC	3	6
1197	2600	2603	26CC	3	7
1198	2600	2603	26CC	3	8
1199	2600	2603	26CC	3	9

	F	G	H	I
1150	2007	37178	260025211	Custom Werks
1151	2007	37178	260025211	Custom Werks
1152	2007	37178	260025211	Custom Werks
1153	2007	37178	260025211	Custom Werks
1154	2007	37178	260025211	Custom Werks
1155	2007	37178	260025211	Custom Werks
1156	2007	37178	260025211	Custom Werks
1157	2007	37178	260025211	Custom Werks
1158	**2007 Total**			
1159	2008	37178	260025211	Custom Werks
1160	2008	37178	260025211	Custom Werks
1161	2008	37178	260025211	Custom Werks
1162	**2008 Total**			
1163	2004	37197	260025225	Chatt Boiler & Tank Mfg
1164	2004	37197	260025225	Chatt Boiler & Tank Mfg
1165	2004	37197	260025225	Chatt Boiler & Tank Mfg
1166	2004	37197	260025225	Chatt Boiler & Tank Mfg
1167	2004	37197	260025225	Chatt Boiler & Tank Mfg
1168	2004	37197	260025225	Chatt Boiler & Tank Mfg
1169	2004	37197	260025225	Chatt Boiler & Tank Mfg
1170	2004	37197	260025225	Chatt Boiler & Tank Mfg
1171	2004	37197	260025225	Chatt Boiler & Tank Mfg
1172	2004	37197	260025225	Chatt Boiler & Tank Mfg
1173	2004	37197	260025225	Chatt Boiler & Tank Mfg
1174	2004	37197	260025225	Chatt Boiler & Tank Mfg
1175	**2004 Total**			
1176	2005	37197	260025225	Chatt Boiler & Tank Mfg
1177	2005	37197	260025225	Chatt Boiler & Tank Mfg
1178	2005	37197	260025225	Chatt Boiler & Tank Mfg
1179	2005	37197	260025225	Chatt Boiler & Tank Mfg
1180	2005	37197	260025225	Chatt Boiler & Tank Mfg
1181	2005	37197	260025225	Chatt Boiler & Tank Mfg
1182	2005	37197	260025225	Chatt Boiler & Tank Mfg
1183	2005	37197	260025225	Chatt Boiler & Tank Mfg
1184	2005	37197	260025225	Chatt Boiler & Tank Mfg
1185	2005	37197	260025225	Chatt Boiler & Tank Mfg
1186	2005	37197	260025225	Chatt Boiler & Tank Mfg
1187	2005	37197	260025225	Chatt Boiler & Tank Mfg
1188	2005	37197	260025225	Chatt Boiler & Tank Mfg
1189	2005	37197	260025225	Chatt Boiler & Tank Mfg
1190	**2005 Total**			
1191	2006	37197	260025225	Chatt Boiler & Tank Mfg
1192	2006	37197	260025225	Chatt Boiler & Tank Mfg
1193	2006	37197	260025225	Chatt Boiler & Tank Mfg
1194	2006	37197	260025225	Chatt Boiler & Tank Mfg
1195	2006	37197	260025225	Chatt Boiler & Tank Mfg
1196	2006	37197	260025225	Chatt Boiler & Tank Mfg
1197	2006	37197	260025225	Chatt Boiler & Tank Mfg
1198	2006	37197	260025225	Chatt Boiler & Tank Mfg
1199	2006	37197	260025225	Chatt Boiler & Tank Mfg

	J	K	L	M
1150	1220 E Main St	Chattanooga	TN	374081612
1151	1220 E Main St	Chattanooga	TN	374081612
1152	1220 E Main St	Chattanooga	TN	374081612
1153	1220 E Main St	Chattanooga	TN	374081612
1154	1220 E Main St	Chattanooga	TN	374081612
1155	1220 E Main St	Chattanooga	TN	374081612
1156	1220 E Main St	Chattanooga	TN	374081612
1157	1220 E Main St	Chattanooga	TN	374081612
1158				
1159	1220 E Main St	Chattanooga	TN	374081612
1160	1220 E Main St	Chattanooga	TN	374081612
1161	1220 E Main St	Chattanooga	TN	374081612
1162				
1163	1030 E Main St	Chattanooga	TN	374081540
1164	1030 E Main St	Chattanooga	TN	374081540
1165	1030 E Main St	Chattanooga	TN	374081540
1166	1030 E Main St	Chattanooga	TN	374081540
1167	1030 E Main St	Chattanooga	TN	374081540
1168	1030 E Main St	Chattanooga	TN	374081540
1169	1030 E Main St	Chattanooga	TN	374081540
1170	1030 E Main St	Chattanooga	TN	374081540
1171	1030 E Main St	Chattanooga	TN	374081540
1172	1030 E Main St	Chattanooga	TN	374081540
1173	1030 E Main St	Chattanooga	TN	374081540
1174	1030 E Main St	Chattanooga	TN	374081540
1175				
1176	1030 E Main St	Chattanooga	TN	374081540
1177	1030 E Main St	Chattanooga	TN	374081540
1178	1030 E Main St	Chattanooga	TN	374081540
1179	1030 E Main St	Chattanooga	TN	374081540
1180	1030 E Main St	Chattanooga	TN	374081540
1181	1030 E Main St	Chattanooga	TN	374081540
1182	1030 E Main St	Chattanooga	TN	374081540
1183	1030 E Main St	Chattanooga	TN	374081540
1184	1030 E Main St	Chattanooga	TN	374081540
1185	1030 E Main St	Chattanooga	TN	374081540
1186	1030 E Main St	Chattanooga	TN	374081540
1187	1030 E Main St	Chattanooga	TN	374081540
1188	1030 E Main St	Chattanooga	TN	374081540
1189	1030 E Main St	Chattanooga	TN	374081540
1190				
1191	1030 E Main St	Chattanooga	TN	374081540
1192	1030 E Main St	Chattanooga	TN	374081540
1193	1030 E Main St	Chattanooga	TN	374081540
1194	1030 E Main St	Chattanooga	TN	374081540
1195	1030 E Main St	Chattanooga	TN	374081540
1196	1030 E Main St	Chattanooga	TN	374081540
1197	1030 E Main St	Chattanooga	TN	374081540
1198	1030 E Main St	Chattanooga	TN	374081540
1199	1030 E Main St	Chattanooga	TN	374081540

	N	O	P	Q
1150	17.95	1000G	81.17	A3M4
1151	15.7	1000G	75.28	A3M4
1152	15.7	1000G	82.16	A3M4
1153	12.71	1000G	69.87	A3M4
1154	14.21	1000G	76.02	A3M4
1155	16.45	1000G	85.23	A3M4
1156	16.45	1000G	85.23	A3M4
1157	19.44	1000G	97.53	A3M4
1158	174.98		884.35	
1159	12.71	1000G	69.87	A3M4
1160	18.7	1000G	94.45	A3M4
1161	14.21	1000G	76.02	A3M4
1162	45.62		240.34	
1163	13.46	1000G	117.22	A3M4
1164	53.85	1000G	252.3	A3M4
1165	56.1	1000G	257.25	A3M4
1166	36.65	1000G	198.69	A3M4
1167	17.2	1000G	130.36	A3M4
1168	1.48	1000G	80.1	A3M4
1169	0.74	1000G	79.94	A3M4
1170	2.24	1000G	80.27	A3M4
1171	0.74	1000G	79.94	A3M4
1172	0.74	1000G	79.94	A3M4
1173	1.49	1000G	80.1	A3M4
1174	3.74	1000G	83.06	A3M4
1175	188.43		1519.17	
1176	0.74	1000G	79.94	A3M4
1177	2.99	1000G	80.43	A3M4
1178	5.23	1000G	88.31	A3M4
1179	37.4	1000G	207.35	A3M4
1180	-30.67	1000G	-38.25	A3M4
1181	3.74	1000G	86.27	A3M4
1182	9.72	1000G	108.11	A3M4
1183	5.23	1000G	91.73	A3M4
1184	4.48	1000G	89	A3M4
1185	5.23	1000G	91.73	A3M4
1186	3.74	1000G	86.27	A3M4
1187	5.98	1000G	94.46	A3M4
1188	-571.51	1000G	-1334.55	A3M4
1189	571.51	1000G	1334.55	A3M4
1190	53.81		1065.35	
1191	30.66	1000G	184.55	A3M4
1192	127.16	1000G	430.15	A3M4
1193	50.86	1000G	255.22	A3M4
1194	49.37	1000G	251.79	A3M4
1195	112.95	1000G	397.56	A3M4
1196	37.4	1000G	209.12	A3M4
1197	42.63	1000G	228.23	A3M4
1198	42.63	1000G	228.23	A3M4
1199	39.64	1000G	217.31	A3M4

	A	B	C	D	E
1200	2600	2603	26CC	3	10
1201	2600	2603	26CC	3	11
1202	2600	2603	26CC	3	12
1203					
1204	2600	2603	26CC	3	1
1205	2600	2603	26CC	3	2
1206	2600	2603	26CC	3	3
1207	2600	2603	26CC	3	4
1208	2600	2603	26CC	3	5
1209	2600	2603	26CC	3	6
1210	2600	2603	26CC	3	7
1211	2600	2603	26CC	3	8
1212	2600	2603	26CC	3	8
1213	2600	2603	26CC	3	10
1214	2600	2603	26CC	3	10
1215	2600	2603	26CC	3	11
1216					
1217	2600	2603	26CC	3	1
1218	2600	2603	26CC	3	1
1219	2600	2603	26CC	3	2
1220					
1221	2600	2603	26CC	3	1
1222	2600	2603	26CC	3	2
1223	2600	2603	26CC	3	3
1224	2600	2603	26CC	3	4
1225	2600	2603	26CC	3	5
1226	2600	2603	26CC	3	6
1227	2600	2603	26CC	3	7
1228	2600	2603	26CC	3	8
1229	2600	2603	26CC	3	9
1230	2600	2603	26CC	3	10
1231	2600	2603	26CC	3	11
1232	2600	2603	26CC	3	12
1233					
1234	2600	2603	26CC	3	1
1235	2600	2603	26CC	3	2
1236	2600	2603	26CC	3	3
1237	2600	2603	26CC	3	4
1238	2600	2603	26CC	3	5
1239	2600	2603	26CC	3	6
1240	2600	2603	26CC	3	7
1241	2600	2603	26CC	3	8
1242	2600	2603	26CC	3	9
1243	2600	2603	26CC	3	10
1244	2600	2603	26CC	3	11
1245	2600	2603	26CC	3	12
1246					
1247	2600	2603	26CC	3	1
1248	2600	2603	26CC	3	2
1249	2600	2603	26CC	3	3

	F	G	H	I
1200	2006	37197	260025225	Chatt Boiler & Tank Mfg
1201	2006	37197	260025225	Chatt Boiler & Tank Mfg
1202	2006	37197	260025225	Chatt Boiler & Tank Mfg
1203	**2006 Total**			
1204	2007	37197	260025225	Chatt Boiler & Tank Mfg
1205	2007	37197	260025225	Chatt Boiler & Tank Mfg
1206	2007	37197	260025225	Chatt Boiler & Tank Mfg
1207	2007	37197	260025225	Chatt Boiler & Tank Mfg
1208	2007	37197	260025225	Chatt Boiler & Tank Mfg
1209	2007	37197	260025225	Chatt Boiler & Tank Mfg
1210	2007	37197	260025225	Chatt Boiler & Tank Mfg
1211	2007	37197	260025225	Chatt Boiler & Tank Mfg
1212	2007	37197	260025225	Chatt Boiler & Tank Mfg
1213	2007	37197	260025225	Chatt Boiler & Tank Mfg
1214	2007	37197	260025225	Chatt Boiler & Tank Mfg
1215	2007	37197	260025225	Chatt Boiler & Tank Mfg
1216	**2007 Total**			
1217	2008	37197	260025225	Chatt Boiler & Tank Mfg
1218	2008	37197	260025225	Chatt Boiler & Tank Mfg
1219	2008	37197	260025225	Chatt Boiler & Tank Mfg
1220	**2008 Total**			
1221	2004	37412	260025434	Architectural Door & Hdwr
1222	2004	37412	260025434	Architectural Door & Hdwr
1223	2004	37412	260025434	Architectural Door & Hdwr
1224	2004	37412	260025434	Architectural Door & Hdwr
1225	2004	37412	260025434	Architectural Door & Hdwr
1226	2004	37412	260025434	Architectural Door & Hdwr
1227	2004	37412	260025434	Architectural Door & Hdwr
1228	2004	37412	260025434	Architectural Door & Hdwr
1229	2004	37412	260025434	Architectural Door & Hdwr
1230	2004	37412	260025434	Architectural Door & Hdwr
1231	2004	37412	260025434	Architectural Door & Hdwr
1232	2004	37412	260025434	Architectural Door & Hdwr
1233	**2004 Total**			
1234	2005	37412	260025434	Architectural Door & Hdwr
1235	2005	37412	260025434	Architectural Door & Hdwr
1236	2005	37412	260025434	Architectural Door & Hdwr
1237	2005	37412	260025434	Architectural Door & Hdwr
1238	2005	37412	260025434	Architectural Door & Hdwr
1239	2005	37412	260025434	Architectural Door & Hdwr
1240	2005	37412	260025434	Architectural Door & Hdwr
1241	2005	37412	260025434	Architectural Door & Hdwr
1242	2005	37412	260025434	Architectural Door & Hdwr
1243	2005	37412	260025434	Architectural Door & Hdwr
1244	2005	37412	260025434	Architectural Door & Hdwr
1245	2005	37412	260025434	Architectural Door & Hdwr
1246	**2005 Total**			
1247	2006	37412	260025434	Architectural Door & Hdwr
1248	2006	37412	260025434	Architectural Door & Hdwr
1249	2006	37412	260025434	Architectural Door & Hdwr

	J	K	L	M
1200	1030 E Main St	Chattanooga	TN	374081540
1201	1030 E Main St	Chattanooga	TN	374081540
1202	1030 E Main St	Chattanooga	TN	374081540
1203				
1204	1030 E Main St	Chattanooga	TN	374081540
1205	1030 E Main St	Chattanooga	TN	374081540
1206	1030 E Main St	Chattanooga	TN	374081540
1207	1030 E Main St	Chattanooga	TN	374081540
1208	1030 E Main St	Chattanooga	TN	374081540
1209	1030 E Main St	Chattanooga	TN	374081540
1210	1030 E Main St	Chattanooga	TN	374081540
1211	1030 E Main St	Chattanooga	TN	374081540
1212	1030 E Main St	Chattanooga	TN	374081540
1213	1030 E Main St	Chattanooga	TN	374081540
1214	1030 E Main St	Chattanooga	TN	374081540
1215	1030 E Main St	Chattanooga	TN	374081540
1216				
1217	1030 E Main St	Chattanooga	TN	374081540
1218	1030 E Main St	Chattanooga	TN	374081540
1219	1030 E Main St	Chattanooga	TN	374081540
1220				
1221	917 E 16th St	Chattanooga	TN	374082202
1222	917 E 16th St	Chattanooga	TN	374082202
1223	917 E 16th St	Chattanooga	TN	374082202
1224	917 E 16th St	Chattanooga	TN	374082202
1225	917 E 16th St	Chattanooga	TN	374082202
1226	917 E 16th St	Chattanooga	TN	374082202
1227	917 E 16th St	Chattanooga	TN	374082202
1228	917 E 16th St	Chattanooga	TN	374082202
1229	917 E 16th St	Chattanooga	TN	374082202
1230	917 E 16th St	Chattanooga	TN	374082202
1231	917 E 16th St	Chattanooga	TN	374082202
1232	917 E 16th St	Chattanooga	TN	374082202
1233				
1234	917 E 16th St	Chattanooga	TN	374082202
1235	917 E 16th St	Chattanooga	TN	374082202
1236	917 E 16th St	Chattanooga	TN	374082202
1237	917 E 16th St	Chattanooga	TN	374082202
1238	917 E 16th St	Chattanooga	TN	374082202
1239	917 E 16th St	Chattanooga	TN	374082202
1240	917 E 16th St	Chattanooga	TN	374082202
1241	917 E 16th St	Chattanooga	TN	374082202
1242	917 E 16th St	Chattanooga	TN	374082202
1243	917 E 16th St	Chattanooga	TN	374082202
1244	917 E 16th St	Chattanooga	TN	374082202
1245	917 E 16th St	Chattanooga	TN	374082202
1246				
1247	917 E 16th St	Chattanooga	TN	374082202
1248	917 E 16th St	Chattanooga	TN	374082202
1249	917 E 16th St	Chattanooga	TN	374082202

	N	O	P	Q
1200	41.89	1000G	225.5	A3M4
1201	42.63	1000G	228.23	A3M4
1202	35.9	1000G	203.66	A3M4
1203	653.72		3059.55	
1204	32.91	1000G	192.74	A3M4
1205	35.15	1000G	200.93	A3M4
1206	32.91	1000G	192.74	A3M4
1207	32.16	1000G	190.01	A3M4
1208	30.67	1000G	184.55	A3M4
1209	62.08	1000G	289.77	A3M4
1210	75.55	1000G	351.02	A3M4
1211	66.57	1000G	327.84	A3M4
1212	67.32	1000G	329.78	A3M4
1213	73.3	1000G	345.22	A3M4
1214	80.78	1000G	364.53	A3M4
1215	42.63	1000G	256.92	A3M4
1216	632.03		3226.05	
1217	41.89	1000G	253.85	A3M4
1218	47.87	1000G	278.43	A3M4
1219	76.3	1000G	352.95	A3M4
1220	166.06		885.23	
1221	0.74	1000G	9.09	A3M4
1222	1.49	1000G	9.25	A3M4
1223	1.49	1000G	9.25	A3M4
1224	1.49	1000G	9.25	A3M4
1225	1.49	1000G	9.25	A3M4
1226	2.24	1000G	9.42	A3M4
1227	0.74	1000G	9.09	A3M4
1228	0.74	1000G	9.09	A3M4
1229	1.49	1000G	9.25	A3M4
1230	2.24	1000G	9.42	A3M4
1231	0.74	1000G	9.09	A3M4
1232	1.49	1000G	9.25	A3M4
1233	16.38		110.7	
1234	0.74	1000G	9.09	A3M4
1235	0.74	1000G	9.09	A3M4
1236	0.74	1000G	9.09	A3M4
1237	1.49	1000G	9.52	A3M4
1238	0.74	1000G	9.43	A3M4
1239	0.74	1000G	9.43	A3M4
1240	0.74	1000G	9.43	A3M4
1241	0.74	1000G	9.43	A3M4
1242	0.74	1000G	9.43	A3M4
1243	0	1000G	9.26	A3M4
1244	5.98	1000G	20.87	A3M4
1245	14.21	1000G	50.9	A3M4
1246	27.6		164.97	
1247	0.74	1000G	10.66	A3M4
1248	0.74	1000G	9.43	A3M4
1249	0	1000G	9.26	A3M4

	A	B	C	D	E
1250	2600	2603	26CC	3	4
1251	2600	2603	26CC	3	5
1252	2600	2603	26CC	3	6
1253	2600	2603	26CC	3	7
1254	2600	2603	26CC	3	8
1255	2600	2603	26CC	3	9
1256	2600	2603	26CC	3	10
1257	2600	2603	26CC	3	11
1258	2600	2603	26CC	3	12
1259					
1260	2600	2603	26CC	3	1
1261	2600	2603	26CC	3	1
1262					
1263	2600	2603	26CC	3	1
1264	2600	2603	26CC	3	2
1265	2600	2603	26CC	3	3
1266	2600	2603	26CC	3	4
1267	2600	2603	26CC	3	5
1268	2600	2603	26CC	3	6
1269	2600	2603	26CC	3	7
1270	2600	2603	26CC	3	8
1271	2600	2603	26CC	3	9
1272	2600	2603	26CC	3	10
1273	2600	2603	26CC	3	11
1274	2600	2603	26CC	3	12
1275					
1276	2600	2603	26CC	3	1
1277	2600	2603	26CC	3	2
1278	2600	2603	26CC	3	3
1279	2600	2603	26CC	3	4
1280	2600	2603	26CC	3	5
1281	2600	2603	26CC	3	6
1282	2600	2603	26CC	3	7
1283	2600	2603	26CC	3	8
1284	2600	2603	26CC	3	9
1285	2600	2603	26CC	3	10
1286	2600	2603	26CC	3	11
1287	2600	2603	26CC	3	12
1288					
1289	2600	2603	26CC	3	1
1290	2600	2603	26CC	3	2
1291	2600	2603	26CC	3	3
1292	2600	2603	26CC	3	4
1293	2600	2603	26CC	3	5
1294	2600	2603	26CC	3	6
1295	2600	2603	26CC	3	7
1296	2600	2603	26CC	3	8
1297	2600	2603	26CC	3	9
1298	2600	2603	26CC	3	10
1299	2600	2603	26CC	3	11

	F	G	H	I
1250	2006	37412	260025434	Architectural Door & Hdwr
1251	2006	37412	260025434	Architectural Door & Hdwr
1252	2006	37412	260025434	Architectural Door & Hdwr
1253	2006	37412	260025434	Architectural Door & Hdwr
1254	2006	37412	260025434	Architectural Door & Hdwr
1255	2006	37412	260025434	Architectural Door & Hdwr
1256	2006	37412	260025434	Architectural Door & Hdwr
1257	2006	37412	260025434	Architectural Door & Hdwr
1258	2006	37412	260025434	Architectural Door & Hdwr
1259	**2006 Total**			
1260	2007	37412	260025434	Architectural Door & Hdwr
1261	2007	37412	260025434	Architectural Door & Hdwr
1262	**2007 Total**			
1263	2004	37421	260025442	H & H BROWN
1264	2004	37421	260025442	H & H BROWN
1265	2004	37421	260025442	H & H BROWN
1266	2004	37421	260025442	H & H BROWN
1267	2004	37421	260025442	H & H BROWN
1268	2004	37421	260025442	H & H BROWN
1269	2004	37421	260025442	H & H BROWN
1270	2004	37421	260025442	H & H BROWN
1271	2004	37421	260025442	H & H BROWN
1272	2004	37421	260025442	H & H BROWN
1273	2004	37421	260025442	H & H BROWN
1274	2004	37421	260025442	H & H BROWN
1275	**2004 Total**			
1276	2005	37421	260025442	H & H BROWN
1277	2005	37421	260025442	H & H BROWN
1278	2005	37421	260025442	H & H BROWN
1279	2005	37421	260025442	H & H BROWN
1280	2005	37421	260025442	H & H BROWN
1281	2005	37421	260025442	H & H BROWN
1282	2005	37421	260025442	H & H BROWN
1283	2005	37421	260025442	H & H BROWN
1284	2005	37421	260025442	H & H BROWN
1285	2005	37421	260025442	H & H BROWN
1286	2005	37421	260025442	H & H BROWN
1287	2005	37421	260025442	H & H BROWN
1288	**2005 Total**			
1289	2006	37421	260025442	H & H BROWN
1290	2006	37421	260025442	H & H BROWN
1291	2006	37421	260025442	H & H BROWN
1292	2006	37421	260025442	H & H BROWN
1293	2006	37421	260025442	H & H BROWN
1294	2006	37421	260025442	H & H BROWN
1295	2006	37421	260025442	H & H BROWN
1296	2006	37421	260025442	H & H BROWN
1297	2006	37421	260025442	H & H BROWN
1298	2006	37421	260025442	H & H BROWN
1299	2006	37421	260025442	H & H BROWN

	J	K	L	M
1250	917 E 16th St	Chattanooga	TN	374082202
1251	917 E 16th St	Chattanooga	TN	374082202
1252	917 E 16th St	Chattanooga	TN	374082202
1253	917 E 16th St	Chattanooga	TN	374082202
1254	917 E 16th St	Chattanooga	TN	374082202
1255	917 E 16th St	Chattanooga	TN	374082202
1256	917 E 16th St	Chattanooga	TN	374082202
1257	917 E 16th St	Chattanooga	TN	374082202
1258	917 E 16th St	Chattanooga	TN	374082202
1259				
1260	917 E 16th St	Chattanooga	TN	374082202
1261	917 E 16th St	Chattanooga	TN	374082202
1262				
1263	1803 POLK ST	CHATTANOOGA	TN	374082319
1264	1803 POLK ST	CHATTANOOGA	TN	374082319
1265	1803 POLK ST	CHATTANOOGA	TN	374082319
1266	1803 POLK ST	CHATTANOOGA	TN	374082319
1267	1803 POLK ST	CHATTANOOGA	TN	374082319
1268	1803 POLK ST	CHATTANOOGA	TN	374082319
1269	1803 POLK ST	CHATTANOOGA	TN	374082319
1270	1803 POLK ST	CHATTANOOGA	TN	374082319
1271	1803 POLK ST	CHATTANOOGA	TN	374082319
1272	1803 POLK ST	CHATTANOOGA	TN	374082319
1273	1803 POLK ST	CHATTANOOGA	TN	374082319
1274	1803 POLK ST	CHATTANOOGA	TN	374082319
1275				
1276	1803 POLK ST	CHATTANOOGA	TN	374082319
1277	1803 POLK ST	CHATTANOOGA	TN	374082319
1278	1803 POLK ST	CHATTANOOGA	TN	374082319
1279	1803 POLK ST	CHATTANOOGA	TN	374082319
1280	1803 POLK ST	CHATTANOOGA	TN	374082319
1281	1803 POLK ST	CHATTANOOGA	TN	374082319
1282	1803 POLK ST	CHATTANOOGA	TN	374082319
1283	1803 POLK ST	CHATTANOOGA	TN	374082319
1284	1803 POLK ST	CHATTANOOGA	TN	374082319
1285	1803 POLK ST	CHATTANOOGA	TN	374082319
1286	1803 POLK ST	CHATTANOOGA	TN	374082319
1287	1803 POLK ST	CHATTANOOGA	TN	374082319
1288				
1289	1803 POLK ST	CHATTANOOGA	TN	374082319
1290	1803 POLK ST	CHATTANOOGA	TN	374082319
1291	1803 POLK ST	CHATTANOOGA	TN	374082319
1292	1803 POLK ST	CHATTANOOGA	TN	374082319
1293	1803 POLK ST	CHATTANOOGA	TN	374082319
1294	1803 POLK ST	CHATTANOOGA	TN	374082319
1295	1803 POLK ST	CHATTANOOGA	TN	374082319
1296	1803 POLK ST	CHATTANOOGA	TN	374082319
1297	1803 POLK ST	CHATTANOOGA	TN	374082319
1298	1803 POLK ST	CHATTANOOGA	TN	374082319
1299	1803 POLK ST	CHATTANOOGA	TN	374082319

	N	O	P	Q
1250	0.74	1000G	9.43	A3M4
1251	0.74	1000G	9.43	A3M4
1252	0	1000G	9.26	A3M4
1253	0.74	1000G	9.43	A3M4
1254	0	1000G	9.26	A3M4
1255	0	1000G	9.26	A3M4
1256	0	1000G	9.26	A3M4
1257	0	1000G	9.26	A3M4
1258	0	1000G	9.26	A3M4
1259	3.7		113.2	
1260	0	1000G	9.26	A3M4
1261	0	1000G	9.26	A3M4
1262	0		18.52	
1263	36.65	1000G	127.84	A3M4
1264	3.74	1000G	12.21	A3M4
1265	3.74	1000G	12.21	A3M4
1266	5.98	1000G	20.09	A3M4
1267	5.23	1000G	17.46	A3M4
1268	5.23	1000G	17.46	A3M4
1269	5.98	1000G	20.09	A3M4
1270	6.73	1000G	22.72	A3M4
1271	5.23	1000G	17.46	A3M4
1272	5.23	1000G	17.46	A3M4
1273	4.48	1000G	14.84	A3M4
1274	-0.75	1000G	3.83	A3M4
1275	87.47		303.67	
1276	2.24	1000G	9.42	A3M4
1277	3.74	1000G	12.21	A3M4
1278	4.48	1000G	15.14	A3M4
1279	2.24	1000G	9.78	A3M4
1280	2.24	1000G	9.78	A3M4
1281	1.49	1000G	9.6	A3M4
1282	2.24	1000G	9.78	A3M4
1283	2.99	1000G	9.95	A3M4
1284	3.74	1000G	12.68	A3M4
1285	2.99	1000G	9.95	A3M4
1286	4.48	1000G	15.41	A3M4
1287	2.99	1000G	9.95	A3M4
1288	35.86		133.65	
1289	2.99	1000G	9.95	A3M4
1290	8.22	1000G	29.06	A3M4
1291	4.48	1000G	15.41	A3M4
1292	2.99	1000G	9.95	A3M4
1293	2.99	1000G	9.95	A3M4
1294	3.74	1000G	12.68	A3M4
1295	3.74	1000G	12.68	A3M4
1296	5.23	1000G	18.14	A3M4
1297	5.23	1000G	18.14	A3M4
1298	4.48	1000G	15.41	A3M4
1299	3.74	1000G	12.68	A3M4

	A	B	C	D	E
1300	2600	2603	26CC	3	12
1301					
1302	2600	2603	26CC	3	1
1303	2600	2603	26CC	3	2
1304	2600	2603	26CC	3	3
1305	2600	2603	26CC	3	4
1306	2600	2603	26CC	3	5
1307	2600	2603	26CC	3	6
1308	2600	2603	26CC	3	7
1309	2600	2603	26CC	3	8
1310	2600	2603	26CC	3	9
1311	2600	2603	26CC	3	10
1312	2600	2603	26CC	3	11
1313	2600	2603	26CC	3	12
1314					
1315	2600	2603	26CC	3	1
1316	2600	2603	26CC	3	2
1317	2600	2603	26CC	3	3
1318					
1319	2600	2603	26CC	3	1
1320	2600	2603	26CC	3	2
1321	2600	2603	26CC	3	3
1322	2600	2603	26CC	3	4
1323	2600	2603	26CC	3	5
1324	2600	2603	26CC	3	6
1325	2600	2603	26CC	3	7
1326	2600	2603	26CC	3	8
1327	2600	2603	26CC	3	9
1328	2600	2603	26CC	3	10
1329	2600	2603	26CC	3	11
1330	2600	2603	26CC	3	12
1331					
1332	2600	2603	26CC	3	1
1333	2600	2603	26CC	3	2
1334	2600	2603	26CC	3	3
1335	2600	2603	26CC	3	4
1336	2600	2603	26CC	3	5
1337					
1338	2600	2603	26CC	3	1
1339	2600	2603	26CC	3	2
1340	2600	2603	26CC	3	3
1341	2600	2603	26CC	3	4
1342	2600	2603	26CC	3	5
1343	2600	2603	26CC	3	6
1344	2600	2603	26CC	3	7
1345	2600	2603	26CC	3	8
1346	2600	2603	26CC	3	9
1347	2600	2603	26CC	3	10
1348	2600	2603	26CC	3	11
1349	2600	2603	26CC	3	12

	F	G	H	I
1300	2006	37421	260025442	H & H BROWN
1301	**2006 Total**			
1302	2007	37421	260025442	H & H BROWN
1303	2007	37421	260025442	H & H BROWN
1304	2007	37421	260025442	H & H BROWN
1305	2007	37421	260025442	H & H BROWN
1306	2007	37421	260025442	H & H BROWN
1307	2007	37421	260025442	H & H BROWN
1308	2007	37421	260025442	H & H BROWN
1309	2007	37421	260025442	H & H BROWN
1310	2007	37421	260025442	H & H BROWN
1311	2007	37421	260025442	H & H BROWN
1312	2007	37421	260025442	H & H BROWN
1313	2007	37421	260025442	H & H BROWN
1314	**2007 Total**			
1315	2008	37421	260025442	H & H BROWN
1316	2008	37421	260025442	H & H BROWN
1317	2008	37421	260025442	H & H BROWN
1318	**2008 Total**			
1319	2004	37735	260025677	Koch Foods LLC
1320	2004	37735	260025677	Koch Foods LLC
1321	2004	37735	260025677	Koch Foods LLC
1322	2004	37735	260025677	Koch Foods LLC
1323	2004	37735	260025677	Koch Foods LLC
1324	2004	37735	260025677	Koch Foods LLC
1325	2004	37735	260025677	Koch Foods LLC
1326	2004	37735	260025677	Koch Foods LLC
1327	2004	37735	260025677	Koch Foods LLC
1328	2004	37735	260025677	Koch Foods LLC
1329	2004	37735	260025677	Koch Foods LLC
1330	2004	37735	260025677	Koch Foods LLC
1331	**2004 Total**			
1332	2005	37735	260025677	Koch Foods LLC
1333	2005	37735	260025677	Koch Foods LLC
1334	2005	37735	260025677	Koch Foods LLC
1335	2005	37735	260025677	Koch Foods LLC
1336	2005	37735	260025677	Koch Foods LLC
1337	**2005 Total**			
1338	2004	37877	260025808	A D M MILLING
1339	2004	37877	260025808	A D M MILLING
1340	2004	37877	260025808	A D M MILLING
1341	2004	37877	260025808	A D M MILLING
1342	2004	37877	260025808	A D M MILLING
1343	2004	37877	260025808	A D M MILLING
1344	2004	37877	260025808	A D M MILLING
1345	2004	37877	260025808	A D M MILLING
1346	2004	37877	260025808	A D M MILLING
1347	2004	37877	260025808	A D M MILLING
1348	2004	37877	260025808	A D M MILLING
1349	2004	37877	260025808	A D M MILLING

	J	K	L	M
1300	1803 POLK ST	CHATTANOOGA	TN	374082319
1301				
1302	1803 POLK ST	CHATTANOOGA	TN	374082319
1303	1803 POLK ST	CHATTANOOGA	TN	374082319
1304	1803 POLK ST	CHATTANOOGA	TN	374082319
1305	1803 POLK ST	CHATTANOOGA	TN	374082319
1306	1803 POLK ST	CHATTANOOGA	TN	374082319
1307	1803 POLK ST	CHATTANOOGA	TN	374082319
1308	1803 POLK ST	CHATTANOOGA	TN	374082319
1309	1803 POLK ST	CHATTANOOGA	TN	374082319
1310	1803 POLK ST	CHATTANOOGA	TN	374082319
1311	1803 POLK ST	CHATTANOOGA	TN	374082319
1312	1803 POLK ST	CHATTANOOGA	TN	374082319
1313	1803 POLK ST	CHATTANOOGA	TN	374082319
1314				
1315	1803 POLK ST	CHATTANOOGA	TN	374082319
1316	1803 POLK ST	CHATTANOOGA	TN	374082319
1317	1803 POLK ST	CHATTANOOGA	TN	374082319
1318				
1319	1835 1/2 Kerr St	Chattanooga	TN	37408
1320	1835 1/2 Kerr St	Chattanooga	TN	37408
1321	1835 1/2 Kerr St	Chattanooga	TN	37408
1322	1835 1/2 Kerr St	Chattanooga	TN	37408
1323	1835 1/2 Kerr St	Chattanooga	TN	37408
1324	1835 1/2 Kerr St	Chattanooga	TN	37408
1325	1835 1/2 Kerr St	Chattanooga	TN	37408
1326	1835 1/2 Kerr St	Chattanooga	TN	37408
1327	1835 1/2 Kerr St	Chattanooga	TN	37408
1328	1835 1/2 Kerr St	Chattanooga	TN	37408
1329	1835 1/2 Kerr St	Chattanooga	TN	37408
1330	1835 1/2 Kerr St	Chattanooga	TN	37408
1331				
1332	1835 1/2 Kerr St	Chattanooga	TN	37408
1333	1835 1/2 Kerr St	Chattanooga	TN	37408
1334	1835 1/2 Kerr St	Chattanooga	TN	37408
1335	1835 1/2 Kerr St	Chattanooga	TN	37408
1336	1835 1/2 Kerr St	Chattanooga	TN	37408
1337				
1338	1126 King St	Chattanooga	TN	374034329
1339	1126 King St	Chattanooga	TN	374034329
1340	1126 King St	Chattanooga	TN	374034329
1341	1126 King St	Chattanooga	TN	374034329
1342	1126 King St	Chattanooga	TN	374034329
1343	1126 King St	Chattanooga	TN	374034329
1344	1126 King St	Chattanooga	TN	374034329
1345	1126 King St	Chattanooga	TN	374034329
1346	1126 King St	Chattanooga	TN	374034329
1347	1126 King St	Chattanooga	TN	374034329
1348	1126 King St	Chattanooga	TN	374034329
1349	1126 King St	Chattanooga	TN	374034329

	N	O	P	Q
1300	2.99	1000G	9.95	A3M4
1301	50.82		174	
1302	2.99	1000G	9.95	A3M4
1303	4.48	1000G	15.41	A3M4
1304	4.48	1000G	15.41	A3M4
1305	5.23	1000G	18.14	A3M4
1306	3.74	1000G	12.68	A3M4
1307	3.74	1000G	14.1	A3M4
1308	4.48	1000G	17.35	A3M4
1309	3.74	1000G	14.27	A3M4
1310	6.73	1000G	26.57	A3M4
1311	4.48	1000G	17.35	A3M4
1312	5.23	1000G	20.42	A3M4
1313	5.98	1000G	23.49	A3M4
1314	55.3		205.14	
1315	7.48	1000G	29.64	A3M4
1316	8.22	1000G	32.71	A3M4
1317	10.47	1000G	41.93	A3M4
1318	26.17		104.28	
1319	139.13	1000G	440.51	A3M4
1320	137.64	1000G	437.21	A3M4
1321	150.35	1000G	465.28	A3M4
1322	160.83	1000G	488.39	A3M4
1323	88.27	1000G	328.24	A3M4
1324	7.48	1000G	96.2	A3M4
1325	1.49	1000G	80.1	A3M4
1326	0.74	1000G	79.94	A3M4
1327	210.2	1000G	597.36	A3M4
1328	-205.71	1000G	-431.9	A3M4
1329	2.99	1000G	80.43	A3M4
1330	0.74	1000G	79.94	A3M4
1331	694.15		2741.7	
1332	0	1000G	79.77	A3M4
1333	145.12	1000G	453.72	A3M4
1334	136.14	1000G	442.02	A3M4
1335	112.2	1000G	395.85	A3M4
1336	-393.47	1000G	-1014.57	A3M4
1337	-0.01		356.79	
1338	722.61	1000G	1533.97	A3M4
1339	789.19	1000G	1643.8	A3M4
1340	721.87	1000G	1532.74	A3M4
1341	772.73	1000G	1616.65	A3M4
1342	593.95	1000G	1321.73	A3M4
1343	694.94	1000G	1488.32	A3M4
1344	662.02	1000G	1434.02	A3M4
1345	621.63	1000G	1367.38	A3M4
1346	598.44	1000G	1329.13	A3M4
1347	609.66	1000G	1347.64	A3M4
1348	668.01	1000G	1443.89	A3M4
1349	579.74	1000G	1298.28	A3M4

	A	B	C	D	E
1350					
1351	2600	2603	26CC	3	1
1352	2600	2603	26CC	3	2
1353	2600	2603	26CC	3	3
1354	2600	2603	26CC	3	4
1355	2600	2603	26CC	3	5
1356	2600	2603	26CC	3	6
1357	2600	2603	26CC	3	7
1358	2600	2603	26CC	3	8
1359	2600	2603	26CC	3	9
1360	2600	2603	26CC	3	11
1361	2600	2603	26CC	3	11
1362	2600	2603	26CC	3	11
1363	2600	2603	26CC	3	12
1364					
1365	2600	2603	26CC	3	1
1366	2600	2603	26CC	3	2
1367	2600	2603	26CC	3	3
1368	2600	2603	26CC	3	4
1369	2600	2603	26CC	3	5
1370	2600	2603	26CC	3	6
1371	2600	2603	26CC	3	7
1372	2600	2603	26CC	3	8
1373	2600	2603	26CC	3	9
1374	2600	2603	26CC	3	10
1375	2600	2603	26CC	3	11
1376	2600	2603	26CC	3	12
1377					
1378	2600	2603	26CC	3	1
1379	2600	2603	26CC	3	2
1380	2600	2603	26CC	3	3
1381	2600	2603	26CC	3	4
1382	2600	2603	26CC	3	5
1383	2600	2603	26CC	3	6
1384	2600	2603	26CC	3	7
1385	2600	2603	26CC	3	8
1386	2600	2603	26CC	3	9
1387	2600	2603	26CC	3	10
1388	2600	2603	26CC	3	11
1389	2600	2603	26CC	3	12
1390					
1391	2600	2603	26CC	3	1
1392	2600	2603	26CC	3	2
1393	2600	2603	26CC	3	3
1394					
1395	2600	2603	26CC	3	1
1396	2600	2603	26CC	3	2
1397	2600	2603	26CC	3	3
1398	2600	2603	26CC	3	4
1399	2600	2603	26CC	3	5

	F	G	H	I
1350	**2004 Total**			
1351	2005	37877	260025808	A D M MILLING
1352	2005	37877	260025808	A D M MILLING
1353	2005	37877	260025808	A D M MILLING
1354	2005	37877	260025808	A D M MILLING
1355	2005	37877	260025808	A D M MILLING
1356	2005	37877	260025808	A D M MILLING
1357	2005	37877	260025808	A D M MILLING
1358	2005	37877	260025808	A D M MILLING
1359	2005	37877	260025808	A D M MILLING
1360	2005	37877	260025808	A D M MILLING
1361	2005	37877	260025808	A D M MILLING
1362	2005	37877	260025808	A D M MILLING
1363	2005	37877	260025808	A D M MILLING
1364	**2005 Total**			
1365	2006	37877	260025808	A D M MILLING
1366	2006	37877	260025808	A D M MILLING
1367	2006	37877	260025808	A D M MILLING
1368	2006	37877	260025808	A D M MILLING
1369	2006	37877	260025808	A D M MILLING
1370	2006	37877	260025808	A D M MILLING
1371	2006	37877	260025808	A D M MILLING
1372	2006	37877	260025808	A D M MILLING
1373	2006	37877	260025808	A D M MILLING
1374	2006	37877	260025808	A D M MILLING
1375	2006	37877	260025808	A D M MILLING
1376	2006	37877	260025808	A D M MILLING
1377	**2006 Total**			
1378	2007	37877	260025808	A D M MILLING
1379	2007	37877	260025808	A D M MILLING
1380	2007	37877	260025808	A D M MILLING
1381	2007	37877	260025808	A D M MILLING
1382	2007	37877	260025808	A D M MILLING
1383	2007	37877	260025808	A D M MILLING
1384	2007	37877	260025808	A D M MILLING
1385	2007	37877	260025808	A D M MILLING
1386	2007	37877	260025808	A D M MILLING
1387	2007	37877	260025808	A D M MILLING
1388	2007	37877	260025808	A D M MILLING
1389	2007	37877	260025808	A D M MILLING
1390	**2007 Total**			
1391	2008	37877	260025808	A D M MILLING
1392	2008	37877	260025808	A D M MILLING
1393	2008	37877	260025808	A D M MILLING
1394	**2008 Total**			
1395	2004	37878	260025809	A D M MILLING
1396	2004	37878	260025809	A D M MILLING
1397	2004	37878	260025809	A D M MILLING
1398	2004	37878	260025809	A D M MILLING
1399	2004	37878	260025809	A D M MILLING

	J	K	L	M
1350				
1351	1126 King St	Chattanooga	TN	374034329
1352	1126 King St	Chattanooga	TN	374034329
1353	1126 King St	Chattanooga	TN	374034329
1354	1126 King St	Chattanooga	TN	374034329
1355	1126 King St	Chattanooga	TN	374034329
1356	1126 King St	Chattanooga	TN	374034329
1357	1126 King St	Chattanooga	TN	374034329
1358	1126 King St	Chattanooga	TN	374034329
1359	1126 King St	Chattanooga	TN	374034329
1360	1126 King St	Chattanooga	TN	374034329
1361	1126 King St	Chattanooga	TN	374034329
1362	1126 King St	Chattanooga	TN	374034329
1363	1126 King St	Chattanooga	TN	374034329
1364				
1365	1126 King St	Chattanooga	TN	374034329
1366	1126 King St	Chattanooga	TN	374034329
1367	1126 King St	Chattanooga	TN	374034329
1368	1126 King St	Chattanooga	TN	374034329
1369	1126 King St	Chattanooga	TN	374034329
1370	1126 King St	Chattanooga	TN	374034329
1371	1126 King St	Chattanooga	TN	374034329
1372	1126 King St	Chattanooga	TN	374034329
1373	1126 King St	Chattanooga	TN	374034329
1374	1126 King St	Chattanooga	TN	374034329
1375	1126 King St	Chattanooga	TN	374034329
1376	1126 King St	Chattanooga	TN	374034329
1377				
1378	1126 King St	Chattanooga	TN	374034329
1379	1126 King St	Chattanooga	TN	374034329
1380	1126 King St	Chattanooga	TN	374034329
1381	1126 King St	Chattanooga	TN	374034329
1382	1126 King St	Chattanooga	TN	374034329
1383	1126 King St	Chattanooga	TN	374034329
1384	1126 King St	Chattanooga	TN	374034329
1385	1126 King St	Chattanooga	TN	374034329
1386	1126 King St	Chattanooga	TN	374034329
1387	1126 King St	Chattanooga	TN	374034329
1388	1126 King St	Chattanooga	TN	374034329
1389	1126 King St	Chattanooga	TN	374034329
1390				
1391	1126 King St	Chattanooga	TN	374034329
1392	1126 King St	Chattanooga	TN	374034329
1393	1126 King St	Chattanooga	TN	374034329
1394				
1395	1116 King St	Chattanooga	TN	374034329
1396	1116 King St	Chattanooga	TN	374034329
1397	1116 King St	Chattanooga	TN	374034329
1398	1116 King St	Chattanooga	TN	374034329
1399	1116 King St	Chattanooga	TN	374034329

	N	O	P	Q
1350	8034.79		17357.55	
1351	626.11	1000G	1374.79	A3M4
1352	582.73	1000G	1303.22	A3M4
1353	659.78	1000G	1458.06	A3M4
1354	626.11	1000G	1428.13	A3M4
1355	626.86	1000G	1429.42	A3M4
1356	550.56	1000G	1298.65	A3M4
1357	506.43	1000G	1223.01	A3M4
1358	389.73	1000G	1023.02	A3M4
1359	563.28	1000G	1320.45	A3M4
1360	394.22	1000G	1030.71	A3M4
1361	514.65	1000G	1237.12	A3M4
1362	-563.28	1000G	-1237.6	CROE3
1363	365.79	1000G	977.23	A3M4
1364	5842.97		13866.21	
1365	403.2	1000G	1046.1	A3M4
1366	454.81	1000G	1134.56	A3M4
1367	457.8	1000G	1139.68	A3M4
1368	455.56	1000G	1135.84	A3M4
1369	427.13	1000G	1087.12	A3M4
1370	454.81	1000G	1134.56	A3M4
1371	406.19	1000G	1051.23	A3M4
1372	516.15	1000G	1239.68	A3M4
1373	525.13	1000G	1255.06	A3M4
1374	451.82	1000G	1129.43	A3M4
1375	455.56	1000G	1135.84	A3M4
1376	415.91	1000G	1067.89	A3M4
1377	5424.07		13556.99	
1378	415.91	1000G	1067.89	A3M4
1379	436.11	1000G	1102.51	A3M4
1380	506.43	1000G	1223.01	A3M4
1381	564.77	1000G	1323.01	A3M4
1382	458.55	1000G	1140.97	A3M4
1383	525.88	1000G	1394.7	A3M4
1384	616.39	1000G	1589.02	A3M4
1385	625.37	1000G	1606.34	A3M4
1386	635.84	1000G	1626.54	A3M4
1387	182.52	1000G	627.15	A3M4
1388	0	1000G	93.27	A3M4
1389	0	1000G	93.27	A3M4
1390	4967.77		12887.68	
1391	0	1000G	93.27	A3M4
1392	0	1000G	93.27	A3M4
1393	0	1000G	93.27	A3M4
1394	0		279.81	
1395	319.41	1000G	838.4	A3M4
1396	324.65	1000G	849.96	A3M4
1397	372.52	1000G	955.62	A3M4
1398	371.03	1000G	952.32	A3M4
1399	311.93	1000G	821.89	A3M4

	A	B	C	D	E
1400	2600	2603	26CC	3	6
1401	2600	2603	26CC	3	7
1402	2600	2603	26CC	3	8
1403	2600	2603	26CC	3	9
1404	2600	2603	26CC	3	10
1405	2600	2603	26CC	3	11
1406	2600	2603	26CC	3	12
1407					
1408	2600	2603	26CC	3	1
1409	2600	2603	26CC	3	2
1410	2600	2603	26CC	3	3
1411	2600	2603	26CC	3	4
1412	2600	2603	26CC	3	5
1413	2600	2603	26CC	3	6
1414	2600	2603	26CC	3	7
1415	2600	2603	26CC	3	8
1416	2600	2603	26CC	3	9
1417	2600	2603	26CC	3	10
1418	2600	2603	26CC	3	11
1419	2600	2603	26CC	3	12
1420					
1421	2600	2603	26CC	3	1
1422	2600	2603	26CC	3	2
1423	2600	2603	26CC	3	3
1424	2600	2603	26CC	3	4
1425	2600	2603	26CC	3	5
1426	2600	2603	26CC	3	7
1427	2600	2603	26CC	3	7
1428	2600	2603	26CC	3	8
1429	2600	2603	26CC	3	9
1430	2600	2603	26CC	3	10
1431	2600	2603	26CC	3	11
1432	2600	2603	26CC	3	12
1433					
1434	2600	2603	26CC	3	1
1435	2600	2603	26CC	3	2
1436	2600	2603	26CC	3	3
1437	2600	2603	26CC	3	4
1438	2600	2603	26CC	3	5
1439	2600	2603	26CC	3	6
1440	2600	2603	26CC	3	7
1441	2600	2603	26CC	3	8
1442	2600	2603	26CC	3	9
1443	2600	2603	26CC	3	10
1444	2600	2603	26CC	3	11
1445	2600	2603	26CC	3	12
1446					
1447	2600	2603	26CC	3	1
1448	2600	2603	26CC	3	2
1449	2600	2603	26CC	3	3

	F	G	H	I
1400	2004	37878	260025809	A D M MILLING
1401	2004	37878	260025809	A D M MILLING
1402	2004	37878	260025809	A D M MILLING
1403	2004	37878	260025809	A D M MILLING
1404	2004	37878	260025809	A D M MILLING
1405	2004	37878	260025809	A D M MILLING
1406	2004	37878	260025809	A D M MILLING
1407	**2004 Total**			
1408	2005	37878	260025809	A D M MILLING
1409	2005	37878	260025809	A D M MILLING
1410	2005	37878	260025809	A D M MILLING
1411	2005	37878	260025809	A D M MILLING
1412	2005	37878	260025809	A D M MILLING
1413	2005	37878	260025809	A D M MILLING
1414	2005	37878	260025809	A D M MILLING
1415	2005	37878	260025809	A D M MILLING
1416	2005	37878	260025809	A D M MILLING
1417	2005	37878	260025809	A D M MILLING
1418	2005	37878	260025809	A D M MILLING
1419	2005	37878	260025809	A D M MILLING
1420	**2005 Total**			
1421	2006	37878	260025809	A D M MILLING
1422	2006	37878	260025809	A D M MILLING
1423	2006	37878	260025809	A D M MILLING
1424	2006	37878	260025809	A D M MILLING
1425	2006	37878	260025809	A D M MILLING
1426	2006	37878	260025809	A D M MILLING
1427	2006	37878	260025809	A D M MILLING
1428	2006	37878	260025809	A D M MILLING
1429	2006	37878	260025809	A D M MILLING
1430	2006	37878	260025809	A D M MILLING
1431	2006	37878	260025809	A D M MILLING
1432	2006	37878	260025809	A D M MILLING
1433	**2006 Total**			
1434	2007	37878	260025809	A D M MILLING
1435	2007	37878	260025809	A D M MILLING
1436	2007	37878	260025809	A D M MILLING
1437	2007	37878	260025809	A D M MILLING
1438	2007	37878	260025809	A D M MILLING
1439	2007	37878	260025809	A D M MILLING
1440	2007	37878	260025809	A D M MILLING
1441	2007	37878	260025809	A D M MILLING
1442	2007	37878	260025809	A D M MILLING
1443	2007	37878	260025809	A D M MILLING
1444	2007	37878	260025809	A D M MILLING
1445	2007	37878	260025809	A D M MILLING
1446	**2007 Total**			
1447	2008	37878	260025809	A D M MILLING
1448	2008	37878	260025809	A D M MILLING
1449	2008	37878	260025809	A D M MILLING

	J	K	L	M
1400	1116 King St	Chattanooga	TN	374034329
1401	1116 King St	Chattanooga	TN	374034329
1402	1116 King St	Chattanooga	TN	374034329
1403	1116 King St	Chattanooga	TN	374034329
1404	1116 King St	Chattanooga	TN	374034329
1405	1116 King St	Chattanooga	TN	374034329
1406	1116 King St	Chattanooga	TN	374034329
1407				
1408	1116 King St	Chattanooga	TN	374034329
1409	1116 King St	Chattanooga	TN	374034329
1410	1116 King St	Chattanooga	TN	374034329
1411	1116 King St	Chattanooga	TN	374034329
1412	1116 King St	Chattanooga	TN	374034329
1413	1116 King St	Chattanooga	TN	374034329
1414	1116 King St	Chattanooga	TN	374034329
1415	1116 King St	Chattanooga	TN	374034329
1416	1116 King St	Chattanooga	TN	374034329
1417	1116 King St	Chattanooga	TN	374034329
1418	1116 King St	Chattanooga	TN	374034329
1419	1116 King St	Chattanooga	TN	374034329
1420				
1421	1116 King St	Chattanooga	TN	374034329
1422	1116 King St	Chattanooga	TN	374034329
1423	1116 King St	Chattanooga	TN	374034329
1424	1116 King St	Chattanooga	TN	374034329
1425	1116 King St	Chattanooga	TN	374034329
1426	1116 King St	Chattanooga	TN	374034329
1427	1116 King St	Chattanooga	TN	374034329
1428	1116 King St	Chattanooga	TN	374034329
1429	1116 King St	Chattanooga	TN	374034329
1430	1116 King St	Chattanooga	TN	374034329
1431	1116 King St	Chattanooga	TN	374034329
1432	1116 King St	Chattanooga	TN	374034329
1433				
1434	1116 King St	Chattanooga	TN	374034329
1435	1116 King St	Chattanooga	TN	374034329
1436	1116 King St	Chattanooga	TN	374034329
1437	1116 King St	Chattanooga	TN	374034329
1438	1116 King St	Chattanooga	TN	374034329
1439	1116 King St	Chattanooga	TN	374034329
1440	1116 King St	Chattanooga	TN	374034329
1441	1116 King St	Chattanooga	TN	374034329
1442	1116 King St	Chattanooga	TN	374034329
1443	1116 King St	Chattanooga	TN	374034329
1444	1116 King St	Chattanooga	TN	374034329
1445	1116 King St	Chattanooga	TN	374034329
1446				
1447	1116 King St	Chattanooga	TN	374034329
1448	1116 King St	Chattanooga	TN	374034329
1449	1116 King St	Chattanooga	TN	374034329

	N	O	P	Q
1400	306.7	1000G	810.34	A3M4
1401	331.38	1000G	864.82	A3M4
1402	301.46	1000G	798.78	A3M4
1403	353.82	1000G	914.35	A3M4
1404	293.23	1000G	780.62	A3M4
1405	339.61	1000G	882.98	A3M4
1406	282.76	1000G	757.5	A3M4
1407	3908.5		10227.58	
1408	346.34	1000G	897.84	A3M4
1409	372.52	1000G	955.62	A3M4
1410	325.4	1000G	868.13	A3M4
1411	220.67	1000G	644.52	A3M4
1412	332.88	1000G	901.77	A3M4
1413	303.7	1000G	834.89	A3M4
1414	436.11	1000G	1102.51	A3M4
1415	348.59	1000G	937.79	A3M4
1416	383	1000G	1011.48	A3M4
1417	394.97	1000G	1032	A3M4
1418	410.68	1000G	1058.92	A3M4
1419	365.79	1000G	977.23	A3M4
1420	4240.65		11222.7	
1421	427.88	1000G	1088.4	A3M4
1422	343.35	1000G	925.78	A3M4
1423	421.9	1000G	1124.33	A3M4
1424	344.85	1000G	929.21	A3M4
1425	516.15	1000G	1310.7	A3M4
1426	0	1000G	82.85	A3M4
1427	313.43	1000G	797.56	A3M4
1428	879.7	1000G	1862.73	A3M4
1429	394.97	1000G	1032	A3M4
1430	359.06	1000G	961.8	A3M4
1431	352.33	1000G	946.36	A3M4
1432	294.73	1000G	814.31	A3M4
1433	4648.35		11876.03	
1434	322.41	1000G	877.76	A3M4
1435	332.13	1000G	900.06	A3M4
1436	350.08	1000G	941.22	A3M4
1437	324.65	1000G	882.91	A3M4
1438	344.85	1000G	929.21	A3M4
1439	377.01	1000G	1111.54	A3M4
1440	309.69	1000G	955.42	A3M4
1441	272.29	1000G	858.87	A3M4
1442	329.14	1000G	1005.63	A3M4
1443	288	1000G	899.42	A3M4
1444	299.22	1000G	928.39	A3M4
1445	311.18	1000G	959.28	A3M4
1446	3860.65		11249.71	
1447	299.22	1000G	928.39	A3M4
1448	335.12	1000G	1021.07	A3M4
1449	344.09	1000G	1044.25	A3M4

	A	B	C	D	E
1450					
1451	2600	2603	26CC	3	1
1452	2600	2603	26CC	3	2
1453	2600	2603	26CC	3	3
1454	2600	2603	26CC	3	4
1455	2600	2603	26CC	3	5
1456	2600	2603	26CC	3	6
1457	2600	2603	26CC	3	7
1458	2600	2603	26CC	3	8
1459	2600	2603	26CC	3	9
1460	2600	2603	26CC	3	10
1461	2600	2603	26CC	3	12
1462	2600	2603	26CC	3	12
1463	2600	2603	26CC	3	12
1464	2600	2603	26CC	3	1
1465	2600	2603	26CC	3	2
1466	2600	2603	26CC	3	3
1467	2600	2603	26CC	3	4
1468	2600	2603	26CC	3	5
1469	2600	2603	26CC	3	6
1470	2600	2603	26CC	3	7
1471	2600	2603	26CC	3	8
1472	2600	2603	26CC	3	9
1473	2600	2603	26CC	3	10
1474	2600	2603	26CC	3	11
1475	2600	2603	26CC	3	12
1476					
1477	2600	2603	26CC	3	1
1478	2600	2603	26CC	3	2
1479	2600	2603	26CC	3	3
1480	2600	2603	26CC	3	4
1481	2600	2603	26CC	3	5
1482	2600	2603	26CC	3	6
1483	2600	2603	26CC	3	7
1484	2600	2603	26CC	3	8
1485	2600	2603	26CC	3	9
1486	2600	2603	26CC	3	10
1487	2600	2603	26CC	3	11
1488	2600	2603	26CC	3	12
1489					
1490	2600	2603	26CC	3	1
1491	2600	2603	26CC	3	2
1492	2600	2603	26CC	3	3
1493	2600	2603	26CC	3	4
1494	2600	2603	26CC	3	5
1495	2600	2603	26CC	3	6
1496	2600	2603	26CC	3	7
1497	2600	2603	26CC	3	8
1498	2600	2603	26CC	3	9
1499	2600	2603	26CC	3	10

	F	G	H	I
1450	**2008 Total**			
1451	2004	38752	260026545	Southeast Local Dev Corp
1452	2004	38752	260026545	Southeast Local Dev Corp
1453	2004	38752	260026545	Southeast Local Dev Corp
1454	2004	38752	260026545	Southeast Local Dev Corp
1455	2004	38752	260026545	Southeast Local Dev Corp
1456	2004	38752	260026545	Southeast Local Dev Corp
1457	2004	38752	260026545	Southeast Local Dev Corp
1458	2004	38752	260026545	Southeast Local Dev Corp
1459	2004	38752	260026545	Southeast Local Dev Corp
1460	2004	38752	260026545	Southeast Local Dev Corp
1461	2004	38752	260026545	Southeast Local Dev Corp
1462	2004	38752	260026545	Southeast Local Dev Corp
1463	2004	38752	260026545	Southeast Local Dev Corp
1464	2004	40934	260028068	Beeler Impression
1465	2004	40934	260028068	Beeler Impression
1466	2004	40934	260028068	Beeler Impression
1467	2004	40934	260028068	Beeler Impression
1468	2004	40934	260028068	Beeler Impression
1469	2004	40934	260028068	Beeler Impression
1470	2004	40934	260028068	Beeler Impression
1471	2004	40934	260028068	Beeler Impression
1472	2004	40934	260028068	Beeler Impression
1473	2004	40934	260028068	Beeler Impression
1474	2004	40934	260028068	Beeler Impression
1475	2004	40934	260028068	Beeler Impression
1476	**2004 Total**			
1477	2005	40934	260028068	Beeler Impression
1478	2005	40934	260028068	Beeler Impression
1479	2005	40934	260028068	Beeler Impression
1480	2005	40934	260028068	Beeler Impression
1481	2005	40934	260028068	Beeler Impression
1482	2005	40934	260028068	Beeler Impression
1483	2005	40934	260028068	Beeler Impression
1484	2005	40934	260028068	Beeler Impression
1485	2005	40934	260028068	Beeler Impression
1486	2005	40934	260028068	Beeler Impression
1487	2005	40934	260028068	Beeler Impression
1488	2005	40934	260028068	Beeler Impression
1489	**2005 Total**			
1490	2006	40934	260028068	Beeler Impression
1491	2006	40934	260028068	Beeler Impression
1492	2006	40934	260028068	Beeler Impression
1493	2006	40934	260028068	Beeler Impression
1494	2006	40934	260028068	Beeler Impression
1495	2006	40934	260028068	Beeler Impression
1496	2006	40934	260028068	Beeler Impression
1497	2006	40934	260028068	Beeler Impression
1498	2006	40934	260028068	Beeler Impression
1499	2006	40934	260028068	Beeler Impression

	J	K	L	M
1450				
1451	1105 E 10th St	Chattanooga	TN	374033005
1452	1105 E 10th St	Chattanooga	TN	374033005
1453	1105 E 10th St	Chattanooga	TN	374033005
1454	1105 E 10th St	Chattanooga	TN	374033005
1455	1105 E 10th St	Chattanooga	TN	374033005
1456	1105 E 10th St	Chattanooga	TN	374033005
1457	1105 E 10th St	Chattanooga	TN	374033005
1458	1105 E 10th St	Chattanooga	TN	374033005
1459	1105 E 10th St	Chattanooga	TN	374033005
1460	1105 E 10th St	Chattanooga	TN	374033005
1461	1105 E 10th St	Chattanooga	TN	374033005
1462	1105 E 10th St	Chattanooga	TN	374033005
1463	1105 E 10th St	Chattanooga	TN	374033005
1464	2318 Mccallie Ave	Chattanooga	TN	374043205
1465	2318 Mccallie Ave	Chattanooga	TN	374043205
1466	2318 Mccallie Ave	Chattanooga	TN	374043205
1467	2318 Mccallie Ave	Chattanooga	TN	374043205
1468	2318 Mccallie Ave	Chattanooga	TN	374043205
1469	2318 Mccallie Ave	Chattanooga	TN	374043205
1470	2318 Mccallie Ave	Chattanooga	TN	374043205
1471	2318 Mccallie Ave	Chattanooga	TN	374043205
1472	2318 Mccallie Ave	Chattanooga	TN	374043205
1473	2318 Mccallie Ave	Chattanooga	TN	374043205
1474	2318 Mccallie Ave	Chattanooga	TN	374043205
1475	2318 Mccallie Ave	Chattanooga	TN	374043205
1476				
1477	2318 Mccallie Ave	Chattanooga	TN	374043205
1478	2318 Mccallie Ave	Chattanooga	TN	374043205
1479	2318 Mccallie Ave	Chattanooga	TN	374043205
1480	2318 Mccallie Ave	Chattanooga	TN	374043205
1481	2318 Mccallie Ave	Chattanooga	TN	374043205
1482	2318 Mccallie Ave	Chattanooga	TN	374043205
1483	2318 Mccallie Ave	Chattanooga	TN	374043205
1484	2318 Mccallie Ave	Chattanooga	TN	374043205
1485	2318 Mccallie Ave	Chattanooga	TN	374043205
1486	2318 Mccallie Ave	Chattanooga	TN	374043205
1487	2318 Mccallie Ave	Chattanooga	TN	374043205
1488	2318 Mccallie Ave	Chattanooga	TN	374043205
1489				
1490	2318 Mccallie Ave	Chattanooga	TN	374043205
1491	2318 Mccallie Ave	Chattanooga	TN	374043205
1492	2318 Mccallie Ave	Chattanooga	TN	374043205
1493	2318 Mccallie Ave	Chattanooga	TN	374043205
1494	2318 Mccallie Ave	Chattanooga	TN	374043205
1495	2318 Mccallie Ave	Chattanooga	TN	374043205
1496	2318 Mccallie Ave	Chattanooga	TN	374043205
1497	2318 Mccallie Ave	Chattanooga	TN	374043205
1498	2318 Mccallie Ave	Chattanooga	TN	374043205
1499	2318 Mccallie Ave	Chattanooga	TN	374043205

	N	O	P	Q
1450	978.43		2993.71	
1451	13.46	1000G	117.22	A3M4
1452	3.74	1000G	83.06	A3M4
1453	0	1000G	79.77	A3M4
1454	18.7	1000G	135.62	A3M4
1455	7.48	1000G	96.2	A3M4
1456	7.48	1000G	96.2	A3M4
1457	8.22	1000G	98.83	A3M4
1458	2.99	1000G	80.43	A3M4
1459	2.24	1000G	80.27	A3M4
1460	5.23	1000G	88.31	A3M4
1461	0	1000G	-169.08	CRAC3
1462	0	1000G	-415.91	CRAC3
1463	2.24	1000G	0.5	A3M4
1464	2.99	1000G	9.58	A3M4
1465	1.49	1000G	9.25	A3M4
1466	2.24	1000G	9.42	A3M4
1467	2.99	1000G	9.58	A3M4
1468	2.99	1000G	9.58	A3M4
1469	3.74	1000G	12.21	A3M4
1470	2.99	1000G	9.58	A3M4
1471	2.99	1000G	9.58	A3M4
1472	11.22	1000G	38.49	A3M4
1473	0	1000G	8.92	A3M4
1474	2.99	1000G	9.58	A3M4
1475	2.99	1000G	9.58	A3M4
1476	111.4		516.77	
1477	2.99	1000G	9.58	A3M4
1478	1.49	1000G	9.25	A3M4
1479	2.99	1000G	9.58	A3M4
1480	2.24	1000G	9.72	A3M4
1481	2.99	1000G	9.95	A3M4
1482	2.99	1000G	9.95	A3M4
1483	2.99	1000G	9.95	A3M4
1484	2.24	1000G	9.78	A3M4
1485	2.99	1000G	9.95	A3M4
1486	2.99	1000G	9.95	A3M4
1487	2.24	1000G	9.78	A3M4
1488	1.49	1000G	9.6	A3M4
1489	30.63		117.04	
1490	2.24	1000G	9.78	A3M4
1491	1.49	1000G	9.6	A3M4
1492	2.24	1000G	9.78	A3M4
1493	2.24	1000G	9.78	A3M4
1494	2.99	1000G	9.95	A3M4
1495	2.99	1000G	9.95	A3M4
1496	2.24	1000G	9.78	A3M4
1497	2.24	1000G	9.78	A3M4
1498	1.49	1000G	9.6	A3M4
1499	2.24	1000G	9.78	A3M4

	A	B	C	D	E
1500	2600	2603	26CC	3	11
1501	2600	2603	26CC	3	12
1502					
1503	2600	2603	26CC	3	1
1504	2600	2603	26CC	3	2
1505	2600	2603	26CC	3	3
1506	2600	2603	26CC	3	4
1507	2600	2603	26CC	3	5
1508	2600	2603	26CC	3	6
1509	2600	2603	26CC	3	7
1510	2600	2603	26CC	3	8
1511	2600	2603	26CC	3	9
1512	2600	2603	26CC	3	10
1513	2600	2603	26CC	3	11
1514	2600	2603	26CC	3	12
1515					
1516	2600	2603	26CC	3	1
1517	2600	2603	26CC	3	2
1518	2600	2603	26CC	3	3
1519					
1520	2600	2603	26CC	3	1
1521	2600	2603	26CC	3	2
1522	2600	2603	26CC	3	3
1523	2600	2603	26CC	3	4
1524	2600	2603	26CC	3	5
1525	2600	2603	26CC	3	6
1526	2600	2603	26CC	3	7
1527	2600	2603	26CC	3	7
1528					
1529	2600	2603	26CC	3	1
1530	2600	2603	26CC	3	1
1531	2600	2603	26CC	3	2
1532	2600	2603	26CC	3	3
1533	2600	2603	26CC	3	4
1534	2600	2603	26CC	3	5
1535	2600	2603	26CC	3	6
1536	2600	2603	26CC	3	7
1537	2600	2603	26CC	3	8
1538	2600	2603	26CC	3	9
1539	2600	2603	26CC	3	10
1540	2600	2603	26CC	3	11
1541	2600	2603	26CC	3	12
1542					
1543	2600	2603	26CC	3	1
1544	2600	2603	26CC	3	2
1545	2600	2603	26CC	3	3
1546	2600	2603	26CC	3	4
1547	2600	2603	26CC	3	5
1548	2600	2603	26CC	3	6
1549	2600	2603	26CC	3	7

	F	G	H	I
1500	2006	40934	260028068	Beeler Impression
1501	2006	40934	260028068	Beeler Impression
1502	**2006 Total**			
1503	2007	40934	260028068	Beeler Impression
1504	2007	40934	260028068	Beeler Impression
1505	2007	40934	260028068	Beeler Impression
1506	2007	40934	260028068	Beeler Impression
1507	2007	40934	260028068	Beeler Impression
1508	2007	40934	260028068	Beeler Impression
1509	2007	40934	260028068	Beeler Impression
1510	2007	40934	260028068	Beeler Impression
1511	2007	40934	260028068	Beeler Impression
1512	2007	40934	260028068	Beeler Impression
1513	2007	40934	260028068	Beeler Impression
1514	2007	40934	260028068	Beeler Impression
1515	**2007 Total**			
1516	2008	40934	260028068	Beeler Impression
1517	2008	40934	260028068	Beeler Impression
1518	2008	40934	260028068	Beeler Impression
1519	**2008 Total**			
1520	2003	41144	260028220	Colonial Baking Co
1521	2003	41144	260028220	Colonial Baking Co
1522	2003	41144	260028220	Colonial Baking Co
1523	2003	41144	260028220	Colonial Baking Co
1524	2003	41144	260028220	Colonial Baking Co
1525	2003	41144	260028220	Colonial Baking Co
1526	2003	41144	260028220	Colonial Baking Co
1527	2003	41144	260028220	Colonial Baking Co
1528	**2003 Total**			
1529	2004	45866	260031374	Signal Plating Inc
1530	2004	45866	260031374	Signal Plating Inc
1531	2004	45866	260031374	Signal Plating Inc
1532	2004	45866	260031374	Signal Plating Inc
1533	2004	45866	260031374	Signal Plating Inc
1534	2004	45866	260031374	Signal Plating Inc
1535	2004	45866	260031374	Signal Plating Inc
1536	2004	45866	260031374	Signal Plating Inc
1537	2004	45866	260031374	Signal Plating Inc
1538	2004	45866	260031374	Signal Plating Inc
1539	2004	45866	260031374	Signal Plating Inc
1540	2004	45866	260031374	Signal Plating Inc
1541	2004	45866	260031374	Signal Plating Inc
1542	**2004 Total**			
1543	2005	45866	260031374	Signal Plating Inc
1544	2005	45866	260031374	Signal Plating Inc
1545	2005	45866	260031374	Signal Plating Inc
1546	2005	45866	260031374	Signal Plating Inc
1547	2005	45866	260031374	Signal Plating Inc
1548	2005	45866	260031374	Signal Plating Inc
1549	2005	45866	260031374	Signal Plating Inc

	J	K	L	M
1500	2318 Mccallie Ave	Chattanooga	TN	374043205
1501	2318 Mccallie Ave	Chattanooga	TN	374043205
1502				
1503	2318 Mccallie Ave	Chattanooga	TN	374043205
1504	2318 Mccallie Ave	Chattanooga	TN	374043205
1505	2318 Mccallie Ave	Chattanooga	TN	374043205
1506	2318 Mccallie Ave	Chattanooga	TN	374043205
1507	2318 Mccallie Ave	Chattanooga	TN	374043205
1508	2318 Mccallie Ave	Chattanooga	TN	374043205
1509	2318 Mccallie Ave	Chattanooga	TN	374043205
1510	2318 Mccallie Ave	Chattanooga	TN	374043205
1511	2318 Mccallie Ave	Chattanooga	TN	374043205
1512	2318 Mccallie Ave	Chattanooga	TN	374043205
1513	2318 Mccallie Ave	Chattanooga	TN	374043205
1514	2318 Mccallie Ave	Chattanooga	TN	374043205
1515				
1516	2318 Mccallie Ave	Chattanooga	TN	374043205
1517	2318 Mccallie Ave	Chattanooga	TN	374043205
1518	2318 Mccallie Ave	Chattanooga	TN	374043205
1519				
1520	2220 E 4th St	Chattanooga	TN	374042721
1521	2220 E 4th St	Chattanooga	TN	374042721
1522	2220 E 4th St	Chattanooga	TN	374042721
1523	2220 E 4th St	Chattanooga	TN	374042721
1524	2220 E 4th St	Chattanooga	TN	374042721
1525	2220 E 4th St	Chattanooga	TN	374042721
1526	2220 E 4th St	Chattanooga	TN	374042721
1527	2220 E 4th St	Chattanooga	TN	374042721
1528				
1529	1608 Camden St	Chattanooga	TN	374062803
1530	1608 Camden St	Chattanooga	TN	374062803
1531	1608 Camden St	Chattanooga	TN	374062803
1532	1608 Camden St	Chattanooga	TN	374062803
1533	1608 Camden St	Chattanooga	TN	374062803
1534	1608 Camden St	Chattanooga	TN	374062803
1535	1608 Camden St	Chattanooga	TN	374062803
1536	1608 Camden St	Chattanooga	TN	374062803
1537	1608 Camden St	Chattanooga	TN	374062803
1538	1608 Camden St	Chattanooga	TN	374062803
1539	1608 Camden St	Chattanooga	TN	374062803
1540	1608 Camden St	Chattanooga	TN	374062803
1541	1608 Camden St	Chattanooga	TN	374062803
1542				
1543	1608 Camden St	Chattanooga	TN	374062803
1544	1608 Camden St	Chattanooga	TN	374062803
1545	1608 Camden St	Chattanooga	TN	374062803
1546	1608 Camden St	Chattanooga	TN	374062803
1547	1608 Camden St	Chattanooga	TN	374062803
1548	1608 Camden St	Chattanooga	TN	374062803
1549	1608 Camden St	Chattanooga	TN	374062803

	N	O	P	Q
1500	2.24	1000G	9.78	A3M4
1501	2.24	1000G	9.78	A3M4
1502	26.88		117.34	
1503	1.49	1000G	9.6	A3M4
1504	1.49	1000G	9.6	A3M4
1505	1.49	1000G	9.6	A3M4
1506	2.24	1000G	9.78	A3M4
1507	1.49	1000G	9.6	A3M4
1508	1.49	1000G	10	A3M4
1509	1.49	1000G	10.81	A3M4
1510	1.49	1000G	10.81	A3M4
1511	1.49	1000G	10.81	A3M4
1512	1.49	1000G	10.81	A3M4
1513	1.49	1000G	10.81	A3M4
1514	1.49	1000G	10.81	A3M4
1515	18.63		123.04	
1516	1.49	1000G	12.2	A3M4
1517	1.49	1000G	10.81	A3M4
1518	1.49	1000G	10.81	A3M4
1519	4.47		33.82	
1520	23.18	1000G	142.33	A3M4
1521	21.69	1000G	137.39	A3M4
1522	23.93	1000G	144.81	A3M4
1523	21.69	1000G	137.39	A3M4
1524	19.44	1000G	129.97	A3M4
1525	19.44	1000G	129.97	A3M4
1526	3.74	1000G	29.43	A3M4
1527	16.45	1000G	120.08	A3M4
1528	149.56		971.37	
1529	246.1	1000G	705.56	A3M4
1530	-288	1000G	-727.3	A3M4
1531	251.34	1000G	633.31	A3M4
1532	201.97	1000G	524.35	A3M4
1533	227.4	1000G	580.48	A3M4
1534	149.61	1000G	408.78	A3M4
1535	203.47	1000G	527.65	A3M4
1536	152.59	1000G	415.38	A3M4
1537	130.9	1000G	367.5	A3M4
1538	170.55	1000G	455	A3M4
1539	99.49	1000G	298.16	A3M4
1540	84.52	1000G	265.14	A3M4
1541	89.76	1000G	276.7	A3M4
1542	1719.7		4730.71	
1543	122.68	1000G	349.34	A3M4
1544	58.34	1000G	207.35	A3M4
1545	173.54	1000G	448.51	A3M4
1546	-38.16	1000G	2.85	A3M4
1547	149.61	1000G	424.63	A3M4
1548	12.71	1000G	62.06	A3M4
1549	71.81	1000G	246.27	A3M4

	A	B	C	D	E
1550	2600	2603	26CC	3	8
1551	2600	2603	26CC	3	9
1552	2600	2603	26CC	3	10
1553	2600	2603	26CC	3	11
1554	2600	2603	26CC	3	12
1555					
1556	2600	2603	26CC	3	1
1557	2600	2603	26CC	3	2
1558	2600	2603	26CC	3	3
1559	2600	2603	26CC	3	4
1560	2600	2603	26CC	3	5
1561	2600	2603	26CC	3	6
1562	2600	2603	26CC	3	7
1563	2600	2603	26CC	3	8
1564	2600	2603	26CC	3	9
1565	2600	2603	26CC	3	10
1566	2600	2603	26CC	3	11
1567	2600	2603	26CC	3	12
1568					
1569	2600	2603	26CC	3	1
1570	2600	2603	26CC	3	2
1571	2600	2603	26CC	3	3
1572	2600	2603	26CC	3	4
1573	2600	2603	26CC	3	5
1574	2600	2603	26CC	3	6
1575	2600	2603	26CC	3	7
1576	2600	2603	26CC	3	8
1577	2600	2603	26CC	3	9
1578	2600	2603	26CC	3	10
1579	2600	2603	26CC	3	11
1580	2600	2603	26CC	3	12
1581					
1582	2600	2603	26CC	3	1
1583	2600	2603	26CC	3	2
1584	2600	2603	26CC	3	3
1585					
1586	2600	2603	26CC	3	1
1587	2600	2603	26CC	3	2
1588	2600	2603	26CC	3	3
1589	2600	2603	26CC	3	4
1590	2600	2603	26CC	3	5
1591	2600	2603	26CC	3	6
1592	2600	2603	26CC	3	7
1593	2600	2603	26CC	3	8
1594	2600	2603	26CC	3	9
1595	2600	2603	26CC	3	10
1596	2600	2603	26CC	3	11
1597	2600	2603	26CC	3	12
1598					
1599	2600	2603	26CC	3	1

	F	G	H	I
1550	2005	45866	260031374	Signal Plating Inc
1551	2005	45866	260031374	Signal Plating Inc
1552	2005	45866	260031374	Signal Plating Inc
1553	2005	45866	260031374	Signal Plating Inc
1554	2005	45866	260031374	Signal Plating Inc
1555	**2005 Total**			
1556	2006	45866	260031374	Signal Plating Inc
1557	2006	45866	260031374	Signal Plating Inc
1558	2006	45866	260031374	Signal Plating Inc
1559	2006	45866	260031374	Signal Plating Inc
1560	2006	45866	260031374	Signal Plating Inc
1561	2006	45866	260031374	Signal Plating Inc
1562	2006	45866	260031374	Signal Plating Inc
1563	2006	45866	260031374	Signal Plating Inc
1564	2006	45866	260031374	Signal Plating Inc
1565	2006	45866	260031374	Signal Plating Inc
1566	2006	45866	260031374	Signal Plating Inc
1567	2006	45866	260031374	Signal Plating Inc
1568	**2006 Total**			
1569	2007	45866	260031374	Signal Plating Inc
1570	2007	45866	260031374	Signal Plating Inc
1571	2007	45866	260031374	Signal Plating Inc
1572	2007	45866	260031374	Signal Plating Inc
1573	2007	45866	260031374	Signal Plating Inc
1574	2007	45866	260031374	Signal Plating Inc
1575	2007	45866	260031374	Signal Plating Inc
1576	2007	45866	260031374	Signal Plating Inc
1577	2007	45866	260031374	Signal Plating Inc
1578	2007	45866	260031374	Signal Plating Inc
1579	2007	45866	260031374	Signal Plating Inc
1580	2007	45866	260031374	Signal Plating Inc
1581	**2007 Total**			
1582	2008	45866	260031374	Signal Plating Inc
1583	2008	45866	260031374	Signal Plating Inc
1584	2008	45866	260031374	Signal Plating Inc
1585	**2008 Total**			
1586	2004	48568	260033262	Sovereign Stainless Fab
1587	2004	48568	260033262	Sovereign Stainless Fab
1588	2004	48568	260033262	Sovereign Stainless Fab
1589	2004	48568	260033262	Sovereign Stainless Fab
1590	2004	48568	260033262	Sovereign Stainless Fab
1591	2004	48568	260033262	Sovereign Stainless Fab
1592	2004	48568	260033262	Sovereign Stainless Fab
1593	2004	48568	260033262	Sovereign Stainless Fab
1594	2004	48568	260033262	Sovereign Stainless Fab
1595	2004	48568	260033262	Sovereign Stainless Fab
1596	2004	48568	260033262	Sovereign Stainless Fab
1597	2004	48568	260033262	Sovereign Stainless Fab
1598	**2004 Total**			
1599	2005	48568	260033262	Sovereign Stainless Fab

	J	K	L	M
1550	1608 Camden St	Chattanooga	TN	374062803
1551	1608 Camden St	Chattanooga	TN	374062803
1552	1608 Camden St	Chattanooga	TN	374062803
1553	1608 Camden St	Chattanooga	TN	374062803
1554	1608 Camden St	Chattanooga	TN	374062803
1555				
1556	1608 Camden St	Chattanooga	TN	374062803
1557	1608 Camden St	Chattanooga	TN	374062803
1558	1608 Camden St	Chattanooga	TN	374062803
1559	1608 Camden St	Chattanooga	TN	374062803
1560	1608 Camden St	Chattanooga	TN	374062803
1561	1608 Camden St	Chattanooga	TN	374062803
1562	1608 Camden St	Chattanooga	TN	374062803
1563	1608 Camden St	Chattanooga	TN	374062803
1564	1608 Camden St	Chattanooga	TN	374062803
1565	1608 Camden St	Chattanooga	TN	374062803
1566	1608 Camden St	Chattanooga	TN	374062803
1567	1608 Camden St	Chattanooga	TN	374062803
1568				
1569	1608 Camden St	Chattanooga	TN	374062803
1570	1608 Camden St	Chattanooga	TN	374062803
1571	1608 Camden St	Chattanooga	TN	374062803
1572	1608 Camden St	Chattanooga	TN	374062803
1573	1608 Camden St	Chattanooga	TN	374062803
1574	1608 Camden St	Chattanooga	TN	374062803
1575	1608 Camden St	Chattanooga	TN	374062803
1576	1608 Camden St	Chattanooga	TN	374062803
1577	1608 Camden St	Chattanooga	TN	374062803
1578	1608 Camden St	Chattanooga	TN	374062803
1579	1608 Camden St	Chattanooga	TN	374062803
1580	1608 Camden St	Chattanooga	TN	374062803
1581				
1582	1608 Camden St	Chattanooga	TN	374062803
1583	1608 Camden St	Chattanooga	TN	374062803
1584	1608 Camden St	Chattanooga	TN	374062803
1585				
1586	3110 Riverside Dr	Chattanooga	TN	374064035
1587	3110 Riverside Dr	Chattanooga	TN	374064035
1588	3110 Riverside Dr	Chattanooga	TN	374064035
1589	3110 Riverside Dr	Chattanooga	TN	374064035
1590	3110 Riverside Dr	Chattanooga	TN	374064035
1591	3110 Riverside Dr	Chattanooga	TN	374064035
1592	3110 Riverside Dr	Chattanooga	TN	374064035
1593	3110 Riverside Dr	Chattanooga	TN	374064035
1594	3110 Riverside Dr	Chattanooga	TN	374064035
1595	3110 Riverside Dr	Chattanooga	TN	374064035
1596	3110 Riverside Dr	Chattanooga	TN	374064035
1597	3110 Riverside Dr	Chattanooga	TN	374064035
1598				
1599	3110 Riverside Dr	Chattanooga	TN	374064035

	N	O	P	Q
1550	63.58	1000G	227.4	A3M4
1551	72.56	1000G	247.98	A3M4
1552	99.49	1000G	309.72	A3M4
1553	45.63	1000G	182.18	A3M4
1554	47.87	1000G	190.37	A3M4
1555	879.66		2898.66	
1556	55.35	1000G	208.54	A3M4
1557	65.08	1000G	230.83	A3M4
1558	66.57	1000G	234.26	A3M4
1559	76.3	1000G	256.56	A3M4
1560	103.23	1000G	318.3	A3M4
1561	99.49	1000G	309.72	A3M4
1562	82.28	1000G	270.28	A3M4
1563	59.09	1000G	217.11	A3M4
1564	78.54	1000G	261.7	A3M4
1565	76.3	1000G	256.56	A3M4
1566	82.28	1000G	270.28	A3M4
1567	82.28	1000G	270.28	A3M4
1568	926.79		3104.42	
1569	65.08	1000G	230.83	A3M4
1570	56.85	1000G	211.97	A3M4
1571	80.04	1000G	265.13	A3M4
1572	77.04	1000G	258.27	A3M4
1573	89.76	1000G	287.43	A3M4
1574	61.34	1000G	232.5	A3M4
1575	61.34	1000G	250.2	A3M4
1576	60.59	1000G	248.27	A3M4
1577	63.58	1000G	255.99	A3M4
1578	73.3	1000G	281.09	A3M4
1579	60.59	1000G	248.27	A3M4
1580	78.54	1000G	294.61	A3M4
1581	828.05		3064.56	
1582	64.33	1000G	257.92	A3M4
1583	67.32	1000G	265.65	A3M4
1584	83.03	1000G	306.2	A3M4
1585	214.68		829.77	
1586	5.23	1000G	58.41	A3M4
1587	8.97	1000G	71.55	A3M4
1588	32.16	1000G	153.02	A3M4
1589	30.67	1000G	147.77	A3M4
1590	14.96	1000G	92.58	A3M4
1591	7.48	1000G	66.3	A3M4
1592	6.73	1000G	63.67	A3M4
1593	9.72	1000G	74.18	A3M4
1594	21.69	1000G	116.23	A3M4
1595	22.44	1000G	118.86	A3M4
1596	15.7	1000G	95.21	A3M4
1597	25.43	1000G	129.37	A3M4
1598	201.18		1187.15	
1599	18.7	1000G	105.72	A3M4

	A	B	C	D	E
1600	2600	2603	26CC	3	2
1601	2600	2603	26CC	3	3
1602	2600	2603	26CC	3	4
1603	2600	2603	26CC	3	5
1604	2600	2603	26CC	3	6
1605	2600	2603	26CC	3	7
1606	2600	2603	26CC	3	8
1607	2600	2603	26CC	3	9
1608	2600	2603	26CC	3	10
1609	2600	2603	26CC	3	11
1610	2600	2603	26CC	3	12
1611					
1612	2600	2603	26CC	3	1
1613	2600	2603	26CC	3	2
1614	2600	2603	26CC	3	3
1615	2600	2603	26CC	3	4
1616	2600	2603	26CC	3	5
1617	2600	2603	26CC	3	6
1618	2600	2603	26CC	3	7
1619	2600	2603	26CC	3	8
1620	2600	2603	26CC	3	9
1621	2600	2603	26CC	3	10
1622	2600	2603	26CC	3	11
1623	2600	2603	26CC	3	12
1624					
1625	2600	2603	26CC	3	1
1626	2600	2603	26CC	3	2
1627	2600	2603	26CC	3	3
1628	2600	2603	26CC	3	4
1629	2600	2603	26CC	3	5
1630	2600	2603	26CC	3	5
1631	2600	2603	26CC	3	5
1632	2600	2603	26CC	3	6
1633	2600	2603	26CC	3	7
1634	2600	2603	26CC	3	8
1635	2600	2603	26CC	3	9
1636	2600	2603	26CC	3	10
1637	2600	2603	26CC	3	11
1638	2600	2603	26CC	3	12
1639					
1640	2600	2603	26CC	3	1
1641	2600	2603	26CC	3	2
1642	2600	2603	26CC	3	3
1643					
1644	2600	2603	26CC	3	1
1645	2600	2603	26CC	3	2
1646	2600	2603	26CC	3	3
1647	2600	2603	26CC	3	4
1648	2600	2603	26CC	3	5
1649	2600	2603	26CC	3	6

	F	G	H	I
1600	2005	48568	260033262	Sovereign Stainless Fab
1601	2005	48568	260033262	Sovereign Stainless Fab
1602	2005	48568	260033262	Sovereign Stainless Fab
1603	2005	48568	260033262	Sovereign Stainless Fab
1604	2005	48568	260033262	Sovereign Stainless Fab
1605	2005	48568	260033262	Sovereign Stainless Fab
1606	2005	48568	260033262	Sovereign Stainless Fab
1607	2005	48568	260033262	Sovereign Stainless Fab
1608	2005	48568	260033262	Sovereign Stainless Fab
1609	2005	48568	260033262	Sovereign Stainless Fab
1610	2005	48568	260033262	Sovereign Stainless Fab
1611	**2005 Total**			
1612	2006	48568	260033262	Sovereign Stainless Fab
1613	2006	48568	260033262	Sovereign Stainless Fab
1614	2006	48568	260033262	Sovereign Stainless Fab
1615	2006	48568	260033262	Sovereign Stainless Fab
1616	2006	48568	260033262	Sovereign Stainless Fab
1617	2006	48568	260033262	Sovereign Stainless Fab
1618	2006	48568	260033262	Sovereign Stainless Fab
1619	2006	48568	260033262	Sovereign Stainless Fab
1620	2006	48568	260033262	Sovereign Stainless Fab
1621	2006	48568	260033262	Sovereign Stainless Fab
1622	2006	48568	260033262	Sovereign Stainless Fab
1623	2006	48568	260033262	Sovereign Stainless Fab
1624	**2006 Total**			
1625	2007	48568	260033262	Sovereign Stainless Fab
1626	2007	48568	260033262	Sovereign Stainless Fab
1627	2007	48568	260033262	Sovereign Stainless Fab
1628	2007	48568	260033262	Sovereign Stainless Fab
1629	2007	48568	260033262	Sovereign Stainless Fab
1630	2007	48568	260033262	Sovereign Stainless Fab
1631	2007	48568	260033262	Sovereign Stainless Fab
1632	2007	48568	260033262	Sovereign Stainless Fab
1633	2007	48568	260033262	Sovereign Stainless Fab
1634	2007	48568	260033262	Sovereign Stainless Fab
1635	2007	48568	260033262	Sovereign Stainless Fab
1636	2007	48568	260033262	Sovereign Stainless Fab
1637	2007	48568	260033262	Sovereign Stainless Fab
1638	2007	48568	260033262	Sovereign Stainless Fab
1639	**2007 Total**			
1640	2008	48568	260033262	Sovereign Stainless Fab
1641	2008	48568	260033262	Sovereign Stainless Fab
1642	2008	48568	260033262	Sovereign Stainless Fab
1643	**2008 Total**			
1644	2004	48690	260033355	Roadtec Inc
1645	2004	48690	260033355	Roadtec Inc
1646	2004	48690	260033355	Roadtec Inc
1647	2004	48690	260033355	Roadtec Inc
1648	2004	48690	260033355	Roadtec Inc
1649	2004	48690	260033355	Roadtec Inc

	J	K	L	M
1600	3110 Riverside Dr	Chattanooga	TN	374064035
1601	3110 Riverside Dr	Chattanooga	TN	374064035
1602	3110 Riverside Dr	Chattanooga	TN	374064035
1603	3110 Riverside Dr	Chattanooga	TN	374064035
1604	3110 Riverside Dr	Chattanooga	TN	374064035
1605	3110 Riverside Dr	Chattanooga	TN	374064035
1606	3110 Riverside Dr	Chattanooga	TN	374064035
1607	3110 Riverside Dr	Chattanooga	TN	374064035
1608	3110 Riverside Dr	Chattanooga	TN	374064035
1609	3110 Riverside Dr	Chattanooga	TN	374064035
1610	3110 Riverside Dr	Chattanooga	TN	374064035
1611				
1612	3110 Riverside Dr	Chattanooga	TN	374064035
1613	3110 Riverside Dr	Chattanooga	TN	374064035
1614	3110 Riverside Dr	Chattanooga	TN	374064035
1615	3110 Riverside Dr	Chattanooga	TN	374064035
1616	3110 Riverside Dr	Chattanooga	TN	374064035
1617	3110 Riverside Dr	Chattanooga	TN	374064035
1618	3110 Riverside Dr	Chattanooga	TN	374064035
1619	3110 Riverside Dr	Chattanooga	TN	374064035
1620	3110 Riverside Dr	Chattanooga	TN	374064035
1621	3110 Riverside Dr	Chattanooga	TN	374064035
1622	3110 Riverside Dr	Chattanooga	TN	374064035
1623	3110 Riverside Dr	Chattanooga	TN	374064035
1624				
1625	3110 Riverside Dr	Chattanooga	TN	374064035
1626	3110 Riverside Dr	Chattanooga	TN	374064035
1627	3110 Riverside Dr	Chattanooga	TN	374064035
1628	3110 Riverside Dr	Chattanooga	TN	374064035
1629	3110 Riverside Dr	Chattanooga	TN	374064035
1630	3110 Riverside Dr	Chattanooga	TN	374064035
1631	3110 Riverside Dr	Chattanooga	TN	374064035
1632	3110 Riverside Dr	Chattanooga	TN	374064035
1633	3110 Riverside Dr	Chattanooga	TN	374064035
1634	3110 Riverside Dr	Chattanooga	TN	374064035
1635	3110 Riverside Dr	Chattanooga	TN	374064035
1636	3110 Riverside Dr	Chattanooga	TN	374064035
1637	3110 Riverside Dr	Chattanooga	TN	374064035
1638	3110 Riverside Dr	Chattanooga	TN	374064035
1639				
1640	3110 Riverside Dr	Chattanooga	TN	374064035
1641	3110 Riverside Dr	Chattanooga	TN	374064035
1642	3110 Riverside Dr	Chattanooga	TN	374064035
1643				
1644	1400 Stuart St	Chattanooga	TN	374064041
1645	1400 Stuart St	Chattanooga	TN	374064041
1646	1400 Stuart St	Chattanooga	TN	374064041
1647	1400 Stuart St	Chattanooga	TN	374064041
1648	1400 Stuart St	Chattanooga	TN	374064041
1649	1400 Stuart St	Chattanooga	TN	374064041

	N	O	P	Q
1600	11.22	1000G	79.44	A3M4
1601	22.44	1000G	118.86	A3M4
1602	32.16	1000G	158.23	A3M4
1603	50.86	1000G	224.16	A3M4
1604	29.17	1000G	148.03	A3M4
1605	25.43	1000G	134.38	A3M4
1606	44.13	1000G	202.63	A3M4
1607	11.22	1000G	82.51	A3M4
1608	7.48	1000G	68.86	A3M4
1609	8.97	1000G	74.32	A3M4
1610	8.22	1000G	71.59	A3M4
1611	270		1468.73	
1612	5.98	1000G	63.4	A3M4
1613	25.43	1000G	134.38	A3M4
1614	31.41	1000G	156.22	A3M4
1615	7.48	1000G	68.86	A3M4
1616	17.95	1000G	107.08	A3M4
1617	17.2	1000G	104.35	A3M4
1618	22.44	1000G	123.46	A3M4
1619	11.96	1000G	85.24	A3M4
1620	11.22	1000G	82.51	A3M4
1621	9.72	1000G	77.05	A3M4
1622	26.92	1000G	139.84	A3M4
1623	45.63	1000G	208.09	A3M4
1624	233.34		1350.48	
1625	42.63	1000G	197.17	A3M4
1626	26.18	1000G	137.11	A3M4
1627	-23.19	1000G	-32.85	A3M4
1628	6.73	1000G	66.13	A3M4
1629	0	1000G	72.51	A3M4
1630	-15.7	1000G	-98.89	A3M4
1631	15.7	1000G	98.89	A3M4
1632	5.23	1000G	47.44	A3M4
1633	24.68	1000G	148.2	A3M4
1634	8.22	1000G	80.59	A3M4
1635	12.71	1000G	99.03	A3M4
1636	19.44	1000G	126.69	A3M4
1637	27.67	1000G	160.49	A3M4
1638	8.97	1000G	83.66	A3M4
1639	159.27		1186.17	
1640	21.69	1000G	135.91	A3M4
1641	13.46	1000G	102.1	A3M4
1642	5.98	1000G	71.37	A3M4
1643	41.13		309.38	
1644	23.18	1000G	96.54	A3M4
1645	25.43	1000G	104.42	A3M4
1646	27.67	1000G	112.3	A3M4
1647	39.64	1000G	154.35	A3M4
1648	46.37	1000G	178	A3M4
1649	43.38	1000G	167.49	A3M4

	A	B	C	D	E
1650	2600	2603	26CC	3	7
1651	2600	2603	26CC	3	8
1652	2600	2603	26CC	3	9
1653	2600	2603	26CC	3	10
1654	2600	2603	26CC	3	11
1655	2600	2603	26CC	3	12
1656					
1657	2600	2603	26CC	3	1
1658	2600	2603	26CC	3	2
1659	2600	2603	26CC	3	3
1660	2600	2603	26CC	3	4
1661	2600	2603	26CC	3	5
1662	2600	2603	26CC	3	6
1663	2600	2603	26CC	3	7
1664	2600	2603	26CC	3	8
1665	2600	2603	26CC	3	9
1666	2600	2603	26CC	3	10
1667	2600	2603	26CC	3	11
1668	2600	2603	26CC	3	12
1669					
1670	2600	2603	26CC	3	1
1671	2600	2603	26CC	3	2
1672	2600	2603	26CC	3	3
1673	2600	2603	26CC	3	4
1674	2600	2603	26CC	3	5
1675	2600	2603	26CC	3	6
1676	2600	2603	26CC	3	7
1677	2600	2603	26CC	3	8
1678	2600	2603	26CC	3	9
1679	2600	2603	26CC	3	10
1680	2600	2603	26CC	3	11
1681	2600	2603	26CC	3	12
1682					
1683	2600	2603	26CC	3	1
1684	2600	2603	26CC	3	2
1685	2600	2603	26CC	3	3
1686	2600	2603	26CC	3	4
1687	2600	2603	26CC	3	5
1688	2600	2603	26CC	3	6
1689	2600	2603	26CC	3	7
1690	2600	2603	26CC	3	8
1691	2600	2603	26CC	3	9
1692	2600	2603	26CC	3	10
1693	2600	2603	26CC	3	11
1694	2600	2603	26CC	3	12
1695					
1696	2600	2603	26CC	3	1
1697	2600	2603	26CC	3	2
1698	2600	2603	26CC	3	3
1699					

	F	G	H	I
1650	2004	48690	260033355	Roadtec Inc
1651	2004	48690	260033355	Roadtec Inc
1652	2004	48690	260033355	Roadtec Inc
1653	2004	48690	260033355	Roadtec Inc
1654	2004	48690	260033355	Roadtec Inc
1655	2004	48690	260033355	Roadtec Inc
1656	**2004 Total**			
1657	2005	48690	260033355	Roadtec Inc
1658	2005	48690	260033355	Roadtec Inc
1659	2005	48690	260033355	Roadtec Inc
1660	2005	48690	260033355	Roadtec Inc
1661	2005	48690	260033355	Roadtec Inc
1662	2005	48690	260033355	Roadtec Inc
1663	2005	48690	260033355	Roadtec Inc
1664	2005	48690	260033355	Roadtec Inc
1665	2005	48690	260033355	Roadtec Inc
1666	2005	48690	260033355	Roadtec Inc
1667	2005	48690	260033355	Roadtec Inc
1668	2005	48690	260033355	Roadtec Inc
1669	**2005 Total**			
1670	2006	48690	260033355	Roadtec Inc
1671	2006	48690	260033355	Roadtec Inc
1672	2006	48690	260033355	Roadtec Inc
1673	2006	48690	260033355	Roadtec Inc
1674	2006	48690	260033355	Roadtec Inc
1675	2006	48690	260033355	Roadtec Inc
1676	2006	48690	260033355	Roadtec Inc
1677	2006	48690	260033355	Roadtec Inc
1678	2006	48690	260033355	Roadtec Inc
1679	2006	48690	260033355	Roadtec Inc
1680	2006	48690	260033355	Roadtec Inc
1681	2006	48690	260033355	Roadtec Inc
1682	**2006 Total**			
1683	2007	48690	260033355	Roadtec Inc
1684	2007	48690	260033355	Roadtec Inc
1685	2007	48690	260033355	Roadtec Inc
1686	2007	48690	260033355	Roadtec Inc
1687	2007	48690	260033355	Roadtec Inc
1688	2007	48690	260033355	Roadtec Inc
1689	2007	48690	260033355	Roadtec Inc
1690	2007	48690	260033355	Roadtec Inc
1691	2007	48690	260033355	Roadtec Inc
1692	2007	48690	260033355	Roadtec Inc
1693	2007	48690	260033355	Roadtec Inc
1694	2007	48690	260033355	Roadtec Inc
1695	**2007 Total**			
1696	2008	48690	260033355	Roadtec Inc
1697	2008	48690	260033355	Roadtec Inc
1698	2008	48690	260033355	Roadtec Inc
1699	**2008 Total**			

	J	K	L	M
1650	1400 Stuart St	Chattanooga	TN	374064041
1651	1400 Stuart St	Chattanooga	TN	374064041
1652	1400 Stuart St	Chattanooga	TN	374064041
1653	1400 Stuart St	Chattanooga	TN	374064041
1654	1400 Stuart St	Chattanooga	TN	374064041
1655	1400 Stuart St	Chattanooga	TN	374064041
1656				
1657	1400 Stuart St	Chattanooga	TN	374064041
1658	1400 Stuart St	Chattanooga	TN	374064041
1659	1400 Stuart St	Chattanooga	TN	374064041
1660	1400 Stuart St	Chattanooga	TN	374064041
1661	1400 Stuart St	Chattanooga	TN	374064041
1662	1400 Stuart St	Chattanooga	TN	374064041
1663	1400 Stuart St	Chattanooga	TN	374064041
1664	1400 Stuart St	Chattanooga	TN	374064041
1665	1400 Stuart St	Chattanooga	TN	374064041
1666	1400 Stuart St	Chattanooga	TN	374064041
1667	1400 Stuart St	Chattanooga	TN	374064041
1668	1400 Stuart St	Chattanooga	TN	374064041
1669				
1670	1400 Stuart St	Chattanooga	TN	374064041
1671	1400 Stuart St	Chattanooga	TN	374064041
1672	1400 Stuart St	Chattanooga	TN	374064041
1673	1400 Stuart St	Chattanooga	TN	374064041
1674	1400 Stuart St	Chattanooga	TN	374064041
1675	1400 Stuart St	Chattanooga	TN	374064041
1676	1400 Stuart St	Chattanooga	TN	374064041
1677	1400 Stuart St	Chattanooga	TN	374064041
1678	1400 Stuart St	Chattanooga	TN	374064041
1679	1400 Stuart St	Chattanooga	TN	374064041
1680	1400 Stuart St	Chattanooga	TN	374064041
1681	1400 Stuart St	Chattanooga	TN	374064041
1682				
1683	1400 Stuart St	Chattanooga	TN	374064041
1684	1400 Stuart St	Chattanooga	TN	374064041
1685	1400 Stuart St	Chattanooga	TN	374064041
1686	1400 Stuart St	Chattanooga	TN	374064041
1687	1400 Stuart St	Chattanooga	TN	374064041
1688	1400 Stuart St	Chattanooga	TN	374064041
1689	1400 Stuart St	Chattanooga	TN	374064041
1690	1400 Stuart St	Chattanooga	TN	374064041
1691	1400 Stuart St	Chattanooga	TN	374064041
1692	1400 Stuart St	Chattanooga	TN	374064041
1693	1400 Stuart St	Chattanooga	TN	374064041
1694	1400 Stuart St	Chattanooga	TN	374064041
1695				
1696	1400 Stuart St	Chattanooga	TN	374064041
1697	1400 Stuart St	Chattanooga	TN	374064041
1698	1400 Stuart St	Chattanooga	TN	374064041
1699				

	N	O	P	Q
1650	44.88	1000G	172.75	A3M4
1651	45.63	1000G	175.38	A3M4
1652	50.11	1000G	189.19	A3M4
1653	47.12	1000G	180.63	A3M4
1654	55.35	1000G	200.75	A3M4
1655	44.13	1000G	170.12	A3M4
1656	492.89		1901.92	
1657	51.61	1000G	192.49	A3M4
1658	48.62	1000G	185.89	A3M4
1659	56.1	1000G	202.4	A3M4
1660	39.64	1000G	159.61	A3M4
1661	38.89	1000G	157.61	A3M4
1662	32.16	1000G	133.04	A3M4
1663	33.66	1000G	138.5	A3M4
1664	30.67	1000G	127.58	A3M4
1665	41.89	1000G	168.53	A3M4
1666	44.88	1000G	179.45	A3M4
1667	26.92	1000G	113.93	A3M4
1668	25.43	1000G	108.47	A3M4
1669	470.47		1867.5	
1670	26.92	1000G	113.93	A3M4
1671	50.11	1000G	196.53	A3M4
1672	57.6	1000G	213.68	A3M4
1673	56.85	1000G	211.97	A3M4
1674	67.32	1000G	235.98	A3M4
1675	62.83	1000G	225.69	A3M4
1676	55.35	1000G	208.54	A3M4
1677	61.34	1000G	222.26	A3M4
1678	59.09	1000G	217.11	A3M4
1679	63.58	1000G	227.4	A3M4
1680	44.88	1000G	179.45	A3M4
1681	62.08	1000G	223.97	A3M4
1682	667.95		2476.51	
1683	36.65	1000G	149.42	A3M4
1684	39.64	1000G	160.34	A3M4
1685	54.6	1000G	206.82	A3M4
1686	76.3	1000G	256.56	A3M4
1687	66.57	1000G	234.26	A3M4
1688	83.78	1000G	286.33	A3M4
1689	23.18	1000G	112.89	A3M4
1690	0	1000G	29.14	A3M4
1691	0.74	1000G	29.33	A3M4
1692	0	1000G	29.14	A3M4
1693	0	1000G	29.14	A3M4
1694	0	1000G	29.14	A3M4
1695	381.46		1552.51	
1696	0	1000G	29.14	A3M4
1697	0	1000G	29.14	A3M4
1698	38.89	1000G	177.42	A3M4
1699	38.89		235.7	

	A	B	C	D	E
1700	2600	2603	26CC	3	1
1701	2600	2603	26CC	3	2
1702	2600	2603	26CC	3	3
1703	2600	2603	26CC	3	4
1704	2600	2603	26CC	3	5
1705	2600	2603	26CC	3	6
1706	2600	2603	26CC	3	7
1707	2600	2603	26CC	3	8
1708	2600	2603	26CC	3	9
1709	2600	2603	26CC	3	10
1710	2600	2603	26CC	3	11
1711	2600	2603	26CC	3	12
1712					
1713	2600	2603	26CC	3	1
1714	2600	2603	26CC	3	2
1715	2600	2603	26CC	3	3
1716	2600	2603	26CC	3	4
1717	2600	2603	26CC	3	5
1718	2600	2603	26CC	3	6
1719	2600	2603	26CC	3	7
1720	2600	2603	26CC	3	8
1721	2600	2603	26CC	3	9
1722	2600	2603	26CC	3	10
1723	2600	2603	26CC	3	11
1724	2600	2603	26CC	3	12
1725					
1726	2600	2603	26CC	3	1
1727	2600	2603	26CC	3	2
1728	2600	2603	26CC	3	3
1729	2600	2603	26CC	3	4
1730	2600	2603	26CC	3	5
1731	2600	2603	26CC	3	6
1732	2600	2603	26CC	3	7
1733	2600	2603	26CC	3	8
1734	2600	2603	26CC	3	9
1735	2600	2603	26CC	3	10
1736	2600	2603	26CC	3	11
1737	2600	2603	26CC	3	12
1738					
1739	2600	2603	26CC	3	1
1740	2600	2603	26CC	3	2
1741	2600	2603	26CC	3	3
1742	2600	2603	26CC	3	4
1743	2600	2603	26CC	3	4
1744	2600	2603	26CC	3	5
1745	2600	2603	26CC	3	6
1746	2600	2603	26CC	3	7
1747	2600	2603	26CC	3	8
1748	2600	2603	26CC	3	9
1749	2600	2603	26CC	3	10

	F	G	H	I
1700	2004	48796	260033445	Foam Fabricating Inc
1701	2004	48796	260033445	Foam Fabricating Inc
1702	2004	48796	260033445	Foam Fabricating Inc
1703	2004	48796	260033445	Foam Fabricating Inc
1704	2004	48796	260033445	Foam Fabricating Inc
1705	2004	48796	260033445	Foam Fabricating Inc
1706	2004	48796	260033445	Foam Fabricating Inc
1707	2004	48796	260033445	Foam Fabricating Inc
1708	2004	48796	260033445	Foam Fabricating Inc
1709	2004	48796	260033445	Foam Fabricating Inc
1710	2004	48796	260033445	Foam Fabricating Inc
1711	2004	48796	260033445	Foam Fabricating Inc
1712	**2004 Total**			
1713	2005	48796	260033445	Foam Fabricating Inc
1714	2005	48796	260033445	Foam Fabricating Inc
1715	2005	48796	260033445	Foam Fabricating Inc
1716	2005	48796	260033445	Foam Fabricating Inc
1717	2005	48796	260033445	Foam Fabricating Inc
1718	2005	48796	260033445	Foam Fabricating Inc
1719	2005	48796	260033445	Foam Fabricating Inc
1720	2005	48796	260033445	Foam Fabricating Inc
1721	2005	48796	260033445	Foam Fabricating Inc
1722	2005	48796	260033445	Foam Fabricating Inc
1723	2005	48796	260033445	Foam Fabricating Inc
1724	2005	48796	260033445	Foam Fabricating Inc
1725	**2005 Total**			
1726	2006	48796	260033445	Foam Fabricating Inc
1727	2006	48796	260033445	Foam Fabricating Inc
1728	2006	48796	260033445	Foam Fabricating Inc
1729	2006	48796	260033445	Foam Fabricating Inc
1730	2006	48796	260033445	Foam Fabricating Inc
1731	2006	48796	260033445	Foam Fabricating Inc
1732	2006	48796	260033445	Foam Fabricating Inc
1733	2006	48796	260033445	Foam Fabricating Inc
1734	2006	48796	260033445	Foam Fabricating Inc
1735	2006	48796	260033445	Foam Fabricating Inc
1736	2006	48796	260033445	Foam Fabricating Inc
1737	2006	48796	260033445	Foam Fabricating Inc
1738	**2006 Total**			
1739	2007	48796	260033445	Foam Fabricating Inc
1740	2007	48796	260033445	Foam Fabricating Inc
1741	2007	48796	260033445	Foam Fabricating Inc
1742	2007	48796	260033445	Foam Fabricating Inc
1743	2007	48796	260033445	Foam Fabricating Inc
1744	2007	48796	260033445	Foam Fabricating Inc
1745	2007	48796	260033445	Foam Fabricating Inc
1746	2007	48796	260033445	Foam Fabricating Inc
1747	2007	48796	260033445	Foam Fabricating Inc
1748	2007	48796	260033445	Foam Fabricating Inc
1749	2007	48796	260033445	Foam Fabricating Inc

	J	K	L	M
1700	1120 Judd Rd	Chattanooga	TN	374064700
1701	1120 Judd Rd	Chattanooga	TN	374064700
1702	1120 Judd Rd	Chattanooga	TN	374064700
1703	1120 Judd Rd	Chattanooga	TN	374064700
1704	1120 Judd Rd	Chattanooga	TN	374064700
1705	1120 Judd Rd	Chattanooga	TN	374064700
1706	1120 Judd Rd	Chattanooga	TN	374064700
1707	1120 Judd Rd	Chattanooga	TN	374064700
1708	1120 Judd Rd	Chattanooga	TN	374064700
1709	1120 Judd Rd	Chattanooga	TN	374064700
1710	1120 Judd Rd	Chattanooga	TN	374064700
1711	1120 Judd Rd	Chattanooga	TN	374064700
1712				
1713	1120 Judd Rd	Chattanooga	TN	374064700
1714	1120 Judd Rd	Chattanooga	TN	374064700
1715	1120 Judd Rd	Chattanooga	TN	374064700
1716	1120 Judd Rd	Chattanooga	TN	374064700
1717	1120 Judd Rd	Chattanooga	TN	374064700
1718	1120 Judd Rd	Chattanooga	TN	374064700
1719	1120 Judd Rd	Chattanooga	TN	374064700
1720	1120 Judd Rd	Chattanooga	TN	374064700
1721	1120 Judd Rd	Chattanooga	TN	374064700
1722	1120 Judd Rd	Chattanooga	TN	374064700
1723	1120 Judd Rd	Chattanooga	TN	374064700
1724	1120 Judd Rd	Chattanooga	TN	374064700
1725				
1726	1120 Judd Rd	Chattanooga	TN	374064700
1727	1120 Judd Rd	Chattanooga	TN	374064700
1728	1120 Judd Rd	Chattanooga	TN	374064700
1729	1120 Judd Rd	Chattanooga	TN	374064700
1730	1120 Judd Rd	Chattanooga	TN	374064700
1731	1120 Judd Rd	Chattanooga	TN	374064700
1732	1120 Judd Rd	Chattanooga	TN	374064700
1733	1120 Judd Rd	Chattanooga	TN	374064700
1734	1120 Judd Rd	Chattanooga	TN	374064700
1735	1120 Judd Rd	Chattanooga	TN	374064700
1736	1120 Judd Rd	Chattanooga	TN	374064700
1737	1120 Judd Rd	Chattanooga	TN	374064700
1738				
1739	1120 Judd Rd	Chattanooga	TN	374064700
1740	1120 Judd Rd	Chattanooga	TN	374064700
1741	1120 Judd Rd	Chattanooga	TN	374064700
1742	1120 Judd Rd	Chattanooga	TN	374064700
1743	1120 Judd Rd	Chattanooga	TN	374064700
1744	1120 Judd Rd	Chattanooga	TN	374064700
1745	1120 Judd Rd	Chattanooga	TN	374064700
1746	1120 Judd Rd	Chattanooga	TN	374064700
1747	1120 Judd Rd	Chattanooga	TN	374064700
1748	1120 Judd Rd	Chattanooga	TN	374064700
1749	1120 Judd Rd	Chattanooga	TN	374064700

	N	O	P	Q
1700	184.76	1000G	486.37	A3M4
1701	174.29	1000G	463.26	A3M4
1702	170.55	1000G	455	A3M4
1703	118.94	1000G	341.08	A3M4
1704	97.24	1000G	293.21	A3M4
1705	45.63	1000G	175.38	A3M4
1706	53.85	1000G	197.45	A3M4
1707	56.1	1000G	202.4	A3M4
1708	53.85	1000G	197.45	A3M4
1709	66.57	1000G	225.51	A3M4
1710	69.56	1000G	232.12	A3M4
1711	145.12	1000G	398.87	A3M4
1712	1236.46		3668.1	
1713	139.88	1000G	387.31	A3M4
1714	162.32	1000G	436.84	A3M4
1715	205.71	1000G	532.6	A3M4
1716	141.38	1000G	403.93	A3M4
1717	88.27	1000G	284	A3M4
1718	78.54	1000G	261.7	A3M4
1719	55.35	1000G	208.54	A3M4
1720	61.34	1000G	222.26	A3M4
1721	72.56	1000G	247.98	A3M4
1722	51.61	1000G	199.96	A3M4
1723	74.05	1000G	251.41	A3M4
1724	102.48	1000G	316.58	A3M4
1725	1233.49		3753.11	
1726	172.8	1000G	477.79	A3M4
1727	160.08	1000G	448.64	A3M4
1728	169.05	1000G	469.22	A3M4
1729	126.42	1000G	371.46	A3M4
1730	77.79	1000G	259.99	A3M4
1731	81.53	1000G	268.56	A3M4
1732	69.56	1000G	241.12	A3M4
1733	60.59	1000G	220.54	A3M4
1734	61.34	1000G	222.26	A3M4
1735	62.83	1000G	225.69	A3M4
1736	71.06	1000G	244.55	A3M4
1737	125.67	1000G	369.75	A3M4
1738	1238.72		3819.57	
1739	143.62	1000G	410.91	A3M4
1740	162.32	1000G	453.78	A3M4
1741	172.79	1000G	477.79	A3M4
1742	-172.79	1000G	-477.79	A3M4
1743	276.02	1000G	796.09	A3M4
1744	77.79	1000G	259.99	A3M4
1745	62.08	1000G	234.3	A3M4
1746	51.61	1000G	225.09	A3M4
1747	52.36	1000G	227.03	A3M4
1748	56.85	1000G	238.61	A3M4
1749	56.1	1000G	236.68	A3M4

	A	B	C	D	E
1750	2600	2603	26CC	3	11
1751	2600	2603	26CC	3	12
1752					
1753	2600	2603	26CC	3	1
1754	2600	2603	26CC	3	2
1755	2600	2603	26CC	3	3
1756					
1757	2600	2603	26CC	3	1
1758	2600	2603	26CC	3	2
1759	2600	2603	26CC	3	3
1760	2600	2603	26CC	3	4
1761	2600	2603	26CC	3	5
1762	2600	2603	26CC	3	6
1763	2600	2603	26CC	3	7
1764	2600	2603	26CC	3	8
1765	2600	2603	26CC	3	9
1766	2600	2603	26CC	3	10
1767	2600	2603	26CC	3	11
1768	2600	2603	26CC	3	12
1769					
1770	2600	2603	26CC	3	1
1771	2600	2603	26CC	3	2
1772	2600	2603	26CC	3	3
1773	2600	2603	26CC	3	4
1774	2600	2603	26CC	3	5
1775	2600	2603	26CC	3	6
1776	2600	2603	26CC	3	7
1777	2600	2603	26CC	3	8
1778	2600	2603	26CC	3	9
1779	2600	2603	26CC	3	10
1780	2600	2603	26CC	3	11
1781	2600	2603	26CC	3	12
1782					
1783	2600	2603	26CC	3	1
1784	2600	2603	26CC	3	2
1785	2600	2603	26CC	3	3
1786	2600	2603	26CC	3	4
1787	2600	2603	26CC	3	5
1788	2600	2603	26CC	3	6
1789	2600	2603	26CC	3	7
1790	2600	2603	26CC	3	8
1791	2600	2603	26CC	3	9
1792	2600	2603	26CC	3	10
1793	2600	2603	26CC	3	11
1794	2600	2603	26CC	3	12
1795					
1796	2600	2603	26CC	3	1
1797	2600	2603	26CC	3	2
1798	2600	2603	26CC	3	3
1799	2600	2603	26CC	3	4

	F	G	H	I
1750	2007	48796	260033445	Foam Fabricating Inc
1751	2007	48796	260033445	Foam Fabricating Inc
1752	**2007 Total**			
1753	2008	48796	260033445	Foam Fabricating Inc
1754	2008	48796	260033445	Foam Fabricating Inc
1755	2008	48796	260033445	Foam Fabricating Inc
1756	**2008 Total**			
1757	2004	48797	260033446	Foam Fabricating Inc
1758	2004	48797	260033446	Foam Fabricating Inc
1759	2004	48797	260033446	Foam Fabricating Inc
1760	2004	48797	260033446	Foam Fabricating Inc
1761	2004	48797	260033446	Foam Fabricating Inc
1762	2004	48797	260033446	Foam Fabricating Inc
1763	2004	48797	260033446	Foam Fabricating Inc
1764	2004	48797	260033446	Foam Fabricating Inc
1765	2004	48797	260033446	Foam Fabricating Inc
1766	2004	48797	260033446	Foam Fabricating Inc
1767	2004	48797	260033446	Foam Fabricating Inc
1768	2004	48797	260033446	Foam Fabricating Inc
1769	**2004 Total**			
1770	2005	48797	260033446	Foam Fabricating Inc
1771	2005	48797	260033446	Foam Fabricating Inc
1772	2005	48797	260033446	Foam Fabricating Inc
1773	2005	48797	260033446	Foam Fabricating Inc
1774	2005	48797	260033446	Foam Fabricating Inc
1775	2005	48797	260033446	Foam Fabricating Inc
1776	2005	48797	260033446	Foam Fabricating Inc
1777	2005	48797	260033446	Foam Fabricating Inc
1778	2005	48797	260033446	Foam Fabricating Inc
1779	2005	48797	260033446	Foam Fabricating Inc
1780	2005	48797	260033446	Foam Fabricating Inc
1781	2005	48797	260033446	Foam Fabricating Inc
1782	**2005 Total**			
1783	2006	48797	260033446	Foam Fabricating Inc
1784	2006	48797	260033446	Foam Fabricating Inc
1785	2006	48797	260033446	Foam Fabricating Inc
1786	2006	48797	260033446	Foam Fabricating Inc
1787	2006	48797	260033446	Foam Fabricating Inc
1788	2006	48797	260033446	Foam Fabricating Inc
1789	2006	48797	260033446	Foam Fabricating Inc
1790	2006	48797	260033446	Foam Fabricating Inc
1791	2006	48797	260033446	Foam Fabricating Inc
1792	2006	48797	260033446	Foam Fabricating Inc
1793	2006	48797	260033446	Foam Fabricating Inc
1794	2006	48797	260033446	Foam Fabricating Inc
1795	**2006 Total**			
1796	2007	48797	260033446	Foam Fabricating Inc
1797	2007	48797	260033446	Foam Fabricating Inc
1798	2007	48797	260033446	Foam Fabricating Inc
1799	2007	48797	260033446	Foam Fabricating Inc

	J	K	L	M
1750	1120 Judd Rd	Chattanooga	TN	374064700
1751	1120 Judd Rd	Chattanooga	TN	374064700
1752				
1753	1120 Judd Rd	Chattanooga	TN	374064700
1754	1120 Judd Rd	Chattanooga	TN	374064700
1755	1120 Judd Rd	Chattanooga	TN	374064700
1756				
1757	1120 Judd Rd	Chattanooga	TN	374064700
1758	1120 Judd Rd	Chattanooga	TN	374064700
1759	1120 Judd Rd	Chattanooga	TN	374064700
1760	1120 Judd Rd	Chattanooga	TN	374064700
1761	1120 Judd Rd	Chattanooga	TN	374064700
1762	1120 Judd Rd	Chattanooga	TN	374064700
1763	1120 Judd Rd	Chattanooga	TN	374064700
1764	1120 Judd Rd	Chattanooga	TN	374064700
1765	1120 Judd Rd	Chattanooga	TN	374064700
1766	1120 Judd Rd	Chattanooga	TN	374064700
1767	1120 Judd Rd	Chattanooga	TN	374064700
1768	1120 Judd Rd	Chattanooga	TN	374064700
1769				
1770	1120 Judd Rd	Chattanooga	TN	374064700
1771	1120 Judd Rd	Chattanooga	TN	374064700
1772	1120 Judd Rd	Chattanooga	TN	374064700
1773	1120 Judd Rd	Chattanooga	TN	374064700
1774	1120 Judd Rd	Chattanooga	TN	374064700
1775	1120 Judd Rd	Chattanooga	TN	374064700
1776	1120 Judd Rd	Chattanooga	TN	374064700
1777	1120 Judd Rd	Chattanooga	TN	374064700
1778	1120 Judd Rd	Chattanooga	TN	374064700
1779	1120 Judd Rd	Chattanooga	TN	374064700
1780	1120 Judd Rd	Chattanooga	TN	374064700
1781	1120 Judd Rd	Chattanooga	TN	374064700
1782				
1783	1120 Judd Rd	Chattanooga	TN	374064700
1784	1120 Judd Rd	Chattanooga	TN	374064700
1785	1120 Judd Rd	Chattanooga	TN	374064700
1786	1120 Judd Rd	Chattanooga	TN	374064700
1787	1120 Judd Rd	Chattanooga	TN	374064700
1788	1120 Judd Rd	Chattanooga	TN	374064700
1789	1120 Judd Rd	Chattanooga	TN	374064700
1790	1120 Judd Rd	Chattanooga	TN	374064700
1791	1120 Judd Rd	Chattanooga	TN	374064700
1792	1120 Judd Rd	Chattanooga	TN	374064700
1793	1120 Judd Rd	Chattanooga	TN	374064700
1794	1120 Judd Rd	Chattanooga	TN	374064700
1795				
1796	1120 Judd Rd	Chattanooga	TN	374064700
1797	1120 Judd Rd	Chattanooga	TN	374064700
1798	1120 Judd Rd	Chattanooga	TN	374064700
1799	1120 Judd Rd	Chattanooga	TN	374064700

	N	O	P	Q
1750	62.83	1000G	254.06	A3M4
1751	95.75	1000G	339.02	A3M4
1752	1097.33		3675.56	
1753	112.2	1000G	381.51	A3M4
1754	153.35	1000G	487.71	A3M4
1755	175.04	1000G	543.71	A3M4
1756	440.59		1412.93	
1757	0	1000G	24.92	A3M4
1758	0	1000G	24.92	A3M4
1759	0	1000G	24.92	A3M4
1760	0	1000G	24.92	A3M4
1761	0	1000G	24.92	A3M4
1762	0	1000G	24.92	A3M4
1763	0	1000G	24.92	A3M4
1764	0	1000G	24.92	A3M4
1765	0	1000G	24.92	A3M4
1766	0	1000G	24.92	A3M4
1767	0	1000G	24.92	A3M4
1768	0	1000G	24.92	A3M4
1769	0		299.04	
1770	0	1000G	24.92	A3M4
1771	0	1000G	24.92	A3M4
1772	0	1000G	24.92	A3M4
1773	0.74	1000G	25.93	A3M4
1774	0	1000G	25.88	A3M4
1775	0	1000G	25.88	A3M4
1776	0.74	1000G	26.05	A3M4
1777	0.74	1000G	26.05	A3M4
1778	0	1000G	25.88	A3M4
1779	0	1000G	25.88	A3M4
1780	2.99	1000G	26.57	A3M4
1781	0	1000G	25.88	A3M4
1782	5.21		308.76	
1783	0	1000G	25.88	A3M4
1784	0	1000G	25.88	A3M4
1785	0	1000G	25.88	A3M4
1786	0	1000G	25.88	A3M4
1787	1.49	1000G	26.22	A3M4
1788	3.74	1000G	29.3	A3M4
1789	2.99	1000G	26.57	A3M4
1790	0	1000G	25.88	A3M4
1791	2.24	1000G	26.4	A3M4
1792	0	1000G	25.88	A3M4
1793	0	1000G	25.88	A3M4
1794	0.74	1000G	26.05	A3M4
1795	11.2		315.7	
1796	0.74	1000G	26.05	A3M4
1797	0.74	1000G	26.05	A3M4
1798	2.99	1000G	26.57	A3M4
1799	4.48	1000G	32.03	A3M4

	A	B	C	D	E
1800	2600	2603	26CC	3	5
1801	2600	2603	26CC	3	6
1802	2600	2603	26CC	3	7
1803	2600	2603	26CC	3	8
1804	2600	2603	26CC	3	9
1805	2600	2603	26CC	3	10
1806	2600	2603	26CC	3	11
1807	2600	2603	26CC	3	12
1808					
1809	2600	2603	26CC	3	1
1810	2600	2603	26CC	3	2
1811	2600	2603	26CC	3	3
1812					
1813	2600	2603	26CC	3	1
1814	2600	2603	26CC	3	2
1815	2600	2603	26CC	3	3
1816	2600	2603	26CC	3	4
1817	2600	2603	26CC	3	5
1818	2600	2603	26CC	3	6
1819	2600	2603	26CC	3	7
1820	2600	2603	26CC	3	8
1821	2600	2603	26CC	3	9
1822	2600	2603	26CC	3	10
1823	2600	2603	26CC	3	11
1824	2600	2603	26CC	3	12
1825	2600	2603	26CC	3	12
1826	2600	2603	26CC	3	1
1827	2600	2603	26CC	3	2
1828	2600	2603	26CC	3	3
1829	2600	2603	26CC	3	4
1830	2600	2603	26CC	3	5
1831	2600	2603	26CC	3	6
1832	2600	2603	26CC	3	7
1833	2600	2603	26CC	3	8
1834	2600	2603	26CC	3	9
1835	2600	2603	26CC	3	10
1836	2600	2603	26CC	3	11
1837	2600	2603	26CC	3	12
1838	2600	2603	26CC	3	12
1839					
1840	2600	2603	26CC	3	1
1841	2600	2603	26CC	3	2
1842	2600	2603	26CC	3	3
1843	2600	2603	26CC	3	4
1844	2600	2603	26CC	3	5
1845	2600	2603	26CC	3	6
1846	2600	2603	26CC	3	7
1847	2600	2603	26CC	3	8
1848	2600	2603	26CC	3	9
1849	2600	2603	26CC	3	10

	F	G	H	I
1800	2007	48797	260033446	Foam Fabricating Inc
1801	2007	48797	260033446	Foam Fabricating Inc
1802	2007	48797	260033446	Foam Fabricating Inc
1803	2007	48797	260033446	Foam Fabricating Inc
1804	2007	48797	260033446	Foam Fabricating Inc
1805	2007	48797	260033446	Foam Fabricating Inc
1806	2007	48797	260033446	Foam Fabricating Inc
1807	2007	48797	260033446	Foam Fabricating Inc
1808	**2007 Total**			
1809	2008	48797	260033446	Foam Fabricating Inc
1810	2008	48797	260033446	Foam Fabricating Inc
1811	2008	48797	260033446	Foam Fabricating Inc
1812	**2008 Total**			
1813	2004	48815	260033461	Synair Corp
1814	2004	48815	260033461	Synair Corp
1815	2004	48815	260033461	Synair Corp
1816	2004	48815	260033461	Synair Corp
1817	2004	48815	260033461	Synair Corp
1818	2004	48815	260033461	Synair Corp
1819	2004	48815	260033461	Synair Corp
1820	2004	48815	260033461	Synair Corp
1821	2004	48815	260033461	Synair Corp
1822	2004	48815	260033461	Synair Corp
1823	2004	48815	260033461	Synair Corp
1824	2004	48815	260033461	Synair Corp
1825	2004	48815	260033461	Synair Corp
1826	2004	48816	260033462	Synair Corp
1827	2004	48816	260033462	Synair Corp
1828	2004	48816	260033462	Synair Corp
1829	2004	48816	260033462	Synair Corp
1830	2004	48816	260033462	Synair Corp
1831	2004	48816	260033462	Synair Corp
1832	2004	48816	260033462	Synair Corp
1833	2004	48816	260033462	Synair Corp
1834	2004	48816	260033462	Synair Corp
1835	2004	48816	260033462	Synair Corp
1836	2004	48816	260033462	Synair Corp
1837	2004	48816	260033462	Synair Corp
1838	2004	48816	260033462	Synair Corp
1839	**2004 Total**			
1840	2003	48833	260033477	A & B Recycling Inc
1841	2003	48833	260033477	A & B Recycling Inc
1842	2003	48833	260033477	A & B Recycling Inc
1843	2003	48833	260033477	A & B Recycling Inc
1844	2003	48833	260033477	A & B Recycling Inc
1845	2003	48833	260033477	A & B Recycling Inc
1846	2003	48833	260033477	A & B Recycling Inc
1847	2003	48833	260033477	A & B Recycling Inc
1848	2003	48833	260033477	A & B Recycling Inc
1849	2003	48833	260033477	A & B Recycling Inc

	J	K	L	M
1800	1120 Judd Rd	Chattanooga	TN	374064700
1801	1120 Judd Rd	Chattanooga	TN	374064700
1802	1120 Judd Rd	Chattanooga	TN	374064700
1803	1120 Judd Rd	Chattanooga	TN	374064700
1804	1120 Judd Rd	Chattanooga	TN	374064700
1805	1120 Judd Rd	Chattanooga	TN	374064700
1806	1120 Judd Rd	Chattanooga	TN	374064700
1807	1120 Judd Rd	Chattanooga	TN	374064700
1808				
1809	1120 Judd Rd	Chattanooga	TN	374064700
1810	1120 Judd Rd	Chattanooga	TN	374064700
1811	1120 Judd Rd	Chattanooga	TN	374064700
1812				
1813	2001 Curtain Pole Rd	Chattanooga	TN	374062304
1814	2001 Curtain Pole Rd	Chattanooga	TN	374062304
1815	2001 Curtain Pole Rd	Chattanooga	TN	374062304
1816	2001 Curtain Pole Rd	Chattanooga	TN	374062304
1817	2001 Curtain Pole Rd	Chattanooga	TN	374062304
1818	2001 Curtain Pole Rd	Chattanooga	TN	374062304
1819	2001 Curtain Pole Rd	Chattanooga	TN	374062304
1820	2001 Curtain Pole Rd	Chattanooga	TN	374062304
1821	2001 Curtain Pole Rd	Chattanooga	TN	374062304
1822	2001 Curtain Pole Rd	Chattanooga	TN	374062304
1823	2001 Curtain Pole Rd	Chattanooga	TN	374062304
1824	2001 Curtain Pole Rd	Chattanooga	TN	374062304
1825	2001 Curtain Pole Rd	Chattanooga	TN	374062304
1826	2003 Curtain Pole Rd	Chattanooga	TN	374062304
1827	2003 Curtain Pole Rd	Chattanooga	TN	374062304
1828	2003 Curtain Pole Rd	Chattanooga	TN	374062304
1829	2003 Curtain Pole Rd	Chattanooga	TN	374062304
1830	2003 Curtain Pole Rd	Chattanooga	TN	374062304
1831	2003 Curtain Pole Rd	Chattanooga	TN	374062304
1832	2003 Curtain Pole Rd	Chattanooga	TN	374062304
1833	2003 Curtain Pole Rd	Chattanooga	TN	374062304
1834	2003 Curtain Pole Rd	Chattanooga	TN	374062304
1835	2003 Curtain Pole Rd	Chattanooga	TN	374062304
1836	2003 Curtain Pole Rd	Chattanooga	TN	374062304
1837	2003 Curtain Pole Rd	Chattanooga	TN	374062304
1838	2003 Curtain Pole Rd	Chattanooga	TN	374062304
1839				
1840	3115 FREEMAN AVE	CHATTANOOGA	TN	374063068
1841	3115 FREEMAN AVE	CHATTANOOGA	TN	374063068
1842	3115 FREEMAN AVE	CHATTANOOGA	TN	374063068
1843	3115 FREEMAN AVE	CHATTANOOGA	TN	374063068
1844	3115 FREEMAN AVE	CHATTANOOGA	TN	374063068
1845	3115 FREEMAN AVE	CHATTANOOGA	TN	374063068
1846	3115 FREEMAN AVE	CHATTANOOGA	TN	374063068
1847	3115 FREEMAN AVE	CHATTANOOGA	TN	374063068
1848	3115 FREEMAN AVE	CHATTANOOGA	TN	374063068
1849	3115 FREEMAN AVE	CHATTANOOGA	TN	374063068

	N	O	P	Q
1800	2.99	1000G	26.57	A3M4
1801	8.22	1000G	47.79	A3M4
1802	5.23	1000G	39.14	A3M4
1803	4.48	1000G	36.07	A3M4
1804	3.74	1000G	32.99	A3M4
1805	21.69	1000G	106.75	A3M4
1806	5.98	1000G	42.21	A3M4
1807	2.24	1000G	29.72	A3M4
1808	63.52		471.94	
1809	2.99	1000G	29.92	A3M4
1810	2.24	1000G	29.72	A3M4
1811	2.24	1000G	29.72	A3M4
1812	7.47		89.36	
1813	189.25	1000G	496.28	A3M4
1814	169.8	1000G	453.35	A3M4
1815	175.04	1000G	464.91	A3M4
1816	206.46	1000G	534.25	A3M4
1817	204.21	1000G	529.3	A3M4
1818	273.03	1000G	681.19	A3M4
1819	228.9	1000G	583.78	A3M4
1820	217.68	1000G	559.02	A3M4
1821	272.29	1000G	679.54	A3M4
1822	240.87	1000G	610.2	A3M4
1823	244.61	1000G	618.45	A3M4
1824	53.85	1000G	142.45	A3M4
1825	222.91	1000G	570.57	A3M4
1826	11.22	1000G	54.49	A3M4
1827	100.23	1000G	299.81	A3M4
1828	27.67	1000G	112.3	A3M4
1829	38.89	1000G	151.72	A3M4
1830	41.89	1000G	162.24	A3M4
1831	42.63	1000G	164.86	A3M4
1832	38.15	1000G	149.1	A3M4
1833	68.82	1000G	230.47	A3M4
1834	80.04	1000G	255.23	A3M4
1835	47.12	1000G	180.63	A3M4
1836	17.2	1000G	75.51	A3M4
1837	2.99	1000G	15.04	A3M4
1838	25.43	1000G	104.42	A3M4
1839	3241.18		8879.11	
1840	5.23	1000G	17.67	A3M4
1841	21.69	1000G	77.02	A3M4
1842	2.99	1000G	9.68	A3M4
1843	5.23	1000G	17.67	A3M4
1844	5.23	1000G	17.67	A3M4
1845	53.11	1000G	182.12	A3M4
1846	4.48	1000G	23.34	A3M4
1847	2.24	1000G	8.75	A3M4
1848	0.74	1000G	9.09	A3M4
1849	11.22	1000G	38.49	A3M4

	A	B	C	D	E
1850	2600	2603	26CC	3	11
1851					
1852	2600	2603	26CC	3	1
1853	2600	2603	26CC	3	2
1854	2600	2603	26CC	3	3
1855	2600	2603	26CC	3	4
1856	2600	2603	26CC	3	5
1857	2600	2603	26CC	3	6
1858	2600	2603	26CC	3	7
1859	2600	2603	26CC	3	8
1860	2600	2603	26CC	3	9
1861	2600	2603	26CC	3	10
1862	2600	2603	26CC	3	11
1863	2600	2603	26CC	3	12
1864					
1865	2600	2603	26CC	3	1
1866	2600	2603	26CC	3	2
1867	2600	2603	26CC	3	3
1868	2600	2603	26CC	3	4
1869	2600	2603	26CC	3	5
1870	2600	2603	26CC	3	6
1871	2600	2603	26CC	3	7
1872	2600	2603	26CC	3	8
1873	2600	2603	26CC	3	9
1874	2600	2603	26CC	3	10
1875	2600	2603	26CC	3	11
1876	2600	2603	26CC	3	12
1877					
1878	2600	2603	26CC	3	1
1879	2600	2603	26CC	3	2
1880	2600	2603	26CC	3	3
1881	2600	2603	26CC	3	4
1882	2600	2603	26CC	3	5
1883	2600	2603	26CC	3	6
1884	2600	2603	26CC	3	7
1885	2600	2603	26CC	3	8
1886	2600	2603	26CC	3	9
1887	2600	2603	26CC	3	10
1888	2600	2603	26CC	3	11
1889	2600	2603	26CC	3	12
1890					
1891	2600	2603	26CC	3	1
1892	2600	2603	26CC	3	2
1893	2600	2603	26CC	3	3
1894	2600	2603	26CC	3	4
1895	2600	2603	26CC	3	5
1896	2600	2603	26CC	3	6
1897	2600	2603	26CC	3	7
1898	2600	2603	26CC	3	8
1899	2600	2603	26CC	3	9

	F	G	H	I
1850	2003	48833	260033477	A & B Recycling Inc
1851	**2003 Total**			
1852	2004	48836	260033480	Nu Foam Products
1853	2004	48836	260033480	Nu Foam Products
1854	2004	48836	260033480	Nu Foam Products
1855	2004	48836	260033480	Nu Foam Products
1856	2004	48836	260033480	Nu Foam Products
1857	2004	48836	260033480	Nu Foam Products
1858	2004	48836	260033480	Nu Foam Products
1859	2004	48836	260033480	Nu Foam Products
1860	2004	48836	260033480	Nu Foam Products
1861	2004	48836	260033480	Nu Foam Products
1862	2004	48836	260033480	Nu Foam Products
1863	2004	48836	260033480	Nu Foam Products
1864	**2004 Total**			
1865	2005	48836	260033480	Nu Foam Products
1866	2005	48836	260033480	Nu Foam Products
1867	2005	48836	260033480	Nu Foam Products
1868	2005	48836	260033480	Nu Foam Products
1869	2005	48836	260033480	Nu Foam Products
1870	2005	48836	260033480	Nu Foam Products
1871	2005	48836	260033480	Nu Foam Products
1872	2005	48836	260033480	Nu Foam Products
1873	2005	48836	260033480	Nu Foam Products
1874	2005	48836	260033480	Nu Foam Products
1875	2005	48836	260033480	Nu Foam Products
1876	2005	48836	260033480	Nu Foam Products
1877	**2005 Total**			
1878	2006	48836	260033480	Nu Foam Products
1879	2006	48836	260033480	Nu Foam Products
1880	2006	48836	260033480	Nu Foam Products
1881	2006	48836	260033480	Nu Foam Products
1882	2006	48836	260033480	Nu Foam Products
1883	2006	48836	260033480	Nu Foam Products
1884	2006	48836	260033480	Nu Foam Products
1885	2006	48836	260033480	Nu Foam Products
1886	2006	48836	260033480	Nu Foam Products
1887	2006	48836	260033480	Nu Foam Products
1888	2006	48836	260033480	Nu Foam Products
1889	2006	48836	260033480	Nu Foam Products
1890	**2006 Total**			
1891	2007	48836	260033480	Nu Foam Products
1892	2007	48836	260033480	Nu Foam Products
1893	2007	48836	260033480	Nu Foam Products
1894	2007	48836	260033480	Nu Foam Products
1895	2007	48836	260033480	Nu Foam Products
1896	2007	48836	260033480	Nu Foam Products
1897	2007	48836	260033480	Nu Foam Products
1898	2007	48836	260033480	Nu Foam Products
1899	2007	48836	260033480	Nu Foam Products

	J	K	L	M
1850	3115 FREEMAN AVE	CHATTANOOGA	TN	374063068
1851				
1852	1101 Wisdom St	Chattanooga	TN	374061756
1853	1101 Wisdom St	Chattanooga	TN	374061756
1854	1101 Wisdom St	Chattanooga	TN	374061756
1855	1101 Wisdom St	Chattanooga	TN	374061756
1856	1101 Wisdom St	Chattanooga	TN	374061756
1857	1101 Wisdom St	Chattanooga	TN	374061756
1858	1101 Wisdom St	Chattanooga	TN	374061756
1859	1101 Wisdom St	Chattanooga	TN	374061756
1860	1101 Wisdom St	Chattanooga	TN	374061756
1861	1101 Wisdom St	Chattanooga	TN	374061756
1862	1101 Wisdom St	Chattanooga	TN	374061756
1863	1101 Wisdom St	Chattanooga	TN	374061756
1864				
1865	1101 Wisdom St	Chattanooga	TN	374061756
1866	1101 Wisdom St	Chattanooga	TN	374061756
1867	1101 Wisdom St	Chattanooga	TN	374061756
1868	1101 Wisdom St	Chattanooga	TN	374061756
1869	1101 Wisdom St	Chattanooga	TN	374061756
1870	1101 Wisdom St	Chattanooga	TN	374061756
1871	1101 Wisdom St	Chattanooga	TN	374061756
1872	1101 Wisdom St	Chattanooga	TN	374061756
1873	1101 Wisdom St	Chattanooga	TN	374061756
1874	1101 Wisdom St	Chattanooga	TN	374061756
1875	1101 Wisdom St	Chattanooga	TN	374061756
1876	1101 Wisdom St	Chattanooga	TN	374061756
1877				
1878	1101 Wisdom St	Chattanooga	TN	374061756
1879	1101 Wisdom St	Chattanooga	TN	374061756
1880	1101 Wisdom St	Chattanooga	TN	374061756
1881	1101 Wisdom St	Chattanooga	TN	374061756
1882	1101 Wisdom St	Chattanooga	TN	374061756
1883	1101 Wisdom St	Chattanooga	TN	374061756
1884	1101 Wisdom St	Chattanooga	TN	374061756
1885	1101 Wisdom St	Chattanooga	TN	374061756
1886	1101 Wisdom St	Chattanooga	TN	374061756
1887	1101 Wisdom St	Chattanooga	TN	374061756
1888	1101 Wisdom St	Chattanooga	TN	374061756
1889	1101 Wisdom St	Chattanooga	TN	374061756
1890				
1891	1101 Wisdom St	Chattanooga	TN	374061756
1892	1101 Wisdom St	Chattanooga	TN	374061756
1893	1101 Wisdom St	Chattanooga	TN	374061756
1894	1101 Wisdom St	Chattanooga	TN	374061756
1895	1101 Wisdom St	Chattanooga	TN	374061756
1896	1101 Wisdom St	Chattanooga	TN	374061756
1897	1101 Wisdom St	Chattanooga	TN	374061756
1898	1101 Wisdom St	Chattanooga	TN	374061756
1899	1101 Wisdom St	Chattanooga	TN	374061756

	N	O	P	Q
1850	11.22	1000G	38.7	A3M4
1851	123.38		440.2	
1852	11.96	1000G	57.12	A3M4
1853	11.22	1000G	54.49	A3M4
1854	11.96	1000G	57.12	A3M4
1855	11.22	1000G	54.49	A3M4
1856	12.71	1000G	59.74	A3M4
1857	10.47	1000G	51.86	A3M4
1858	11.22	1000G	54.49	A3M4
1859	13.46	1000G	62.37	A3M4
1860	14.21	1000G	65	A3M4
1861	11.22	1000G	54.49	A3M4
1862	9.72	1000G	49.23	A3M4
1863	11.22	1000G	54.49	A3M4
1864	140.59		674.89	
1865	14.21	1000G	65	A3M4
1866	16.45	1000G	72.88	A3M4
1867	12.71	1000G	59.74	A3M4
1868	11.96	1000G	59.06	A3M4
1869	7.48	1000G	42.95	A3M4
1870	8.22	1000G	45.68	A3M4
1871	8.22	1000G	45.68	A3M4
1872	8.97	1000G	48.41	A3M4
1873	12.71	1000G	62.06	A3M4
1874	13.46	1000G	64.79	A3M4
1875	12.71	1000G	62.06	A3M4
1876	21.69	1000G	94.82	A3M4
1877	148.79		723.13	
1878	18.7	1000G	83.9	A3M4
1879	14.96	1000G	70.25	A3M4
1880	10.47	1000G	53.87	A3M4
1881	8.97	1000G	48.41	A3M4
1882	8.97	1000G	48.41	A3M4
1883	12.71	1000G	62.06	A3M4
1884	12.71	1000G	62.06	A3M4
1885	11.22	1000G	56.6	A3M4
1886	16.45	1000G	75.71	A3M4
1887	10.47	1000G	53.87	A3M4
1888	13.46	1000G	64.79	A3M4
1889	5.98	1000G	37.49	A3M4
1890	145.07		717.42	
1891	16.45	1000G	75.71	A3M4
1892	-2.99	1000G	4.73	A3M4
1893	6.73	1000G	40.22	A3M4
1894	6.73	1000G	40.22	A3M4
1895	5.23	1000G	34.76	A3M4
1896	5.23	1000G	36.37	A3M4
1897	12.71	1000G	69.87	A3M4
1898	38.14	1000G	174.36	A3M4
1899	54.6	1000G	232.82	A3M4

	A	B	C	D	E
1900	2600	2603	26CC	3	10
1901	2600	2603	26CC	3	11
1902	2600	2603	26CC	3	12
1903					
1904	2600	2603	26CC	3	1
1905	2600	2603	26CC	3	2
1906	2600	2603	26CC	3	3
1907					
1908	2600	2603	26CC	3	1
1909	2600	2603	26CC	3	2
1910	2600	2603	26CC	3	3
1911	2600	2603	26CC	3	4
1912	2600	2603	26CC	3	5
1913	2600	2603	26CC	3	6
1914	2600	2603	26CC	3	7
1915	2600	2603	26CC	3	8
1916	2600	2603	26CC	3	9
1917	2600	2603	26CC	3	10
1918	2600	2603	26CC	3	11
1919	2600	2603	26CC	3	12
1920					
1921	2600	2603	26CC	3	1
1922	2600	2603	26CC	3	2
1923	2600	2603	26CC	3	3
1924	2600	2603	26CC	3	4
1925	2600	2603	26CC	3	5
1926	2600	2603	26CC	3	6
1927	2600	2603	26CC	3	7
1928	2600	2603	26CC	3	8
1929	2600	2603	26CC	3	9
1930	2600	2603	26CC	3	9
1931	2600	2603	26CC	3	1
1932	2600	2603	26CC	3	2
1933	2600	2603	26CC	3	3
1934	2600	2603	26CC	3	4
1935	2600	2603	26CC	3	1
1936	2600	2603	26CC	3	2
1937	2600	2603	26CC	3	3
1938	2600	2603	26CC	3	4
1939	2600	2603	26CC	3	5
1940	2600	2603	26CC	3	6
1941	2600	2603	26CC	3	7
1942	2600	2603	26CC	3	8
1943	2600	2603	26CC	3	9
1944	2600	2603	26CC	3	10
1945	2600	2603	26CC	3	11
1946	2600	2603	26CC	3	12
1947					
1948	2600	2603	26CC	3	1
1949	2600	2603	26CC	3	2

	F	G	H	I
1900	2007	48836	260033480	Nu Foam Products
1901	2007	48836	260033480	Nu Foam Products
1902	2007	48836	260033480	Nu Foam Products
1903	**2007 Total**			
1904	2008	48836	260033480	Nu Foam Products
1905	2008	48836	260033480	Nu Foam Products
1906	2008	48836	260033480	Nu Foam Products
1907	**2008 Total**			
1908	2003	48837	260033481	Village Smith Lp
1909	2003	48837	260033481	Village Smith Lp
1910	2003	48837	260033481	Village Smith Lp
1911	2003	48837	260033481	Village Smith Lp
1912	2003	48837	260033481	Village Smith Lp
1913	2003	48837	260033481	Village Smith Lp
1914	2003	48837	260033481	Village Smith Lp
1915	2003	48837	260033481	Village Smith Lp
1916	2003	48837	260033481	Village Smith Lp
1917	2003	48837	260033481	Village Smith Lp
1918	2003	48837	260033481	Village Smith Lp
1919	2003	48837	260033481	Village Smith Lp
1920	**2003 Total**			
1921	2004	48837	260033481	Village Smith Lp
1922	2004	48837	260033481	Village Smith Lp
1923	2004	48837	260033481	Village Smith Lp
1924	2004	48837	260033481	Village Smith Lp
1925	2004	48837	260033481	Village Smith Lp
1926	2004	48837	260033481	Village Smith Lp
1927	2004	48837	260033481	Village Smith Lp
1928	2004	48837	260033481	Village Smith Lp
1929	2004	48837	260033481	Village Smith Lp
1930	2004	48837	260033481	Village Smith Lp
1931	2004	48846	260033487	Dixie Ind Coating Div
1932	2004	48846	260033487	Dixie Ind Coating Div
1933	2004	48846	260033487	Dixie Ind Coating Div
1934	2004	48846	260033487	Dixie Ind Coating Div
1935	2004	48849	260033489	W R Grace Company
1936	2004	48849	260033489	W R Grace Company
1937	2004	48849	260033489	W R Grace Company
1938	2004	48849	260033489	W R Grace Company
1939	2004	48849	260033489	W R Grace Company
1940	2004	48849	260033489	W R Grace Company
1941	2004	48849	260033489	W R Grace Company
1942	2004	48849	260033489	W R Grace Company
1943	2004	48849	260033489	W R Grace Company
1944	2004	48849	260033489	W R Grace Company
1945	2004	48849	260033489	W R Grace Company
1946	2004	48849	260033489	W R Grace Company
1947	**2004 Total**			
1948	2005	48849	260033489	W R Grace Company
1949	2005	48849	260033489	W R Grace Company

	J	K	L	M
1900	1101 Wisdom St	Chattanooga	TN	374061756
1901	1101 Wisdom St	Chattanooga	TN	374061756
1902	1101 Wisdom St	Chattanooga	TN	374061756
1903				
1904	1101 Wisdom St	Chattanooga	TN	374061756
1905	1101 Wisdom St	Chattanooga	TN	374061756
1906	1101 Wisdom St	Chattanooga	TN	374061756
1907				
1908	1700 DELMAR ST	CHATTANOOGA	TN	
1909	1700 DELMAR ST	CHATTANOOGA	TN	
1910	1700 DELMAR ST	CHATTANOOGA	TN	
1911	1700 DELMAR ST	CHATTANOOGA	TN	
1912	1700 DELMAR ST	CHATTANOOGA	TN	
1913	1700 DELMAR ST	CHATTANOOGA	TN	
1914	1700 DELMAR ST	CHATTANOOGA	TN	
1915	1700 DELMAR ST	CHATTANOOGA	TN	
1916	1700 DELMAR ST	CHATTANOOGA	TN	
1917	1700 DELMAR ST	CHATTANOOGA	TN	
1918	1700 DELMAR ST	CHATTANOOGA	TN	
1919	1700 DELMAR ST	CHATTANOOGA	TN	
1920				
1921	1700 DELMAR ST	CHATTANOOGA	TN	
1922	1700 DELMAR ST	CHATTANOOGA	TN	
1923	1700 DELMAR ST	CHATTANOOGA	TN	
1924	1700 DELMAR ST	CHATTANOOGA	TN	
1925	1700 DELMAR ST	CHATTANOOGA	TN	
1926	1700 DELMAR ST	CHATTANOOGA	TN	
1927	1700 DELMAR ST	CHATTANOOGA	TN	
1928	1700 DELMAR ST	CHATTANOOGA	TN	
1929	1700 DELMAR ST	CHATTANOOGA	TN	
1930	1700 DELMAR ST	CHATTANOOGA	TN	
1931	3800 N Hawthorne St	Chattanooga	TN	374061309
1932	3800 N Hawthorne St	Chattanooga	TN	374061309
1933	3800 N Hawthorne St	Chattanooga	TN	374061309
1934	3800 N Hawthorne St	Chattanooga	TN	374061309
1935	3800 N Hawthorne St	Chattanooga	TN	374061309
1936	3800 N Hawthorne St	Chattanooga	TN	374061309
1937	3800 N Hawthorne St	Chattanooga	TN	374061309
1938	3800 N Hawthorne St	Chattanooga	TN	374061309
1939	3800 N Hawthorne St	Chattanooga	TN	374061309
1940	3800 N Hawthorne St	Chattanooga	TN	374061309
1941	3800 N Hawthorne St	Chattanooga	TN	374061309
1942	3800 N Hawthorne St	Chattanooga	TN	374061309
1943	3800 N Hawthorne St	Chattanooga	TN	374061309
1944	3800 N Hawthorne St	Chattanooga	TN	374061309
1945	3800 N Hawthorne St	Chattanooga	TN	374061309
1946	3800 N Hawthorne St	Chattanooga	TN	374061309
1947				
1948	3800 N Hawthorne St	Chattanooga	TN	374061309
1949	3800 N Hawthorne St	Chattanooga	TN	374061309

	N	O	P	Q
1900	49.37	1000G	219.3	A3M4
1901	52.36	1000G	227.03	A3M4
1902	60.59	1000G	248.27	A3M4
1903	305.15		1403.66	
1904	60.59	1000G	248.27	A3M4
1905	62.08	1000G	252.13	A3M4
1906	77.79	1000G	292.68	A3M4
1907	200.46		793.08	
1908	193.74	1000G	548.5	A3M4
1909	157.09	1000G	479.15	A3M4
1910	139.13	1000G	437.86	A3M4
1911	137.64	1000G	285.8	A3M4
1912	141.38	1000G	420.23	A3M4
1913	79.29	1000G	31.4	A3M4
1914	71.81	1000G	274.86	A3M4
1915	100.98	1000G	332.55	A3M4
1916	74.05	1000G	296.87	A3M4
1917	71.06	1000G	290.27	A3M4
1918	50.86	1000G	245.69	A3M4
1919	71.81	1000G	291.92	A3M4
1920	1288.84		3935.1	
1921	74.8	1000G	298.53	A3M4
1922	71.06	1000G	290.27	A3M4
1923	61.34	1000G	268.81	A3M4
1924	56.85	1000G	258.9	A3M4
1925	50.86	1000G	245.69	A3M4
1926	91.26	1000G	334.85	A3M4
1927	8.22	1000G	98.83	A3M4
1928	8.97	1000G	101.45	A3M4
1929	14.21	1000G	119.85	A3M4
1930	8.22	1000G	77.85	A3M4
1931	0	1000G	79.77	A3M4
1932	0	1000G	79.77	A3M4
1933	2.24	1000G	80.27	A3M4
1934	1.49	1000G	80.1	A3M4
1935	36.65	1000G	127.84	A3M4
1936	34.41	1000G	119.96	A3M4
1937	33.66	1000G	117.33	A3M4
1938	37.4	1000G	130.47	A3M4
1939	35.15	1000G	122.58	A3M4
1940	151.1	1000G	396.08	A3M4
1941	33.66	1000G	117.33	A3M4
1942	32.16	1000G	112.07	A3M4
1943	32.91	1000G	114.7	A3M4
1944	44.88	1000G	156.75	A3M4
1945	29.92	1000G	104.19	A3M4
1946	32.16	1000G	112.07	A3M4
1947	983.58		4146.31	
1948	32.16	1000G	112.07	A3M4
1949	28.42	1000G	98.93	A3M4

	A	B	C	D	E
1950	2600	2603	26CC	3	3
1951	2600	2603	26CC	3	4
1952	2600	2603	26CC	3	5
1953	2600	2603	26CC	3	6
1954	2600	2603	26CC	3	7
1955	2600	2603	26CC	3	8
1956	2600	2603	26CC	3	9
1957	2600	2603	26CC	3	10
1958	2600	2603	26CC	3	11
1959	2600	2603	26CC	3	12
1960					
1961	2600	2603	26CC	3	1
1962	2600	2603	26CC	3	2
1963	2600	2603	26CC	3	3
1964	2600	2603	26CC	3	4
1965	2600	2603	26CC	3	5
1966	2600	2603	26CC	3	6
1967	2600	2603	26CC	3	7
1968	2600	2603	26CC	3	8
1969	2600	2603	26CC	3	9
1970	2600	2603	26CC	3	10
1971	2600	2603	26CC	3	11
1972	2600	2603	26CC	3	12
1973					
1974	2600	2603	26CC	3	1
1975	2600	2603	26CC	3	2
1976	2600	2603	26CC	3	3
1977	2600	2603	26CC	3	4
1978	2600	2603	26CC	3	5
1979	2600	2603	26CC	3	6
1980	2600	2603	26CC	3	7
1981	2600	2603	26CC	3	8
1982	2600	2603	26CC	3	9
1983	2600	2603	26CC	3	10
1984	2600	2603	26CC	3	11
1985	2600	2603	26CC	3	12
1986					
1987	2600	2603	26CC	3	1
1988	2600	2603	26CC	3	2
1989	2600	2603	26CC	3	3
1990					
1991	2600	2603	26CC	3	1
1992	2600	2603	26CC	3	2
1993	2600	2603	26CC	3	3
1994	2600	2603	26CC	3	4
1995	2600	2603	26CC	3	5
1996	2600	2603	26CC	3	6
1997	2600	2603	26CC	3	7
1998	2600	2603	26CC	3	8
1999	2600	2603	26CC	3	9

	F	G	H	I
1950	2005	48849	260033489	W R Grace Company
1951	2005	48849	260033489	W R Grace Company
1952	2005	48849	260033489	W R Grace Company
1953	2005	48849	260033489	W R Grace Company
1954	2005	48849	260033489	W R Grace Company
1955	2005	48849	260033489	W R Grace Company
1956	2005	48849	260033489	W R Grace Company
1957	2005	48849	260033489	W R Grace Company
1958	2005	48849	260033489	W R Grace Company
1959	2005	48849	260033489	W R Grace Company
1960	**2005 Total**			
1961	2006	48849	260033489	W R Grace Company
1962	2006	48849	260033489	W R Grace Company
1963	2006	48849	260033489	W R Grace Company
1964	2006	48849	260033489	W R Grace Company
1965	2006	48849	260033489	W R Grace Company
1966	2006	48849	260033489	W R Grace Company
1967	2006	48849	260033489	W R Grace Company
1968	2006	48849	260033489	W R Grace Company
1969	2006	48849	260033489	W R Grace Company
1970	2006	48849	260033489	W R Grace Company
1971	2006	48849	260033489	W R Grace Company
1972	2006	48849	260033489	W R Grace Company
1973	**2006 Total**			
1974	2007	48849	260033489	W R Grace Company
1975	2007	48849	260033489	W R Grace Company
1976	2007	48849	260033489	W R Grace Company
1977	2007	48849	260033489	W R Grace Company
1978	2007	48849	260033489	W R Grace Company
1979	2007	48849	260033489	W R Grace Company
1980	2007	48849	260033489	W R Grace Company
1981	2007	48849	260033489	W R Grace Company
1982	2007	48849	260033489	W R Grace Company
1983	2007	48849	260033489	W R Grace Company
1984	2007	48849	260033489	W R Grace Company
1985	2007	48849	260033489	W R Grace Company
1986	**2007 Total**			
1987	2008	48849	260033489	W R Grace Company
1988	2008	48849	260033489	W R Grace Company
1989	2008	48849	260033489	W R Grace Company
1990	**2008 Total**			
1991	2004	48850	260033490	American Manufacturing
1992	2004	48850	260033490	American Manufacturing
1993	2004	48850	260033490	American Manufacturing
1994	2004	48850	260033490	American Manufacturing
1995	2004	48850	260033490	American Manufacturing
1996	2004	48850	260033490	American Manufacturing
1997	2004	48850	260033490	American Manufacturing
1998	2004	48850	260033490	American Manufacturing
1999	2004	48850	260033490	American Manufacturing

	J	K	L	M
1950	3800 N Hawthorne St	Chattanooga	TN	374061309
1951	3800 N Hawthorne St	Chattanooga	TN	374061309
1952	3800 N Hawthorne St	Chattanooga	TN	374061309
1953	3800 N Hawthorne St	Chattanooga	TN	374061309
1954	3800 N Hawthorne St	Chattanooga	TN	374061309
1955	3800 N Hawthorne St	Chattanooga	TN	374061309
1956	3800 N Hawthorne St	Chattanooga	TN	374061309
1957	3800 N Hawthorne St	Chattanooga	TN	374061309
1958	3800 N Hawthorne St	Chattanooga	TN	374061309
1959	3800 N Hawthorne St	Chattanooga	TN	374061309
1960				
1961	3800 N Hawthorne St	Chattanooga	TN	374061309
1962	3800 N Hawthorne St	Chattanooga	TN	374061309
1963	3800 N Hawthorne St	Chattanooga	TN	374061309
1964	3800 N Hawthorne St	Chattanooga	TN	374061309
1965	3800 N Hawthorne St	Chattanooga	TN	374061309
1966	3800 N Hawthorne St	Chattanooga	TN	374061309
1967	3800 N Hawthorne St	Chattanooga	TN	374061309
1968	3800 N Hawthorne St	Chattanooga	TN	374061309
1969	3800 N Hawthorne St	Chattanooga	TN	374061309
1970	3800 N Hawthorne St	Chattanooga	TN	374061309
1971	3800 N Hawthorne St	Chattanooga	TN	374061309
1972	3800 N Hawthorne St	Chattanooga	TN	374061309
1973				
1974	3800 N Hawthorne St	Chattanooga	TN	374061309
1975	3800 N Hawthorne St	Chattanooga	TN	374061309
1976	3800 N Hawthorne St	Chattanooga	TN	374061309
1977	3800 N Hawthorne St	Chattanooga	TN	374061309
1978	3800 N Hawthorne St	Chattanooga	TN	374061309
1979	3800 N Hawthorne St	Chattanooga	TN	374061309
1980	3800 N Hawthorne St	Chattanooga	TN	374061309
1981	3800 N Hawthorne St	Chattanooga	TN	374061309
1982	3800 N Hawthorne St	Chattanooga	TN	374061309
1983	3800 N Hawthorne St	Chattanooga	TN	374061309
1984	3800 N Hawthorne St	Chattanooga	TN	374061309
1985	3800 N Hawthorne St	Chattanooga	TN	374061309
1986				
1987	3800 N Hawthorne St	Chattanooga	TN	374061309
1988	3800 N Hawthorne St	Chattanooga	TN	374061309
1989	3800 N Hawthorne St	Chattanooga	TN	374061309
1990				
1991	3600 N Hawthorne St	Chattanooga	TN	374061305
1992	3600 N Hawthorne St	Chattanooga	TN	374061305
1993	3600 N Hawthorne St	Chattanooga	TN	374061305
1994	3600 N Hawthorne St	Chattanooga	TN	374061305
1995	3600 N Hawthorne St	Chattanooga	TN	374061305
1996	3600 N Hawthorne St	Chattanooga	TN	374061305
1997	3600 N Hawthorne St	Chattanooga	TN	374061305
1998	3600 N Hawthorne St	Chattanooga	TN	374061305
1999	3600 N Hawthorne St	Chattanooga	TN	374061305

	N	O	P	Q
1950	29.17	1000G	101.56	A3M4
1951	38.15	1000G	137.64	A3M4
1952	31.41	1000G	113.69	A3M4
1953	39.64	1000G	143.72	A3M4
1954	32.16	1000G	116.42	A3M4
1955	32.16	1000G	116.42	A3M4
1956	32.91	1000G	119.15	A3M4
1957	30.67	1000G	110.96	A3M4
1958	41.14	1000G	149.18	A3M4
1959	32.16	1000G	116.42	A3M4
1960	400.15		1436.16	
1961	35.9	1000G	130.07	A3M4
1962	31.41	1000G	113.69	A3M4
1963	30.67	1000G	110.96	A3M4
1964	35.15	1000G	127.34	A3M4
1965	31.41	1000G	113.69	A3M4
1966	49.37	1000G	178.2	A3M4
1967	31.41	1000G	113.69	A3M4
1968	50.86	1000G	181.63	A3M4
1969	32.91	1000G	119.15	A3M4
1970	29.92	1000G	108.23	A3M4
1971	14.96	1000G	53.63	A3M4
1972	0	1000G	9.26	A3M4
1973	373.97		1359.54	
1974	8.97	1000G	31.79	A3M4
1975	30.67	1000G	110.96	A3M4
1976	31.41	1000G	113.69	A3M4
1977	34.41	1000G	124.61	A3M4
1978	32.91	1000G	119.15	A3M4
1979	45.63	1000G	173.19	A3M4
1980	41.88	1000G	171	A3M4
1981	37.4	1000G	152.56	A3M4
1982	43.38	1000G	177.14	A3M4
1983	44.88	1000G	183.29	A3M4
1984	32.16	1000G	131.05	A3M4
1985	33.66	1000G	137.19	A3M4
1986	417.36		1625.62	
1987	39.64	1000G	161.78	A3M4
1988	40.39	1000G	164.85	A3M4
1989	31.41	1000G	127.97	A3M4
1990	111.44		454.6	
1991	14.96	1000G	67.63	A3M4
1992	15.7	1000G	70.26	A3M4
1993	14.21	1000G	65	A3M4
1994	18.7	1000G	80.77	A3M4
1995	24.68	1000G	101.79	A3M4
1996	46.37	1000G	178	A3M4
1997	21.69	1000G	91.28	A3M4
1998	26.18	1000G	107.05	A3M4
1999	24.68	1000G	101.79	A3M4

	A	B	C	D	E
2000	2600	2603	26CC	3	10
2001	2600	2603	26CC	3	11
2002	2600	2603	26CC	3	12
2003					
2004	2600	2603	26CC	3	1
2005	2600	2603	26CC	3	2
2006	2600	2603	26CC	3	3
2007	2600	2603	26CC	3	4
2008	2600	2603	26CC	3	5
2009	2600	2603	26CC	3	6
2010	2600	2603	26CC	3	7
2011	2600	2603	26CC	3	8
2012	2600	2603	26CC	3	9
2013	2600	2603	26CC	3	10
2014	2600	2603	26CC	3	11
2015	2600	2603	26CC	3	12
2016					
2017	2600	2603	26CC	3	1
2018	2600	2603	26CC	3	2
2019	2600	2603	26CC	3	3
2020	2600	2603	26CC	3	4
2021	2600	2603	26CC	3	5
2022	2600	2603	26CC	3	6
2023	2600	2603	26CC	3	7
2024	2600	2603	26CC	3	8
2025	2600	2603	26CC	3	9
2026	2600	2603	26CC	3	10
2027	2600	2603	26CC	3	11
2028	2600	2603	26CC	3	12
2029					
2030	2600	2603	26CC	3	1
2031	2600	2603	26CC	3	2
2032	2600	2603	26CC	3	3
2033	2600	2603	26CC	3	4
2034	2600	2603	26CC	3	5
2035	2600	2603	26CC	3	6
2036	2600	2603	26CC	3	7
2037	2600	2603	26CC	3	8
2038	2600	2603	26CC	3	9
2039	2600	2603	26CC	3	10
2040	2600	2603	26CC	3	11
2041	2600	2603	26CC	3	12
2042					
2043	2600	2603	26CC	3	1
2044	2600	2603	26CC	3	2
2045	2600	2603	26CC	3	3
2046					
2047	2600	2603	26CC	3	1
2048	2600	2603	26CC	3	2
2049	2600	2603	26CC	3	3

	F	G	H	I
2000	2004	48850	260033490	American Manufacturing
2001	2004	48850	260033490	American Manufacturing
2002	2004	48850	260033490	American Manufacturing
2003	**2004 Total**			
2004	2005	48850	260033490	American Manufacturing
2005	2005	48850	260033490	American Manufacturing
2006	2005	48850	260033490	American Manufacturing
2007	2005	48850	260033490	American Manufacturing
2008	2005	48850	260033490	American Manufacturing
2009	2005	48850	260033490	American Manufacturing
2010	2005	48850	260033490	American Manufacturing
2011	2005	48850	260033490	American Manufacturing
2012	2005	48850	260033490	American Manufacturing
2013	2005	48850	260033490	American Manufacturing
2014	2005	48850	260033490	American Manufacturing
2015	2005	48850	260033490	American Manufacturing
2016	**2005 Total**			
2017	2006	48850	260033490	American Manufacturing
2018	2006	48850	260033490	American Manufacturing
2019	2006	48850	260033490	American Manufacturing
2020	2006	48850	260033490	American Manufacturing
2021	2006	48850	260033490	American Manufacturing
2022	2006	48850	260033490	American Manufacturing
2023	2006	48850	260033490	American Manufacturing
2024	2006	48850	260033490	American Manufacturing
2025	2006	48850	260033490	American Manufacturing
2026	2006	48850	260033490	American Manufacturing
2027	2006	48850	260033490	American Manufacturing
2028	2006	48850	260033490	American Manufacturing
2029	**2006 Total**			
2030	2007	48850	260033490	American Manufacturing
2031	2007	48850	260033490	American Manufacturing
2032	2007	48850	260033490	American Manufacturing
2033	2007	48850	260033490	American Manufacturing
2034	2007	48850	260033490	American Manufacturing
2035	2007	48850	260033490	American Manufacturing
2036	2007	48850	260033490	American Manufacturing
2037	2007	48850	260033490	American Manufacturing
2038	2007	48850	260033490	American Manufacturing
2039	2007	48850	260033490	American Manufacturing
2040	2007	48850	260033490	American Manufacturing
2041	2007	48850	260033490	American Manufacturing
2042	**2007 Total**			
2043	2008	48850	260033490	American Manufacturing
2044	2008	48850	260033490	American Manufacturing
2045	2008	48850	260033490	American Manufacturing
2046	**2008 Total**			
2047	2004	48851	260033491	American Manufacturing
2048	2004	48851	260033491	American Manufacturing
2049	2004	48851	260033491	American Manufacturing

	J	K	L	M
2000	3600 N Hawthorne St	Chattanooga	TN	374061305
2001	3600 N Hawthorne St	Chattanooga	TN	374061305
2002	3600 N Hawthorne St	Chattanooga	TN	374061305
2003				
2004	3600 N Hawthorne St	Chattanooga	TN	374061305
2005	3600 N Hawthorne St	Chattanooga	TN	374061305
2006	3600 N Hawthorne St	Chattanooga	TN	374061305
2007	3600 N Hawthorne St	Chattanooga	TN	374061305
2008	3600 N Hawthorne St	Chattanooga	TN	374061305
2009	3600 N Hawthorne St	Chattanooga	TN	374061305
2010	3600 N Hawthorne St	Chattanooga	TN	374061305
2011	3600 N Hawthorne St	Chattanooga	TN	374061305
2012	3600 N Hawthorne St	Chattanooga	TN	374061305
2013	3600 N Hawthorne St	Chattanooga	TN	374061305
2014	3600 N Hawthorne St	Chattanooga	TN	374061305
2015	3600 N Hawthorne St	Chattanooga	TN	374061305
2016				
2017	3600 N Hawthorne St	Chattanooga	TN	374061305
2018	3600 N Hawthorne St	Chattanooga	TN	374061305
2019	3600 N Hawthorne St	Chattanooga	TN	374061305
2020	3600 N Hawthorne St	Chattanooga	TN	374061305
2021	3600 N Hawthorne St	Chattanooga	TN	374061305
2022	3600 N Hawthorne St	Chattanooga	TN	374061305
2023	3600 N Hawthorne St	Chattanooga	TN	374061305
2024	3600 N Hawthorne St	Chattanooga	TN	374061305
2025	3600 N Hawthorne St	Chattanooga	TN	374061305
2026	3600 N Hawthorne St	Chattanooga	TN	374061305
2027	3600 N Hawthorne St	Chattanooga	TN	374061305
2028	3600 N Hawthorne St	Chattanooga	TN	374061305
2029				
2030	3600 N Hawthorne St	Chattanooga	TN	374061305
2031	3600 N Hawthorne St	Chattanooga	TN	374061305
2032	3600 N Hawthorne St	Chattanooga	TN	374061305
2033	3600 N Hawthorne St	Chattanooga	TN	374061305
2034	3600 N Hawthorne St	Chattanooga	TN	374061305
2035	3600 N Hawthorne St	Chattanooga	TN	374061305
2036	3600 N Hawthorne St	Chattanooga	TN	374061305
2037	3600 N Hawthorne St	Chattanooga	TN	374061305
2038	3600 N Hawthorne St	Chattanooga	TN	374061305
2039	3600 N Hawthorne St	Chattanooga	TN	374061305
2040	3600 N Hawthorne St	Chattanooga	TN	374061305
2041	3600 N Hawthorne St	Chattanooga	TN	374061305
2042				
2043	3600 N Hawthorne St	Chattanooga	TN	374061305
2044	3600 N Hawthorne St	Chattanooga	TN	374061305
2045	3600 N Hawthorne St	Chattanooga	TN	374061305
2046				
2047	3600 N Hawthorne St	Chattanooga	TN	374061305
2048	3600 N Hawthorne St	Chattanooga	TN	374061305
2049	3600 N Hawthorne St	Chattanooga	TN	374061305

	N	O	P	Q
2000	23.18	1000G	96.54	A3M4
2001	24.68	1000G	101.79	A3M4
2002	25.43	1000G	104.42	A3M4
2003	280.46		1166.32	
2004	18.7	1000G	80.77	A3M4
2005	16.45	1000G	72.88	A3M4
2006	16.45	1000G	72.88	A3M4
2007	18.7	1000G	83.52	A3M4
2008	17.2	1000G	78.44	A3M4
2009	19.44	1000G	86.63	A3M4
2010	25.43	1000G	108.47	A3M4
2011	20.94	1000G	92.09	A3M4
2012	21.69	1000G	94.82	A3M4
2013	23.93	1000G	103.01	A3M4
2014	21.69	1000G	94.82	A3M4
2015	23.18	1000G	100.28	A3M4
2016	243.8		1068.61	
2017	25.43	1000G	108.47	A3M4
2018	25.42	1000G	108.47	A3M4
2019	26.92	1000G	113.93	A3M4
2020	26.92	1000G	113.93	A3M4
2021	24.68	1000G	105.74	A3M4
2022	23.18	1000G	100.28	A3M4
2023	24.68	1000G	105.74	A3M4
2024	25.43	1000G	108.47	A3M4
2025	25.43	1000G	108.47	A3M4
2026	27.67	1000G	116.66	A3M4
2027	29.17	1000G	122.12	A3M4
2028	25.43	1000G	108.47	A3M4
2029	310.36		1320.75	
2030	22.44	1000G	97.55	A3M4
2031	25.43	1000G	108.47	A3M4
2032	18.69	1000G	83.9	A3M4
2033	20.19	1000G	89.36	A3M4
2034	23.18	1000G	100.28	A3M4
2035	32.91	1000G	142.03	A3M4
2036	31.41	1000G	146.69	A3M4
2037	32.91	1000G	152.84	A3M4
2038	32.91	1000G	152.84	A3M4
2039	50.86	1000G	223.16	A3M4
2040	40.39	1000G	183.57	A3M4
2041	35.15	1000G	162.06	A3M4
2042	366.47		1642.75	
2043	23.93	1000G	115.96	A3M4
2044	19.44	1000G	97.53	A3M4
2045	19.44	1000G	97.53	A3M4
2046	62.81		311.02	
2047	264.81	1000G	717.88	A3M4
2048	249.84	1000G	684.86	A3M4
2049	380.75	1000G	970.04	A3M4

	A	B	C	D	E
2050	2600	2603	26CC	3	4
2051	2600	2603	26CC	3	5
2052	2600	2603	26CC	3	6
2053	2600	2603	26CC	3	7
2054	2600	2603	26CC	3	8
2055	2600	2603	26CC	3	9
2056	2600	2603	26CC	3	10
2057	2600	2603	26CC	3	11
2058	2600	2603	26CC	3	12
2059					
2060	2600	2603	26CC	3	1
2061	2600	2603	26CC	3	2
2062	2600	2603	26CC	3	3
2063	2600	2603	26CC	3	4
2064	2600	2603	26CC	3	5
2065	2600	2603	26CC	3	6
2066	2600	2603	26CC	3	7
2067	2600	2603	26CC	3	8
2068	2600	2603	26CC	3	9
2069	2600	2603	26CC	3	10
2070	2600	2603	26CC	3	11
2071	2600	2603	26CC	3	12
2072					
2073	2600	2603	26CC	3	1
2074	2600	2603	26CC	3	2
2075	2600	2603	26CC	3	3
2076	2600	2603	26CC	3	4
2077	2600	2603	26CC	3	5
2078	2600	2603	26CC	3	6
2079	2600	2603	26CC	3	7
2080	2600	2603	26CC	3	8
2081	2600	2603	26CC	3	9
2082	2600	2603	26CC	3	10
2083	2600	2603	26CC	3	11
2084	2600	2603	26CC	3	12
2085					
2086	2600	2603	26CC	3	1
2087	2600	2603	26CC	3	2
2088	2600	2603	26CC	3	3
2089	2600	2603	26CC	3	4
2090	2600	2603	26CC	3	5
2091	2600	2603	26CC	3	6
2092	2600	2603	26CC	3	7
2093	2600	2603	26CC	3	8
2094	2600	2603	26CC	3	9
2095	2600	2603	26CC	3	10
2096	2600	2603	26CC	3	11
2097	2600	2603	26CC	3	12
2098					
2099	2600	2603	26CC	3	1

	F	G	H	I
2050	2004	48851	260033491	American Manufacturing
2051	2004	48851	260033491	American Manufacturing
2052	2004	48851	260033491	American Manufacturing
2053	2004	48851	260033491	American Manufacturing
2054	2004	48851	260033491	American Manufacturing
2055	2004	48851	260033491	American Manufacturing
2056	2004	48851	260033491	American Manufacturing
2057	2004	48851	260033491	American Manufacturing
2058	2004	48851	260033491	American Manufacturing
2059	**2004 Total**			
2060	2005	48851	260033491	American Manufacturing
2061	2005	48851	260033491	American Manufacturing
2062	2005	48851	260033491	American Manufacturing
2063	2005	48851	260033491	American Manufacturing
2064	2005	48851	260033491	American Manufacturing
2065	2005	48851	260033491	American Manufacturing
2066	2005	48851	260033491	American Manufacturing
2067	2005	48851	260033491	American Manufacturing
2068	2005	48851	260033491	American Manufacturing
2069	2005	48851	260033491	American Manufacturing
2070	2005	48851	260033491	American Manufacturing
2071	2005	48851	260033491	American Manufacturing
2072	**2005 Total**			
2073	2006	48851	260033491	American Manufacturing
2074	2006	48851	260033491	American Manufacturing
2075	2006	48851	260033491	American Manufacturing
2076	2006	48851	260033491	American Manufacturing
2077	2006	48851	260033491	American Manufacturing
2078	2006	48851	260033491	American Manufacturing
2079	2006	48851	260033491	American Manufacturing
2080	2006	48851	260033491	American Manufacturing
2081	2006	48851	260033491	American Manufacturing
2082	2006	48851	260033491	American Manufacturing
2083	2006	48851	260033491	American Manufacturing
2084	2006	48851	260033491	American Manufacturing
2085	**2006 Total**			
2086	2007	48851	260033491	American Manufacturing
2087	2007	48851	260033491	American Manufacturing
2088	2007	48851	260033491	American Manufacturing
2089	2007	48851	260033491	American Manufacturing
2090	2007	48851	260033491	American Manufacturing
2091	2007	48851	260033491	American Manufacturing
2092	2007	48851	260033491	American Manufacturing
2093	2007	48851	260033491	American Manufacturing
2094	2007	48851	260033491	American Manufacturing
2095	2007	48851	260033491	American Manufacturing
2096	2007	48851	260033491	American Manufacturing
2097	2007	48851	260033491	American Manufacturing
2098	**2007 Total**			
2099	2008	48851	260033491	American Manufacturing

	J	K	L	M
2050	3600 N Hawthorne St	Chattanooga	TN	374061305
2051	3600 N Hawthorne St	Chattanooga	TN	374061305
2052	3600 N Hawthorne St	Chattanooga	TN	374061305
2053	3600 N Hawthorne St	Chattanooga	TN	374061305
2054	3600 N Hawthorne St	Chattanooga	TN	374061305
2055	3600 N Hawthorne St	Chattanooga	TN	374061305
2056	3600 N Hawthorne St	Chattanooga	TN	374061305
2057	3600 N Hawthorne St	Chattanooga	TN	374061305
2058	3600 N Hawthorne St	Chattanooga	TN	374061305
2059				
2060	3600 N Hawthorne St	Chattanooga	TN	374061305
2061	3600 N Hawthorne St	Chattanooga	TN	374061305
2062	3600 N Hawthorne St	Chattanooga	TN	374061305
2063	3600 N Hawthorne St	Chattanooga	TN	374061305
2064	3600 N Hawthorne St	Chattanooga	TN	374061305
2065	3600 N Hawthorne St	Chattanooga	TN	374061305
2066	3600 N Hawthorne St	Chattanooga	TN	374061305
2067	3600 N Hawthorne St	Chattanooga	TN	374061305
2068	3600 N Hawthorne St	Chattanooga	TN	374061305
2069	3600 N Hawthorne St	Chattanooga	TN	374061305
2070	3600 N Hawthorne St	Chattanooga	TN	374061305
2071	3600 N Hawthorne St	Chattanooga	TN	374061305
2072				
2073	3600 N Hawthorne St	Chattanooga	TN	374061305
2074	3600 N Hawthorne St	Chattanooga	TN	374061305
2075	3600 N Hawthorne St	Chattanooga	TN	374061305
2076	3600 N Hawthorne St	Chattanooga	TN	374061305
2077	3600 N Hawthorne St	Chattanooga	TN	374061305
2078	3600 N Hawthorne St	Chattanooga	TN	374061305
2079	3600 N Hawthorne St	Chattanooga	TN	374061305
2080	3600 N Hawthorne St	Chattanooga	TN	374061305
2081	3600 N Hawthorne St	Chattanooga	TN	374061305
2082	3600 N Hawthorne St	Chattanooga	TN	374061305
2083	3600 N Hawthorne St	Chattanooga	TN	374061305
2084	3600 N Hawthorne St	Chattanooga	TN	374061305
2085				
2086	3600 N Hawthorne St	Chattanooga	TN	374061305
2087	3600 N Hawthorne St	Chattanooga	TN	374061305
2088	3600 N Hawthorne St	Chattanooga	TN	374061305
2089	3600 N Hawthorne St	Chattanooga	TN	374061305
2090	3600 N Hawthorne St	Chattanooga	TN	374061305
2091	3600 N Hawthorne St	Chattanooga	TN	374061305
2092	3600 N Hawthorne St	Chattanooga	TN	374061305
2093	3600 N Hawthorne St	Chattanooga	TN	374061305
2094	3600 N Hawthorne St	Chattanooga	TN	374061305
2095	3600 N Hawthorne St	Chattanooga	TN	374061305
2096	3600 N Hawthorne St	Chattanooga	TN	374061305
2097	3600 N Hawthorne St	Chattanooga	TN	374061305
2098				
2099	3600 N Hawthorne St	Chattanooga	TN	374061305

	N	O	P	Q
2050	353.08	1000G	912.7	A3M4
2051	366.54	1000G	942.42	A3M4
2052	274.53	1000G	739.34	A3M4
2053	261.07	1000G	709.62	A3M4
2054	266.3	1000G	721.18	A3M4
2055	194.49	1000G	562.69	A3M4
2056	184.02	1000G	539.57	A3M4
2057	172.8	1000G	514.81	A3M4
2058	142.12	1000G	447.12	A3M4
2059	3110.35		8462.23	
2060	177.28	1000G	524.71	A3M4
2061	156.34	1000G	478.48	A3M4
2062	142.12	1000G	447.12	A3M4
2063	115.2	1000G	400.89	A3M4
2064	127.91	1000G	431.86	A3M4
2065	139.13	1000G	457.59	A3M4
2066	133.15	1000G	443.87	A3M4
2067	148.86	1000G	479.88	A3M4
2068	152.6	1000G	488.46	A3M4
2069	153.35	1000G	490.17	A3M4
2070	127.91	1000G	431.86	A3M4
2071	102.48	1000G	373.55	A3M4
2072	1676.33		5448.44	
2073	143.62	1000G	467.88	A3M4
2074	122.68	1000G	419.86	A3M4
2075	160.07	1000G	505.61	A3M4
2076	208.7	1000G	617.08	A3M4
2077	221.42	1000G	646.24	A3M4
2078	209.45	1000G	618.8	A3M4
2079	289.49	1000G	802.3	A3M4
2080	302.21	1000G	831.46	A3M4
2081	332.88	1000G	901.77	A3M4
2082	276.03	1000G	771.43	A3M4
2083	350.83	1000G	942.93	A3M4
2084	288	1000G	798.87	A3M4
2085	2905.38		8324.23	
2086	678.48	1000G	1517.87	A3M4
2087	160.08	1000G	505.61	A3M4
2088	146.61	1000G	474.74	A3M4
2089	111.45	1000G	394.13	A3M4
2090	178.78	1000G	548.48	A3M4
2091	201.22	1000G	627.62	A3M4
2092	185.51	1000G	634.87	A3M4
2093	195.98	1000G	661.91	A3M4
2094	141.38	1000G	520.94	A3M4
2095	177.28	1000G	613.63	A3M4
2096	251.34	1000G	804.8	A3M4
2097	243.86	1000G	785.49	A3M4
2098	2671.97		8090.09	
2099	125.67	1000G	480.39	A3M4

	A	B	C	D	E
2100	2600	2603	26CC	3	2
2101	2600	2603	26CC	3	3
2102					
2103	2600	2603	26CC	3	1
2104	2600	2603	26CC	3	2
2105	2600	2603	26CC	3	3
2106	2600	2603	26CC	3	4
2107	2600	2603	26CC	3	5
2108	2600	2603	26CC	3	6
2109	2600	2603	26CC	3	7
2110	2600	2603	26CC	3	8
2111	2600	2603	26CC	3	9
2112	2600	2603	26CC	3	10
2113	2600	2603	26CC	3	11
2114	2600	2603	26CC	3	12
2115					
2116	2600	2603	26CC	3	1
2117	2600	2603	26CC	3	2
2118	2600	2603	26CC	3	3
2119	2600	2603	26CC	3	4
2120	2600	2603	26CC	3	5
2121	2600	2603	26CC	3	6
2122	2600	2603	26CC	3	7
2123	2600	2603	26CC	3	8
2124	2600	2603	26CC	3	9
2125	2600	2603	26CC	3	10
2126	2600	2603	26CC	3	11
2127	2600	2603	26CC	3	12
2128					
2129	2600	2603	26CC	3	1
2130	2600	2603	26CC	3	2
2131	2600	2603	26CC	3	3
2132	2600	2603	26CC	3	4
2133	2600	2603	26CC	3	5
2134	2600	2603	26CC	3	6
2135	2600	2603	26CC	3	7
2136	2600	2603	26CC	3	8
2137	2600	2603	26CC	3	9
2138	2600	2603	26CC	3	10
2139	2600	2603	26CC	3	11
2140	2600	2603	26CC	3	12
2141					
2142	2600	2603	26CC	3	1
2143	2600	2603	26CC	3	2
2144	2600	2603	26CC	3	3
2145	2600	2603	26CC	3	4
2146	2600	2603	26CC	3	5
2147	2600	2603	26CC	3	6
2148	2600	2603	26CC	3	7
2149	2600	2603	26CC	3	8

	F	G	H	I
2100	2008	48851	260033491	American Manufacturing
2101	2008	48851	260033491	American Manufacturing
2102	**2008 Total**			
2103	2004	59402	260040889	ALLIED METAL COMPANY
2104	2004	59402	260040889	ALLIED METAL COMPANY
2105	2004	59402	260040889	ALLIED METAL COMPANY
2106	2004	59402	260040889	ALLIED METAL COMPANY
2107	2004	59402	260040889	ALLIED METAL COMPANY
2108	2004	59402	260040889	ALLIED METAL COMPANY
2109	2004	59402	260040889	ALLIED METAL COMPANY
2110	2004	59402	260040889	ALLIED METAL COMPANY
2111	2004	59402	260040889	ALLIED METAL COMPANY
2112	2004	59402	260040889	ALLIED METAL COMPANY
2113	2004	59402	260040889	ALLIED METAL COMPANY
2114	2004	59402	260040889	ALLIED METAL COMPANY
2115	**2004 Total**			
2116	2005	59402	260040889	ALLIED METAL COMPANY
2117	2005	59402	260040889	ALLIED METAL COMPANY
2118	2005	59402	260040889	ALLIED METAL COMPANY
2119	2005	59402	260040889	ALLIED METAL COMPANY
2120	2005	59402	260040889	ALLIED METAL COMPANY
2121	2005	59402	260040889	ALLIED METAL COMPANY
2122	2005	59402	260040889	ALLIED METAL COMPANY
2123	2005	59402	260040889	ALLIED METAL COMPANY
2124	2005	59402	260040889	ALLIED METAL COMPANY
2125	2005	59402	260040889	ALLIED METAL COMPANY
2126	2005	59402	260040889	ALLIED METAL COMPANY
2127	2005	59402	260040889	ALLIED METAL COMPANY
2128	**2005 Total**			
2129	2006	59402	260040889	ALLIED METAL COMPANY
2130	2006	59402	260040889	ALLIED METAL COMPANY
2131	2006	59402	260040889	ALLIED METAL COMPANY
2132	2006	59402	260040889	ALLIED METAL COMPANY
2133	2006	59402	260040889	ALLIED METAL COMPANY
2134	2006	59402	260040889	ALLIED METAL COMPANY
2135	2006	59402	260040889	ALLIED METAL COMPANY
2136	2006	59402	260040889	ALLIED METAL COMPANY
2137	2006	59402	260040889	ALLIED METAL COMPANY
2138	2006	59402	260040889	ALLIED METAL COMPANY
2139	2006	59402	260040889	ALLIED METAL COMPANY
2140	2006	59402	260040889	ALLIED METAL COMPANY
2141	**2006 Total**			
2142	2007	59402	260040889	ALLIED METAL COMPANY
2143	2007	59402	260040889	ALLIED METAL COMPANY
2144	2007	59402	260040889	ALLIED METAL COMPANY
2145	2007	59402	260040889	ALLIED METAL COMPANY
2146	2007	59402	260040889	ALLIED METAL COMPANY
2147	2007	59402	260040889	ALLIED METAL COMPANY
2148	2007	59402	260040889	ALLIED METAL COMPANY
2149	2007	59402	260040889	ALLIED METAL COMPANY

	J	K	L	M
2100	3600 N Hawthorne St	Chattanooga	TN	374061305
2101	3600 N Hawthorne St	Chattanooga	TN	374061305
2102				
2103	3440 Lightfoot Mill Rd	Chattanooga	TN	374062125
2104	3440 Lightfoot Mill Rd	Chattanooga	TN	374062125
2105	3440 Lightfoot Mill Rd	Chattanooga	TN	374062125
2106	3440 Lightfoot Mill Rd	Chattanooga	TN	374062125
2107	3440 Lightfoot Mill Rd	Chattanooga	TN	374062125
2108	3440 Lightfoot Mill Rd	Chattanooga	TN	374062125
2109	3440 Lightfoot Mill Rd	Chattanooga	TN	374062125
2110	3440 Lightfoot Mill Rd	Chattanooga	TN	374062125
2111	3440 Lightfoot Mill Rd	Chattanooga	TN	374062125
2112	3440 Lightfoot Mill Rd	Chattanooga	TN	374062125
2113	3440 Lightfoot Mill Rd	Chattanooga	TN	374062125
2114	3440 Lightfoot Mill Rd	Chattanooga	TN	374062125
2115				
2116	3440 Lightfoot Mill Rd	Chattanooga	TN	374062125
2117	3440 Lightfoot Mill Rd	Chattanooga	TN	374062125
2118	3440 Lightfoot Mill Rd	Chattanooga	TN	374062125
2119	3440 Lightfoot Mill Rd	Chattanooga	TN	374062125
2120	3440 Lightfoot Mill Rd	Chattanooga	TN	374062125
2121	3440 Lightfoot Mill Rd	Chattanooga	TN	374062125
2122	3440 Lightfoot Mill Rd	Chattanooga	TN	374062125
2123	3440 Lightfoot Mill Rd	Chattanooga	TN	374062125
2124	3440 Lightfoot Mill Rd	Chattanooga	TN	374062125
2125	3440 Lightfoot Mill Rd	Chattanooga	TN	374062125
2126	3440 Lightfoot Mill Rd	Chattanooga	TN	374062125
2127	3440 Lightfoot Mill Rd	Chattanooga	TN	374062125
2128				
2129	3440 Lightfoot Mill Rd	Chattanooga	TN	374062125
2130	3440 Lightfoot Mill Rd	Chattanooga	TN	374062125
2131	3440 Lightfoot Mill Rd	Chattanooga	TN	374062125
2132	3440 Lightfoot Mill Rd	Chattanooga	TN	374062125
2133	3440 Lightfoot Mill Rd	Chattanooga	TN	374062125
2134	3440 Lightfoot Mill Rd	Chattanooga	TN	374062125
2135	3440 Lightfoot Mill Rd	Chattanooga	TN	374062125
2136	3440 Lightfoot Mill Rd	Chattanooga	TN	374062125
2137	3440 Lightfoot Mill Rd	Chattanooga	TN	374062125
2138	3440 Lightfoot Mill Rd	Chattanooga	TN	374062125
2139	3440 Lightfoot Mill Rd	Chattanooga	TN	374062125
2140	3440 Lightfoot Mill Rd	Chattanooga	TN	374062125
2141				
2142	3440 Lightfoot Mill Rd	Chattanooga	TN	374062125
2143	3440 Lightfoot Mill Rd	Chattanooga	TN	374062125
2144	3440 Lightfoot Mill Rd	Chattanooga	TN	374062125
2145	3440 Lightfoot Mill Rd	Chattanooga	TN	374062125
2146	3440 Lightfoot Mill Rd	Chattanooga	TN	374062125
2147	3440 Lightfoot Mill Rd	Chattanooga	TN	374062125
2148	3440 Lightfoot Mill Rd	Chattanooga	TN	374062125
2149	3440 Lightfoot Mill Rd	Chattanooga	TN	374062125

	N	O	P	Q
2100	109.21	1000G	437.91	A3M4
2101	154.84	1000G	555.7	A3M4
2102	389.72		1474	
2103	53.85	1000G	252.3	A3M4
2104	85.27	1000G	321.64	A3M4
2105	95	1000G	343.1	A3M4
2106	166.81	1000G	501.6	A3M4
2107	139.13	1000G	440.51	A3M4
2108	127.16	1000G	414.1	A3M4
2109	74.05	1000G	296.87	A3M4
2110	199.72	1000G	574.24	A3M4
2111	136.89	1000G	435.56	A3M4
2112	120.43	1000G	399.24	A3M4
2113	105.47	1000G	366.22	A3M4
2114	59.09	1000G	263.85	A3M4
2115	1362.87		4609.23	
2116	62.83	1000G	272.11	A3M4
2117	97.24	1000G	348.06	A3M4
2118	59.84	1000G	267.79	A3M4
2119	65.08	1000G	287.8	A3M4
2120	71.06	1000G	301.52	A3M4
2121	66.57	1000G	291.23	A3M4
2122	20.19	1000G	146.33	A3M4
2123	43.38	1000G	230.96	A3M4
2124	136.89	1000G	452.44	A3M4
2125	-19.45	1000G	94.01	A3M4
2126	97.99	1000G	363.26	A3M4
2127	-30.67	1000G	27.68	A3M4
2128	670.95		3083.19	
2129	14.96	1000G	127.22	A3M4
2130	38.15	1000G	211.85	A3M4
2131	50.11	1000G	253.5	A3M4
2132	35.9	1000G	203.66	A3M4
2133	35.9	1000G	203.66	A3M4
2134	71.06	1000G	301.52	A3M4
2135	61.34	1000G	279.23	A3M4
2136	75.55	1000G	311.81	A3M4
2137	68.82	1000G	296.38	A3M4
2138	71.81	1000G	303.24	A3M4
2139	66.57	1000G	291.23	A3M4
2140	29.17	1000G	179.09	A3M4
2141	619.34		2962.39	
2142	37.4	1000G	209.12	A3M4
2143	98.74	1000G	364.98	A3M4
2144	58.34	1000G	272.37	A3M4
2145	47.12	1000G	244.61	A3M4
2146	50.11	1000G	253.5	A3M4
2147	35.9	1000G	220.44	A3M4
2148	40.39	1000G	247.7	A3M4
2149	32.91	1000G	216.97	A3M4

	A	B	C	D	E
2150	2600	2603	26CC	3	9
2151	2600	2603	26CC	3	10
2152	2600	2603	26CC	3	11
2153	2600	2603	26CC	3	12
2154					
2155	2600	2603	26CC	3	1
2156	2600	2603	26CC	3	2
2157	2600	2603	26CC	3	3
2158					
2159	2600	2603	26CC	3	1
2160	2600	2603	26CC	3	2
2161	2600	2603	26CC	3	3
2162	2600	2603	26CC	3	4
2163	2600	2603	26CC	3	5
2164	2600	2603	26CC	3	6
2165	2600	2603	26CC	3	7
2166	2600	2603	26CC	3	8
2167	2600	2603	26CC	3	9
2168	2600	2603	26CC	3	10
2169	2600	2603	26CC	3	11
2170	2600	2603	26CC	3	12
2171					
2172	2600	2603	26CC	3	1
2173	2600	2603	26CC	3	2
2174	2600	2603	26CC	3	3
2175	2600	2603	26CC	3	4
2176	2600	2603	26CC	3	5
2177	2600	2603	26CC	3	6
2178	2600	2603	26CC	3	7
2179	2600	2603	26CC	3	8
2180	2600	2603	26CC	3	9
2181	2600	2603	26CC	3	10
2182	2600	2603	26CC	3	11
2183	2600	2603	26CC	3	12
2184					
2185	2600	2603	26CC	3	1
2186	2600	2603	26CC	3	2
2187	2600	2603	26CC	3	3
2188	2600	2603	26CC	3	4
2189	2600	2603	26CC	3	5
2190	2600	2603	26CC	3	6
2191	2600	2603	26CC	3	7
2192	2600	2603	26CC	3	8
2193	2600	2603	26CC	3	9
2194	2600	2603	26CC	3	10
2195	2600	2603	26CC	3	11
2196	2600	2603	26CC	3	12
2197					
2198	2600	2603	26CC	3	1
2199	2600	2603	26CC	3	2

	F	G	H	I
2150	2007	59402	260040889	ALLIED METAL COMPANY
2151	2007	59402	260040889	ALLIED METAL COMPANY
2152	2007	59402	260040889	ALLIED METAL COMPANY
2153	2007	59402	260040889	ALLIED METAL COMPANY
2154	**2007 Total**			
2155	2008	59402	260040889	ALLIED METAL COMPANY
2156	2008	59402	260040889	ALLIED METAL COMPANY
2157	2008	59402	260040889	ALLIED METAL COMPANY
2158	**2008 Total**			
2159	2004	64072	260044341	Golf Players
2160	2004	64072	260044341	Golf Players
2161	2004	64072	260044341	Golf Players
2162	2004	64072	260044341	Golf Players
2163	2004	64072	260044341	Golf Players
2164	2004	64072	260044341	Golf Players
2165	2004	64072	260044341	Golf Players
2166	2004	64072	260044341	Golf Players
2167	2004	64072	260044341	Golf Players
2168	2004	64072	260044341	Golf Players
2169	2004	64072	260044341	Golf Players
2170	2004	64072	260044341	Golf Players
2171	**2004 Total**			
2172	2005	64072	260044341	Golf Players
2173	2005	64072	260044341	Golf Players
2174	2005	64072	260044341	Golf Players
2175	2005	64072	260044341	Golf Players
2176	2005	64072	260044341	Golf Players
2177	2005	64072	260044341	Golf Players
2178	2005	64072	260044341	Golf Players
2179	2005	64072	260044341	Golf Players
2180	2005	64072	260044341	Golf Players
2181	2005	64072	260044341	Golf Players
2182	2005	64072	260044341	Golf Players
2183	2005	64072	260044341	Golf Players
2184	**2005 Total**			
2185	2006	64072	260044341	Golf Players
2186	2006	64072	260044341	Golf Players
2187	2006	64072	260044341	Golf Players
2188	2006	64072	260044341	Golf Players
2189	2006	64072	260044341	Golf Players
2190	2006	64072	260044341	Golf Players
2191	2006	64072	260044341	Golf Players
2192	2006	64072	260044341	Golf Players
2193	2006	64072	260044341	Golf Players
2194	2006	64072	260044341	Golf Players
2195	2006	64072	260044341	Golf Players
2196	2006	64072	260044341	Golf Players
2197	**2006 Total**			
2198	2007	64072	260044341	Golf Players
2199	2007	64072	260044341	Golf Players

	J	K	L	M
2150	3440 Lightfoot Mill Rd	Chattanooga	TN	374062125
2151	3440 Lightfoot Mill Rd	Chattanooga	TN	374062125
2152	3440 Lightfoot Mill Rd	Chattanooga	TN	374062125
2153	3440 Lightfoot Mill Rd	Chattanooga	TN	374062125
2154				
2155	3440 Lightfoot Mill Rd	Chattanooga	TN	374062125
2156	3440 Lightfoot Mill Rd	Chattanooga	TN	374062125
2157	3440 Lightfoot Mill Rd	Chattanooga	TN	374062125
2158				
2159	5954 Brainerd Rd	Chattanooga	TN	374213586
2160	5954 Brainerd Rd	Chattanooga	TN	374213586
2161	5954 Brainerd Rd	Chattanooga	TN	374213586
2162	5954 Brainerd Rd	Chattanooga	TN	374213586
2163	5954 Brainerd Rd	Chattanooga	TN	374213586
2164	5954 Brainerd Rd	Chattanooga	TN	374213586
2165	5954 Brainerd Rd	Chattanooga	TN	374213586
2166	5954 Brainerd Rd	Chattanooga	TN	374213586
2167	5954 Brainerd Rd	Chattanooga	TN	374213586
2168	5954 Brainerd Rd	Chattanooga	TN	374213586
2169	5954 Brainerd Rd	Chattanooga	TN	374213586
2170	5954 Brainerd Rd	Chattanooga	TN	374213586
2171				
2172	5954 Brainerd Rd	Chattanooga	TN	374213586
2173	5954 Brainerd Rd	Chattanooga	TN	374213586
2174	5954 Brainerd Rd	Chattanooga	TN	374213586
2175	5954 Brainerd Rd	Chattanooga	TN	374213586
2176	5954 Brainerd Rd	Chattanooga	TN	374213586
2177	5954 Brainerd Rd	Chattanooga	TN	374213586
2178	5954 Brainerd Rd	Chattanooga	TN	374213586
2179	5954 Brainerd Rd	Chattanooga	TN	374213586
2180	5954 Brainerd Rd	Chattanooga	TN	374213586
2181	5954 Brainerd Rd	Chattanooga	TN	374213586
2182	5954 Brainerd Rd	Chattanooga	TN	374213586
2183	5954 Brainerd Rd	Chattanooga	TN	374213586
2184				
2185	5954 Brainerd Rd	Chattanooga	TN	374213586
2186	5954 Brainerd Rd	Chattanooga	TN	374213586
2187	5954 Brainerd Rd	Chattanooga	TN	374213586
2188	5954 Brainerd Rd	Chattanooga	TN	374213586
2189	5954 Brainerd Rd	Chattanooga	TN	374213586
2190	5954 Brainerd Rd	Chattanooga	TN	374213586
2191	5954 Brainerd Rd	Chattanooga	TN	374213586
2192	5954 Brainerd Rd	Chattanooga	TN	374213586
2193	5954 Brainerd Rd	Chattanooga	TN	374213586
2194	5954 Brainerd Rd	Chattanooga	TN	374213586
2195	5954 Brainerd Rd	Chattanooga	TN	374213586
2196	5954 Brainerd Rd	Chattanooga	TN	374213586
2197				
2198	5954 Brainerd Rd	Chattanooga	TN	374213586
2199	5954 Brainerd Rd	Chattanooga	TN	374213586

	N	O	P	Q
2150	106.97	1000G	432.12	A3M4
2151	116.69	1000G	457.22	A3M4
2152	62.08	1000G	316.26	A3M4
2153	50.11	1000G	285.36	A3M4
2154	736.76		3520.65	
2155	47.87	1000G	278.43	A3M4
2156	69.56	1000G	335.57	A3M4
2157	75.55	1000G	351.02	A3M4
2158	192.98		965.02	
2159	5.98	1000G	20.09	A3M4
2160	10.47	1000G	35.86	A3M4
2161	5.23	1000G	17.46	A3M4
2162	5.23	1000G	17.46	A3M4
2163	5.98	1000G	20.09	A3M4
2164	5.98	1000G	20.09	A3M4
2165	5.23	1000G	17.46	A3M4
2166	5.98	1000G	20.09	A3M4
2167	8.97	1000G	30.6	A3M4
2168	26.18	1000G	91.05	A3M4
2169	10.47	1000G	35.86	A3M4
2170	8.22	1000G	27.98	A3M4
2171	103.92		354.09	
2172	8.97	1000G	30.6	A3M4
2173	11.22	1000G	38.49	A3M4
2174	2.24	1000G	9.51	A3M4
2175	5.23	1000G	18.01	A3M4
2176	13.46	1000G	48.34	A3M4
2177	46.37	1000G	168.29	A3M4
2178	8.22	1000G	29.06	A3M4
2179	7.48	1000G	26.33	A3M4
2180	6.73	1000G	23.6	A3M4
2181	6.73	1000G	23.6	A3M4
2182	6.73	1000G	23.6	A3M4
2183	4.48	1000G	15.41	A3M4
2184	127.86		454.84	
2185	5.98	1000G	20.87	A3M4
2186	6.73	1000G	23.6	A3M4
2187	7.48	1000G	26.33	A3M4
2188	5.98	1000G	20.87	A3M4
2189	8.22	1000G	29.06	A3M4
2190	5.98	1000G	20.87	A3M4
2191	5.23	1000G	18.14	A3M4
2192	7.48	1000G	26.33	A3M4
2193	5.98	1000G	20.87	A3M4
2194	7.48	1000G	26.33	A3M4
2195	8.97	1000G	31.79	A3M4
2196	4.48	1000G	15.41	A3M4
2197	79.99		280.47	
2198	5.23	1000G	18.14	A3M4
2199	6.73	1000G	23.6	A3M4

	A	B	C	D	E
2200	2600	2603	26CC	3	3
2201	2600	2603	26CC	3	4
2202	2600	2603	26CC	3	5
2203	2600	2603	26CC	3	6
2204	2600	2603	26CC	3	7
2205	2600	2603	26CC	3	8
2206	2600	2603	26CC	3	9
2207	2600	2603	26CC	3	10
2208	2600	2603	26CC	3	11
2209	2600	2603	26CC	3	12
2210					
2211	2600	2603	26CC	3	1
2212	2600	2603	26CC	3	2
2213	2600	2603	26CC	3	3
2214					
2215	2600	2603	26CC	3	1
2216	2600	2603	26CC	3	2
2217	2600	2603	26CC	3	3
2218	2600	2603	26CC	3	4
2219	2600	2603	26CC	3	5
2220	2600	2603	26CC	3	6
2221	2600	2603	26CC	3	7
2222	2600	2603	26CC	3	8
2223	2600	2603	26CC	3	9
2224	2600	2603	26CC	3	10
2225	2600	2603	26CC	3	11
2226	2600	2603	26CC	3	12
2227					
2228	2600	2603	26CC	3	1
2229	2600	2603	26CC	3	2
2230	2600	2603	26CC	3	3
2231	2600	2603	26CC	3	4
2232	2600	2603	26CC	3	5
2233	2600	2603	26CC	3	6
2234	2600	2603	26CC	3	7
2235	2600	2603	26CC	3	8
2236	2600	2603	26CC	3	9
2237	2600	2603	26CC	3	10
2238	2600	2603	26CC	3	11
2239	2600	2603	26CC	3	12
2240					
2241	2600	2603	26CC	3	1
2242	2600	2603	26CC	3	2
2243	2600	2603	26CC	3	3
2244	2600	2603	26CC	3	4
2245	2600	2603	26CC	3	5
2246	2600	2603	26CC	3	6
2247	2600	2603	26CC	3	7
2248	2600	2603	26CC	3	8
2249	2600	2603	26CC	3	9

	F	G	H	I
2200	2007	64072	260044341	Golf Players
2201	2007	64072	260044341	Golf Players
2202	2007	64072	260044341	Golf Players
2203	2007	64072	260044341	Golf Players
2204	2007	64072	260044341	Golf Players
2205	2007	64072	260044341	Golf Players
2206	2007	64072	260044341	Golf Players
2207	2007	64072	260044341	Golf Players
2208	2007	64072	260044341	Golf Players
2209	2007	64072	260044341	Golf Players
2210	**2007 Total**			
2211	2008	64072	260044341	Golf Players
2212	2008	64072	260044341	Golf Players
2213	2008	64072	260044341	Golf Players
2214	**2008 Total**			
2215	2004	65687	260045597	VULCAN MATERIALS CO
2216	2004	65687	260045597	VULCAN MATERIALS CO
2217	2004	65687	260045597	VULCAN MATERIALS CO
2218	2004	65687	260045597	VULCAN MATERIALS CO
2219	2004	65687	260045597	VULCAN MATERIALS CO
2220	2004	65687	260045597	VULCAN MATERIALS CO
2221	2004	65687	260045597	VULCAN MATERIALS CO
2222	2004	65687	260045597	VULCAN MATERIALS CO
2223	2004	65687	260045597	VULCAN MATERIALS CO
2224	2004	65687	260045597	VULCAN MATERIALS CO
2225	2004	65687	260045597	VULCAN MATERIALS CO
2226	2004	65687	260045597	VULCAN MATERIALS CO
2227	**2004 Total**			
2228	2005	65687	260045597	VULCAN MATERIALS CO
2229	2005	65687	260045597	VULCAN MATERIALS CO
2230	2005	65687	260045597	VULCAN MATERIALS CO
2231	2005	65687	260045597	VULCAN MATERIALS CO
2232	2005	65687	260045597	VULCAN MATERIALS CO
2233	2005	65687	260045597	VULCAN MATERIALS CO
2234	2005	65687	260045597	VULCAN MATERIALS CO
2235	2005	65687	260045597	VULCAN MATERIALS CO
2236	2005	65687	260045597	VULCAN MATERIALS CO
2237	2005	65687	260045597	VULCAN MATERIALS CO
2238	2005	65687	260045597	VULCAN MATERIALS CO
2239	2005	65687	260045597	VULCAN MATERIALS CO
2240	**2005 Total**			
2241	2006	65687	260045597	VULCAN MATERIALS CO
2242	2006	65687	260045597	VULCAN MATERIALS CO
2243	2006	65687	260045597	VULCAN MATERIALS CO
2244	2006	65687	260045597	VULCAN MATERIALS CO
2245	2006	65687	260045597	VULCAN MATERIALS CO
2246	2006	65687	260045597	VULCAN MATERIALS CO
2247	2006	65687	260045597	VULCAN MATERIALS CO
2248	2006	65687	260045597	VULCAN MATERIALS CO
2249	2006	65687	260045597	VULCAN MATERIALS CO

	J	K	L	M
2200	5954 Brainerd Rd	Chattanooga	TN	374213586
2201	5954 Brainerd Rd	Chattanooga	TN	374213586
2202	5954 Brainerd Rd	Chattanooga	TN	374213586
2203	5954 Brainerd Rd	Chattanooga	TN	374213586
2204	5954 Brainerd Rd	Chattanooga	TN	374213586
2205	5954 Brainerd Rd	Chattanooga	TN	374213586
2206	5954 Brainerd Rd	Chattanooga	TN	374213586
2207	5954 Brainerd Rd	Chattanooga	TN	374213586
2208	5954 Brainerd Rd	Chattanooga	TN	374213586
2209	5954 Brainerd Rd	Chattanooga	TN	374213586
2210				
2211	5954 Brainerd Rd	Chattanooga	TN	374213586
2212	5954 Brainerd Rd	Chattanooga	TN	374213586
2213	5954 Brainerd Rd	Chattanooga	TN	374213586
2214				
2215	3954 Cromwell Rd	Chattanooga	TN	374212114
2216	3954 Cromwell Rd	Chattanooga	TN	374212114
2217	3954 Cromwell Rd	Chattanooga	TN	374212114
2218	3954 Cromwell Rd	Chattanooga	TN	374212114
2219	3954 Cromwell Rd	Chattanooga	TN	374212114
2220	3954 Cromwell Rd	Chattanooga	TN	374212114
2221	3954 Cromwell Rd	Chattanooga	TN	374212114
2222	3954 Cromwell Rd	Chattanooga	TN	374212114
2223	3954 Cromwell Rd	Chattanooga	TN	374212114
2224	3954 Cromwell Rd	Chattanooga	TN	374212114
2225	3954 Cromwell Rd	Chattanooga	TN	374212114
2226	3954 Cromwell Rd	Chattanooga	TN	374212114
2227				
2228	3954 Cromwell Rd	Chattanooga	TN	374212114
2229	3954 Cromwell Rd	Chattanooga	TN	374212114
2230	3954 Cromwell Rd	Chattanooga	TN	374212114
2231	3954 Cromwell Rd	Chattanooga	TN	374212114
2232	3954 Cromwell Rd	Chattanooga	TN	374212114
2233	3954 Cromwell Rd	Chattanooga	TN	374212114
2234	3954 Cromwell Rd	Chattanooga	TN	374212114
2235	3954 Cromwell Rd	Chattanooga	TN	374212114
2236	3954 Cromwell Rd	Chattanooga	TN	374212114
2237	3954 Cromwell Rd	Chattanooga	TN	374212114
2238	3954 Cromwell Rd	Chattanooga	TN	374212114
2239	3954 Cromwell Rd	Chattanooga	TN	374212114
2240				
2241	3954 Cromwell Rd	Chattanooga	TN	374212114
2242	3954 Cromwell Rd	Chattanooga	TN	374212114
2243	3954 Cromwell Rd	Chattanooga	TN	374212114
2244	3954 Cromwell Rd	Chattanooga	TN	374212114
2245	3954 Cromwell Rd	Chattanooga	TN	374212114
2246	3954 Cromwell Rd	Chattanooga	TN	374212114
2247	3954 Cromwell Rd	Chattanooga	TN	374212114
2248	3954 Cromwell Rd	Chattanooga	TN	374212114
2249	3954 Cromwell Rd	Chattanooga	TN	374212114

	N	O	P	Q
2200	10.47	1000G	37.25	A3M4
2201	12.71	1000G	45.44	A3M4
2202	7.48	1000G	26.33	A3M4
2203	8.97	1000G	34.41	A3M4
2204	11.22	1000G	45	A3M4
2205	14.21	1000G	57.3	A3M4
2206	19.44	1000G	78.81	A3M4
2207	27.67	1000G	112.61	A3M4
2208	23.93	1000G	97.24	A3M4
2209	24.68	1000G	100.32	A3M4
2210	172.74		676.45	
2211	14.21	1000G	57.3	A3M4
2212	20.19	1000G	81.88	A3M4
2213	14.96	1000G	60.37	A3M4
2214	49.36		199.55	
2215	65.08	1000G	277.06	A3M4
2216	216.93	1000G	612.22	A3M4
2217	225.16	1000G	630.38	A3M4
2218	339.61	1000G	882.98	A3M4
2219	294.73	1000G	783.92	A3M4
2220	172.8	1000G	514.81	A3M4
2221	397.21	1000G	997.18	A3M4
2222	221.42	1000G	622.12	A3M4
2223	150.35	1000G	465.28	A3M4
2224	169.8	1000G	508.2	A3M4
2225	153.35	1000G	471.88	A3M4
2226	170.55	1000G	509.85	A3M4
2227	2576.99		7275.88	
2228	160.83	1000G	488.39	A3M4
2229	192.24	1000G	557.73	A3M4
2230	155.59	1000G	482.56	A3M4
2231	395.71	1000G	1033.28	A3M4
2232	272.29	1000G	762.86	A3M4
2233	431.62	1000G	1094.81	A3M4
2234	321.66	1000G	876.05	A3M4
2235	408.43	1000G	1055.07	A3M4
2236	448.08	1000G	1123.02	A3M4
2237	265.55	1000G	747.42	A3M4
2238	196.73	1000G	589.64	A3M4
2239	290.24	1000G	804.02	A3M4
2240	3538.97		9614.85	
2241	813.88	1000G	1749.92	A3M4
2242	389.73	1000G	1023.02	A3M4
2243	155.59	1000G	495.32	A3M4
2244	547.57	1000G	1293.52	A3M4
2245	286.5	1000G	795.44	A3M4
2246	318.67	1000G	869.19	A3M4
2247	337.37	1000G	912.06	A3M4
2248	357.56	1000G	958.37	A3M4
2249	395.71	1000G	1033.28	A3M4

	A	B	C	D	E
2250	2600	2603	26CC	3	10
2251	2600	2603	26CC	3	11
2252	2600	2603	26CC	3	12
2253					
2254	2600	2603	26CC	3	1
2255	2600	2603	26CC	3	2
2256	2600	2603	26CC	3	3
2257	2600	2603	26CC	3	4
2258	2600	2603	26CC	3	5
2259	2600	2603	26CC	3	6
2260	2600	2603	26CC	3	7
2261	2600	2603	26CC	3	8
2262	2600	2603	26CC	3	9
2263	2600	2603	26CC	3	10
2264	2600	2603	26CC	3	11
2265	2600	2603	26CC	3	12
2266					
2267	2600	2603	26CC	3	1
2268	2600	2603	26CC	3	2
2269	2600	2603	26CC	3	3
2270					
2271	2600	2603	26CC	3	1
2272	2600	2603	26CC	3	2
2273	2600	2603	26CC	3	3
2274	2600	2603	26CC	3	4
2275	2600	2603	26CC	3	5
2276	2600	2603	26CC	3	6
2277	2600	2603	26CC	3	7
2278	2600	2603	26CC	3	7
2279	2600	2603	26CC	3	8
2280	2600	2603	26CC	3	9
2281	2600	2603	26CC	3	11
2282					
2283	2600	2603	26CC	3	1
2284	2600	2603	26CC	3	2
2285	2600	2603	26CC	3	3
2286	2600	2603	26CC	3	4
2287	2600	2603	26CC	3	5
2288	2600	2603	26CC	3	6
2289	2600	2603	26CC	3	7
2290	2600	2603	26CC	3	8
2291	2600	2603	26CC	3	9
2292	2600	2603	26CC	3	10
2293	2600	2603	26CC	3	11
2294	2600	2603	26CC	3	12
2295					
2296	2600	2603	26CC	3	1
2297	2600	2603	26CC	3	2
2298	2600	2603	26CC	3	3
2299	2600	2603	26CC	3	4

	F	G	H	I
2250	2006	65687	260045597	VULCAN MATERIALS CO
2251	2006	65687	260045597	VULCAN MATERIALS CO
2252	2006	65687	260045597	VULCAN MATERIALS CO
2253	**2006 Total**			
2254	2007	65687	260045597	VULCAN MATERIALS CO
2255	2007	65687	260045597	VULCAN MATERIALS CO
2256	2007	65687	260045597	VULCAN MATERIALS CO
2257	2007	65687	260045597	VULCAN MATERIALS CO
2258	2007	65687	260045597	VULCAN MATERIALS CO
2259	2007	65687	260045597	VULCAN MATERIALS CO
2260	2007	65687	260045597	VULCAN MATERIALS CO
2261	2007	65687	260045597	VULCAN MATERIALS CO
2262	2007	65687	260045597	VULCAN MATERIALS CO
2263	2007	65687	260045597	VULCAN MATERIALS CO
2264	2007	65687	260045597	VULCAN MATERIALS CO
2265	2007	65687	260045597	VULCAN MATERIALS CO
2266	**2007 Total**			
2267	2008	65687	260045597	VULCAN MATERIALS CO
2268	2008	65687	260045597	VULCAN MATERIALS CO
2269	2008	65687	260045597	VULCAN MATERIALS CO
2270	**2008 Total**			
2271	2003	101796	260070899	SAFETY KLEEN
2272	2003	101796	260070899	SAFETY KLEEN
2273	2003	101796	260070899	SAFETY KLEEN
2274	2003	101796	260070899	SAFETY KLEEN
2275	2003	101796	260070899	SAFETY KLEEN
2276	2003	101796	260070899	SAFETY KLEEN
2277	2003	101796	260070899	SAFETY KLEEN
2278	2003	101796	260070899	SAFETY KLEEN
2279	2003	101796	260070899	SAFETY KLEEN
2280	2003	101796	260070899	SAFETY KLEEN
2281	2003	101796	260070899	SAFETY KLEEN
2282	**2003 Total**			
2283	2004	101797	260070900	Brenntag Mid South Inc
2284	2004	101797	260070900	Brenntag Mid South Inc
2285	2004	101797	260070900	Brenntag Mid South Inc
2286	2004	101797	260070900	Brenntag Mid South Inc
2287	2004	101797	260070900	Brenntag Mid South Inc
2288	2004	101797	260070900	Brenntag Mid South Inc
2289	2004	101797	260070900	Brenntag Mid South Inc
2290	2004	101797	260070900	Brenntag Mid South Inc
2291	2004	101797	260070900	Brenntag Mid South Inc
2292	2004	101797	260070900	Brenntag Mid South Inc
2293	2004	101797	260070900	Brenntag Mid South Inc
2294	2004	101797	260070900	Brenntag Mid South Inc
2295	**2004 Total**			
2296	2005	101797	260070900	Brenntag Mid South Inc
2297	2005	101797	260070900	Brenntag Mid South Inc
2298	2005	101797	260070900	Brenntag Mid South Inc
2299	2005	101797	260070900	Brenntag Mid South Inc

	J	K	L	M
2250	3954 Cromwell Rd	Chattanooga	TN	374212114
2251	3954 Cromwell Rd	Chattanooga	TN	374212114
2252	3954 Cromwell Rd	Chattanooga	TN	374212114
2253				
2254	3954 Cromwell Rd	Chattanooga	TN	374212114
2255	3954 Cromwell Rd	Chattanooga	TN	374212114
2256	3954 Cromwell Rd	Chattanooga	TN	374212114
2257	3954 Cromwell Rd	Chattanooga	TN	374212114
2258	3954 Cromwell Rd	Chattanooga	TN	374212114
2259	3954 Cromwell Rd	Chattanooga	TN	374212114
2260	3954 Cromwell Rd	Chattanooga	TN	374212114
2261	3954 Cromwell Rd	Chattanooga	TN	374212114
2262	3954 Cromwell Rd	Chattanooga	TN	374212114
2263	3954 Cromwell Rd	Chattanooga	TN	374212114
2264	3954 Cromwell Rd	Chattanooga	TN	374212114
2265	3954 Cromwell Rd	Chattanooga	TN	374212114
2266				
2267	3954 Cromwell Rd	Chattanooga	TN	374212114
2268	3954 Cromwell Rd	Chattanooga	TN	374212114
2269	3954 Cromwell Rd	Chattanooga	TN	374212114
2270				
2271	318 WAUHATCHIE Pike	Chattanooga	TN	374192329
2272	318 WAUHATCHIE Pike	Chattanooga	TN	374192329
2273	318 WAUHATCHIE Pike	Chattanooga	TN	374192329
2274	318 WAUHATCHIE Pike	Chattanooga	TN	374192329
2275	318 WAUHATCHIE Pike	Chattanooga	TN	374192329
2276	318 WAUHATCHIE Pike	Chattanooga	TN	374192329
2277	318 WAUHATCHIE Pike	Chattanooga	TN	374192329
2278	318 WAUHATCHIE Pike	Chattanooga	TN	374192329
2279	318 WAUHATCHIE Pike	Chattanooga	TN	374192329
2280	318 WAUHATCHIE Pike	Chattanooga	TN	374192329
2281	318 WAUHATCHIE Pike	Chattanooga	TN	374192329
2282				
2283	317 WAUHATCHIE PIKE	CHATTANOOGA	TN	374192328
2284	317 WAUHATCHIE PIKE	CHATTANOOGA	TN	374192328
2285	317 WAUHATCHIE PIKE	CHATTANOOGA	TN	374192328
2286	317 WAUHATCHIE PIKE	CHATTANOOGA	TN	374192328
2287	317 WAUHATCHIE PIKE	CHATTANOOGA	TN	374192328
2288	317 WAUHATCHIE PIKE	CHATTANOOGA	TN	374192328
2289	317 WAUHATCHIE PIKE	CHATTANOOGA	TN	374192328
2290	317 WAUHATCHIE PIKE	CHATTANOOGA	TN	374192328
2291	317 WAUHATCHIE PIKE	CHATTANOOGA	TN	374192328
2292	317 WAUHATCHIE PIKE	CHATTANOOGA	TN	374192328
2293	317 WAUHATCHIE PIKE	CHATTANOOGA	TN	374192328
2294	317 WAUHATCHIE PIKE	CHATTANOOGA	TN	374192328
2295				
2296	317 WAUHATCHIE PIKE	CHATTANOOGA	TN	374192328
2297	317 WAUHATCHIE PIKE	CHATTANOOGA	TN	374192328
2298	317 WAUHATCHIE PIKE	CHATTANOOGA	TN	374192328
2299	317 WAUHATCHIE PIKE	CHATTANOOGA	TN	374192328

	N	O	P	Q
2250	500.44	1000G	1212.76	A3M4
2251	488.47	1000G	1192.25	A3M4
2252	540.09	1000G	1280.7	A3M4
2253	5131.58		12815.83	
2254	599.18	1000G	1381.98	A3M4
2255	626.86	1000G	1429.42	A3M4
2256	625.37	1000G	1426.85	A3M4
2257	607.41	1000G	1396.08	A3M4
2258	694.19	1000G	1544.8	A3M4
2259	696.43	1000G	1697.97	A3M4
2260	885.69	1000G	2108.5	A3M4
2261	950.77	1000G	2234.04	A3M4
2262	1090.65	1000G	2503.88	A3M4
2263	1287.39	1000G	2883.39	A3M4
2264	1380.9	1000G	3063.77	A3M4
2265	623.12	1000G	1602.01	A3M4
2266	10067.96		23272.69	
2267	615.64	1000G	1587.58	A3M4
2268	477.25	1000G	1320.62	A3M4
2269	284.25	1000G	889.77	A3M4
2270	1377.14		3797.97	
2271	1263.45	1000G	2535.79	A3M4M
2272	1253.73	1000G	2519.61	A3M4M
2273	1478.89	1000G	2894.16	A3M4M
2274	1298.61	1000G	2594.27	A3M4M
2275	1278.42	1000G	2560.68	A3M4M
2276	830.33	1000G	1815.31	A3M4M
2277	1101.88	1000G	2267.01	A3M4M
2278	1407.83	1000G	2540.92	A3M4M
2279	1459.44	1000G	2771.38	A3M4M
2280	1243.25	1000G	3572.66	A3M4M
2281	1401.1	1000G	2648.65	A3M4M
2282	14016.93		28720.44	
2283	544.58	1000G	1240.28	A3M4
2284	570.01	1000G	1282.24	A3M4
2285	590.21	1000G	1315.56	A3M4
2286	635.09	1000G	1389.6	A3M4
2287	436.11	1000G	1061.35	A3M4
2288	495.95	1000G	1160.07	A3M4
2289	608.91	1000G	1346.41	A3M4
2290	620.88	1000G	1366.15	A3M4
2291	665.76	1000G	1440.19	A3M4
2292	374.02	1000G	958.93	A3M4
2293	492.21	1000G	1153.9	A3M4
2294	564.03	1000G	1272.37	A3M4
2295	6597.76		14987.05	
2296	550.56	1000G	1250.15	A3M4
2297	408.43	1000G	1015.69	A3M4
2298	464.54	1000G	1132.81	A3M4
2299	512.41	1000G	1233.27	A3M4

	A	B	C	D	E
2300	2600	2603	26CC	3	5
2301	2600	2603	26CC	3	6
2302	2600	2603	26CC	3	7
2303	2600	2603	26CC	3	8
2304	2600	2603	26CC	3	9
2305	2600	2603	26CC	3	10
2306	2600	2603	26CC	3	11
2307	2600	2603	26CC	3	12
2308					
2309	2600	2603	26CC	3	1
2310	2600	2603	26CC	3	2
2311	2600	2603	26CC	3	3
2312	2600	2603	26CC	3	4
2313	2600	2603	26CC	3	5
2314	2600	2603	26CC	3	6
2315	2600	2603	26CC	3	7
2316	2600	2603	26CC	3	8
2317	2600	2603	26CC	3	9
2318	2600	2603	26CC	3	10
2319	2600	2603	26CC	3	11
2320	2600	2603	26CC	3	11
2321	2600	2603	26CC	3	12
2322					
2323	2600	2603	26CC	3	1
2324	2600	2603	26CC	3	2
2325	2600	2603	26CC	3	3
2326	2600	2603	26CC	3	4
2327	2600	2603	26CC	3	5
2328	2600	2603	26CC	3	6
2329	2600	2603	26CC	3	7
2330	2600	2603	26CC	3	8
2331	2600	2603	26CC	3	9
2332	2600	2603	26CC	3	10
2333	2600	2603	26CC	3	11
2334	2600	2603	26CC	3	12
2335					
2336	2600	2603	26CC	3	1
2337	2600	2603	26CC	3	2
2338	2600	2603	26CC	3	3
2339					
2340	2600	2603	26CC	3	1
2341	2600	2603	26CC	3	2
2342	2600	2603	26CC	3	3
2343	2600	2603	26CC	3	4
2344	2600	2603	26CC	3	5
2345	2600	2603	26CC	3	6
2346	2600	2603	26CC	3	7
2347	2600	2603	26CC	3	8
2348	2600	2603	26CC	3	9
2349	2600	2603	26CC	3	10

	F	G	H	I
2300	2005	101797	260070900	Brenntag Mid South Inc
2301	2005	101797	260070900	Brenntag Mid South Inc
2302	2005	101797	260070900	Brenntag Mid South Inc
2303	2005	101797	260070900	Brenntag Mid South Inc
2304	2005	101797	260070900	Brenntag Mid South Inc
2305	2005	101797	260070900	Brenntag Mid South Inc
2306	2005	101797	260070900	Brenntag Mid South Inc
2307	2005	101797	260070900	Brenntag Mid South Inc
2308	**2005 Total**			
2309	2006	101797	260070900	Brenntag Mid South Inc
2310	2006	101797	260070900	Brenntag Mid South Inc
2311	2006	101797	260070900	Brenntag Mid South Inc
2312	2006	101797	260070900	Brenntag Mid South Inc
2313	2006	101797	260070900	Brenntag Mid South Inc
2314	2006	101797	260070900	Brenntag Mid South Inc
2315	2006	101797	260070900	Brenntag Mid South Inc
2316	2006	101797	260070900	Brenntag Mid South Inc
2317	2006	101797	260070900	Brenntag Mid South Inc
2318	2006	101797	260070900	Brenntag Mid South Inc
2319	2006	101797	260070900	Brenntag Mid South Inc
2320	2006	101797	260070900	Brenntag Mid South Inc
2321	2006	101797	260070900	Brenntag Mid South Inc
2322	**2006 Total**			
2323	2007	101797	260070900	Brenntag Mid South Inc
2324	2007	101797	260070900	Brenntag Mid South Inc
2325	2007	101797	260070900	Brenntag Mid South Inc
2326	2007	101797	260070900	Brenntag Mid South Inc
2327	2007	101797	260070900	Brenntag Mid South Inc
2328	2007	101797	260070900	Brenntag Mid South Inc
2329	2007	101797	260070900	Brenntag Mid South Inc
2330	2007	101797	260070900	Brenntag Mid South Inc
2331	2007	101797	260070900	Brenntag Mid South Inc
2332	2007	101797	260070900	Brenntag Mid South Inc
2333	2007	101797	260070900	Brenntag Mid South Inc
2334	2007	101797	260070900	Brenntag Mid South Inc
2335	**2007 Total**			
2336	2008	101797	260070900	Brenntag Mid South Inc
2337	2008	101797	260070900	Brenntag Mid South Inc
2338	2008	101797	260070900	Brenntag Mid South Inc
2339	**2008 Total**			
2340	2004	101900	260070990	CLEAN HARBORS ENVIRONMENTAL, S
2341	2004	101900	260070990	CLEAN HARBORS ENVIRONMENTAL, S
2342	2004	101900	260070990	CLEAN HARBORS ENVIRONMENTAL, S
2343	2004	101900	260070990	CLEAN HARBORS ENVIRONMENTAL, S
2344	2004	101900	260070990	CLEAN HARBORS ENVIRONMENTAL, S
2345	2004	101900	260070990	CLEAN HARBORS ENVIRONMENTAL, S
2346	2004	101900	260070990	CLEAN HARBORS ENVIRONMENTAL, S
2347	2004	101900	260070990	CLEAN HARBORS ENVIRONMENTAL, S
2348	2004	101900	260070990	CLEAN HARBORS ENVIRONMENTAL, S
2349	2004	101900	260070990	CLEAN HARBORS ENVIRONMENTAL, S

	J	K	L	M
2300	317 WAUHATCHIE PIKE	CHATTANOOGA	TN	374192328
2301	317 WAUHATCHIE PIKE	CHATTANOOGA	TN	374192328
2302	317 WAUHATCHIE PIKE	CHATTANOOGA	TN	374192328
2303	317 WAUHATCHIE PIKE	CHATTANOOGA	TN	374192328
2304	317 WAUHATCHIE PIKE	CHATTANOOGA	TN	374192328
2305	317 WAUHATCHIE PIKE	CHATTANOOGA	TN	374192328
2306	317 WAUHATCHIE PIKE	CHATTANOOGA	TN	374192328
2307	317 WAUHATCHIE PIKE	CHATTANOOGA	TN	374192328
2308				
2309	317 WAUHATCHIE PIKE	CHATTANOOGA	TN	374192328
2310	317 WAUHATCHIE PIKE	CHATTANOOGA	TN	374192328
2311	317 WAUHATCHIE PIKE	CHATTANOOGA	TN	374192328
2312	317 WAUHATCHIE PIKE	CHATTANOOGA	TN	374192328
2313	317 WAUHATCHIE PIKE	CHATTANOOGA	TN	374192328
2314	317 WAUHATCHIE PIKE	CHATTANOOGA	TN	374192328
2315	317 WAUHATCHIE PIKE	CHATTANOOGA	TN	374192328
2316	317 WAUHATCHIE PIKE	CHATTANOOGA	TN	374192328
2317	317 WAUHATCHIE PIKE	CHATTANOOGA	TN	374192328
2318	317 WAUHATCHIE PIKE	CHATTANOOGA	TN	374192328
2319	317 WAUHATCHIE PIKE	CHATTANOOGA	TN	374192328
2320	317 WAUHATCHIE PIKE	CHATTANOOGA	TN	374192328
2321	317 WAUHATCHIE PIKE	CHATTANOOGA	TN	374192328
2322				
2323	317 WAUHATCHIE PIKE	CHATTANOOGA	TN	374192328
2324	317 WAUHATCHIE PIKE	CHATTANOOGA	TN	374192328
2325	317 WAUHATCHIE PIKE	CHATTANOOGA	TN	374192328
2326	317 WAUHATCHIE PIKE	CHATTANOOGA	TN	374192328
2327	317 WAUHATCHIE PIKE	CHATTANOOGA	TN	374192328
2328	317 WAUHATCHIE PIKE	CHATTANOOGA	TN	374192328
2329	317 WAUHATCHIE PIKE	CHATTANOOGA	TN	374192328
2330	317 WAUHATCHIE PIKE	CHATTANOOGA	TN	374192328
2331	317 WAUHATCHIE PIKE	CHATTANOOGA	TN	374192328
2332	317 WAUHATCHIE PIKE	CHATTANOOGA	TN	374192328
2333	317 WAUHATCHIE PIKE	CHATTANOOGA	TN	374192328
2334	317 WAUHATCHIE PIKE	CHATTANOOGA	TN	374192328
2335				
2336	317 WAUHATCHIE PIKE	CHATTANOOGA	TN	374192328
2337	317 WAUHATCHIE PIKE	CHATTANOOGA	TN	374192328
2338	317 WAUHATCHIE PIKE	CHATTANOOGA	TN	374192328
2339				
2340	3503 1/2 Cummings Rd	Chattanooga	TN	37419
2341	3503 1/2 Cummings Rd	Chattanooga	TN	37419
2342	3503 1/2 Cummings Rd	Chattanooga	TN	37419
2343	3503 1/2 Cummings Rd	Chattanooga	TN	37419
2344	3503 1/2 Cummings Rd	Chattanooga	TN	37419
2345	3503 1/2 Cummings Rd	Chattanooga	TN	37419
2346	3503 1/2 Cummings Rd	Chattanooga	TN	37419
2347	3503 1/2 Cummings Rd	Chattanooga	TN	37419
2348	3503 1/2 Cummings Rd	Chattanooga	TN	37419
2349	3503 1/2 Cummings Rd	Chattanooga	TN	37419

	N	O	P	Q
2300	558.79	1000G	1312.75	A3M4
2301	621.63	1000G	1420.44	A3M4
2302	576.74	1000G	1343.52	A3M4
2303	600.68	1000G	1384.55	A3M4
2304	576.74	1000G	1343.52	A3M4
2305	586.47	1000G	1360.19	A3M4
2306	515.4	1000G	1238.4	A3M4
2307	534.1	1000G	1270.45	A3M4
2308	6506.49		15305.74	
2309	479.5	1000G	1176.86	A3M4
2310	517.65	1000G	1242.24	A3M4
2311	570.76	1000G	1333.27	A3M4
2312	620.13	1000G	1417.88	A3M4
2313	580.48	1000G	1349.93	A3M4
2314	614.15	1000G	1407.62	A3M4
2315	619.37	1000G	1416.6	A3M4
2316	617.89	1000G	1414.03	A3M4
2317	525.13	1000G	1255.06	A3M4
2318	539.34	1000G	1279.42	A3M4
2319	0	1000G	-1259.59	CRAC3
2320	496.7	1000G	1206.35	A3M4
2321	406.19	1000G	1051.23	A3M4
2322	6587.29		14290.9	
2323	508.67	1000G	1226.86	A3M4
2324	433.87	1000G	1098.66	A3M4
2325	462.29	1000G	1147.38	A3M4
2326	415.16	1000G	1066.61	A3M4
2327	549.07	1000G	1296.09	A3M4
2328	471.27	1000G	1309.08	A3M4
2329	452.57	1000G	1273.01	A3M4
2330	424.14	1000G	1218.17	A3M4
2331	467.53	1000G	1301.87	A3M4
2332	471.27	1000G	1309.08	A3M4
2333	503.43	1000G	1371.13	A3M4
2334	412.92	1000G	1196.53	A3M4
2335	5572.19		14814.47	
2336	405.44	1000G	1182.1	A3M4
2337	436.11	1000G	1241.26	A3M4
2338	443.59	1000G	1255.69	A3M4
2339	1285.14		3679.05	
2340	11.22	1000G	109.34	A3M4
2341	22.44	1000G	148.76	A3M4
2342	12.71	1000G	114.59	A3M4
2343	16.45	1000G	127.73	A3M4
2344	29.17	1000G	172.41	A3M4
2345	38.89	1000G	206.57	A3M4
2346	41.89	1000G	217.09	A3M4
2347	14.21	1000G	119.85	A3M4
2348	11.22	1000G	109.34	A3M4
2349	13.46	1000G	117.22	A3M4

	A	B	C	D	E
2350	2600	2603	26CC	3	11
2351	2600	2603	26CC	3	12
2352					
2353	2600	2603	26CC	3	1
2354	2600	2603	26CC	3	2
2355	2600	2603	26CC	3	3
2356	2600	2603	26CC	3	4
2357	2600	2603	26CC	3	5
2358	2600	2603	26CC	3	6
2359	2600	2603	26CC	3	7
2360	2600	2603	26CC	3	8
2361	2600	2603	26CC	3	9
2362	2600	2603	26CC	3	10
2363	2600	2603	26CC	3	11
2364	2600	2603	26CC	3	12
2365					
2366	2600	2603	26CC	3	1
2367	2600	2603	26CC	3	2
2368	2600	2603	26CC	3	3
2369	2600	2603	26CC	3	4
2370	2600	2603	26CC	3	5
2371	2600	2603	26CC	3	6
2372	2600	2603	26CC	3	7
2373	2600	2603	26CC	3	8
2374	2600	2603	26CC	3	9
2375	2600	2603	26CC	3	10
2376	2600	2603	26CC	3	11
2377	2600	2603	26CC	3	12
2378					
2379	2600	2603	26CC	3	1
2380	2600	2603	26CC	3	2
2381	2600	2603	26CC	3	3
2382	2600	2603	26CC	3	4
2383	2600	2603	26CC	3	5
2384	2600	2603	26CC	3	6
2385	2600	2603	26CC	3	7
2386	2600	2603	26CC	3	8
2387	2600	2603	26CC	3	9
2388	2600	2603	26CC	3	10
2389	2600	2603	26CC	3	11
2390	2600	2603	26CC	3	12
2391					
2392	2600	2603	26CC	3	1
2393	2600	2603	26CC	3	2
2394	2600	2603	26CC	3	3
2395					
2396	2600	2607	26CC	3	1
2397	2600	2607	26CC	3	2
2398	2600	2607	26CC	3	3
2399	2600	2607	26CC	3	4

	F	G	H	I
2350	2004	101900	260070990	CLEAN HARBORS ENVIRONMENTAL, S
2351	2004	101900	260070990	CLEAN HARBORS ENVIRONMENTAL, S
2352	**2004 Total**			
2353	2005	101900	260070990	CLEAN HARBORS ENVIRONMENTAL, S
2354	2005	101900	260070990	CLEAN HARBORS ENVIRONMENTAL, S
2355	2005	101900	260070990	CLEAN HARBORS ENVIRONMENTAL, S
2356	2005	101900	260070990	CLEAN HARBORS ENVIRONMENTAL, S
2357	2005	101900	260070990	CLEAN HARBORS ENVIRONMENTAL, S
2358	2005	101900	260070990	CLEAN HARBORS ENVIRONMENTAL, S
2359	2005	101900	260070990	CLEAN HARBORS ENVIRONMENTAL, S
2360	2005	101900	260070990	CLEAN HARBORS ENVIRONMENTAL, S
2361	2005	101900	260070990	CLEAN HARBORS ENVIRONMENTAL, S
2362	2005	101900	260070990	CLEAN HARBORS ENVIRONMENTAL, S
2363	2005	101900	260070990	CLEAN HARBORS ENVIRONMENTAL, S
2364	2005	101900	260070990	CLEAN HARBORS ENVIRONMENTAL, S
2365	**2005 Total**			
2366	2006	101900	260070990	CLEAN HARBORS ENVIRONMENTAL, S
2367	2006	101900	260070990	CLEAN HARBORS ENVIRONMENTAL, S
2368	2006	101900	260070990	CLEAN HARBORS ENVIRONMENTAL, S
2369	2006	101900	260070990	CLEAN HARBORS ENVIRONMENTAL, S
2370	2006	101900	260070990	CLEAN HARBORS ENVIRONMENTAL, S
2371	2006	101900	260070990	CLEAN HARBORS ENVIRONMENTAL, S
2372	2006	101900	260070990	CLEAN HARBORS ENVIRONMENTAL, S
2373	2006	101900	260070990	CLEAN HARBORS ENVIRONMENTAL, S
2374	2006	101900	260070990	CLEAN HARBORS ENVIRONMENTAL, S
2375	2006	101900	260070990	CLEAN HARBORS ENVIRONMENTAL, S
2376	2006	101900	260070990	CLEAN HARBORS ENVIRONMENTAL, S
2377	2006	101900	260070990	CLEAN HARBORS ENVIRONMENTAL, S
2378	**2006 Total**			
2379	2007	101900	260070990	CLEAN HARBORS ENVIRONMENTAL, S
2380	2007	101900	260070990	CLEAN HARBORS ENVIRONMENTAL, S
2381	2007	101900	260070990	CLEAN HARBORS ENVIRONMENTAL, S
2382	2007	101900	260070990	CLEAN HARBORS ENVIRONMENTAL, S
2383	2007	101900	260070990	CLEAN HARBORS ENVIRONMENTAL, S
2384	2007	101900	260070990	CLEAN HARBORS ENVIRONMENTAL, S
2385	2007	101900	260070990	CLEAN HARBORS ENVIRONMENTAL, S
2386	2007	101900	260070990	CLEAN HARBORS ENVIRONMENTAL, S
2387	2007	101900	260070990	CLEAN HARBORS ENVIRONMENTAL, S
2388	2007	101900	260070990	CLEAN HARBORS ENVIRONMENTAL, S
2389	2007	101900	260070990	CLEAN HARBORS ENVIRONMENTAL, S
2390	2007	101900	260070990	CLEAN HARBORS ENVIRONMENTAL, S
2391	**2007 Total**			
2392	2008	101900	260070990	CLEAN HARBORS ENVIRONMENTAL, S
2393	2008	101900	260070990	CLEAN HARBORS ENVIRONMENTAL, S
2394	2008	101900	260070990	CLEAN HARBORS ENVIRONMENTAL, S
2395	**2008 Total**			
2396	2004	102541	260071478	Heller Properties LLC
2397	2004	102541	260071478	Heller Properties LLC
2398	2004	102541	260071478	Heller Properties LLC
2399	2004	102541	260071478	Heller Properties LLC

	J	K	L	M
2350	3503 1/2 Cummings Rd	Chattanooga	TN	37419
2351	3503 1/2 Cummings Rd	Chattanooga	TN	37419
2352				
2353	3503 1/2 Cummings Rd	Chattanooga	TN	37419
2354	3503 1/2 Cummings Rd	Chattanooga	TN	37419
2355	3503 1/2 Cummings Rd	Chattanooga	TN	37419
2356	3503 1/2 Cummings Rd	Chattanooga	TN	37419
2357	3503 1/2 Cummings Rd	Chattanooga	TN	37419
2358	3503 1/2 Cummings Rd	Chattanooga	TN	37419
2359	3503 1/2 Cummings Rd	Chattanooga	TN	37419
2360	3503 1/2 Cummings Rd	Chattanooga	TN	37419
2361	3503 1/2 Cummings Rd	Chattanooga	TN	37419
2362	3503 1/2 Cummings Rd	Chattanooga	TN	37419
2363	3503 1/2 Cummings Rd	Chattanooga	TN	37419
2364	3503 1/2 Cummings Rd	Chattanooga	TN	37419
2365				
2366	3503 1/2 Cummings Rd	Chattanooga	TN	37419
2367	3503 1/2 Cummings Rd	Chattanooga	TN	37419
2368	3503 1/2 Cummings Rd	Chattanooga	TN	37419
2369	3503 1/2 Cummings Rd	Chattanooga	TN	37419
2370	3503 1/2 Cummings Rd	Chattanooga	TN	37419
2371	3503 1/2 Cummings Rd	Chattanooga	TN	37419
2372	3503 1/2 Cummings Rd	Chattanooga	TN	37419
2373	3503 1/2 Cummings Rd	Chattanooga	TN	37419
2374	3503 1/2 Cummings Rd	Chattanooga	TN	37419
2375	3503 1/2 Cummings Rd	Chattanooga	TN	37419
2376	3503 1/2 Cummings Rd	Chattanooga	TN	37419
2377	3503 1/2 Cummings Rd	Chattanooga	TN	37419
2378				
2379	3503 1/2 Cummings Rd	Chattanooga	TN	37419
2380	3503 1/2 Cummings Rd	Chattanooga	TN	37419
2381	3503 1/2 Cummings Rd	Chattanooga	TN	37419
2382	3503 1/2 Cummings Rd	Chattanooga	TN	37419
2383	3503 1/2 Cummings Rd	Chattanooga	TN	37419
2384	3503 1/2 Cummings Rd	Chattanooga	TN	37419
2385	3503 1/2 Cummings Rd	Chattanooga	TN	37419
2386	3503 1/2 Cummings Rd	Chattanooga	TN	37419
2387	3503 1/2 Cummings Rd	Chattanooga	TN	37419
2388	3503 1/2 Cummings Rd	Chattanooga	TN	37419
2389	3503 1/2 Cummings Rd	Chattanooga	TN	37419
2390	3503 1/2 Cummings Rd	Chattanooga	TN	37419
2391				
2392	3503 1/2 Cummings Rd	Chattanooga	TN	37419
2393	3503 1/2 Cummings Rd	Chattanooga	TN	37419
2394	3503 1/2 Cummings Rd	Chattanooga	TN	37419
2395				
2396	2739 Cummings Hwy	Chattanooga	TN	374191815
2397	2739 Cummings Hwy	Chattanooga	TN	374191815
2398	2739 Cummings Hwy	Chattanooga	TN	374191815
2399	2739 Cummings Hwy	Chattanooga	TN	374191815

	N	O	P	Q
2350	42.63	1000G	219.71	A3M4
2351	17.95	1000G	132.99	A3M4
2352	272.24		1795.6	
2353	21.69	1000G	146.13	A3M4
2354	-1.49	1000G	64.66	A3M4
2355	20.19	1000G	143.98	A3M4
2356	5.98	1000G	94.46	A3M4
2357	7.48	1000G	99.92	A3M4
2358	8.22	1000G	102.65	A3M4
2359	12.71	1000G	119.03	A3M4
2360	5.23	1000G	91.73	A3M4
2361	10.47	1000G	110.84	A3M4
2362	7.48	1000G	99.92	A3M4
2363	5.98	1000G	94.46	A3M4
2364	12.71	1000G	119.03	A3M4
2365	116.65		1286.81	
2366	2.24	1000G	83.37	A3M4
2367	5.23	1000G	91.73	A3M4
2368	20.19	1000G	146.33	A3M4
2369	-8.23	1000G	42.59	A3M4
2370	5.23	1000G	91.73	A3M4
2371	5.98	1000G	94.46	A3M4
2372	8.22	1000G	102.65	A3M4
2373	2.98	1000G	83.54	A3M4
2374	2.99	1000G	83.54	A3M4
2375	5.23	1000G	91.73	A3M4
2376	9.72	1000G	108.11	A3M4
2377	6.73	1000G	97.19	A3M4
2378	66.51		1116.97	
2379	5.97	1000G	94.46	A3M4
2380	8.22	1000G	102.65	A3M4
2381	2.99	1000G	83.54	A3M4
2382	2.24	1000G	83.37	A3M4
2383	5.23	1000G	91.73	A3M4
2384	19.44	1000G	161.66	A3M4
2385	5.23	1000G	103.27	A3M4
2386	2.24	1000G	93.85	A3M4
2387	3.74	1000G	97.12	A3M4
2388	9.72	1000G	121.71	A3M4
2389	5.98	1000G	106.34	A3M4
2390	3.74	1000G	97.12	A3M4
2391	74.74		1236.82	
2392	5.23	1000G	103.27	A3M4
2393	5.23	1000G	103.27	A3M4
2394	5.98	1000G	106.34	A3M4
2395	16.44		312.88	
2396	11.96	1000G	47.17	A3M4
2397	19.44	1000G	73.45	A3M4
2398	9.72	1000G	39.28	A3M4
2399	7.48	1000G	31.4	A3M4

	A	B	C	D	E
2400	2600	2607	26CC	3	5
2401	2600	2607	26CC	3	6
2402	2600	2607	26CC	3	7
2403	2600	2607	26CC	3	8
2404	2600	2607	26CC	3	9
2405	2600	2607	26CC	3	10
2406	2600	2607	26CC	3	11
2407	2600	2607	26CC	3	12
2408					
2409	2600	2607	26CC	3	1
2410	2600	2607	26CC	3	2
2411	2600	2607	26CC	3	3
2412	2600	2607	26CC	3	4
2413	2600	2607	26CC	3	5
2414	2600	2607	26CC	3	6
2415	2600	2607	26CC	3	7
2416	2600	2607	26CC	3	8
2417	2600	2607	26CC	3	9
2418	2600	2607	26CC	3	10
2419	2600	2607	26CC	3	11
2420	2600	2607	26CC	3	12
2421					
2422	2600	2607	26CC	3	1
2423	2600	2607	26CC	3	2
2424	2600	2607	26CC	3	3
2425	2600	2607	26CC	3	4
2426	2600	2607	26CC	3	5
2427	2600	2607	26CC	3	6
2428	2600	2607	26CC	3	7
2429	2600	2607	26CC	3	8
2430	2600	2607	26CC	3	9
2431	2600	2607	26CC	3	10
2432	2600	2607	26CC	3	11
2433	2600	2607	26CC	3	12
2434					
2435	2600	2607	26CC	3	1
2436	2600	2607	26CC	3	2
2437	2600	2607	26CC	3	3
2438	2600	2607	26CC	3	4
2439	2600	2607	26HC	3	5
2440	2600	2607	26HC	3	6
2441	2600	2607	26HC	3	7
2442	2600	2607	26HC	3	8
2443	2600	2607	26HC	3	9
2444	2600	2607	26HC	3	10
2445	2600	2607	26HC	3	11
2446	2600	2607	26HC	3	12
2447					
2448	2600	2607	26HC	3	1
2449	2600	2607	26HC	3	2

	F	G	H	I
2400	2004	102541	260071478	Heller Properties LLC
2401	2004	102541	260071478	Heller Properties LLC
2402	2004	102541	260071478	Heller Properties LLC
2403	2004	102541	260071478	Heller Properties LLC
2404	2004	102541	260071478	Heller Properties LLC
2405	2004	102541	260071478	Heller Properties LLC
2406	2004	102541	260071478	Heller Properties LLC
2407	2004	102541	260071478	Heller Properties LLC
2408	**2004 Total**			
2409	2005	102541	260071478	Heller Properties LLC
2410	2005	102541	260071478	Heller Properties LLC
2411	2005	102541	260071478	Heller Properties LLC
2412	2005	102541	260071478	Heller Properties LLC
2413	2005	102541	260071478	Heller Properties LLC
2414	2005	102541	260071478	Heller Properties LLC
2415	2005	102541	260071478	Heller Properties LLC
2416	2005	102541	260071478	Heller Properties LLC
2417	2005	102541	260071478	Heller Properties LLC
2418	2005	102541	260071478	Heller Properties LLC
2419	2005	102541	260071478	Heller Properties LLC
2420	2005	102541	260071478	Heller Properties LLC
2421	**2005 Total**			
2422	2006	102541	260071478	Heller Properties LLC
2423	2006	102541	260071478	Heller Properties LLC
2424	2006	102541	260071478	Heller Properties LLC
2425	2006	102541	260071478	Heller Properties LLC
2426	2006	102541	260071478	Heller Properties LLC
2427	2006	102541	260071478	Heller Properties LLC
2428	2006	102541	260071478	Heller Properties LLC
2429	2006	102541	260071478	Heller Properties LLC
2430	2006	102541	260071478	Heller Properties LLC
2431	2006	102541	260071478	Heller Properties LLC
2432	2006	102541	260071478	Heller Properties LLC
2433	2006	102541	260071478	Heller Properties LLC
2434	**2006 Total**			
2435	2007	102541	260071478	Heller Properties LLC
2436	2007	102541	260071478	Heller Properties LLC
2437	2007	102541	260071478	Heller Properties LLC
2438	2007	102541	260071478	Heller Properties LLC
2439	2007	102541	260071478	Heller Properties LLC
2440	2007	102541	260071478	Heller Properties LLC
2441	2007	102541	260071478	Heller Properties LLC
2442	2007	102541	260071478	Heller Properties LLC
2443	2007	102541	260071478	Heller Properties LLC
2444	2007	102541	260071478	Heller Properties LLC
2445	2007	102541	260071478	Heller Properties LLC
2446	2007	102541	260071478	Heller Properties LLC
2447	**2007 Total**			
2448	2008	102541	260071478	Heller Properties LLC
2449	2008	102541	260071478	Heller Properties LLC

	J	K	L	M
2400	2739 Cummings Hwy	Chattanooga	TN	374191815
2401	2739 Cummings Hwy	Chattanooga	TN	374191815
2402	2739 Cummings Hwy	Chattanooga	TN	374191815
2403	2739 Cummings Hwy	Chattanooga	TN	374191815
2404	2739 Cummings Hwy	Chattanooga	TN	374191815
2405	2739 Cummings Hwy	Chattanooga	TN	374191815
2406	2739 Cummings Hwy	Chattanooga	TN	374191815
2407	2739 Cummings Hwy	Chattanooga	TN	374191815
2408				
2409	2739 Cummings Hwy	Chattanooga	TN	374191815
2410	2739 Cummings Hwy	Chattanooga	TN	374191815
2411	2739 Cummings Hwy	Chattanooga	TN	374191815
2412	2739 Cummings Hwy	Chattanooga	TN	374191815
2413	2739 Cummings Hwy	Chattanooga	TN	374191815
2414	2739 Cummings Hwy	Chattanooga	TN	374191815
2415	2739 Cummings Hwy	Chattanooga	TN	374191815
2416	2739 Cummings Hwy	Chattanooga	TN	374191815
2417	2739 Cummings Hwy	Chattanooga	TN	374191815
2418	2739 Cummings Hwy	Chattanooga	TN	374191815
2419	2739 Cummings Hwy	Chattanooga	TN	374191815
2420	2739 Cummings Hwy	Chattanooga	TN	374191815
2421				
2422	2739 Cummings Hwy	Chattanooga	TN	374191815
2423	2739 Cummings Hwy	Chattanooga	TN	374191815
2424	2739 Cummings Hwy	Chattanooga	TN	374191815
2425	2739 Cummings Hwy	Chattanooga	TN	374191815
2426	2739 Cummings Hwy	Chattanooga	TN	374191815
2427	2739 Cummings Hwy	Chattanooga	TN	374191815
2428	2739 Cummings Hwy	Chattanooga	TN	374191815
2429	2739 Cummings Hwy	Chattanooga	TN	374191815
2430	2739 Cummings Hwy	Chattanooga	TN	374191815
2431	2739 Cummings Hwy	Chattanooga	TN	374191815
2432	2739 Cummings Hwy	Chattanooga	TN	374191815
2433	2739 Cummings Hwy	Chattanooga	TN	374191815
2434				
2435	2739 Cummings Hwy	Chattanooga	TN	374191815
2436	2739 Cummings Hwy	Chattanooga	TN	374191815
2437	2739 Cummings Hwy	Chattanooga	TN	374191815
2438	2739 Cummings Hwy	Chattanooga	TN	374191815
2439	2739 Cummings Hwy	Chattanooga	TN	374191815
2440	2739 Cummings Hwy	Chattanooga	TN	374191815
2441	2739 Cummings Hwy	Chattanooga	TN	374191815
2442	2739 Cummings Hwy	Chattanooga	TN	374191815
2443	2739 Cummings Hwy	Chattanooga	TN	374191815
2444	2739 Cummings Hwy	Chattanooga	TN	374191815
2445	2739 Cummings Hwy	Chattanooga	TN	374191815
2446	2739 Cummings Hwy	Chattanooga	TN	374191815
2447				
2448	2739 Cummings Hwy	Chattanooga	TN	374191815
2449	2739 Cummings Hwy	Chattanooga	TN	374191815

	N	O	P	Q
2400	7.48	1000G	31.4	A3M4
2401	7.48	1000G	31.4	A3M4
2402	8.97	1000G	36.65	A3M4
2403	8.22	1000G	34.03	A3M4
2404	11.22	1000G	44.54	A3M4
2405	8.22	1000G	34.03	A3M4
2406	8.22	1000G	34.03	A3M4
2407	9.72	1000G	39.28	A3M4
2408	118.13		476.66	
2409	7.48	1000G	31.4	A3M4
2410	8.22	1000G	34.03	A3M4
2411	8.97	1000G	37.47	A3M4
2412	8.22	1000G	35.35	A3M4
2413	6.73	1000G	29.89	A3M4
2414	5.98	1000G	27.16	A3M4
2415	24.68	1000G	95.41	A3M4
2416	5.23	1000G	24.43	A3M4
2417	5.98	1000G	27.16	A3M4
2418	28.42	1000G	109.06	A3M4
2419	5.98	1000G	27.16	A3M4
2420	19.44	1000G	76.3	A3M4
2421	135.33		554.82	
2422	9.72	1000G	40.81	A3M4
2423	12.71	1000G	51.73	A3M4
2424	13.46	1000G	54.46	A3M4
2425	16.45	1000G	65.38	A3M4
2426	21.69	1000G	84.49	A3M4
2427	22.44	1000G	87.22	A3M4
2428	25.43	1000G	98.14	A3M4
2429	105.47	1000G	313.11	A3M4
2430	38.89	1000G	147.28	A3M4
2431	38.89	1000G	147.28	A3M4
2432	43.38	1000G	163.66	A3M4
2433	23.93	1000G	92.68	A3M4
2434	372.46		1346.24	
2435	20.19	1000G	79.03	A3M4
2436	27.67	1000G	106.33	A3M4
2437	27.67	1000G	106.33	A3M4
2438	33.66	1000G	128.17	A3M4
2439	35.9	1000G	136.36	A3M4
2440	31.41	1000G	135.06	A3M4
2441	23.93	1000G	104.33	A3M4
2442	17.95	1000G	79.75	A3M4
2443	37.4	1000G	159.65	A3M4
2444	59.09	1000G	232.77	A3M4
2445	76.3	1000G	277.19	A3M4
2446	32.16	1000G	138.14	A3M4
2447	423.33		1683.11	
2448	47.87	1000G	202.67	A3M4
2449	14.21	1000G	64.39	A3M4

	A	B	C	D	E
2450	2600	2607	26HC	3	3
2451					
2452	2600	2603	26CC	3	1
2453	2600	2603	26CC	3	2
2454	2600	2603	26CC	3	3
2455	2600	2603	26CC	3	4
2456	2600	2603	26CC	3	5
2457	2600	2603	26CC	3	6
2458	2600	2603	26CC	3	7
2459	2600	2603	26CC	3	8
2460	2600	2603	26CC	3	9
2461	2600	2603	26CC	3	10
2462	2600	2603	26CC	3	11
2463	2600	2603	26CC	3	12
2464					
2465	2600	2603	26CC	3	1
2466	2600	2603	26CC	3	2
2467	2600	2603	26CC	3	3
2468	2600	2603	26CC	3	4
2469	2600	2603	26CC	3	5
2470	2600	2603	26CC	3	6
2471	2600	2603	26CC	3	7
2472	2600	2603	26CC	3	8
2473	2600	2603	26CC	3	9
2474	2600	2603	26CC	3	10
2475	2600	2603	26CC	3	11
2476	2600	2603	26CC	3	12
2477					
2478	2600	2603	26CC	3	1
2479	2600	2603	26CC	3	2
2480	2600	2603	26CC	3	3
2481	2600	2603	26CC	3	3
2482	2600	2603	26CC	3	5
2483	2600	2603	26CC	3	6
2484	2600	2603	26CC	3	7
2485	2600	2603	26CC	3	8
2486	2600	2603	26CC	3	8
2487	2600	2603	26CC	3	10
2488	2600	2603	26CC	3	10
2489	2600	2603	26CC	3	12
2490					
2491	2600	2603	26CC	3	1
2492	2600	2603	26CC	3	1
2493	2600	2603	26CC	3	2
2494	2600	2603	26CC	3	3
2495	2600	2603	26CC	3	4
2496	2600	2603	26CC	3	5
2497	2600	2603	26CC	3	6
2498	2600	2603	26CC	3	7
2499	2600	2603	26CC	3	8

	F	G	H	I
2450	2008	102541	260071478	Heller Properties LLC
2451	**2008 Total**			
2452	2004	104433	260072992	Komatsu American Mfg
2453	2004	104433	260072992	Komatsu American Mfg
2454	2004	104433	260072992	Komatsu American Mfg
2455	2004	104433	260072992	Komatsu American Mfg
2456	2004	104433	260072992	Komatsu American Mfg
2457	2004	104433	260072992	Komatsu American Mfg
2458	2004	104433	260072992	Komatsu American Mfg
2459	2004	104433	260072992	Komatsu American Mfg
2460	2004	104433	260072992	Komatsu American Mfg
2461	2004	104433	260072992	Komatsu American Mfg
2462	2004	104433	260072992	Komatsu American Mfg
2463	2004	104433	260072992	Komatsu American Mfg
2464	**2004 Total**			
2465	2005	104433	260072992	Komatsu American Mfg
2466	2005	104433	260072992	Komatsu American Mfg
2467	2005	104433	260072992	Komatsu American Mfg
2468	2005	104433	260072992	Komatsu American Mfg
2469	2005	104433	260072992	Komatsu American Mfg
2470	2005	104433	260072992	Komatsu American Mfg
2471	2005	104433	260072992	Komatsu American Mfg
2472	2005	104433	260072992	Komatsu American Mfg
2473	2005	104433	260072992	Komatsu American Mfg
2474	2005	104433	260072992	Komatsu American Mfg
2475	2005	104433	260072992	Komatsu American Mfg
2476	2005	104433	260072992	Komatsu American Mfg
2477	**2005 Total**			
2478	2006	104433	260072992	Komatsu American Mfg
2479	2006	104433	260072992	Komatsu American Mfg
2480	2006	104433	260072992	Komatsu American Mfg
2481	2006	104433	260072992	Komatsu American Mfg
2482	2006	104433	260072992	Komatsu American Mfg
2483	2006	104433	260072992	Komatsu American Mfg
2484	2006	104433	260072992	Komatsu American Mfg
2485	2006	104433	260072992	Komatsu American Mfg
2486	2006	104433	260072992	Komatsu American Mfg
2487	2006	104433	260072992	Komatsu American Mfg
2488	2006	104433	260072992	Komatsu American Mfg
2489	2006	104433	260072992	Komatsu American Mfg
2490	**2006 Total**			
2491	2007	104433	260072992	Komatsu American Mfg
2492	2007	104433	260072992	Komatsu American Mfg
2493	2007	104433	260072992	Komatsu American Mfg
2494	2007	104433	260072992	Komatsu American Mfg
2495	2007	104433	260072992	Komatsu American Mfg
2496	2007	104433	260072992	Komatsu American Mfg
2497	2007	104433	260072992	Komatsu American Mfg
2498	2007	104433	260072992	Komatsu American Mfg
2499	2007	104433	260072992	Komatsu American Mfg

	J	K	L	M
2450	2739 Cummings Hwy	Chattanooga	TN	374191815
2451				
2452	Signal Mountain Rd	Chattanooga	TN	37405
2453	Signal Mountain Rd	Chattanooga	TN	37405
2454	Signal Mountain Rd	Chattanooga	TN	37405
2455	Signal Mountain Rd	Chattanooga	TN	37405
2456	Signal Mountain Rd	Chattanooga	TN	37405
2457	Signal Mountain Rd	Chattanooga	TN	37405
2458	Signal Mountain Rd	Chattanooga	TN	37405
2459	Signal Mountain Rd	Chattanooga	TN	37405
2460	Signal Mountain Rd	Chattanooga	TN	37405
2461	Signal Mountain Rd	Chattanooga	TN	37405
2462	Signal Mountain Rd	Chattanooga	TN	37405
2463	Signal Mountain Rd	Chattanooga	TN	37405
2464				
2465	Signal Mountain Rd	Chattanooga	TN	37405
2466	Signal Mountain Rd	Chattanooga	TN	37405
2467	Signal Mountain Rd	Chattanooga	TN	37405
2468	Signal Mountain Rd	Chattanooga	TN	37405
2469	Signal Mountain Rd	Chattanooga	TN	37405
2470	Signal Mountain Rd	Chattanooga	TN	37405
2471	Signal Mountain Rd	Chattanooga	TN	37405
2472	Signal Mountain Rd	Chattanooga	TN	37405
2473	Signal Mountain Rd	Chattanooga	TN	37405
2474	Signal Mountain Rd	Chattanooga	TN	37405
2475	Signal Mountain Rd	Chattanooga	TN	37405
2476	Signal Mountain Rd	Chattanooga	TN	37405
2477				
2478	Signal Mountain Rd	Chattanooga	TN	37405
2479	Signal Mountain Rd	Chattanooga	TN	37405
2480	Signal Mountain Rd	Chattanooga	TN	37405
2481	Signal Mountain Rd	Chattanooga	TN	37405
2482	Signal Mountain Rd	Chattanooga	TN	37405
2483	Signal Mountain Rd	Chattanooga	TN	37405
2484	Signal Mountain Rd	Chattanooga	TN	37405
2485	Signal Mountain Rd	Chattanooga	TN	37405
2486	Signal Mountain Rd	Chattanooga	TN	37405
2487	Signal Mountain Rd	Chattanooga	TN	37405
2488	Signal Mountain Rd	Chattanooga	TN	37405
2489	Signal Mountain Rd	Chattanooga	TN	37405
2490				
2491	Signal Mountain Rd	Chattanooga	TN	37405
2492	Signal Mountain Rd	Chattanooga	TN	37405
2493	Signal Mountain Rd	Chattanooga	TN	37405
2494	Signal Mountain Rd	Chattanooga	TN	37405
2495	Signal Mountain Rd	Chattanooga	TN	37405
2496	Signal Mountain Rd	Chattanooga	TN	37405
2497	Signal Mountain Rd	Chattanooga	TN	37405
2498	Signal Mountain Rd	Chattanooga	TN	37405
2499	Signal Mountain Rd	Chattanooga	TN	37405

	N	O	P	Q
2450	17.2	1000G	76.68	A3M4
2451	79.28		343.74	
2452	112.95	1000G	382.73	A3M4
2453	142.87	1000G	448.77	A3M4
2454	154.09	1000G	473.53	A3M4
2455	257.32	1000G	701.37	A3M4
2456	142.12	1000G	447.12	A3M4
2457	147.36	1000G	458.67	A3M4
2458	198.23	1000G	570.94	A3M4
2459	130.9	1000G	422.35	A3M4
2460	154.09	1000G	473.53	A3M4
2461	149.61	1000G	463.63	A3M4
2462	146.61	1000G	457.02	A3M4
2463	127.16	1000G	414.1	A3M4
2464	1863.31		5713.76	
2465	96.49	1000G	346.4	A3M4
2466	147.36	1000G	458.67	A3M4
2467	156.34	1000G	478.48	A3M4
2468	160.83	1000G	502.27	A3M4
2469	163.07	1000G	512.47	A3M4
2470	169.8	1000G	527.9	A3M4
2471	134.64	1000G	447.3	A3M4
2472	139.13	1000G	457.59	A3M4
2473	114.45	1000G	400.99	A3M4
2474	149.61	1000G	481.6	A3M4
2475	157.09	1000G	498.75	A3M4
2476	154.84	1000G	493.6	A3M4
2477	1743.65		5606.02	
2478	103.23	1000G	375.27	A3M4
2479	248.35	1000G	707.98	A3M4
2480	150.35	1000G	483.31	A3M4
2481	273.78	1000G	766.29	A3M4
2482	187.01	1000G	567.35	A3M4
2483	177.28	1000G	545.05	A3M4
2484	174.29	1000G	556.67	A3M4
2485	166.81	1000G	497.94	A3M4
2486	231.88	1000G	670.25	A3M4
2487	184.02	1000G	560.49	A3M4
2488	185.51	1000G	563.92	A3M4
2489	169.8	1000G	527.9	A3M4
2490	2252.31		6822.42	
2491	172.05	1000G	533.05	A3M4
2492	237.88	1000G	683.97	A3M4
2493	133.9	1000G	445.58	A3M4
2494	141.38	1000G	462.73	A3M4
2495	277.52	1000G	774.86	A3M4
2496	138.38	1000G	461.8	A3M4
2497	135.39	1000G	505.5	A3M4
2498	97.99	1000G	408.95	A3M4
2499	142.12	1000G	522.88	A3M4

	A	B	C	D	E
2500	2600	2603	26CC	3	9
2501	2600	2603	26CC	3	10
2502	2600	2603	26CC	3	11
2503	2600	2603	26CC	3	12
2504					
2505	2600	2603	26CC	3	1
2506	2600	2603	26CC	3	2
2507	2600	2603	26CC	3	3
2508					
2509	2600	2603	26CC	3	1
2510	2600	2603	26CC	3	1
2511	2600	2603	26CC	3	3
2512	2600	2603	26CC	3	3
2513	2600	2603	26CC	3	4
2514	2600	2603	26CC	3	6
2515	2600	2603	26CC	3	8
2516	2600	2603	26CC	3	9
2517	2600	2603	26CC	3	10
2518	2600	2603	26CC	3	11
2519	2600	2603	26CC	3	12
2520					
2521	2600	2603	26CC	3	1
2522	2600	2603	26CC	3	1
2523	2600	2603	26CC	3	3
2524	2600	2603	26CC	3	3
2525	2600	2603	26CC	3	5
2526	2600	2603	26CC	3	6
2527	2600	2603	26CC	3	6
2528	2600	2603	26CC	3	8
2529	2600	2603	26CC	3	9
2530	2600	2603	26CC	3	10
2531	2600	2603	26CC	3	11
2532	2600	2603	26CC	3	12
2533					
2534	2600	2603	26CC	3	1
2535	2600	2603	26CC	3	1
2536	2600	2603	26CC	3	3
2537	2600	2603	26CC	3	3
2538	2600	2603	26CC	3	5
2539	2600	2603	26CC	3	5
2540	2600	2603	26CC	3	6
2541	2600	2603	26CC	3	8
2542	2600	2603	26CC	3	8
2543	2600	2603	26CC	3	9
2544	2600	2603	26CC	3	10
2545	2600	2603	26CC	3	11
2546	2600	2603	26CC	3	12
2547					
2548	2600	2603	26CC	3	1
2549	2600	2603	26CC	3	2

	F	G	H	I
2500	2007	104433	260072992	Komatsu American Mfg
2501	2007	104433	260072992	Komatsu American Mfg
2502	2007	104433	260072992	Komatsu American Mfg
2503	2007	104433	260072992	Komatsu American Mfg
2504	**2007 Total**			
2505	2008	104433	260072992	Komatsu American Mfg
2506	2008	104433	260072992	Komatsu American Mfg
2507	2008	104433	260072992	Komatsu American Mfg
2508	**2008 Total**			
2509	2004	104442	260072997	Signal Mountain Cement
2510	2004	104442	260072997	Signal Mountain Cement
2511	2004	104442	260072997	Signal Mountain Cement
2512	2004	104442	260072997	Signal Mountain Cement
2513	2004	104442	260072997	Signal Mountain Cement
2514	2004	104442	260072997	Signal Mountain Cement
2515	2004	104442	260072997	Signal Mountain Cement
2516	2004	104442	260072997	Signal Mountain Cement
2517	2004	104442	260072997	Signal Mountain Cement
2518	2004	104442	260072997	Signal Mountain Cement
2519	2004	104442	260072997	Signal Mountain Cement
2520	**2004 Total**			
2521	2005	104442	260072997	Signal Mountain Cement
2522	2005	104442	260072997	Signal Mountain Cement
2523	2005	104442	260072997	Signal Mountain Cement
2524	2005	104442	260072997	Signal Mountain Cement
2525	2005	104442	260072997	Signal Mountain Cement
2526	2005	104442	260072997	Signal Mountain Cement
2527	2005	104442	260072997	Signal Mountain Cement
2528	2005	104442	260072997	Signal Mountain Cement
2529	2005	104442	260072997	Signal Mountain Cement
2530	2005	104442	260072997	Signal Mountain Cement
2531	2005	104442	260072997	Signal Mountain Cement
2532	2005	104442	260072997	Signal Mountain Cement
2533	**2005 Total**			
2534	2006	104442	260072997	Signal Mountain Cement
2535	2006	104442	260072997	Signal Mountain Cement
2536	2006	104442	260072997	Signal Mountain Cement
2537	2006	104442	260072997	Signal Mountain Cement
2538	2006	104442	260072997	Signal Mountain Cement
2539	2006	104442	260072997	Signal Mountain Cement
2540	2006	104442	260072997	Signal Mountain Cement
2541	2006	104442	260072997	Signal Mountain Cement
2542	2006	104442	260072997	Signal Mountain Cement
2543	2006	104442	260072997	Signal Mountain Cement
2544	2006	104442	260072997	Signal Mountain Cement
2545	2006	104442	260072997	Signal Mountain Cement
2546	2006	104442	260072997	Signal Mountain Cement
2547	**2006 Total**			
2548	2007	104442	260072997	Signal Mountain Cement
2549	2007	104442	260072997	Signal Mountain Cement

	J	K	L	M
2500	Signal Mountain Rd	Chattanooga	TN	37405
2501	Signal Mountain Rd	Chattanooga	TN	37405
2502	Signal Mountain Rd	Chattanooga	TN	37405
2503	Signal Mountain Rd	Chattanooga	TN	37405
2504				
2505	Signal Mountain Rd	Chattanooga	TN	37405
2506	Signal Mountain Rd	Chattanooga	TN	37405
2507	Signal Mountain Rd	Chattanooga	TN	37405
2508				
2509	1201 Suck Creek Rd	Chattanooga	TN	374059713
2510	1201 Suck Creek Rd	Chattanooga	TN	374059713
2511	1201 Suck Creek Rd	Chattanooga	TN	374059713
2512	1201 Suck Creek Rd	Chattanooga	TN	374059713
2513	1201 Suck Creek Rd	Chattanooga	TN	374059713
2514	1201 Suck Creek Rd	Chattanooga	TN	374059713
2515	1201 Suck Creek Rd	Chattanooga	TN	374059713
2516	1201 Suck Creek Rd	Chattanooga	TN	374059713
2517	1201 Suck Creek Rd	Chattanooga	TN	374059713
2518	1201 Suck Creek Rd	Chattanooga	TN	374059713
2519	1201 Suck Creek Rd	Chattanooga	TN	374059713
2520				
2521	1201 Suck Creek Rd	Chattanooga	TN	374059713
2522	1201 Suck Creek Rd	Chattanooga	TN	374059713
2523	1201 Suck Creek Rd	Chattanooga	TN	374059713
2524	1201 Suck Creek Rd	Chattanooga	TN	374059713
2525	1201 Suck Creek Rd	Chattanooga	TN	374059713
2526	1201 Suck Creek Rd	Chattanooga	TN	374059713
2527	1201 Suck Creek Rd	Chattanooga	TN	374059713
2528	1201 Suck Creek Rd	Chattanooga	TN	374059713
2529	1201 Suck Creek Rd	Chattanooga	TN	374059713
2530	1201 Suck Creek Rd	Chattanooga	TN	374059713
2531	1201 Suck Creek Rd	Chattanooga	TN	374059713
2532	1201 Suck Creek Rd	Chattanooga	TN	374059713
2533				
2534	1201 Suck Creek Rd	Chattanooga	TN	374059713
2535	1201 Suck Creek Rd	Chattanooga	TN	374059713
2536	1201 Suck Creek Rd	Chattanooga	TN	374059713
2537	1201 Suck Creek Rd	Chattanooga	TN	374059713
2538	1201 Suck Creek Rd	Chattanooga	TN	374059713
2539	1201 Suck Creek Rd	Chattanooga	TN	374059713
2540	1201 Suck Creek Rd	Chattanooga	TN	374059713
2541	1201 Suck Creek Rd	Chattanooga	TN	374059713
2542	1201 Suck Creek Rd	Chattanooga	TN	374059713
2543	1201 Suck Creek Rd	Chattanooga	TN	374059713
2544	1201 Suck Creek Rd	Chattanooga	TN	374059713
2545	1201 Suck Creek Rd	Chattanooga	TN	374059713
2546	1201 Suck Creek Rd	Chattanooga	TN	374059713
2547				
2548	1201 Suck Creek Rd	Chattanooga	TN	374059713
2549	1201 Suck Creek Rd	Chattanooga	TN	374059713

	N	O	P	Q
2500	135.39	1000G	505.5	A3M4
2501	132.4	1000G	497.77	A3M4
2502	151.85	1000G	547.98	A3M4
2503	120.43	1000G	466.88	A3M4
2504	2016.68		6817.45	
2505	163.82	1000G	578.87	A3M4
2506	145.87	1000G	532.53	A3M4
2507	150.35	1000G	544.12	A3M4
2508	460.04		1655.52	
2509	45.63	1000G	230.23	A3M4
2510	51.61	1000G	247.34	A3M4
2511	59.09	1000G	263.85	A3M4
2512	62.83	1000G	272.11	A3M4
2513	53.11	1000G	250.65	A3M4
2514	180.28	1000G	531.32	A3M4
2515	221.41	1000G	768.89	A3M4
2516	38.89	1000G	206.57	A3M4
2517	35.9	1000G	196.06	A3M4
2518	44.13	1000G	224.97	A3M4
2519	195.98	1000G	565.99	A3M4
2520	988.86		3757.98	
2521	68.07	1000G	283.67	A3M4
2522	100.23	1000G	354.66	A3M4
2523	60.59	1000G	267.16	A3M4
2524	65.82	1000G	285.78	A3M4
2525	59.84	1000G	275.8	A3M4
2526	41.89	1000G	225.5	A3M4
2527	53.85	1000G	262.08	A3M4
2528	32.91	1000G	192.74	A3M4
2529	202.72	1000G	603.36	A3M4
2530	193.74	1000G	582.78	A3M4
2531	177.28	1000G	545.05	A3M4
2532	207.95	1000G	615.37	A3M4
2533	1264.89		4493.95	
2534	183.27	1000G	558.77	A3M4
2535	184.02	1000G	560.49	A3M4
2536	187.76	1000G	569.06	A3M4
2537	195.24	1000G	586.21	A3M4
2538	173.54	1000G	536.48	A3M4
2539	371.78	1000G	1129.55	A3M4
2540	194.49	1000G	584.5	A3M4
2541	177.28	1000G	545.05	A3M4
2542	185.51	1000G	563.92	A3M4
2543	130.9	1000G	438.72	A3M4
2544	2.24	1000G	83.37	A3M4
2545	3.74	1000G	86.27	A3M4
2546	209.45	1000G	618.8	A3M4
2547	2199.22		6861.19	
2548	198.23	1000G	593.07	A3M4
2549	54.6	1000G	263.79	A3M4

	A	B	C	D	E
2550	2600	2603	26CC	3	3
2551	2600	2603	26CC	3	4
2552	2600	2603	26CC	3	5
2553	2600	2603	26CC	3	6
2554	2600	2603	26CC	3	7
2555	2600	2603	26CC	3	8
2556	2600	2603	26CC	3	9
2557	2600	2603	26CC	3	10
2558	2600	2603	26CC	3	11
2559	2600	2603	26CC	3	12
2560					
2561	2600	2603	26CC	3	1
2562	2600	2603	26CC	3	2
2563	2600	2603	26CC	3	3
2564					
2565	2600	2603	26CC	3	1
2566	2600	2603	26CC	3	1
2567	2600	2603	26CC	3	3
2568	2600	2603	26CC	3	3
2569	2600	2603	26CC	3	4
2570	2600	2603	26CC	3	6
2571	2600	2603	26CC	3	6
2572	2600	2603	26CC	3	8
2573	2600	2603	26CC	3	9
2574	2600	2603	26CC	3	10
2575	2600	2603	26CC	3	11
2576	2600	2603	26CC	3	12
2577					
2578	2600	2603	26CC	3	1
2579	2600	2603	26CC	3	1
2580	2600	2603	26CC	3	3
2581	2600	2603	26CC	3	3
2582	2600	2603	26CC	3	5
2583	2600	2603	26CC	3	6
2584	2600	2603	26CC	3	6
2585	2600	2603	26CC	3	8
2586	2600	2603	26CC	3	9
2587	2600	2603	26CC	3	10
2588	2600	2603	26CC	3	11
2589	2600	2603	26CC	3	12
2590					
2591	2600	2603	26CC	3	1
2592	2600	2603	26CC	3	1
2593	2600	2603	26CC	3	3
2594	2600	2603	26CC	3	3
2595	2600	2603	26CC	3	5
2596	2600	2603	26CC	3	5
2597	2600	2603	26CC	3	6
2598	2600	2603	26CC	3	8
2599	2600	2603	26CC	3	8

	F	G	H	I
2550	2007	104442	260072997	Signal Mountain Cement
2551	2007	104442	260072997	Signal Mountain Cement
2552	2007	104442	260072997	Signal Mountain Cement
2553	2007	104442	260072997	Signal Mountain Cement
2554	2007	104442	260072997	Signal Mountain Cement
2555	2007	104442	260072997	Signal Mountain Cement
2556	2007	104442	260072997	Signal Mountain Cement
2557	2007	104442	260072997	Signal Mountain Cement
2558	2007	104442	260072997	Signal Mountain Cement
2559	2007	104442	260072997	Signal Mountain Cement
2560	**2007 Total**			
2561	2008	104442	260072997	Signal Mountain Cement
2562	2008	104442	260072997	Signal Mountain Cement
2563	2008	104442	260072997	Signal Mountain Cement
2564	**2008 Total**			
2565	2004	104464	260073019	Rock Tenn Co Mill Div
2566	2004	104464	260073019	Rock Tenn Co Mill Div
2567	2004	104464	260073019	Rock Tenn Co Mill Div
2568	2004	104464	260073019	Rock Tenn Co Mill Div
2569	2004	104464	260073019	Rock Tenn Co Mill Div
2570	2004	104464	260073019	Rock Tenn Co Mill Div
2571	2004	104464	260073019	Rock Tenn Co Mill Div
2572	2004	104464	260073019	Rock Tenn Co Mill Div
2573	2004	104464	260073019	Rock Tenn Co Mill Div
2574	2004	104464	260073019	Rock Tenn Co Mill Div
2575	2004	104464	260073019	Rock Tenn Co Mill Div
2576	2004	104464	260073019	Rock Tenn Co Mill Div
2577	**2004 Total**			
2578	2005	104464	260073019	Rock Tenn Co Mill Div
2579	2005	104464	260073019	Rock Tenn Co Mill Div
2580	2005	104464	260073019	Rock Tenn Co Mill Div
2581	2005	104464	260073019	Rock Tenn Co Mill Div
2582	2005	104464	260073019	Rock Tenn Co Mill Div
2583	2005	104464	260073019	Rock Tenn Co Mill Div
2584	2005	104464	260073019	Rock Tenn Co Mill Div
2585	2005	104464	260073019	Rock Tenn Co Mill Div
2586	2005	104464	260073019	Rock Tenn Co Mill Div
2587	2005	104464	260073019	Rock Tenn Co Mill Div
2588	2005	104464	260073019	Rock Tenn Co Mill Div
2589	2005	104464	260073019	Rock Tenn Co Mill Div
2590	**2005 Total**			
2591	2006	104464	260073019	Rock Tenn Co Mill Div
2592	2006	104464	260073019	Rock Tenn Co Mill Div
2593	2006	104464	260073019	Rock Tenn Co Mill Div
2594	2006	104464	260073019	Rock Tenn Co Mill Div
2595	2006	104464	260073019	Rock Tenn Co Mill Div
2596	2006	104464	260073019	Rock Tenn Co Mill Div
2597	2006	104464	260073019	Rock Tenn Co Mill Div
2598	2006	104464	260073019	Rock Tenn Co Mill Div
2599	2006	104464	260073019	Rock Tenn Co Mill Div

	J	K	L	M
2550	1201 Suck Creek Rd	Chattanooga	TN	374059713
2551	1201 Suck Creek Rd	Chattanooga	TN	374059713
2552	1201 Suck Creek Rd	Chattanooga	TN	374059713
2553	1201 Suck Creek Rd	Chattanooga	TN	374059713
2554	1201 Suck Creek Rd	Chattanooga	TN	374059713
2555	1201 Suck Creek Rd	Chattanooga	TN	374059713
2556	1201 Suck Creek Rd	Chattanooga	TN	374059713
2557	1201 Suck Creek Rd	Chattanooga	TN	374059713
2558	1201 Suck Creek Rd	Chattanooga	TN	374059713
2559	1201 Suck Creek Rd	Chattanooga	TN	374059713
2560				
2561	1201 Suck Creek Rd	Chattanooga	TN	374059713
2562	1201 Suck Creek Rd	Chattanooga	TN	374059713
2563	1201 Suck Creek Rd	Chattanooga	TN	374059713
2564				
2565	217 Compress St	Chattanooga	TN	374053765
2566	217 Compress St	Chattanooga	TN	374053765
2567	217 Compress St	Chattanooga	TN	374053765
2568	217 Compress St	Chattanooga	TN	374053765
2569	217 Compress St	Chattanooga	TN	374053765
2570	217 Compress St	Chattanooga	TN	374053765
2571	217 Compress St	Chattanooga	TN	374053765
2572	217 Compress St	Chattanooga	TN	374053765
2573	217 Compress St	Chattanooga	TN	374053765
2574	217 Compress St	Chattanooga	TN	374053765
2575	217 Compress St	Chattanooga	TN	374053765
2576	217 Compress St	Chattanooga	TN	374053765
2577				
2578	217 Compress St	Chattanooga	TN	374053765
2579	217 Compress St	Chattanooga	TN	374053765
2580	217 Compress St	Chattanooga	TN	374053765
2581	217 Compress St	Chattanooga	TN	374053765
2582	217 Compress St	Chattanooga	TN	374053765
2583	217 Compress St	Chattanooga	TN	374053765
2584	217 Compress St	Chattanooga	TN	374053765
2585	217 Compress St	Chattanooga	TN	374053765
2586	217 Compress St	Chattanooga	TN	374053765
2587	217 Compress St	Chattanooga	TN	374053765
2588	217 Compress St	Chattanooga	TN	374053765
2589	217 Compress St	Chattanooga	TN	374053765
2590				
2591	217 Compress St	Chattanooga	TN	374053765
2592	217 Compress St	Chattanooga	TN	374053765
2593	217 Compress St	Chattanooga	TN	374053765
2594	217 Compress St	Chattanooga	TN	374053765
2595	217 Compress St	Chattanooga	TN	374053765
2596	217 Compress St	Chattanooga	TN	374053765
2597	217 Compress St	Chattanooga	TN	374053765
2598	217 Compress St	Chattanooga	TN	374053765
2599	217 Compress St	Chattanooga	TN	374053765

	N	O	P	Q
2550	2.99	1000G	83.54	A3M4
2551	1.49	1000G	83.19	A3M4
2552	4.48	1000G	89.77	A3M4
2553	2.24	1000G	93.85	A3M4
2554	0.74	1000G	93.46	A3M4
2555	1.49	1000G	93.66	A3M4
2556	0	1000G	93.27	A3M4
2557	0.74	1000G	93.46	A3M4
2558	0	1000G	93.27	A3M4
2559	0.74	1000G	93.46	A3M4
2560	267.74		1767.79	
2561	0	1000G	93.27	A3M4
2562	0	1000G	93.27	A3M4
2563	6.73	1000G	109.42	A3M4
2564	6.73		295.96	
2565	12.71	1000G	43.74	A3M4
2566	16.45	1000G	56.88	A3M4
2567	18.7	1000G	64.77	A3M4
2568	21.69	1000G	75.28	A3M4
2569	26.92	1000G	93.68	A3M4
2570	53.11	1000G	179.8	A3M4
2571	59.84	1000G	194.66	A3M4
2572	42.63	1000G	148.86	A3M4
2573	29.92	1000G	104.19	A3M4
2574	41.89	1000G	146.24	A3M4
2575	23.18	1000G	80.54	A3M4
2576	22.44	1000G	77.91	A3M4
2577	369.48		1266.55	
2578	8.22	1000G	27.98	A3M4
2579	17.95	1000G	62.14	A3M4
2580	19.44	1000G	67.4	A3M4
2581	23.18	1000G	82.57	A3M4
2582	18.7	1000G	67.28	A3M4
2583	14.21	1000G	50.9	A3M4
2584	15.7	1000G	56.36	A3M4
2585	14.21	1000G	50.9	A3M4
2586	11.22	1000G	39.98	A3M4
2587	13.46	1000G	48.17	A3M4
2588	11.96	1000G	42.71	A3M4
2589	9.72	1000G	34.52	A3M4
2590	177.97		630.91	
2591	9.72	1000G	34.52	A3M4
2592	13.46	1000G	48.17	A3M4
2593	0	1000G	9.26	A3M4
2594	0.74	1000G	9.43	A3M4
2595	0	1000G	9.26	A3M4
2596	0	1000G	9.26	A3M4
2597	0	1000G	9.26	A3M4
2598	0	1000G	9.26	A3M4
2599	0	1000G	9.26	A3M4

	A	B	C	D	E
2600	2600	2603	26CC	3	9
2601	2600	2603	26CC	3	10
2602	2600	2603	26CC	3	11
2603	2600	2603	26CC	3	12
2604					
2605	2600	2603	26CC	3	1
2606	2600	2603	26CC	3	2
2607	2600	2603	26CC	3	3
2608	2600	2603	26CC	3	4
2609	2600	2603	26CC	3	5
2610	2600	2603	26CC	3	6
2611	2600	2603	26CC	3	7
2612	2600	2603	26CC	3	8
2613	2600	2603	26CC	3	9
2614	2600	2603	26CC	3	10
2615	2600	2603	26CC	3	11
2616	2600	2603	26CC	3	12
2617					
2618	2600	2603	26CC	3	1
2619	2600	2603	26CC	3	2
2620	2600	2603	26CC	3	3
2621					
2622	2600	2603	26CC	3	1
2623	2600	2603	26CC	3	1
2624	2600	2603	26CC	3	3
2625	2600	2603	26CC	3	3
2626	2600	2603	26CC	3	4
2627	2600	2603	26CC	3	6
2628	2600	2603	26CC	3	6
2629	2600	2603	26CC	3	8
2630	2600	2603	26CC	3	9
2631	2600	2603	26CC	3	10
2632	2600	2603	26CC	3	11
2633	2600	2603	26CC	3	12
2634					
2635	2600	2603	26CC	3	1
2636	2600	2603	26CC	3	1
2637	2600	2603	26CC	3	3
2638	2600	2603	26CC	3	3
2639	2600	2603	26CC	3	5
2640	2600	2603	26CC	3	6
2641	2600	2603	26CC	3	6
2642	2600	2603	26CC	3	8
2643	2600	2603	26CC	3	9
2644	2600	2603	26CC	3	10
2645	2600	2603	26CC	3	11
2646	2600	2603	26CC	3	12
2647					
2648	2600	2603	26CC	3	1
2649	2600	2603	26CC	3	1

	F	G	H	I
2600	2006	104464	260073019	Rock Tenn Co Mill Div
2601	2006	104464	260073019	Rock Tenn Co Mill Div
2602	2006	104464	260073019	Rock Tenn Co Mill Div
2603	2006	104464	260073019	Rock Tenn Co Mill Div
2604	**2006 Total**			
2605	2007	104464	260073019	Rock Tenn Co Mill Div
2606	2007	104464	260073019	Rock Tenn Co Mill Div
2607	2007	104464	260073019	Rock Tenn Co Mill Div
2608	2007	104464	260073019	Rock Tenn Co Mill Div
2609	2007	104464	260073019	Rock Tenn Co Mill Div
2610	2007	104464	260073019	Rock Tenn Co Mill Div
2611	2007	104464	260073019	Rock Tenn Co Mill Div
2612	2007	104464	260073019	Rock Tenn Co Mill Div
2613	2007	104464	260073019	Rock Tenn Co Mill Div
2614	2007	104464	260073019	Rock Tenn Co Mill Div
2615	2007	104464	260073019	Rock Tenn Co Mill Div
2616	2007	104464	260073019	Rock Tenn Co Mill Div
2617	**2007 Total**			
2618	2008	104464	260073019	Rock Tenn Co Mill Div
2619	2008	104464	260073019	Rock Tenn Co Mill Div
2620	2008	104464	260073019	Rock Tenn Co Mill Div
2621	**2008 Total**			
2622	2004	104465	260073020	Rock Tenn Co Mill Div
2623	2004	104465	260073020	Rock Tenn Co Mill Div
2624	2004	104465	260073020	Rock Tenn Co Mill Div
2625	2004	104465	260073020	Rock Tenn Co Mill Div
2626	2004	104465	260073020	Rock Tenn Co Mill Div
2627	2004	104465	260073020	Rock Tenn Co Mill Div
2628	2004	104465	260073020	Rock Tenn Co Mill Div
2629	2004	104465	260073020	Rock Tenn Co Mill Div
2630	2004	104465	260073020	Rock Tenn Co Mill Div
2631	2004	104465	260073020	Rock Tenn Co Mill Div
2632	2004	104465	260073020	Rock Tenn Co Mill Div
2633	2004	104465	260073020	Rock Tenn Co Mill Div
2634	**2004 Total**			
2635	2005	104465	260073020	Rock Tenn Co Mill Div
2636	2005	104465	260073020	Rock Tenn Co Mill Div
2637	2005	104465	260073020	Rock Tenn Co Mill Div
2638	2005	104465	260073020	Rock Tenn Co Mill Div
2639	2005	104465	260073020	Rock Tenn Co Mill Div
2640	2005	104465	260073020	Rock Tenn Co Mill Div
2641	2005	104465	260073020	Rock Tenn Co Mill Div
2642	2005	104465	260073020	Rock Tenn Co Mill Div
2643	2005	104465	260073020	Rock Tenn Co Mill Div
2644	2005	104465	260073020	Rock Tenn Co Mill Div
2645	2005	104465	260073020	Rock Tenn Co Mill Div
2646	2005	104465	260073020	Rock Tenn Co Mill Div
2647	**2005 Total**			
2648	2006	104465	260073020	Rock Tenn Co Mill Div
2649	2006	104465	260073020	Rock Tenn Co Mill Div

	J	K	L	M
2600	217 Compress St	Chattanooga	TN	374053765
2601	217 Compress St	Chattanooga	TN	374053765
2602	217 Compress St	Chattanooga	TN	374053765
2603	217 Compress St	Chattanooga	TN	374053765
2604				
2605	217 Compress St	Chattanooga	TN	374053765
2606	217 Compress St	Chattanooga	TN	374053765
2607	217 Compress St	Chattanooga	TN	374053765
2608	217 Compress St	Chattanooga	TN	374053765
2609	217 Compress St	Chattanooga	TN	374053765
2610	217 Compress St	Chattanooga	TN	374053765
2611	217 Compress St	Chattanooga	TN	374053765
2612	217 Compress St	Chattanooga	TN	374053765
2613	217 Compress St	Chattanooga	TN	374053765
2614	217 Compress St	Chattanooga	TN	374053765
2615	217 Compress St	Chattanooga	TN	374053765
2616	217 Compress St	Chattanooga	TN	374053765
2617				
2618	217 Compress St	Chattanooga	TN	374053765
2619	217 Compress St	Chattanooga	TN	374053765
2620	217 Compress St	Chattanooga	TN	374053765
2621				
2622	200 Compress St	Chattanooga	TN	374053764
2623	200 Compress St	Chattanooga	TN	374053764
2624	200 Compress St	Chattanooga	TN	374053764
2625	200 Compress St	Chattanooga	TN	374053764
2626	200 Compress St	Chattanooga	TN	374053764
2627	200 Compress St	Chattanooga	TN	374053764
2628	200 Compress St	Chattanooga	TN	374053764
2629	200 Compress St	Chattanooga	TN	374053764
2630	200 Compress St	Chattanooga	TN	374053764
2631	200 Compress St	Chattanooga	TN	374053764
2632	200 Compress St	Chattanooga	TN	374053764
2633	200 Compress St	Chattanooga	TN	374053764
2634				
2635	200 Compress St	Chattanooga	TN	374053764
2636	200 Compress St	Chattanooga	TN	374053764
2637	200 Compress St	Chattanooga	TN	374053764
2638	200 Compress St	Chattanooga	TN	374053764
2639	200 Compress St	Chattanooga	TN	374053764
2640	200 Compress St	Chattanooga	TN	374053764
2641	200 Compress St	Chattanooga	TN	374053764
2642	200 Compress St	Chattanooga	TN	374053764
2643	200 Compress St	Chattanooga	TN	374053764
2644	200 Compress St	Chattanooga	TN	374053764
2645	200 Compress St	Chattanooga	TN	374053764
2646	200 Compress St	Chattanooga	TN	374053764
2647				
2648	200 Compress St	Chattanooga	TN	374053764
2649	200 Compress St	Chattanooga	TN	374053764

	N	O	P	Q
2600	11.96	1000G	42.71	A3M4
2601	13.46	1000G	48.17	A3M4
2602	12.71	1000G	45.44	A3M4
2603	10.47	1000G	37.25	A3M4
2604	72.52		321.25	
2605	12.71	1000G	45.44	A3M4
2606	17.2	1000G	61.82	A3M4
2607	14.21	1000G	50.9	A3M4
2608	11.22	1000G	39.98	A3M4
2609	14.21	1000G	51.36	A3M4
2610	8.97	1000G	35.78	A3M4
2611	8.22	1000G	32.71	A3M4
2612	6.73	1000G	26.57	A3M4
2613	5.98	1000G	23.49	A3M4
2614	8.97	1000G	35.78	A3M4
2615	6.73	1000G	26.57	A3M4
2616	5.97	1000G	23.49	A3M4
2617	121.12		453.89	
2618	5.23	1000G	20.42	A3M4
2619	8.22	1000G	32.71	A3M4
2620	6.73	1000G	26.57	A3M4
2621	20.18		79.7	
2622	816.12	1000G	1688.22	A3M4
2623	858.01	1000G	1757.33	A3M4
2624	846.04	1000G	1737.58	A3M4
2625	846.79	1000G	1738.82	A3M4
2626	874.47	1000G	1784.48	A3M4
2627	856.51	1000G	1754.86	A3M4
2628	1186.41	1000G	2299.05	A3M4
2629	1151.25	1000G	2241.06	A3M4
2630	1341.99	1000G	2555.73	A3M4
2631	1122.07	1000G	2192.93	A3M4
2632	987.42	1000G	1970.81	A3M4
2633	896.16	1000G	1820.26	A3M4
2634	11783.24		23541.13	
2635	856.51	1000G	1754.86	A3M4
2636	881.2	1000G	1795.58	A3M4
2637	940.3	1000G	1941.28	A3M4
2638	1009.12	1000G	2006.6	A3M4
2639	857.26	1000G	1824.27	A3M4
2640	970.97	1000G	2019.14	A3M4
2641	1190.89	1000G	2396.04	A3M4
2642	1065.22	1000G	2180.67	A3M4
2643	1172.19	1000G	2363.99	A3M4
2644	1129.55	1000G	2290.92	A3M4
2645	853.52	1000G	1817.86	A3M4
2646	1048.02	1000G	2151.18	A3M4
2647	11974.75		24542.39	
2648	892.42	1000G	1884.53	A3M4
2649	957.5	1000G	1996.06	A3M4

	A	B	C	D	E
2650	2600	2603	26CC	3	3
2651	2600	2603	26CC	3	3
2652	2600	2603	26CC	3	5
2653	2600	2603	26CC	3	5
2654	2600	2603	26CC	3	6
2655	2600	2603	26CC	3	8
2656	2600	2603	26CC	3	8
2657	2600	2603	26CC	3	9
2658	2600	2603	26CC	3	10
2659	2600	2603	26CC	3	11
2660	2600	2603	26CC	3	12
2661					
2662	2600	2603	26CC	3	1
2663	2600	2603	26CC	3	2
2664	2600	2603	26CC	3	3
2665	2600	2603	26CC	3	4
2666	2600	2603	26CC	3	5
2667	2600	2603	26CC	3	6
2668	2600	2603	26CC	3	7
2669	2600	2603	26CC	3	8
2670	2600	2603	26CC	3	9
2671	2600	2603	26CC	3	10
2672	2600	2603	26CC	3	11
2673	2600	2603	26CC	3	12
2674					
2675	2600	2603	26CC	3	1
2676	2600	2603	26CC	3	2
2677	2600	2603	26CC	3	3
2678					
2679	2600	2603	26CC	3	1
2680	2600	2603	26CC	3	2
2681	2600	2603	26CC	3	3
2682	2600	2603	26CC	3	4
2683	2600	2603	26CC	3	5
2684	2600	2603	26CC	3	6
2685	2600	2603	26CC	3	7
2686	2600	2603	26CC	3	8
2687	2600	2603	26CC	3	9
2688	2600	2603	26CC	3	10
2689	2600	2603	26CC	3	10
2690	2600	2603	26CC	3	12
2691					
2692	2600	2603	26CC	3	1
2693	2600	2603	26CC	3	1
2694	2600	2603	26CC	3	2
2695	2600	2603	26CC	3	1
2696	2600	2603	26CC	3	1
2697	2600	2603	26CC	3	3
2698	2600	2603	26CC	3	3
2699	2600	2603	26CC	3	4

	F	G	H	I
2650	2006	104465	260073020	Rock Tenn Co Mill Div
2651	2006	104465	260073020	Rock Tenn Co Mill Div
2652	2006	104465	260073020	Rock Tenn Co Mill Div
2653	2006	104465	260073020	Rock Tenn Co Mill Div
2654	2006	104465	260073020	Rock Tenn Co Mill Div
2655	2006	104465	260073020	Rock Tenn Co Mill Div
2656	2006	104465	260073020	Rock Tenn Co Mill Div
2657	2006	104465	260073020	Rock Tenn Co Mill Div
2658	2006	104465	260073020	Rock Tenn Co Mill Div
2659	2006	104465	260073020	Rock Tenn Co Mill Div
2660	2006	104465	260073020	Rock Tenn Co Mill Div
2661	**2006 Total**			
2662	2007	104465	260073020	Rock Tenn Co Mill Div
2663	2007	104465	260073020	Rock Tenn Co Mill Div
2664	2007	104465	260073020	Rock Tenn Co Mill Div
2665	2007	104465	260073020	Rock Tenn Co Mill Div
2666	2007	104465	260073020	Rock Tenn Co Mill Div
2667	2007	104465	260073020	Rock Tenn Co Mill Div
2668	2007	104465	260073020	Rock Tenn Co Mill Div
2669	2007	104465	260073020	Rock Tenn Co Mill Div
2670	2007	104465	260073020	Rock Tenn Co Mill Div
2671	2007	104465	260073020	Rock Tenn Co Mill Div
2672	2007	104465	260073020	Rock Tenn Co Mill Div
2673	2007	104465	260073020	Rock Tenn Co Mill Div
2674	**2007 Total**			
2675	2008	104465	260073020	Rock Tenn Co Mill Div
2676	2008	104465	260073020	Rock Tenn Co Mill Div
2677	2008	104465	260073020	Rock Tenn Co Mill Div
2678	**2008 Total**			
2679	2003	104466	260073021	Ixion Ceramics Inc
2680	2003	104466	260073021	Ixion Ceramics Inc
2681	2003	104466	260073021	Ixion Ceramics Inc
2682	2003	104466	260073021	Ixion Ceramics Inc
2683	2003	104466	260073021	Ixion Ceramics Inc
2684	2003	104466	260073021	Ixion Ceramics Inc
2685	2003	104466	260073021	Ixion Ceramics Inc
2686	2003	104466	260073021	Ixion Ceramics Inc
2687	2003	104466	260073021	Ixion Ceramics Inc
2688	2003	104466	260073021	Ixion Ceramics Inc
2689	2003	104466	260073021	Ixion Ceramics Inc
2690	2003	104466	260073021	Ixion Ceramics Inc
2691	**2003 Total**			
2692	2004	104466	260073021	Ixion Ceramics Inc
2693	2004	104466	260073021	Ixion Ceramics Inc
2694	2004	104466	260073021	Ixion Ceramics Inc
2695	2004	104467	260073022	THE KNITTING MILL PROJECT
2696	2004	104467	260073022	THE KNITTING MILL PROJECT
2697	2004	104467	260073022	THE KNITTING MILL PROJECT
2698	2004	104467	260073022	THE KNITTING MILL PROJECT
2699	2004	104467	260073022	THE KNITTING MILL PROJECT

	J	K	L	M
2650	200 Compress St	Chattanooga	TN	374053764
2651	200 Compress St	Chattanooga	TN	374053764
2652	200 Compress St	Chattanooga	TN	374053764
2653	200 Compress St	Chattanooga	TN	374053764
2654	200 Compress St	Chattanooga	TN	374053764
2655	200 Compress St	Chattanooga	TN	374053764
2656	200 Compress St	Chattanooga	TN	374053764
2657	200 Compress St	Chattanooga	TN	374053764
2658	200 Compress St	Chattanooga	TN	374053764
2659	200 Compress St	Chattanooga	TN	374053764
2660	200 Compress St	Chattanooga	TN	374053764
2661				
2662	200 Compress St	Chattanooga	TN	374053764
2663	200 Compress St	Chattanooga	TN	374053764
2664	200 Compress St	Chattanooga	TN	374053764
2665	200 Compress St	Chattanooga	TN	374053764
2666	200 Compress St	Chattanooga	TN	374053764
2667	200 Compress St	Chattanooga	TN	374053764
2668	200 Compress St	Chattanooga	TN	374053764
2669	200 Compress St	Chattanooga	TN	374053764
2670	200 Compress St	Chattanooga	TN	374053764
2671	200 Compress St	Chattanooga	TN	374053764
2672	200 Compress St	Chattanooga	TN	374053764
2673	200 Compress St	Chattanooga	TN	374053764
2674				
2675	200 Compress St	Chattanooga	TN	374053764
2676	200 Compress St	Chattanooga	TN	374053764
2677	200 Compress St	Chattanooga	TN	374053764
2678				
2679	511 Manufacturers Rd	Chattanooga	TN	374053203
2680	511 Manufacturers Rd	Chattanooga	TN	374053203
2681	511 Manufacturers Rd	Chattanooga	TN	374053203
2682	511 Manufacturers Rd	Chattanooga	TN	374053203
2683	511 Manufacturers Rd	Chattanooga	TN	374053203
2684	511 Manufacturers Rd	Chattanooga	TN	374053203
2685	511 Manufacturers Rd	Chattanooga	TN	374053203
2686	511 Manufacturers Rd	Chattanooga	TN	374053203
2687	511 Manufacturers Rd	Chattanooga	TN	374053203
2688	511 Manufacturers Rd	Chattanooga	TN	374053203
2689	511 Manufacturers Rd	Chattanooga	TN	374053203
2690	511 Manufacturers Rd	Chattanooga	TN	374053203
2691				
2692	511 Manufacturers Rd	Chattanooga	TN	374053203
2693	511 Manufacturers Rd	Chattanooga	TN	374053203
2694	511 Manufacturers Rd	Chattanooga	TN	374053203
2695	205 Manufacturers Rd	Chattanooga	TN	374053250
2696	205 Manufacturers Rd	Chattanooga	TN	374053250
2697	205 Manufacturers Rd	Chattanooga	TN	374053250
2698	205 Manufacturers Rd	Chattanooga	TN	374053250
2699	205 Manufacturers Rd	Chattanooga	TN	374053250

	N	O	P	Q
2650	869.23	1000G	1844.78	A3M4
2651	932.82	1000G	1953.75	A3M4
2652	1009.12	1000G	2084.52	A3M4
2653	1110.1	1000G	2257.59	A3M4
2654	1098.14	1000G	2237.08	A3M4
2655	952.27	1000G	1987.09	A3M4
2656	1081.68	1000G	2208.87	A3M4
2657	1202.86	1000G	2416.56	A3M4
2658	994.16	1000G	2058.88	A3M4
2659	1246.25	1000G	2490.91	A3M4
2660	937.3	1000G	1961.45	A3M4
2661	13283.85		27382.07	
2662	902.15	1000G	1901.19	A3M4
2663	692.69	1000G	1542.23	A3M4
2664	757.02	1000G	1652.48	A3M4
2665	749.54	1000G	1639.66	A3M4
2666	658.28	1000G	1496.59	A3M4
2667	739.82	1000G	1827.12	A3M4
2668	510.91	1000G	1385.56	A3M4
2669	763.76	1000G	1873.29	A3M4
2670	825.84	1000G	1993.06	A3M4
2671	864	1000G	2066.66	A3M4
2672	828.09	1000G	1997.39	A3M4
2673	964.98	1000G	2261.46	A3M4
2674	9257.08		21636.69	
2675	761.51	1000G	1868.96	A3M4
2676	904.39	1000G	2144.58	A3M4
2677	1060.73	1000G	2446.16	A3M4
2678	2726.63		6459.7	
2679	1466.18	1000G	2669.21	A3MSM
2680	1768.39	1000G	3267.76	A3MSM
2681	2095.29	1000G	3641.47	A3MSM
2682	2487.27	1000G	4247.27	A3MSM
2683	2421.44	1000G	4145.52	A3MSM
2684	2318.96	1000G	4191.35	A3MSM
2685	1014.35	1000G	2167.34	A3MSM
2686	215.43	1000G	640.34	A3MSM
2687	215.43	1000G	678.69	A3MSM
2688	279.77	1000G	830.67	A3MSM
2689	956.75	1000G	1999.99	A3MSM
2690	2007.77	1000G	3733.76	A3MSM
2691	17247.03		32213.37	
2692	533.36	1000G	1301.54	A3MSM
2693	1390.62	1000G	2715.71	A3MSM
2694	80.78	1000G	277.81	A3MSM
2695	2.24	1000G	25.42	A3M4
2696	2.24	1000G	25.42	A3M4
2697	0	1000G	24.92	A3M4
2698	2.24	1000G	25.42	A3M4
2699	5.23	1000G	33.46	A3M4

	A	B	C	D	E
2700	2600	2603	26CC	3	6
2701	2600	2603	26CC	3	6
2702	2600	2603	26CC	3	8
2703	2600	2603	26CC	3	9
2704	2600	2603	26CC	3	10
2705	2600	2603	26CC	3	11
2706	2600	2603	26CC	3	12
2707					
2708	2600	2603	26CC	3	1
2709	2600	2603	26CC	3	1
2710	2600	2603	26CC	3	3
2711	2600	2603	26CC	3	3
2712	2600	2603	26CC	3	5
2713	2600	2603	26CC	3	6
2714	2600	2603	26CC	3	6
2715	2600	2603	26CC	3	8
2716	2600	2603	26CC	3	9
2717	2600	2603	26CC	3	10
2718	2600	2603	26CC	3	11
2719	2600	2603	26CC	3	12
2720					
2721	2600	2603	26CC	3	1
2722	2600	2603	26CC	3	1
2723	2600	2603	26CC	3	3
2724	2600	2603	26CC	3	3
2725	2600	2603	26CC	3	5
2726	2600	2603	26CC	3	5
2727	2600	2603	26CC	3	6
2728	2600	2603	26CC	3	8
2729	2600	2603	26CC	3	8
2730	2600	2603	26CC	3	9
2731	2600	2603	26CC	3	10
2732	2600	2603	26CC	3	11
2733	2600	2603	26CC	3	12
2734					
2735	2600	2603	26CC	3	1
2736	2600	2603	26CC	3	2
2737	2600	2603	26CC	3	3
2738	2600	2603	26CC	3	4
2739	2600	2603	26CC	3	5
2740	2600	2603	26CC	3	6
2741	2600	2603	26CC	3	7
2742	2600	2603	26CC	3	8
2743	2600	2603	26CC	3	9
2744	2600	2603	26CC	3	10
2745	2600	2603	26CC	3	11
2746	2600	2603	26CC	3	12
2747					
2748	2600	2603	26CC	3	1
2749	2600	2603	26CC	3	2

	F	G	H	I
2700	2004	104467	260073022	THE KNITTING MILL PROJECT
2701	2004	104467	260073022	THE KNITTING MILL PROJECT
2702	2004	104467	260073022	THE KNITTING MILL PROJECT
2703	2004	104467	260073022	THE KNITTING MILL PROJECT
2704	2004	104467	260073022	THE KNITTING MILL PROJECT
2705	2004	104467	260073022	THE KNITTING MILL PROJECT
2706	2004	104467	260073022	THE KNITTING MILL PROJECT
2707	**2004 Total**			
2708	2005	104467	260073022	THE KNITTING MILL PROJECT
2709	2005	104467	260073022	THE KNITTING MILL PROJECT
2710	2005	104467	260073022	THE KNITTING MILL PROJECT
2711	2005	104467	260073022	THE KNITTING MILL PROJECT
2712	2005	104467	260073022	THE KNITTING MILL PROJECT
2713	2005	104467	260073022	THE KNITTING MILL PROJECT
2714	2005	104467	260073022	THE KNITTING MILL PROJECT
2715	2005	104467	260073022	THE KNITTING MILL PROJECT
2716	2005	104467	260073022	THE KNITTING MILL PROJECT
2717	2005	104467	260073022	THE KNITTING MILL PROJECT
2718	2005	104467	260073022	THE KNITTING MILL PROJECT
2719	2005	104467	260073022	THE KNITTING MILL PROJECT
2720	**2005 Total**			
2721	2006	104467	260073022	THE KNITTING MILL PROJECT
2722	2006	104467	260073022	THE KNITTING MILL PROJECT
2723	2006	104467	260073022	THE KNITTING MILL PROJECT
2724	2006	104467	260073022	THE KNITTING MILL PROJECT
2725	2006	104467	260073022	THE KNITTING MILL PROJECT
2726	2006	104467	260073022	THE KNITTING MILL PROJECT
2727	2006	104467	260073022	THE KNITTING MILL PROJECT
2728	2006	104467	260073022	THE KNITTING MILL PROJECT
2729	2006	104467	260073022	THE KNITTING MILL PROJECT
2730	2006	104467	260073022	THE KNITTING MILL PROJECT
2731	2006	104467	260073022	THE KNITTING MILL PROJECT
2732	2006	104467	260073022	THE KNITTING MILL PROJECT
2733	2006	104467	260073022	THE KNITTING MILL PROJECT
2734	**2006 Total**			
2735	2007	104467	260073022	THE KNITTING MILL PROJECT
2736	2007	104467	260073022	THE KNITTING MILL PROJECT
2737	2007	104467	260073022	THE KNITTING MILL PROJECT
2738	2007	104467	260073022	THE KNITTING MILL PROJECT
2739	2007	104467	260073022	THE KNITTING MILL PROJECT
2740	2007	104467	260073022	THE KNITTING MILL PROJECT
2741	2007	104467	260073022	THE KNITTING MILL PROJECT
2742	2007	104467	260073022	THE KNITTING MILL PROJECT
2743	2007	104467	260073022	THE KNITTING MILL PROJECT
2744	2007	104467	260073022	THE KNITTING MILL PROJECT
2745	2007	104467	260073022	THE KNITTING MILL PROJECT
2746	2007	104467	260073022	THE KNITTING MILL PROJECT
2747	**2007 Total**			
2748	2008	104467	260073022	THE KNITTING MILL PROJECT
2749	2008	104467	260073022	THE KNITTING MILL PROJECT

	J	K	L	M
2700	205 Manufacturers Rd	Chattanooga	TN	374053250
2701	205 Manufacturers Rd	Chattanooga	TN	374053250
2702	205 Manufacturers Rd	Chattanooga	TN	374053250
2703	205 Manufacturers Rd	Chattanooga	TN	374053250
2704	205 Manufacturers Rd	Chattanooga	TN	374053250
2705	205 Manufacturers Rd	Chattanooga	TN	374053250
2706	205 Manufacturers Rd	Chattanooga	TN	374053250
2707				
2708	205 Manufacturers Rd	Chattanooga	TN	374053250
2709	205 Manufacturers Rd	Chattanooga	TN	374053250
2710	205 Manufacturers Rd	Chattanooga	TN	374053250
2711	205 Manufacturers Rd	Chattanooga	TN	374053250
2712	205 Manufacturers Rd	Chattanooga	TN	374053250
2713	205 Manufacturers Rd	Chattanooga	TN	374053250
2714	205 Manufacturers Rd	Chattanooga	TN	374053250
2715	205 Manufacturers Rd	Chattanooga	TN	374053250
2716	205 Manufacturers Rd	Chattanooga	TN	374053250
2717	205 Manufacturers Rd	Chattanooga	TN	374053250
2718	205 Manufacturers Rd	Chattanooga	TN	374053250
2719	205 Manufacturers Rd	Chattanooga	TN	374053250
2720				
2721	205 Manufacturers Rd	Chattanooga	TN	374053250
2722	205 Manufacturers Rd	Chattanooga	TN	374053250
2723	205 Manufacturers Rd	Chattanooga	TN	374053250
2724	205 Manufacturers Rd	Chattanooga	TN	374053250
2725	205 Manufacturers Rd	Chattanooga	TN	374053250
2726	205 Manufacturers Rd	Chattanooga	TN	374053250
2727	205 Manufacturers Rd	Chattanooga	TN	374053250
2728	205 Manufacturers Rd	Chattanooga	TN	374053250
2729	205 Manufacturers Rd	Chattanooga	TN	374053250
2730	205 Manufacturers Rd	Chattanooga	TN	374053250
2731	205 Manufacturers Rd	Chattanooga	TN	374053250
2732	205 Manufacturers Rd	Chattanooga	TN	374053250
2733	205 Manufacturers Rd	Chattanooga	TN	374053250
2734				
2735	205 Manufacturers Rd	Chattanooga	TN	374053250
2736	205 Manufacturers Rd	Chattanooga	TN	374053250
2737	205 Manufacturers Rd	Chattanooga	TN	374053250
2738	205 Manufacturers Rd	Chattanooga	TN	374053250
2739	205 Manufacturers Rd	Chattanooga	TN	374053250
2740	205 Manufacturers Rd	Chattanooga	TN	374053250
2741	205 Manufacturers Rd	Chattanooga	TN	374053250
2742	205 Manufacturers Rd	Chattanooga	TN	374053250
2743	205 Manufacturers Rd	Chattanooga	TN	374053250
2744	205 Manufacturers Rd	Chattanooga	TN	374053250
2745	205 Manufacturers Rd	Chattanooga	TN	374053250
2746	205 Manufacturers Rd	Chattanooga	TN	374053250
2747				
2748	205 Manufacturers Rd	Chattanooga	TN	374053250
2749	205 Manufacturers Rd	Chattanooga	TN	374053250

	N	O	P	Q
2700	1.49	1000G	25.25	A3M4
2701	2.99	1000G	25.58	A3M4
2702	2.24	1000G	25.42	A3M4
2703	2.99	1000G	25.58	A3M4
2704	3.74	1000G	28.21	A3M4
2705	2.24	1000G	25.42	A3M4
2706	2.24	1000G	25.42	A3M4
2707	2034.64		4610.58	
2708	2.24	1000G	25.42	A3M4
2709	3.74	1000G	28.21	A3M4
2710	2.24	1000G	25.42	A3M4
2711	2.24	1000G	26.06	A3M4
2712	3.74	1000G	29.3	A3M4
2713	2.99	1000G	26.57	A3M4
2714	3.74	1000G	29.3	A3M4
2715	2.24	1000G	26.4	A3M4
2716	4.48	1000G	32.03	A3M4
2717	3.74	1000G	29.3	A3M4
2718	1.49	1000G	26.22	A3M4
2719	2.24	1000G	26.4	A3M4
2720	35.12		330.63	
2721	4.48	1000G	32.03	A3M4
2722	5.98	1000G	37.49	A3M4
2723	3.74	1000G	29.3	A3M4
2724	4.48	1000G	32.03	A3M4
2725	2.24	1000G	26.4	A3M4
2726	5.23	1000G	34.76	A3M4
2727	2.99	1000G	26.57	A3M4
2728	3.74	1000G	29.3	A3M4
2729	9.72	1000G	51.14	A3M4
2730	4.48	1000G	32.03	A3M4
2731	5.23	1000G	34.76	A3M4
2732	6.73	1000G	40.22	A3M4
2733	6.73	1000G	40.22	A3M4
2734	65.77		446.25	
2735	4.48	1000G	32.03	A3M4
2736	2.99	1000G	26.57	A3M4
2737	2.24	1000G	26.4	A3M4
2738	3.74	1000G	29.3	A3M4
2739	2.99	1000G	26.8	A3M4
2740	3.74	1000G	32.99	A3M4
2741	3.74	1000G	32.99	A3M4
2742	3.74	1000G	32.99	A3M4
2743	2.99	1000G	29.92	A3M4
2744	2.99	1000G	29.92	A3M4
2745	4.48	1000G	36.07	A3M4
2746	2.99	1000G	29.92	A3M4
2747	41.11		365.9	
2748	4.48	1000G	36.07	A3M4
2749	2.99	1000G	29.92	A3M4

	A	B	C	D	E
2750	2600	2603	26CC	3	3
2751					
2752	2600	2603	26CC	3	1
2753	2600	2603	26CC	3	2
2754	2600	2603	26CC	3	3
2755	2600	2603	26CC	3	4
2756	2600	2603	26CC	3	5
2757	2600	2603	26CC	3	6
2758	2600	2603	26CC	3	7
2759	2600	2603	26CC	3	8
2760	2600	2603	26CC	3	9
2761	2600	2603	26CC	3	10
2762	2600	2603	26CC	3	11
2763	2600	2603	26CC	3	12
2764					
2765	2600	2603	26CC	3	1
2766	2600	2603	26CC	3	2
2767	2600	2603	26CC	3	3
2768	2600	2603	26CC	3	4
2769	2600	2603	26CC	3	5
2770	2600	2603	26CC	3	6
2771	2600	2603	26CC	3	7
2772	2600	2603	26CC	3	8
2773	2600	2603	26CC	3	9
2774	2600	2603	26CC	3	10
2775	2600	2603	26CC	3	11
2776	2600	2603	26CC	3	12
2777					
2778	2600	2603	26CC	3	1
2779	2600	2603	26CC	3	2
2780	2600	2603	26CC	3	3
2781	2600	2603	26CC	3	4
2782	2600	2603	26CC	3	5
2783	2600	2603	26CC	3	6
2784	2600	2603	26CC	3	7
2785	2600	2603	26CC	3	8
2786	2600	2603	26CC	3	9
2787	2600	2603	26CC	3	10
2788	2600	2603	26CC	3	11
2789	2600	2603	26CC	3	12
2790					
2791	2600	2603	26CC	3	1
2792	2600	2603	26CC	3	2
2793	2600	2603	26CC	3	3
2794	2600	2603	26CC	3	4
2795	2600	2603	26CC	3	5
2796	2600	2603	26CC	3	6
2797	2600	2603	26CC	3	7
2798	2600	2603	26CC	3	8
2799	2600	2603	26CC	3	9

	F	G	H	I
2750	2008	104467	260073022	THE KNITTING MILL PROJECT
2751	**2008 Total**			
2752	2004	104547	260073097	Eureka Foundry
2753	2004	104547	260073097	Eureka Foundry
2754	2004	104547	260073097	Eureka Foundry
2755	2004	104547	260073097	Eureka Foundry
2756	2004	104547	260073097	Eureka Foundry
2757	2004	104547	260073097	Eureka Foundry
2758	2004	104547	260073097	Eureka Foundry
2759	2004	104547	260073097	Eureka Foundry
2760	2004	104547	260073097	Eureka Foundry
2761	2004	104547	260073097	Eureka Foundry
2762	2004	104547	260073097	Eureka Foundry
2763	2004	104547	260073097	Eureka Foundry
2764	**2004 Total**			
2765	2005	104547	260073097	Eureka Foundry
2766	2005	104547	260073097	Eureka Foundry
2767	2005	104547	260073097	Eureka Foundry
2768	2005	104547	260073097	Eureka Foundry
2769	2005	104547	260073097	Eureka Foundry
2770	2005	104547	260073097	Eureka Foundry
2771	2005	104547	260073097	Eureka Foundry
2772	2005	104547	260073097	Eureka Foundry
2773	2005	104547	260073097	Eureka Foundry
2774	2005	104547	260073097	Eureka Foundry
2775	2005	104547	260073097	Eureka Foundry
2776	2005	104547	260073097	Eureka Foundry
2777	**2005 Total**			
2778	2006	104547	260073097	Eureka Foundry
2779	2006	104547	260073097	Eureka Foundry
2780	2006	104547	260073097	Eureka Foundry
2781	2006	104547	260073097	Eureka Foundry
2782	2006	104547	260073097	Eureka Foundry
2783	2006	104547	260073097	Eureka Foundry
2784	2006	104547	260073097	Eureka Foundry
2785	2006	104547	260073097	Eureka Foundry
2786	2006	104547	260073097	Eureka Foundry
2787	2006	104547	260073097	Eureka Foundry
2788	2006	104547	260073097	Eureka Foundry
2789	2006	104547	260073097	Eureka Foundry
2790	**2006 Total**			
2791	2007	104547	260073097	Eureka Foundry
2792	2007	104547	260073097	Eureka Foundry
2793	2007	104547	260073097	Eureka Foundry
2794	2007	104547	260073097	Eureka Foundry
2795	2007	104547	260073097	Eureka Foundry
2796	2007	104547	260073097	Eureka Foundry
2797	2007	104547	260073097	Eureka Foundry
2798	2007	104547	260073097	Eureka Foundry
2799	2007	104547	260073097	Eureka Foundry

	J	K	L	M
2750	205 Manufacturers Rd	Chattanooga	TN	374053250
2751				
2752	1603 Carter St	Chattanooga	TN	374024432
2753	1603 Carter St	Chattanooga	TN	374024432
2754	1603 Carter St	Chattanooga	TN	374024432
2755	1603 Carter St	Chattanooga	TN	374024432
2756	1603 Carter St	Chattanooga	TN	374024432
2757	1603 Carter St	Chattanooga	TN	374024432
2758	1603 Carter St	Chattanooga	TN	374024432
2759	1603 Carter St	Chattanooga	TN	374024432
2760	1603 Carter St	Chattanooga	TN	374024432
2761	1603 Carter St	Chattanooga	TN	374024432
2762	1603 Carter St	Chattanooga	TN	374024432
2763	1603 Carter St	Chattanooga	TN	374024432
2764				
2765	1603 Carter St	Chattanooga	TN	374024432
2766	1603 Carter St	Chattanooga	TN	374024432
2767	1603 Carter St	Chattanooga	TN	374024432
2768	1603 Carter St	Chattanooga	TN	374024432
2769	1603 Carter St	Chattanooga	TN	374024432
2770	1603 Carter St	Chattanooga	TN	374024432
2771	1603 Carter St	Chattanooga	TN	374024432
2772	1603 Carter St	Chattanooga	TN	374024432
2773	1603 Carter St	Chattanooga	TN	374024432
2774	1603 Carter St	Chattanooga	TN	374024432
2775	1603 Carter St	Chattanooga	TN	374024432
2776	1603 Carter St	Chattanooga	TN	374024432
2777				
2778	1603 Carter St	Chattanooga	TN	374024432
2779	1603 Carter St	Chattanooga	TN	374024432
2780	1603 Carter St	Chattanooga	TN	374024432
2781	1603 Carter St	Chattanooga	TN	374024432
2782	1603 Carter St	Chattanooga	TN	374024432
2783	1603 Carter St	Chattanooga	TN	374024432
2784	1603 Carter St	Chattanooga	TN	374024432
2785	1603 Carter St	Chattanooga	TN	374024432
2786	1603 Carter St	Chattanooga	TN	374024432
2787	1603 Carter St	Chattanooga	TN	374024432
2788	1603 Carter St	Chattanooga	TN	374024432
2789	1603 Carter St	Chattanooga	TN	374024432
2790				
2791	1603 Carter St	Chattanooga	TN	374024432
2792	1603 Carter St	Chattanooga	TN	374024432
2793	1603 Carter St	Chattanooga	TN	374024432
2794	1603 Carter St	Chattanooga	TN	374024432
2795	1603 Carter St	Chattanooga	TN	374024432
2796	1603 Carter St	Chattanooga	TN	374024432
2797	1603 Carter St	Chattanooga	TN	374024432
2798	1603 Carter St	Chattanooga	TN	374024432
2799	1603 Carter St	Chattanooga	TN	374024432

	N	O	P	Q
2750	3.74	1000G	32.99	A3M4
2751	11.21		98.98	
2752	8.97	1000G	101.45	A3M4
2753	11.22	1000G	109.34	A3M4
2754	11.96	1000G	111.97	A3M4
2755	10.47	1000G	106.71	A3M4
2756	10.47	1000G	106.71	A3M4
2757	10.47	1000G	106.71	A3M4
2758	8.22	1000G	98.83	A3M4
2759	11.22	1000G	109.34	A3M4
2760	8.97	1000G	101.45	A3M4
2761	11.22	1000G	109.34	A3M4
2762	9.72	1000G	104.08	A3M4
2763	8.22	1000G	98.83	A3M4
2764	121.13		1264.76	
2765	6.73	1000G	93.57	A3M4
2766	9.72	1000G	104.08	A3M4
2767	8.97	1000G	103.56	A3M4
2768	8.97	1000G	105.38	A3M4
2769	9.72	1000G	108.11	A3M4
2770	8.22	1000G	102.65	A3M4
2771	6.73	1000G	97.19	A3M4
2772	8.97	1000G	105.38	A3M4
2773	5.23	1000G	91.73	A3M4
2774	13.46	1000G	121.76	A3M4
2775	8.97	1000G	105.38	A3M4
2776	7.48	1000G	99.92	A3M4
2777	103.17		1238.71	
2778	9.72	1000G	108.11	A3M4
2779	5.23	1000G	91.73	A3M4
2780	7.48	1000G	99.92	A3M4
2781	17.95	1000G	138.14	A3M4
2782	7.48	1000G	99.92	A3M4
2783	7.48	1000G	99.92	A3M4
2784	5.98	1000G	94.46	A3M4
2785	7.48	1000G	99.92	A3M4
2786	6.73	1000G	97.19	A3M4
2787	7.48	1000G	99.92	A3M4
2788	8.22	1000G	102.65	A3M4
2789	6.73	1000G	97.19	A3M4
2790	97.96		1229.07	
2791	6.73	1000G	97.19	A3M4
2792	7.48	1000G	99.92	A3M4
2793	7.48	1000G	99.92	A3M4
2794	6.73	1000G	97.19	A3M4
2795	7.48	1000G	99.92	A3M4
2796	6.73	1000G	108.25	A3M4
2797	6.73	1000G	109.42	A3M4
2798	7.48	1000G	112.49	A3M4
2799	6.73	1000G	109.42	A3M4

	A	B	C	D	E
2800	2600	2603	26CC	3	10
2801	2600	2603	26CC	3	11
2802	2600	2603	26CC	3	12
2803					
2804	2600	2603	26CC	3	1
2805	2600	2603	26CC	3	2
2806	2600	2603	26CC	3	3
2807					
2808	2600	2603	26CC	3	1
2809	2600	2603	26CC	3	2
2810	2600	2603	26CC	3	3
2811	2600	2603	26CC	3	4
2812	2600	2603	26CC	3	5
2813	2600	2603	26CC	3	6
2814	2600	2603	26CC	3	7
2815	2600	2603	26CC	3	8
2816	2600	2603	26CC	3	9
2817	2600	2603	26CC	3	10
2818	2600	2603	26CC	3	11
2819	2600	2603	26CC	3	12
2820					
2821	2600	2603	26CC	3	1
2822	2600	2603	26CC	3	2
2823	2600	2603	26CC	3	3
2824	2600	2603	26CC	3	4
2825	2600	2603	26CC	3	5
2826	2600	2603	26CC	3	6
2827	2600	2603	26CC	3	7
2828	2600	2603	26CC	3	8
2829	2600	2603	26CC	3	9
2830	2600	2603	26CC	3	10
2831	2600	2603	26CC	3	11
2832	2600	2603	26CC	3	12
2833					
2834	2600	2603	26CC	3	1
2835	2600	2603	26CC	3	2
2836	2600	2603	26CC	3	3
2837	2600	2603	26CC	3	4
2838	2600	2603	26CC	3	5
2839	2600	2603	26CC	3	6
2840	2600	2603	26CC	3	7
2841	2600	2603	26CC	3	8
2842	2600	2603	26CC	3	9
2843	2600	2603	26CC	3	10
2844	2600	2603	26CC	3	11
2845	2600	2603	26CC	3	12
2846					
2847	2600	2603	26CC	3	1
2848	2600	2603	26CC	3	2
2849	2600	2603	26CC	3	3

	F	G	H	I
2800	2007	104547	260073097	Eureka Foundry
2801	2007	104547	260073097	Eureka Foundry
2802	2007	104547	260073097	Eureka Foundry
2803	**2007 Total**			
2804	2008	104547	260073097	Eureka Foundry
2805	2008	104547	260073097	Eureka Foundry
2806	2008	104547	260073097	Eureka Foundry
2807	**2008 Total**			
2808	2004	104549	260073099	Siskin Steel & Supply
2809	2004	104549	260073099	Siskin Steel & Supply
2810	2004	104549	260073099	Siskin Steel & Supply
2811	2004	104549	260073099	Siskin Steel & Supply
2812	2004	104549	260073099	Siskin Steel & Supply
2813	2004	104549	260073099	Siskin Steel & Supply
2814	2004	104549	260073099	Siskin Steel & Supply
2815	2004	104549	260073099	Siskin Steel & Supply
2816	2004	104549	260073099	Siskin Steel & Supply
2817	2004	104549	260073099	Siskin Steel & Supply
2818	2004	104549	260073099	Siskin Steel & Supply
2819	2004	104549	260073099	Siskin Steel & Supply
2820	**2004 Total**			
2821	2005	104549	260073099	Siskin Steel & Supply
2822	2005	104549	260073099	Siskin Steel & Supply
2823	2005	104549	260073099	Siskin Steel & Supply
2824	2005	104549	260073099	Siskin Steel & Supply
2825	2005	104549	260073099	Siskin Steel & Supply
2826	2005	104549	260073099	Siskin Steel & Supply
2827	2005	104549	260073099	Siskin Steel & Supply
2828	2005	104549	260073099	Siskin Steel & Supply
2829	2005	104549	260073099	Siskin Steel & Supply
2830	2005	104549	260073099	Siskin Steel & Supply
2831	2005	104549	260073099	Siskin Steel & Supply
2832	2005	104549	260073099	Siskin Steel & Supply
2833	**2005 Total**			
2834	2006	104549	260073099	Siskin Steel & Supply
2835	2006	104549	260073099	Siskin Steel & Supply
2836	2006	104549	260073099	Siskin Steel & Supply
2837	2006	104549	260073099	Siskin Steel & Supply
2838	2006	104549	260073099	Siskin Steel & Supply
2839	2006	104549	260073099	Siskin Steel & Supply
2840	2006	104549	260073099	Siskin Steel & Supply
2841	2006	104549	260073099	Siskin Steel & Supply
2842	2006	104549	260073099	Siskin Steel & Supply
2843	2006	104549	260073099	Siskin Steel & Supply
2844	2006	104549	260073099	Siskin Steel & Supply
2845	2006	104549	260073099	Siskin Steel & Supply
2846	**2006 Total**			
2847	2007	104549	260073099	Siskin Steel & Supply
2848	2007	104549	260073099	Siskin Steel & Supply
2849	2007	104549	260073099	Siskin Steel & Supply

	J	K	L	M
2800	1603 Carter St	Chattanooga	TN	374024432
2801	1603 Carter St	Chattanooga	TN	374024432
2802	1603 Carter St	Chattanooga	TN	374024432
2803				
2804	1603 Carter St	Chattanooga	TN	374024432
2805	1603 Carter St	Chattanooga	TN	374024432
2806	1603 Carter St	Chattanooga	TN	374024432
2807				
2808	701 W 23rd St	Chattanooga	TN	37402
2809	701 W 23rd St	Chattanooga	TN	37402
2810	701 W 23rd St	Chattanooga	TN	37402
2811	701 W 23rd St	Chattanooga	TN	37402
2812	701 W 23rd St	Chattanooga	TN	37402
2813	701 W 23rd St	Chattanooga	TN	37402
2814	701 W 23rd St	Chattanooga	TN	37402
2815	701 W 23rd St	Chattanooga	TN	37402
2816	701 W 23rd St	Chattanooga	TN	37402
2817	701 W 23rd St	Chattanooga	TN	37402
2818	701 W 23rd St	Chattanooga	TN	37402
2819	701 W 23rd St	Chattanooga	TN	37402
2820				
2821	701 W 23rd St	Chattanooga	TN	37402
2822	701 W 23rd St	Chattanooga	TN	37402
2823	701 W 23rd St	Chattanooga	TN	37402
2824	701 W 23rd St	Chattanooga	TN	37402
2825	701 W 23rd St	Chattanooga	TN	37402
2826	701 W 23rd St	Chattanooga	TN	37402
2827	701 W 23rd St	Chattanooga	TN	37402
2828	701 W 23rd St	Chattanooga	TN	37402
2829	701 W 23rd St	Chattanooga	TN	37402
2830	701 W 23rd St	Chattanooga	TN	37402
2831	701 W 23rd St	Chattanooga	TN	37402
2832	701 W 23rd St	Chattanooga	TN	37402
2833				
2834	701 W 23rd St	Chattanooga	TN	37402
2835	701 W 23rd St	Chattanooga	TN	37402
2836	701 W 23rd St	Chattanooga	TN	37402
2837	701 W 23rd St	Chattanooga	TN	37402
2838	701 W 23rd St	Chattanooga	TN	37402
2839	701 W 23rd St	Chattanooga	TN	37402
2840	701 W 23rd St	Chattanooga	TN	37402
2841	701 W 23rd St	Chattanooga	TN	37402
2842	701 W 23rd St	Chattanooga	TN	37402
2843	701 W 23rd St	Chattanooga	TN	37402
2844	701 W 23rd St	Chattanooga	TN	37402
2845	701 W 23rd St	Chattanooga	TN	37402
2846				
2847	701 W 23rd St	Chattanooga	TN	37402
2848	701 W 23rd St	Chattanooga	TN	37402
2849	701 W 23rd St	Chattanooga	TN	37402

	N	O	P	Q
2800	6.73	1000G	109.42	A3M4
2801	7.48	1000G	112.49	A3M4
2802	5.23	1000G	103.27	A3M4
2803	83.01		1258.9	
2804	5.98	1000G	106.34	A3M4
2805	5.98	1000G	106.34	A3M4
2806	6.73	1000G	109.42	A3M4
2807	18.69		322.1	
2808	50.11	1000G	244.04	A3M4
2809	42.63	1000G	219.71	A3M4
2810	62.08	1000G	270.46	A3M4
2811	46.37	1000G	232.85	A3M4
2812	47.87	1000G	238.11	A3M4
2813	46.37	1000G	232.85	A3M4
2814	65.82	1000G	278.71	A3M4
2815	92.01	1000G	336.5	A3M4
2816	97.99	1000G	349.71	A3M4
2817	100.98	1000G	356.31	A3M4
2818	106.97	1000G	369.52	A3M4
2819	92.01	1000G	336.5	A3M4
2820	851.21		3465.27	
2821	97.24	1000G	348.06	A3M4
2822	94.25	1000G	341.45	A3M4
2823	116.69	1000G	399.1	A3M4
2824	101.73	1000G	371.84	A3M4
2825	102.48	1000G	373.55	A3M4
2826	97.24	1000G	361.55	A3M4
2827	107.71	1000G	385.56	A3M4
2828	108.46	1000G	387.27	A3M4
2829	121.93	1000G	418.14	A3M4
2830	112.95	1000G	397.56	A3M4
2831	116.69	1000G	406.14	A3M4
2832	125.67	1000G	426.72	A3M4
2833	1303.04		4616.94	
2834	97.24	1000G	361.55	A3M4
2835	167.56	1000G	522.76	A3M4
2836	128.66	1000G	433.58	A3M4
2837	133.9	1000G	445.58	A3M4
2838	106.22	1000G	382.13	A3M4
2839	94.25	1000G	354.69	A3M4
2840	82.28	1000G	327.25	A3M4
2841	77.79	1000G	316.96	A3M4
2842	83.78	1000G	330.68	A3M4
2843	68.82	1000G	296.38	A3M4
2844	71.81	1000G	303.24	A3M4
2845	61.34	1000G	279.23	A3M4
2846	1173.65		4354.03	
2847	83.03	1000G	328.96	A3M4
2848	74.8	1000G	310.1	A3M4
2849	73.3	1000G	306.67	A3M4

	A	B	C	D	E
2850	2600	2603	26CC	3	4
2851	2600	2603	26CC	3	5
2852	2600	2603	26CC	3	6
2853	2600	2603	26CC	3	7
2854	2600	2603	26CC	3	8
2855	2600	2603	26CC	3	9
2856	2600	2603	26CC	3	10
2857	2600	2603	26CC	3	11
2858	2600	2603	26CC	3	12
2859					
2860	2600	2603	26CC	3	1
2861	2600	2603	26CC	3	2
2862	2600	2603	26CC	3	3
2863					
2864	2600	2603	26CC	3	1
2865	2600	2603	26CC	3	2
2866	2600	2603	26CC	3	3
2867	2600	2603	26CC	3	4
2868	2600	2603	26CC	3	5
2869	2600	2603	26CC	3	6
2870	2600	2603	26CC	3	7
2871	2600	2603	26CC	3	7
2872	2600	2603	26CC	3	8
2873	2600	2603	26CC	3	9
2874	2600	2603	26CC	3	10
2875	2600	2603	26CC	3	1
2876	2600	2603	26CC	3	2
2877	2600	2603	26CC	3	3
2878	2600	2603	26CC	3	4
2879	2600	2603	26CC	3	5
2880	2600	2603	26CC	3	6
2881	2600	2603	26CC	3	7
2882	2600	2603	26CC	3	7
2883	2600	2603	26CC	3	8
2884	2600	2603	26CC	3	9
2885	2600	2603	26CC	3	10
2886					
2887	2600	2603	26CC	3	1
2888	2600	2603	26CC	3	2
2889	2600	2603	26CC	3	4
2890	2600	2603	26CC	3	4
2891	2600	2603	26CC	3	5
2892	2600	2603	26CC	3	6
2893	2600	2603	26CC	3	7
2894	2600	2603	26CC	3	8
2895	2600	2603	26CC	3	9
2896	2600	2603	26CC	3	10
2897	2600	2603	26CC	3	11
2898	2600	2603	26CC	3	12
2899					

	F	G	H	I
2850	2007	104549	260073099	Siskin Steel & Supply
2851	2007	104549	260073099	Siskin Steel & Supply
2852	2007	104549	260073099	Siskin Steel & Supply
2853	2007	104549	260073099	Siskin Steel & Supply
2854	2007	104549	260073099	Siskin Steel & Supply
2855	2007	104549	260073099	Siskin Steel & Supply
2856	2007	104549	260073099	Siskin Steel & Supply
2857	2007	104549	260073099	Siskin Steel & Supply
2858	2007	104549	260073099	Siskin Steel & Supply
2859	**2007 Total**			
2860	2008	104549	260073099	Siskin Steel & Supply
2861	2008	104549	260073099	Siskin Steel & Supply
2862	2008	104549	260073099	Siskin Steel & Supply
2863	**2008 Total**			
2864	2003	104551	260073101	Southern Foundry Supply
2865	2003	104551	260073101	Southern Foundry Supply
2866	2003	104551	260073101	Southern Foundry Supply
2867	2003	104551	260073101	Southern Foundry Supply
2868	2003	104551	260073101	Southern Foundry Supply
2869	2003	104551	260073101	Southern Foundry Supply
2870	2003	104551	260073101	Southern Foundry Supply
2871	2003	104551	260073101	Southern Foundry Supply
2872	2003	104551	260073101	Southern Foundry Supply
2873	2003	104551	260073101	Southern Foundry Supply
2874	2003	104551	260073101	Southern Foundry Supply
2875	2003	104552	260073102	Southern Foundry Supply
2876	2003	104552	260073102	Southern Foundry Supply
2877	2003	104552	260073102	Southern Foundry Supply
2878	2003	104552	260073102	Southern Foundry Supply
2879	2003	104552	260073102	Southern Foundry Supply
2880	2003	104552	260073102	Southern Foundry Supply
2881	2003	104552	260073102	Southern Foundry Supply
2882	2003	104552	260073102	Southern Foundry Supply
2883	2003	104552	260073102	Southern Foundry Supply
2884	2003	104552	260073102	Southern Foundry Supply
2885	2003	104552	260073102	Southern Foundry Supply
2886	**2003 Total**			
2887	2004	104553	260073103	Alstom Power Inc
2888	2004	104553	260073103	Alstom Power Inc
2889	2004	104553	260073103	Alstom Power Inc
2890	2004	104553	260073103	Alstom Power Inc
2891	2004	104553	260073103	Alstom Power Inc
2892	2004	104553	260073103	Alstom Power Inc
2893	2004	104553	260073103	Alstom Power Inc
2894	2004	104553	260073103	Alstom Power Inc
2895	2004	104553	260073103	Alstom Power Inc
2896	2004	104553	260073103	Alstom Power Inc
2897	2004	104553	260073103	Alstom Power Inc
2898	2004	104553	260073103	Alstom Power Inc
2899	**2004 Total**			

	J	K	L	M
2850	701 W 23rd St	Chattanooga	TN	37402
2851	701 W 23rd St	Chattanooga	TN	37402
2852	701 W 23rd St	Chattanooga	TN	37402
2853	701 W 23rd St	Chattanooga	TN	37402
2854	701 W 23rd St	Chattanooga	TN	37402
2855	701 W 23rd St	Chattanooga	TN	37402
2856	701 W 23rd St	Chattanooga	TN	37402
2857	701 W 23rd St	Chattanooga	TN	37402
2858	701 W 23rd St	Chattanooga	TN	37402
2859				
2860	701 W 23rd St	Chattanooga	TN	37402
2861	701 W 23rd St	Chattanooga	TN	37402
2862	701 W 23rd St	Chattanooga	TN	37402
2863				
2864	515 W 19th St	Chattanooga	TN	374081006
2865	515 W 19th St	Chattanooga	TN	374081006
2866	515 W 19th St	Chattanooga	TN	374081006
2867	515 W 19th St	Chattanooga	TN	374081006
2868	515 W 19th St	Chattanooga	TN	374081006
2869	515 W 19th St	Chattanooga	TN	374081006
2870	515 W 19th St	Chattanooga	TN	374081006
2871	515 W 19th St	Chattanooga	TN	374081006
2872	515 W 19th St	Chattanooga	TN	374081006
2873	515 W 19th St	Chattanooga	TN	374081006
2874	515 W 19th St	Chattanooga	TN	374081006
2875	515 W 19th St	Chattanooga	TN	374081006
2876	515 W 19th St	Chattanooga	TN	374081006
2877	515 W 19th St	Chattanooga	TN	374081006
2878	515 W 19th St	Chattanooga	TN	374081006
2879	515 W 19th St	Chattanooga	TN	374081006
2880	515 W 19th St	Chattanooga	TN	374081006
2881	515 W 19th St	Chattanooga	TN	374081006
2882	515 W 19th St	Chattanooga	TN	374081006
2883	515 W 19th St	Chattanooga	TN	374081006
2884	515 W 19th St	Chattanooga	TN	374081006
2885	515 W 19th St	Chattanooga	TN	374081006
2886				
2887	1119 Riverfront Pky	Chattanooga	TN	374022106
2888	1119 Riverfront Pky	Chattanooga	TN	374022106
2889	1119 Riverfront Pky	Chattanooga	TN	374022106
2890	1119 Riverfront Pky	Chattanooga	TN	374022106
2891	1119 Riverfront Pky	Chattanooga	TN	374022106
2892	1119 Riverfront Pky	Chattanooga	TN	374022106
2893	1119 Riverfront Pky	Chattanooga	TN	374022106
2894	1119 Riverfront Pky	Chattanooga	TN	374022106
2895	1119 Riverfront Pky	Chattanooga	TN	374022106
2896	1119 Riverfront Pky	Chattanooga	TN	374022106
2897	1119 Riverfront Pky	Chattanooga	TN	374022106
2898	1119 Riverfront Pky	Chattanooga	TN	374022106
2899				

	N	O	P	Q
2850	68.82	1000G	296.38	A3M4
2851	72.56	1000G	304.95	A3M4
2852	80.04	1000G	358.8	A3M4
2853	114.45	1000G	451.43	A3M4
2854	97.24	1000G	407.02	A3M4
2855	130.16	1000G	491.98	A3M4
2856	124.92	1000G	478.46	A3M4
2857	140.63	1000G	519.01	A3M4
2858	153.35	1000G	551.84	A3M4
2859	1213.3		4805.6	
2860	66.57	1000G	327.84	A3M4
2861	56.1	1000G	300.81	A3M4
2862	52.36	1000G	291.16	A3M4
2863	175.03		919.81	
2864	1.49	1000G	75.27	A3M4
2865	10.47	1000G	100.3	A3M4
2866	5.98	1000G	85.46	A3M4
2867	2.24	1000G	75.42	A3M4
2868	5.98	1000G	89.18	A3M4
2869	3.74	1000G	82.26	A3M4
2870	0.74	1000G	74.01	A3M4
2871	7.48	1000G	94.27	A3M4
2872	1.49	1000G	78.25	A3M4
2873	0.74	1000G	79.94	A3M4
2874	0	1000G	79.77	A3M4
2875	143.62	1000G	424.92	A3M4
2876	119.68	1000G	374.9	A3M4
2877	151.1	1000G	440.55	A3M4
2878	172.05	1000G	484.32	A3M4
2879	142.87	1000G	447.22	A3M4
2880	134.64	1000G	427.02	A3M4
2881	146.61	1000G	451.18	A3M4
2882	171.3	1000G	475.62	A3M4
2883	184.76	1000G	529.45	A3M4
2884	150.35	1000G	465.28	A3M4
2885	144.37	1000G	452.07	A3M4
2886	1701.7		5886.66	
2887	4200.31	1000G	7501.33	A3MSM
2888	4045.46	1000G	7305.92	A3MSM
2889	4631.18	1000G	8045.07	A3MSM
2890	4703	1000G	8135.7	A3MSM
2891	4498.78	1000G	7877.99	A3MSM
2892	4494.29	1000G	7872.32	A3MSM
2893	5064.31	1000G	8591.65	A3MSM
2894	4400.04	1000G	7753.38	A3MSM
2895	4397.79	1000G	7750.55	A3MSM
2896	4915.44	1000G	8403.79	A3MSM
2897	4753.87	1000G	8199.89	A3MSM
2898	3996.09	1000G	7243.62	A3MSM
2899	54100.56		94681.21	

	A	B	C	D	E
2900	2600	2603	26CC	3	1
2901	2600	2603	26CC	3	2
2902	2600	2603	26CC	3	3
2903	2600	2603	26CC	3	4
2904	2600	2603	26CC	3	5
2905	2600	2603	26CC	3	6
2906	2600	2603	26CC	3	7
2907	2600	2603	26CC	3	8
2908	2600	2603	26CC	3	9
2909	2600	2603	26CC	3	10
2910	2600	2603	26CC	3	11
2911	2600	2603	26CC	3	12
2912					
2913	2600	2603	26CC	3	1
2914	2600	2603	26CC	3	2
2915	2600	2603	26CC	3	3
2916	2600	2603	26CC	3	4
2917	2600	2603	26CC	3	5
2918	2600	2603	26CC	3	6
2919	2600	2603	26CC	3	7
2920	2600	2603	26CC	3	8
2921	2600	2603	26CC	3	9
2922	2600	2603	26CC	3	10
2923	2600	2603	26CC	3	11
2924	2600	2603	26CC	3	12
2925					
2926	2600	2603	26CC	3	1
2927	2600	2603	26CC	3	2
2928	2600	2603	26CC	3	3
2929	2600	2603	26CC	3	4
2930	2600	2603	26CC	3	5
2931	2600	2603	26CC	3	6
2932	2600	2603	26CC	3	7
2933	2600	2603	26CC	3	8
2934	2600	2603	26CC	3	9
2935	2600	2603	26CC	3	10
2936	2600	2603	26CC	3	11
2937	2600	2603	26CC	3	12
2938					
2939	2600	2603	26CC	3	1
2940	2600	2603	26CC	3	2
2941	2600	2603	26CC	3	3
2942					
2943	2600	2603	26CC	3	1
2944	2600	2603	26CC	3	2
2945	2600	2603	26CC	3	3
2946	2600	2603	26CC	3	4
2947	2600	2603	26CC	3	5
2948	2600	2603	26CC	3	6
2949	2600	2603	26CC	3	7

	F	G	H	I
2900	2005	104553	260073103	Alstom Power Inc
2901	2005	104553	260073103	Alstom Power Inc
2902	2005	104553	260073103	Alstom Power Inc
2903	2005	104553	260073103	Alstom Power Inc
2904	2005	104553	260073103	Alstom Power Inc
2905	2005	104553	260073103	Alstom Power Inc
2906	2005	104553	260073103	Alstom Power Inc
2907	2005	104553	260073103	Alstom Power Inc
2908	2005	104553	260073103	Alstom Power Inc
2909	2005	104553	260073103	Alstom Power Inc
2910	2005	104553	260073103	Alstom Power Inc
2911	2005	104553	260073103	Alstom Power Inc
2912	**2005 Total**			
2913	2006	104553	260073103	Alstom Power Inc
2914	2006	104553	260073103	Alstom Power Inc
2915	2006	104553	260073103	Alstom Power Inc
2916	2006	104553	260073103	Alstom Power Inc
2917	2006	104553	260073103	Alstom Power Inc
2918	2006	104553	260073103	Alstom Power Inc
2919	2006	104553	260073103	Alstom Power Inc
2920	2006	104553	260073103	Alstom Power Inc
2921	2006	104553	260073103	Alstom Power Inc
2922	2006	104553	260073103	Alstom Power Inc
2923	2006	104553	260073103	Alstom Power Inc
2924	2006	104553	260073103	Alstom Power Inc
2925	**2006 Total**			
2926	2007	104553	260073103	Alstom Power Inc
2927	2007	104553	260073103	Alstom Power Inc
2928	2007	104553	260073103	Alstom Power Inc
2929	2007	104553	260073103	Alstom Power Inc
2930	2007	104553	260073103	Alstom Power Inc
2931	2007	104553	260073103	Alstom Power Inc
2932	2007	104553	260073103	Alstom Power Inc
2933	2007	104553	260073103	Alstom Power Inc
2934	2007	104553	260073103	Alstom Power Inc
2935	2007	104553	260073103	Alstom Power Inc
2936	2007	104553	260073103	Alstom Power Inc
2937	2007	104553	260073103	Alstom Power Inc
2938	**2007 Total**			
2939	2008	104553	260073103	Alstom Power Inc
2940	2008	104553	260073103	Alstom Power Inc
2941	2008	104553	260073103	Alstom Power Inc
2942	**2008 Total**			
2943	2004	104555	260073105	Eureka Foundry
2944	2004	104555	260073105	Eureka Foundry
2945	2004	104555	260073105	Eureka Foundry
2946	2004	104555	260073105	Eureka Foundry
2947	2004	104555	260073105	Eureka Foundry
2948	2004	104555	260073105	Eureka Foundry
2949	2004	104555	260073105	Eureka Foundry

	J	K	L	M
2900	1119 Riverfront Pky	Chattanooga	TN	374022106
2901	1119 Riverfront Pky	Chattanooga	TN	374022106
2902	1119 Riverfront Pky	Chattanooga	TN	374022106
2903	1119 Riverfront Pky	Chattanooga	TN	374022106
2904	1119 Riverfront Pky	Chattanooga	TN	374022106
2905	1119 Riverfront Pky	Chattanooga	TN	374022106
2906	1119 Riverfront Pky	Chattanooga	TN	374022106
2907	1119 Riverfront Pky	Chattanooga	TN	374022106
2908	1119 Riverfront Pky	Chattanooga	TN	374022106
2909	1119 Riverfront Pky	Chattanooga	TN	374022106
2910	1119 Riverfront Pky	Chattanooga	TN	374022106
2911	1119 Riverfront Pky	Chattanooga	TN	374022106
2912				
2913	1119 Riverfront Pky	Chattanooga	TN	374022106
2914	1119 Riverfront Pky	Chattanooga	TN	374022106
2915	1119 Riverfront Pky	Chattanooga	TN	374022106
2916	1119 Riverfront Pky	Chattanooga	TN	374022106
2917	1119 Riverfront Pky	Chattanooga	TN	374022106
2918	1119 Riverfront Pky	Chattanooga	TN	374022106
2919	1119 Riverfront Pky	Chattanooga	TN	374022106
2920	1119 Riverfront Pky	Chattanooga	TN	374022106
2921	1119 Riverfront Pky	Chattanooga	TN	374022106
2922	1119 Riverfront Pky	Chattanooga	TN	374022106
2923	1119 Riverfront Pky	Chattanooga	TN	374022106
2924	1119 Riverfront Pky	Chattanooga	TN	374022106
2925				
2926	1119 Riverfront Pky	Chattanooga	TN	374022106
2927	1119 Riverfront Pky	Chattanooga	TN	374022106
2928	1119 Riverfront Pky	Chattanooga	TN	374022106
2929	1119 Riverfront Pky	Chattanooga	TN	374022106
2930	1119 Riverfront Pky	Chattanooga	TN	374022106
2931	1119 Riverfront Pky	Chattanooga	TN	374022106
2932	1119 Riverfront Pky	Chattanooga	TN	374022106
2933	1119 Riverfront Pky	Chattanooga	TN	374022106
2934	1119 Riverfront Pky	Chattanooga	TN	374022106
2935	1119 Riverfront Pky	Chattanooga	TN	374022106
2936	1119 Riverfront Pky	Chattanooga	TN	374022106
2937	1119 Riverfront Pky	Chattanooga	TN	374022106
2938				
2939	1119 Riverfront Pky	Chattanooga	TN	374022106
2940	1119 Riverfront Pky	Chattanooga	TN	374022106
2941	1119 Riverfront Pky	Chattanooga	TN	374022106
2942				
2943	724 W Main St	Chattanooga	TN	374024703
2944	724 W Main St	Chattanooga	TN	374024703
2945	724 W Main St	Chattanooga	TN	374024703
2946	724 W Main St	Chattanooga	TN	374024703
2947	724 W Main St	Chattanooga	TN	374024703
2948	724 W Main St	Chattanooga	TN	374024703
2949	724 W Main St	Chattanooga	TN	374024703

	N	O	P	Q
2900	4686.54	1000G	8114.93	A3MSM
2901	4291.57	1000G	7616.5	A3MSM
2902	3738.01	1000G	7061.08	A3MSM
2903	4370.11	1000G	8014.88	A3MSM
2904	4662.6	1000G	8398.06	A3MSM
2905	5117.42	1000G	8993.9	A3MSM
2906	5150.33	1000G	9037.02	A3MSM
2907	4254.91	1000G	7863.96	A3MSM
2908	5397.94	1000G	9361.4	A3MSM
2909	4583.31	1000G	8294.18	A3MSM
2910	4585.55	1000G	8297.12	A3MSM
2911	2828.38	1000G	5626.96	A3MSM
2912	53666.67		96679.99	
2913	3366.98	1000G	6550	A3MSM
2914	2038.44	1000G	4273.17	A3MSM
2915	948.52	1000G	2405.3	A3MSM
2916	883.44	1000G	2293.76	A3MSM
2917	975.45	1000G	2451.45	A3MSM
2918	1903.79	1000G	4042.41	A3MSM
2919	2776.02	1000G	5537.22	A3MSM
2920	3502.37	1000G	6782.04	A3MSM
2921	3880.14	1000G	7372.98	A3MSM
2922	3209.89	1000G	6280.78	A3MSM
2923	2277.81	1000G	4683.41	A3MSM
2924	1209.6	1000G	2852.71	A3MSM
2925	26972.45		55525.23	
2926	2926.37	1000G	5794.9	A3MSM
2927	2707.2	1000G	5419.28	A3MSM
2928	2966.77	1000G	5864.13	A3MSM
2929	2161.87	1000G	4484.7	A3MSM
2930	689.7	1000G	1961.72	A3MSM
2931	916.36	1000G	2617.99	A3MSM
2932	691.94	1000G	2212.8	A3MSM
2933	1037.54	1000G	2879.46	A3MSM
2934	1199.87	1000G	3192.59	A3MSM
2935	1373.42	1000G	3527.37	A3MSM
2936	1188.65	1000G	3170.95	A3MSM
2937	920.1	1000G	2652.91	A3MSM
2938	18779.79		43778.8	
2939	2428.92	1000G	5563.44	A3MSM
2940	2099.03	1000G	4927.08	A3MSM
2941	1916.5	1000G	4574.99	A3MSM
2942	6444.45		15065.51	
2943	307.44	1000G	891.76	A3M4M
2944	321.66	1000G	923.13	A3M4M
2945	321.66	1000G	923.13	A3M4M
2946	362.05	1000G	1012.28	A3M4M
2947	311.18	1000G	900.01	A3M4M
2948	466.03	1000G	1190.48	A3M4M
2949	260.32	1000G	787.74	A3M4M

	A	B	C	D	E
2950	2600	2603	26CC	3	8
2951	2600	2603	26CC	3	10
2952	2600	2603	26CC	3	10
2953	2600	2603	26CC	3	11
2954	2600	2603	26CC	3	12
2955					
2956	2600	2603	26CC	3	1
2957	2600	2603	26CC	3	3
2958	2600	2603	26CC	3	3
2959	2600	2603	26CC	3	4
2960	2600	2603	26CC	3	5
2961	2600	2603	26CC	3	6
2962	2600	2603	26CC	3	7
2963	2600	2603	26CC	3	8
2964	2600	2603	26CC	3	9
2965	2600	2603	26CC	3	10
2966	2600	2603	26CC	3	11
2967	2600	2603	26CC	3	12
2968					
2969	2600	2603	26CC	3	1
2970	2600	2603	26CC	3	2
2971	2600	2603	26CC	3	3
2972	2600	2603	26CC	3	4
2973	2600	2603	26CC	3	5
2974	2600	2603	26CC	3	6
2975	2600	2603	26CC	3	7
2976	2600	2603	26CC	3	8
2977	2600	2603	26CC	3	9
2978	2600	2603	26CC	3	10
2979	2600	2603	26CC	3	11
2980	2600	2603	26CC	3	12
2981					
2982	2600	2603	26CC	3	1
2983	2600	2603	26CC	3	2
2984	2600	2603	26CC	3	3
2985	2600	2603	26CC	3	4
2986	2600	2603	26CC	3	5
2987	2600	2603	26CC	3	6
2988	2600	2603	26CC	3	7
2989	2600	2603	26CC	3	8
2990	2600	2603	26CC	3	9
2991	2600	2603	26CC	3	10
2992	2600	2603	26CC	3	11
2993	2600	2603	26CC	3	12
2994					
2995	2600	2603	26CC	3	1
2996	2600	2603	26CC	3	2
2997	2600	2603	26CC	3	3
2998					
2999	2600	2603	26CC	3	1

	F	G	H	I
2950	2004	104555	260073105	Eureka Foundry
2951	2004	104555	260073105	Eureka Foundry
2952	2004	104555	260073105	Eureka Foundry
2953	2004	104555	260073105	Eureka Foundry
2954	2004	104555	260073105	Eureka Foundry
2955	**2004 Total**			
2956	2005	104555	260073105	Eureka Foundry
2957	2005	104555	260073105	Eureka Foundry
2958	2005	104555	260073105	Eureka Foundry
2959	2005	104555	260073105	Eureka Foundry
2960	2005	104555	260073105	Eureka Foundry
2961	2005	104555	260073105	Eureka Foundry
2962	2005	104555	260073105	Eureka Foundry
2963	2005	104555	260073105	Eureka Foundry
2964	2005	104555	260073105	Eureka Foundry
2965	2005	104555	260073105	Eureka Foundry
2966	2005	104555	260073105	Eureka Foundry
2967	2005	104555	260073105	Eureka Foundry
2968	**2005 Total**			
2969	2006	104555	260073105	Eureka Foundry
2970	2006	104555	260073105	Eureka Foundry
2971	2006	104555	260073105	Eureka Foundry
2972	2006	104555	260073105	Eureka Foundry
2973	2006	104555	260073105	Eureka Foundry
2974	2006	104555	260073105	Eureka Foundry
2975	2006	104555	260073105	Eureka Foundry
2976	2006	104555	260073105	Eureka Foundry
2977	2006	104555	260073105	Eureka Foundry
2978	2006	104555	260073105	Eureka Foundry
2979	2006	104555	260073105	Eureka Foundry
2980	2006	104555	260073105	Eureka Foundry
2981	**2006 Total**			
2982	2007	104555	260073105	Eureka Foundry
2983	2007	104555	260073105	Eureka Foundry
2984	2007	104555	260073105	Eureka Foundry
2985	2007	104555	260073105	Eureka Foundry
2986	2007	104555	260073105	Eureka Foundry
2987	2007	104555	260073105	Eureka Foundry
2988	2007	104555	260073105	Eureka Foundry
2989	2007	104555	260073105	Eureka Foundry
2990	2007	104555	260073105	Eureka Foundry
2991	2007	104555	260073105	Eureka Foundry
2992	2007	104555	260073105	Eureka Foundry
2993	2007	104555	260073105	Eureka Foundry
2994	**2007 Total**			
2995	2008	104555	260073105	Eureka Foundry
2996	2008	104555	260073105	Eureka Foundry
2997	2008	104555	260073105	Eureka Foundry
2998	**2008 Total**			
2999	2004	104559	260073109	U S Pipe & Fdry Co

	J	K	L	M
2950	724 W Main St	Chattanooga	TN	374024703
2951	724 W Main St	Chattanooga	TN	374024703
2952	724 W Main St	Chattanooga	TN	374024703
2953	724 W Main St	Chattanooga	TN	374024703
2954	724 W Main St	Chattanooga	TN	374024703
2955				
2956	724 W Main St	Chattanooga	TN	374024703
2957	724 W Main St	Chattanooga	TN	374024703
2958	724 W Main St	Chattanooga	TN	374024703
2959	724 W Main St	Chattanooga	TN	374024703
2960	724 W Main St	Chattanooga	TN	374024703
2961	724 W Main St	Chattanooga	TN	374024703
2962	724 W Main St	Chattanooga	TN	374024703
2963	724 W Main St	Chattanooga	TN	374024703
2964	724 W Main St	Chattanooga	TN	374024703
2965	724 W Main St	Chattanooga	TN	374024703
2966	724 W Main St	Chattanooga	TN	374024703
2967	724 W Main St	Chattanooga	TN	374024703
2968				
2969	724 W Main St	Chattanooga	TN	374024703
2970	724 W Main St	Chattanooga	TN	374024703
2971	724 W Main St	Chattanooga	TN	374024703
2972	724 W Main St	Chattanooga	TN	374024703
2973	724 W Main St	Chattanooga	TN	374024703
2974	724 W Main St	Chattanooga	TN	374024703
2975	724 W Main St	Chattanooga	TN	374024703
2976	724 W Main St	Chattanooga	TN	374024703
2977	724 W Main St	Chattanooga	TN	374024703
2978	724 W Main St	Chattanooga	TN	374024703
2979	724 W Main St	Chattanooga	TN	374024703
2980	724 W Main St	Chattanooga	TN	374024703
2981				
2982	724 W Main St	Chattanooga	TN	374024703
2983	724 W Main St	Chattanooga	TN	374024703
2984	724 W Main St	Chattanooga	TN	374024703
2985	724 W Main St	Chattanooga	TN	374024703
2986	724 W Main St	Chattanooga	TN	374024703
2987	724 W Main St	Chattanooga	TN	374024703
2988	724 W Main St	Chattanooga	TN	374024703
2989	724 W Main St	Chattanooga	TN	374024703
2990	724 W Main St	Chattanooga	TN	374024703
2991	724 W Main St	Chattanooga	TN	374024703
2992	724 W Main St	Chattanooga	TN	374024703
2993	724 W Main St	Chattanooga	TN	374024703
2994				
2995	724 W Main St	Chattanooga	TN	374024703
2996	724 W Main St	Chattanooga	TN	374024703
2997	724 W Main St	Chattanooga	TN	374024703
2998				
2999	W 24th & Fort St	Chattanooga	TN	37408

	N	O	P	Q
2950	341.11	1000G	966.05	A3M4M
2951	326.89	1000G	778.22	A3M4M
2952	488.47	1000G	1390.8	A3M4M
2953	335.12	1000G	952.84	A3M4M
2954	247.6	1000G	759.68	A3M4M
2955	4089.53		11476.12	
2956	281.26	1000G	833.97	A3M4M
2957	200.47	1000G	641.25	A3M4M
2958	267.05	1000G	802.6	A3M4M
2959	240.87	1000G	773.68	A3M4M
2960	240.12	1000G	771.96	A3M4M
2961	220.67	1000G	727.37	A3M4M
2962	200.47	1000G	681.07	A3M4M
2963	295.48	1000G	898.87	A3M4M
2964	480.24	1000G	1260.99	A3M4M
2965	245.36	1000G	783.97	A3M4M
2966	195.24	1000G	669.06	A3M4M
2967	154.84	1000G	576.45	A3M4M
2968	3022.07		9421.24	
2969	178.78	1000G	631.33	A3M4M
2970	179.53	1000G	633.05	A3M4M
2971	165.31	1000G	600.46	A3M4M
2972	126.42	1000G	511.28	A3M4M
2973	175.79	1000G	624.47	A3M4M
2974	224.41	1000G	735.95	A3M4M
2975	343.35	1000G	1008.63	A3M4M
2976	512.41	1000G	1316.12	A3M4M
2977	443.59	1000G	1198.18	A3M4M
2978	304.45	1000G	919.45	A3M4M
2979	339.61	1000G	1000.06	A3M4M
2980	173.54	1000G	619.33	A3M4M
2981	3167.19		9798.31	
2982	129.41	1000G	518.14	A3M4M
2983	169.05	1000G	609.04	A3M4M
2984	151.1	1000G	567.88	A3M4M
2985	391.97	1000G	1109.72	A3M4M
2986	249.1	1000G	792.54	A3M4M
2987	293.23	1000G	995.66	A3M4M
2988	178.03	1000G	708.83	A3M4M
2989	256.58	1000G	911.59	A3M4M
2990	228.9	1000G	840.14	A3M4M
2991	202.72	1000G	772.56	A3M4M
2992	222.17	1000G	822.76	A3M4M
2993	221.42	1000G	820.83	A3M4M
2994	2693.68		9469.69	
2995	90.51	1000G	482.91	A3M4M
2996	130.9	1000G	587.18	A3M4M
2997	122.68	1000G	565.94	A3M4M
2998	344.09		1636.03	
2999	349.34	1000G	984.21	A3MSM

	A	B	C	D	E
3000	2600	2603	26CC	3	2
3001	2600	2603	26CC	3	3
3002	2600	2603	26CC	3	3
3003	2600	2603	26CC	3	4
3004	2600	2603	26CC	3	5
3005	2600	2603	26CC	3	6
3006	2600	2603	26CC	3	7
3007	2600	2603	26CC	3	8
3008	2600	2603	26CC	3	10
3009	2600	2603	26CC	3	10
3010	2600	2603	26CC	3	11
3011	2600	2603	26CC	3	12
3012					
3013	2600	2603	26CC	3	1
3014	2600	2603	26CC	3	2
3015	2600	2603	26CC	3	3
3016	2600	2603	26CC	3	4
3017	2600	2603	26CC	3	5
3018	2600	2603	26CC	3	6
3019	2600	2603	26CC	3	7
3020	2600	2603	26CC	3	8
3021	2600	2603	26CC	3	9
3022	2600	2603	26CC	3	10
3023	2600	2603	26CC	3	11
3024	2600	2603	26CC	3	12
3025					
3026	2600	2603	26CC	3	1
3027	2600	2603	26CC	3	2
3028	2600	2603	26CC	3	3
3029	2600	2603	26CC	3	5
3030	2600	2603	26CC	3	5
3031	2600	2603	26CC	3	6
3032	2600	2603	26CC	3	7
3033					
3034	2600	2603	26CC	3	1
3035	2600	2603	26CC	3	2
3036	2600	2603	26CC	3	3
3037	2600	2603	26CC	3	3
3038	2600	2603	26CC	3	4
3039	2600	2603	26CC	3	5
3040	2600	2603	26CC	3	6
3041	2600	2603	26CC	3	7
3042	2600	2603	26CC	3	8
3043	2600	2603	26CC	3	9
3044	2600	2603	26CC	3	10
3045	2600	2603	26CC	3	11
3046	2600	2603	26CC	3	12
3047					
3048	2600	2603	26CC	3	1
3049	2600	2603	26CC	3	2

	F	G	H	I
3000	2004	104559	260073109	U S Pipe & Fdry Co
3001	2004	104559	260073109	U S Pipe & Fdry Co
3002	2004	104559	260073109	U S Pipe & Fdry Co
3003	2004	104559	260073109	U S Pipe & Fdry Co
3004	2004	104559	260073109	U S Pipe & Fdry Co
3005	2004	104559	260073109	U S Pipe & Fdry Co
3006	2004	104559	260073109	U S Pipe & Fdry Co
3007	2004	104559	260073109	U S Pipe & Fdry Co
3008	2004	104559	260073109	U S Pipe & Fdry Co
3009	2004	104559	260073109	U S Pipe & Fdry Co
3010	2004	104559	260073109	U S Pipe & Fdry Co
3011	2004	104559	260073109	U S Pipe & Fdry Co
3012	**2004 Total**			
3013	2005	104559	260073109	U S Pipe & Fdry Co
3014	2005	104559	260073109	U S Pipe & Fdry Co
3015	2005	104559	260073109	U S Pipe & Fdry Co
3016	2005	104559	260073109	U S Pipe & Fdry Co
3017	2005	104559	260073109	U S Pipe & Fdry Co
3018	2005	104559	260073109	U S Pipe & Fdry Co
3019	2005	104559	260073109	U S Pipe & Fdry Co
3020	2005	104559	260073109	U S Pipe & Fdry Co
3021	2005	104559	260073109	U S Pipe & Fdry Co
3022	2005	104559	260073109	U S Pipe & Fdry Co
3023	2005	104559	260073109	U S Pipe & Fdry Co
3024	2005	104559	260073109	U S Pipe & Fdry Co
3025	**2005 Total**			
3026	2006	104559	260073109	U S Pipe & Fdry Co
3027	2006	104559	260073109	U S Pipe & Fdry Co
3028	2006	104559	260073109	U S Pipe & Fdry Co
3029	2006	104559	260073109	U S Pipe & Fdry Co
3030	2006	104559	260073109	U S Pipe & Fdry Co
3031	2006	104559	260073109	U S Pipe & Fdry Co
3032	2006	104559	260073109	U S Pipe & Fdry Co
3033	**2006 Total**			
3034	2004	104561	260073111	U S Pipe & Fdry Co
3035	2004	104561	260073111	U S Pipe & Fdry Co
3036	2004	104561	260073111	U S Pipe & Fdry Co
3037	2004	104561	260073111	U S Pipe & Fdry Co
3038	2004	104561	260073111	U S Pipe & Fdry Co
3039	2004	104561	260073111	U S Pipe & Fdry Co
3040	2004	104561	260073111	U S Pipe & Fdry Co
3041	2004	104561	260073111	U S Pipe & Fdry Co
3042	2004	104561	260073111	U S Pipe & Fdry Co
3043	2004	104561	260073111	U S Pipe & Fdry Co
3044	2004	104561	260073111	U S Pipe & Fdry Co
3045	2004	104561	260073111	U S Pipe & Fdry Co
3046	2004	104561	260073111	U S Pipe & Fdry Co
3047	**2004 Total**			
3048	2005	104561	260073111	U S Pipe & Fdry Co
3049	2005	104561	260073111	U S Pipe & Fdry Co

	J	K	L	M
3000	W 24th & Fort St	Chattanooga	TN	37408
3001	W 24th & Fort St	Chattanooga	TN	37408
3002	W 24th & Fort St	Chattanooga	TN	37408
3003	W 24th & Fort St	Chattanooga	TN	37408
3004	W 24th & Fort St	Chattanooga	TN	37408
3005	W 24th & Fort St	Chattanooga	TN	37408
3006	W 24th & Fort St	Chattanooga	TN	37408
3007	W 24th & Fort St	Chattanooga	TN	37408
3008	W 24th & Fort St	Chattanooga	TN	37408
3009	W 24th & Fort St	Chattanooga	TN	37408
3010	W 24th & Fort St	Chattanooga	TN	37408
3011	W 24th & Fort St	Chattanooga	TN	37408
3012				
3013	W 24th & Fort St	Chattanooga	TN	37408
3014	W 24th & Fort St	Chattanooga	TN	37408
3015	W 24th & Fort St	Chattanooga	TN	37408
3016	W 24th & Fort St	Chattanooga	TN	37408
3017	W 24th & Fort St	Chattanooga	TN	37408
3018	W 24th & Fort St	Chattanooga	TN	37408
3019	W 24th & Fort St	Chattanooga	TN	37408
3020	W 24th & Fort St	Chattanooga	TN	37408
3021	W 24th & Fort St	Chattanooga	TN	37408
3022	W 24th & Fort St	Chattanooga	TN	37408
3023	W 24th & Fort St	Chattanooga	TN	37408
3024	W 24th & Fort St	Chattanooga	TN	37408
3025				
3026	W 24th & Fort St	Chattanooga	TN	37408
3027	W 24th & Fort St	Chattanooga	TN	37408
3028	W 24th & Fort St	Chattanooga	TN	37408
3029	W 24th & Fort St	Chattanooga	TN	37408
3030	W 24th & Fort St	Chattanooga	TN	37408
3031	W 24th & Fort St	Chattanooga	TN	37408
3032	W 24th & Fort St	Chattanooga	TN	37408
3033				
3034	27th & Chestnut St	Chattanooga	TN	37402
3035	27th & Chestnut St	Chattanooga	TN	37402
3036	27th & Chestnut St	Chattanooga	TN	37402
3037	27th & Chestnut St	Chattanooga	TN	37402
3038	27th & Chestnut St	Chattanooga	TN	37402
3039	27th & Chestnut St	Chattanooga	TN	37402
3040	27th & Chestnut St	Chattanooga	TN	37402
3041	27th & Chestnut St	Chattanooga	TN	37402
3042	27th & Chestnut St	Chattanooga	TN	37402
3043	27th & Chestnut St	Chattanooga	TN	37402
3044	27th & Chestnut St	Chattanooga	TN	37402
3045	27th & Chestnut St	Chattanooga	TN	37402
3046	27th & Chestnut St	Chattanooga	TN	37402
3047				
3048	27th & Chestnut St	Chattanooga	TN	37402
3049	27th & Chestnut St	Chattanooga	TN	37402

	N	O	P	Q
3000	362.8	1000G	1013.93	A3MSM
3001	0	1000G	-95.86	CRLC
3002	361.3	1000G	1010.63	A3MSM
3003	388.23	1000G	1062.15	A3MSM
3004	380.01	1000G	1048.57	A3MSM
3005	398.71	1000G	1079.42	A3MSM
3006	421.15	1000G	1116.44	A3MSM
3007	275.28	1000G	820.76	A3MSM
3008	187.76	1000G	592.05	A3MSM
3009	363.55	1000G	1058.22	A3MSM
3010	287.25	1000G	847.18	A3MSM
3011	291.74	1000G	892.63	A3MSM
3012	4067.12		11430.33	
3013	285.75	1000G	843.88	A3MSM
3014	229.65	1000G	720.05	A3MSM
3015	166.81	1000G	593.44	A3MSM
3016	131.65	1000G	523.29	A3MSM
3017	134.64	1000G	530.15	A3MSM
3018	141.38	1000G	545.58	A3MSM
3019	192.99	1000G	663.92	A3MSM
3020	121.93	1000G	500.99	A3MSM
3021	118.19	1000G	492.42	A3MSM
3022	136.14	1000G	533.58	A3MSM
3023	100.23	1000G	451.26	A3MSM
3024	128.66	1000G	516.43	A3MSM
3025	1888.02		6914.99	
3026	7.48	1000G	182.77	A3MSM
3027	4.48	1000G	171.85	A3MSM
3028	5.23	1000G	174.58	A3MSM
3029	6.73	1000G	180.04	A3MSM
3030	10.47	1000G	193.69	A3MSM
3031	5.98	1000G	177.31	A3MSM
3032	5.23	1000G	117.58	A3MSM
3033	45.6		1197.82	
3034	1395.86	1000G	2814.1	A3M4
3035	1291.88	1000G	2642.58	A3M4
3036	0	1000G	-259.76	CRLC
3037	1291.88	1000G	2642.58	A3M4
3038	1289.64	1000G	2638.88	A3M4
3039	1398.85	1000G	2819.04	A3M4
3040	1451.22	1000G	2905.42	A3M4
3041	1583.62	1000G	3123.84	A3M4
3042	1504.33	1000G	2993.03	A3M4
3043	1395.86	1000G	2814.1	A3M4
3044	1337.51	1000G	2717.85	A3M4
3045	1170.7	1000G	2442.67	A3M4
3046	1021.83	1000G	2197.1	A3M4
3047	16133.18		32491.43	
3048	1389.13	1000G	2803	A3M4
3049	1300.11	1000G	2656.15	A3M4

	A	B	C	D	E
3050	2600	2603	26CC	3	3
3051	2600	2603	26CC	3	4
3052	2600	2603	26CC	3	5
3053	2600	2603	26CC	3	6
3054	2600	2603	26CC	3	7
3055	2600	2603	26CC	3	8
3056	2600	2603	26CC	3	9
3057	2600	2603	26CC	3	10
3058	2600	2603	26CC	3	11
3059	2600	2603	26CC	3	12
3060					
3061	2600	2603	26CC	3	1
3062	2600	2603	26CC	3	2
3063	2600	2603	26CC	3	3
3064	2600	2603	26CC	3	4
3065	2600	2603	26CC	3	5
3066	2600	2603	26CC	3	6
3067	2600	2603	26CC	3	7
3068	2600	2603	26CC	3	8
3069	2600	2603	26CC	3	9
3070	2600	2603	26CC	3	10
3071	2600	2603	26CC	3	11
3072	2600	2603	26CC	3	12
3073					
3074	2600	2603	26CC	3	1
3075	2600	2603	26CC	3	1
3076					
3077	2600	2603	26CC	3	1
3078	2600	2603	26CC	3	2
3079	2600	2603	26CC	3	3
3080	2600	2603	26CC	3	4
3081	2600	2603	26CC	3	4
3082	2600	2603	26CC	3	5
3083	2600	2603	26CC	3	6
3084	2600	2603	26CC	3	7
3085	2600	2603	26CC	3	8
3086	2600	2603	26CC	3	9
3087	2600	2603	26CC	3	10
3088	2600	2603	26CC	3	11
3089	2600	2603	26CC	3	12
3090					
3091	2600	2603	26CC	3	1
3092	2600	2603	26CC	3	2
3093	2600	2603	26CC	3	3
3094	2600	2603	26CC	3	4
3095	2600	2603	26CC	3	5
3096	2600	2603	26CC	3	6
3097	2600	2603	26CC	3	7
3098	2600	2603	26CC	3	8
3099	2600	2603	26CC	3	9

	F	G	H	I
3050	2005	104561	260073111	U S Pipe & Fdry Co
3051	2005	104561	260073111	U S Pipe & Fdry Co
3052	2005	104561	260073111	U S Pipe & Fdry Co
3053	2005	104561	260073111	U S Pipe & Fdry Co
3054	2005	104561	260073111	U S Pipe & Fdry Co
3055	2005	104561	260073111	U S Pipe & Fdry Co
3056	2005	104561	260073111	U S Pipe & Fdry Co
3057	2005	104561	260073111	U S Pipe & Fdry Co
3058	2005	104561	260073111	U S Pipe & Fdry Co
3059	2005	104561	260073111	U S Pipe & Fdry Co
3060	**2005 Total**			
3061	2006	104561	260073111	U S Pipe & Fdry Co
3062	2006	104561	260073111	U S Pipe & Fdry Co
3063	2006	104561	260073111	U S Pipe & Fdry Co
3064	2006	104561	260073111	U S Pipe & Fdry Co
3065	2006	104561	260073111	U S Pipe & Fdry Co
3066	2006	104561	260073111	U S Pipe & Fdry Co
3067	2006	104561	260073111	U S Pipe & Fdry Co
3068	2006	104561	260073111	U S Pipe & Fdry Co
3069	2006	104561	260073111	U S Pipe & Fdry Co
3070	2006	104561	260073111	U S Pipe & Fdry Co
3071	2006	104561	260073111	U S Pipe & Fdry Co
3072	2006	104561	260073111	U S Pipe & Fdry Co
3073	**2006 Total**			
3074	2007	104561	260073111	U S Pipe & Fdry Co
3075	2007	104561	260073111	U S Pipe & Fdry Co
3076	**2007 Total**			
3077	2004	104562	260073112	U S Pipe & Fdry Co
3078	2004	104562	260073112	U S Pipe & Fdry Co
3079	2004	104562	260073112	U S Pipe & Fdry Co
3080	2004	104562	260073112	U S Pipe & Fdry Co
3081	2004	104562	260073112	U S Pipe & Fdry Co
3082	2004	104562	260073112	U S Pipe & Fdry Co
3083	2004	104562	260073112	U S Pipe & Fdry Co
3084	2004	104562	260073112	U S Pipe & Fdry Co
3085	2004	104562	260073112	U S Pipe & Fdry Co
3086	2004	104562	260073112	U S Pipe & Fdry Co
3087	2004	104562	260073112	U S Pipe & Fdry Co
3088	2004	104562	260073112	U S Pipe & Fdry Co
3089	2004	104562	260073112	U S Pipe & Fdry Co
3090	**2004 Total**			
3091	2005	104562	260073112	U S Pipe & Fdry Co
3092	2005	104562	260073112	U S Pipe & Fdry Co
3093	2005	104562	260073112	U S Pipe & Fdry Co
3094	2005	104562	260073112	U S Pipe & Fdry Co
3095	2005	104562	260073112	U S Pipe & Fdry Co
3096	2005	104562	260073112	U S Pipe & Fdry Co
3097	2005	104562	260073112	U S Pipe & Fdry Co
3098	2005	104562	260073112	U S Pipe & Fdry Co
3099	2005	104562	260073112	U S Pipe & Fdry Co

	J	K	L	M
3050	27th & Chestnut St	Chattanooga	TN	37402
3051	27th & Chestnut St	Chattanooga	TN	37402
3052	27th & Chestnut St	Chattanooga	TN	37402
3053	27th & Chestnut St	Chattanooga	TN	37402
3054	27th & Chestnut St	Chattanooga	TN	37402
3055	27th & Chestnut St	Chattanooga	TN	37402
3056	27th & Chestnut St	Chattanooga	TN	37402
3057	27th & Chestnut St	Chattanooga	TN	37402
3058	27th & Chestnut St	Chattanooga	TN	37402
3059	27th & Chestnut St	Chattanooga	TN	37402
3060				
3061	27th & Chestnut St	Chattanooga	TN	37402
3062	27th & Chestnut St	Chattanooga	TN	37402
3063	27th & Chestnut St	Chattanooga	TN	37402
3064	27th & Chestnut St	Chattanooga	TN	37402
3065	27th & Chestnut St	Chattanooga	TN	37402
3066	27th & Chestnut St	Chattanooga	TN	37402
3067	27th & Chestnut St	Chattanooga	TN	37402
3068	27th & Chestnut St	Chattanooga	TN	37402
3069	27th & Chestnut St	Chattanooga	TN	37402
3070	27th & Chestnut St	Chattanooga	TN	37402
3071	27th & Chestnut St	Chattanooga	TN	37402
3072	27th & Chestnut St	Chattanooga	TN	37402
3073				
3074	27th & Chestnut St	Chattanooga	TN	37402
3075	27th & Chestnut St	Chattanooga	TN	37402
3076				
3077	27th & Chestnut St	Chattanooga	TN	37408
3078	27th & Chestnut St	Chattanooga	TN	37408
3079	27th & Chestnut St	Chattanooga	TN	37408
3080	27th & Chestnut St	Chattanooga	TN	37408
3081	27th & Chestnut St	Chattanooga	TN	37408
3082	27th & Chestnut St	Chattanooga	TN	37408
3083	27th & Chestnut St	Chattanooga	TN	37408
3084	27th & Chestnut St	Chattanooga	TN	37408
3085	27th & Chestnut St	Chattanooga	TN	37408
3086	27th & Chestnut St	Chattanooga	TN	37408
3087	27th & Chestnut St	Chattanooga	TN	37408
3088	27th & Chestnut St	Chattanooga	TN	37408
3089	27th & Chestnut St	Chattanooga	TN	37408
3090				
3091	27th & Chestnut St	Chattanooga	TN	37408
3092	27th & Chestnut St	Chattanooga	TN	37408
3093	27th & Chestnut St	Chattanooga	TN	37408
3094	27th & Chestnut St	Chattanooga	TN	37408
3095	27th & Chestnut St	Chattanooga	TN	37408
3096	27th & Chestnut St	Chattanooga	TN	37408
3097	27th & Chestnut St	Chattanooga	TN	37408
3098	27th & Chestnut St	Chattanooga	TN	37408
3099	27th & Chestnut St	Chattanooga	TN	37408

	N	O	P	Q
3050	1219.32	1000G	2575.36	A3M4
3051	1306.09	1000G	2769.54	A3M4
3052	1444.48	1000G	3006.71	A3M4
3053	1360.7	1000G	2863.13	A3M4
3054	1563.42	1000G	3210.55	A3M4
3055	1365.19	1000G	2870.82	A3M4
3056	1472.16	1000G	3054.15	A3M4
3057	1360.7	1000G	2863.13	A3M4
3058	1190.89	1000G	2572.11	A3M4
3059	1182.67	1000G	2558.01	A3M4
3060	16154.86		33802.66	
3061	1558.19	1000G	3201.58	A3M4
3062	1077.19	1000G	2377.25	A3M4
3063	1093.65	1000G	2405.45	A3M4
3064	1068.21	1000G	2361.87	A3M4
3065	940.3	1000G	2142.64	A3M4
3066	1015.85	1000G	2272.13	A3M4
3067	1075.69	1000G	2374.69	A3M4
3068	926.83	1000G	2119.57	A3M4
3069	38.15	1000G	387.92	A3M4
3070	-2.24	1000G	250.73	A3M4
3071	0	1000G	258.92	A3M4
3072	0	1000G	258.92	A3M4
3073	8791.82		20411.67	
3074	0	1000G	258.92	A3M4
3075	0	1000G	-1225.54	CRAC3
3076	0		-966.62	
3077	991.16	1000G	2226.28	A3M4M
3078	1026.32	1000G	2284.28	A3M4M
3079	0	1000G	-229.35	CRLC
3080	1018.84	1000G	2271.94	A3M4M
3081	1193.14	1000G	2559.46	A3M4M
3082	1168.45	1000G	2518.74	A3M4M
3083	1686.1	1000G	3372.67	A3M4M
3084	1938.2	1000G	3788.52	A3M4M
3085	2241.91	1000G	4289.53	A3M4M
3086	1888.83	1000G	3707.08	A3M4M
3087	1326.29	1000G	2779.11	A3M4M
3088	981.44	1000G	2210.24	A3M4M
3089	673.24	1000G	1701.83	A3M4M
3090	16133.92		33480.33	
3091	1141.52	1000G	2474.31	A3M4M
3092	1150.5	1000G	2489.12	A3M4M
3093	1003.13	1000G	2292.72	A3M4M
3094	1466.92	1000G	3128.02	A3M4M
3095	1416.81	1000G	3123.99	A3M4M
3096	1537.24	1000G	3248.53	A3M4M
3097	2273.33	1000G	4510.02	A3M4M
3098	1812.52	1000G	3720.31	A3M4M
3099	2010.76	1000G	4060.04	A3M4M

	A	B	C	D	E
3100	2600	2603	26CC	3	10
3101	2600	2603	26CC	3	11
3102	2600	2603	26CC	3	12
3103					
3104	2600	2603	26CC	3	1
3105	2600	2603	26CC	3	2
3106	2600	2603	26CC	3	3
3107	2600	2603	26CC	3	4
3108	2600	2603	26CC	3	5
3109	2600	2603	26CC	3	6
3110	2600	2603	26CC	3	7
3111	2600	2603	26CC	3	8
3112	2600	2603	26CC	3	9
3113	2600	2603	26CC	3	10
3114	2600	2603	26CC	3	11
3115	2600	2603	26CC	3	12
3116					
3117	2600	2603	26CC	3	1
3118	2600	2603	26CC	3	1
3119					
3120	2600	2603	26CC	3	1
3121	2600	2603	26CC	3	2
3122	2600	2603	26CC	3	3
3123	2600	2603	26CC	3	4
3124	2600	2603	26CC	3	5
3125	2600	2603	26CC	3	6
3126	2600	2603	26CC	3	7
3127	2600	2603	26CC	3	8
3128	2600	2603	26CC	3	9
3129	2600	2603	26CC	3	10
3130	2600	2603	26CC	3	11
3131	2600	2603	26CC	3	12
3132					
3133	2600	2603	26CC	3	1
3134	2600	2603	26CC	3	2
3135	2600	2603	26CC	3	3
3136	2600	2603	26CC	3	4
3137	2600	2603	26CC	3	5
3138	2600	2603	26CC	3	6
3139	2600	2603	26CC	3	7
3140	2600	2603	26CC	3	8
3141	2600	2603	26CC	3	9
3142	2600	2603	26CC	3	10
3143	2600	2603	26CC	3	11
3144	2600	2603	26CC	3	12
3145					
3146	2600	2603	26CC	3	1
3147	2600	2603	26CC	3	2
3148	2600	2603	26CC	3	3
3149	2600	2603	26CC	3	4

	F	G	H	I
3100	2005	104562	260073112	U S Pipe & Fdry Co
3101	2005	104562	260073112	U S Pipe & Fdry Co
3102	2005	104562	260073112	U S Pipe & Fdry Co
3103	**2005 Total**			
3104	2006	104562	260073112	U S Pipe & Fdry Co
3105	2006	104562	260073112	U S Pipe & Fdry Co
3106	2006	104562	260073112	U S Pipe & Fdry Co
3107	2006	104562	260073112	U S Pipe & Fdry Co
3108	2006	104562	260073112	U S Pipe & Fdry Co
3109	2006	104562	260073112	U S Pipe & Fdry Co
3110	2006	104562	260073112	U S Pipe & Fdry Co
3111	2006	104562	260073112	U S Pipe & Fdry Co
3112	2006	104562	260073112	U S Pipe & Fdry Co
3113	2006	104562	260073112	U S Pipe & Fdry Co
3114	2006	104562	260073112	U S Pipe & Fdry Co
3115	2006	104562	260073112	U S Pipe & Fdry Co
3116	**2006 Total**			
3117	2007	104562	260073112	U S Pipe & Fdry Co
3118	2007	104562	260073112	U S Pipe & Fdry Co
3119	**2007 Total**			
3120	2004	104569	260073115	Perimeter Properties LLC
3121	2004	104569	260073115	Perimeter Properties LLC
3122	2004	104569	260073115	Perimeter Properties LLC
3123	2004	104569	260073115	Perimeter Properties LLC
3124	2004	104569	260073115	Perimeter Properties LLC
3125	2004	104569	260073115	Perimeter Properties LLC
3126	2004	104569	260073115	Perimeter Properties LLC
3127	2004	104569	260073115	Perimeter Properties LLC
3128	2004	104569	260073115	Perimeter Properties LLC
3129	2004	104569	260073115	Perimeter Properties LLC
3130	2004	104569	260073115	Perimeter Properties LLC
3131	2004	104569	260073115	Perimeter Properties LLC
3132	**2004 Total**			
3133	2005	104569	260073115	Perimeter Properties LLC
3134	2005	104569	260073115	Perimeter Properties LLC
3135	2005	104569	260073115	Perimeter Properties LLC
3136	2005	104569	260073115	Perimeter Properties LLC
3137	2005	104569	260073115	Perimeter Properties LLC
3138	2005	104569	260073115	Perimeter Properties LLC
3139	2005	104569	260073115	Perimeter Properties LLC
3140	2005	104569	260073115	Perimeter Properties LLC
3141	2005	104569	260073115	Perimeter Properties LLC
3142	2005	104569	260073115	Perimeter Properties LLC
3143	2005	104569	260073115	Perimeter Properties LLC
3144	2005	104569	260073115	Perimeter Properties LLC
3145	**2005 Total**			
3146	2006	104569	260073115	Perimeter Properties LLC
3147	2006	104569	260073115	Perimeter Properties LLC
3148	2006	104569	260073115	Perimeter Properties LLC
3149	2006	104569	260073115	Perimeter Properties LLC

	J	K	L	M
3100	27th & Chestnut St	Chattanooga	TN	37408
3101	27th & Chestnut St	Chattanooga	TN	37408
3102	27th & Chestnut St	Chattanooga	TN	37408
3103				
3104	27th & Chestnut St	Chattanooga	TN	37408
3105	27th & Chestnut St	Chattanooga	TN	37408
3106	27th & Chestnut St	Chattanooga	TN	37408
3107	27th & Chestnut St	Chattanooga	TN	37408
3108	27th & Chestnut St	Chattanooga	TN	37408
3109	27th & Chestnut St	Chattanooga	TN	37408
3110	27th & Chestnut St	Chattanooga	TN	37408
3111	27th & Chestnut St	Chattanooga	TN	37408
3112	27th & Chestnut St	Chattanooga	TN	37408
3113	27th & Chestnut St	Chattanooga	TN	37408
3114	27th & Chestnut St	Chattanooga	TN	37408
3115	27th & Chestnut St	Chattanooga	TN	37408
3116				
3117	27th & Chestnut St	Chattanooga	TN	37408
3118	27th & Chestnut St	Chattanooga	TN	37408
3119				
3120	W 27th & Sidney	Chattanooga	TN	37408
3121	W 27th & Sidney	Chattanooga	TN	37408
3122	W 27th & Sidney	Chattanooga	TN	37408
3123	W 27th & Sidney	Chattanooga	TN	37408
3124	W 27th & Sidney	Chattanooga	TN	37408
3125	W 27th & Sidney	Chattanooga	TN	37408
3126	W 27th & Sidney	Chattanooga	TN	37408
3127	W 27th & Sidney	Chattanooga	TN	37408
3128	W 27th & Sidney	Chattanooga	TN	37408
3129	W 27th & Sidney	Chattanooga	TN	37408
3130	W 27th & Sidney	Chattanooga	TN	37408
3131	W 27th & Sidney	Chattanooga	TN	37408
3132				
3133	W 27th & Sidney	Chattanooga	TN	37408
3134	W 27th & Sidney	Chattanooga	TN	37408
3135	W 27th & Sidney	Chattanooga	TN	37408
3136	W 27th & Sidney	Chattanooga	TN	37408
3137	W 27th & Sidney	Chattanooga	TN	37408
3138	W 27th & Sidney	Chattanooga	TN	37408
3139	W 27th & Sidney	Chattanooga	TN	37408
3140	W 27th & Sidney	Chattanooga	TN	37408
3141	W 27th & Sidney	Chattanooga	TN	37408
3142	W 27th & Sidney	Chattanooga	TN	37408
3143	W 27th & Sidney	Chattanooga	TN	37408
3144	W 27th & Sidney	Chattanooga	TN	37408
3145				
3146	W 27th & Sidney	Chattanooga	TN	37408
3147	W 27th & Sidney	Chattanooga	TN	37408
3148	W 27th & Sidney	Chattanooga	TN	37408
3149	W 27th & Sidney	Chattanooga	TN	37408

	N	O	P	Q
3100	1733.23	1000G	3584.41	A3M4M
3101	1199.87	1000G	2670.35	A3M4M
3102	674.74	1000G	1770.38	A3M4M
3103	17420.57		37072.2	
3104	353.82	1000G	1208.71	A3M4M
3105	109.96	1000G	649.62	A3M4M
3106	130.16	1000G	695.93	A3M4M
3107	26.92	1000G	429.82	A3M4M
3108	17.95	1000G	397.06	A3M4M
3109	19.44	1000G	402.52	A3M4M
3110	18.7	1000G	399.79	A3M4M
3111	0	1000G	341.77	A3M4M
3112	0	1000G	341.77	A3M4M
3113	0	1000G	341.77	A3M4M
3114	0	1000G	341.77	A3M4M
3115	0	1000G	341.77	A3M4M
3116	676.95		5892.3	
3117	0	1000G	227.84	A3M4M
3118	0	1000G	-1278.88	CRAC3
3119	0		-1051.04	
3120	8.22	1000G	43.98	A3M4
3121	2.24	1000G	25.42	A3M4
3122	3.74	1000G	28.21	A3M4
3123	0.74	1000G	25.09	A3M4
3124	2.24	1000G	25.42	A3M4
3125	1.49	1000G	25.25	A3M4
3126	0.74	1000G	25.09	A3M4
3127	11.96	1000G	57.12	A3M4
3128	19.44	1000G	83.4	A3M4
3129	1.49	1000G	25.25	A3M4
3130	8.97	1000G	46.6	A3M4
3131	1.49	1000G	25.25	A3M4
3132	62.76		436.08	
3133	1.49	1000G	25.25	A3M4
3134	5.98	1000G	36.09	A3M4
3135	3.74	1000G	28.79	A3M4
3136	1.49	1000G	26.22	A3M4
3137	2.24	1000G	26.4	A3M4
3138	8.97	1000G	48.41	A3M4
3139	9.72	1000G	51.14	A3M4
3140	31.41	1000G	130.31	A3M4
3141	20.94	1000G	92.09	A3M4
3142	8.97	1000G	48.41	A3M4
3143	15.7	1000G	72.98	A3M4
3144	20.19	1000G	89.36	A3M4
3145	130.84		675.45	
3146	16.45	1000G	75.71	A3M4
3147	21.69	1000G	94.82	A3M4
3148	20.94	1000G	92.09	A3M4
3149	20.94	1000G	92.09	A3M4

	A	B	C	D	E
3150	2600	2603	26CC	3	5
3151	2600	2603	26CC	3	6
3152	2600	2603	26CC	3	7
3153	2600	2603	26CC	3	8
3154	2600	2603	26CC	3	9
3155	2600	2603	26CC	3	10
3156	2600	2603	26CC	3	11
3157	2600	2603	26CC	3	12
3158					
3159	2600	2603	26CC	3	1
3160	2600	2603	26CC	3	2
3161	2600	2603	26CC	3	3
3162	2600	2603	26CC	3	4
3163	2600	2603	26CC	3	5
3164	2600	2603	26CC	3	6
3165	2600	2603	26CC	3	7
3166	2600	2603	26CC	3	8
3167	2600	2603	26CC	3	9
3168	2600	2603	26CC	3	10
3169	2600	2603	26CC	3	11
3170	2600	2603	26CC	3	12
3171					
3172	2600	2603	26CC	3	1
3173	2600	2603	26CC	3	2
3174	2600	2603	26CC	3	3
3175					
3176	2600	2603	26CC	3	1
3177	2600	2603	26CC	3	1
3178	2600	2603	26CC	3	2
3179	2600	2603	26CC	3	2
3180	2600	2603	26CC	3	3
3181	2600	2603	26CC	3	4
3182	2600	2603	26CC	3	5
3183	2600	2603	26CC	3	6
3184	2600	2603	26CC	3	7
3185	2600	2603	26CC	3	8
3186	2600	2603	26CC	3	9
3187	2600	2603	26CC	3	10
3188	2600	2603	26CC	3	11
3189	2600	2603	26CC	3	11
3190	2600	2603	26CC	3	12
3191					
3192	2600	2603	26CC	3	1
3193	2600	2603	26CC	3	2
3194	2600	2603	26CC	3	3
3195	2600	2603	26CC	3	4
3196	2600	2603	26CC	3	5
3197	2600	2603	26CC	3	5
3198	2600	2603	26CC	3	5
3199	2600	2603	26CC	3	6

	F	G	H	I
3150	2006	104569	260073115	Perimeter Properties LLC
3151	2006	104569	260073115	Perimeter Properties LLC
3152	2006	104569	260073115	Perimeter Properties LLC
3153	2006	104569	260073115	Perimeter Properties LLC
3154	2006	104569	260073115	Perimeter Properties LLC
3155	2006	104569	260073115	Perimeter Properties LLC
3156	2006	104569	260073115	Perimeter Properties LLC
3157	2006	104569	260073115	Perimeter Properties LLC
3158	**2006 Total**			
3159	2007	104569	260073115	Perimeter Properties LLC
3160	2007	104569	260073115	Perimeter Properties LLC
3161	2007	104569	260073115	Perimeter Properties LLC
3162	2007	104569	260073115	Perimeter Properties LLC
3163	2007	104569	260073115	Perimeter Properties LLC
3164	2007	104569	260073115	Perimeter Properties LLC
3165	2007	104569	260073115	Perimeter Properties LLC
3166	2007	104569	260073115	Perimeter Properties LLC
3167	2007	104569	260073115	Perimeter Properties LLC
3168	2007	104569	260073115	Perimeter Properties LLC
3169	2007	104569	260073115	Perimeter Properties LLC
3170	2007	104569	260073115	Perimeter Properties LLC
3171	**2007 Total**			
3172	2008	104569	260073115	Perimeter Properties LLC
3173	2008	104569	260073115	Perimeter Properties LLC
3174	2008	104569	260073115	Perimeter Properties LLC
3175	**2008 Total**			
3176	2004	104579	260073122	Southern Wood Piedmont
3177	2004	104579	260073122	Southern Wood Piedmont
3178	2004	104579	260073122	Southern Wood Piedmont
3179	2004	104579	260073122	Southern Wood Piedmont
3180	2004	104579	260073122	Southern Wood Piedmont
3181	2004	104579	260073122	Southern Wood Piedmont
3182	2004	104579	260073122	Southern Wood Piedmont
3183	2004	104579	260073122	Southern Wood Piedmont
3184	2004	104579	260073122	Southern Wood Piedmont
3185	2004	104579	260073122	Southern Wood Piedmont
3186	2004	104579	260073122	Southern Wood Piedmont
3187	2004	104579	260073122	Southern Wood Piedmont
3188	2004	104579	260073122	Southern Wood Piedmont
3189	2004	104579	260073122	Southern Wood Piedmont
3190	2004	104579	260073122	Southern Wood Piedmont
3191	**2004 Total**			
3192	2005	104579	260073122	Southern Wood Piedmont
3193	2005	104579	260073122	Southern Wood Piedmont
3194	2005	104579	260073122	Southern Wood Piedmont
3195	2005	104579	260073122	Southern Wood Piedmont
3196	2005	104579	260073122	Southern Wood Piedmont
3197	2005	104579	260073122	Southern Wood Piedmont
3198	2005	104579	260073122	Southern Wood Piedmont
3199	2005	104579	260073122	Southern Wood Piedmont

	J	K	L	M
3150	W 27th & Sidney	Chattanooga	TN	37408
3151	W 27th & Sidney	Chattanooga	TN	37408
3152	W 27th & Sidney	Chattanooga	TN	37408
3153	W 27th & Sidney	Chattanooga	TN	37408
3154	W 27th & Sidney	Chattanooga	TN	37408
3155	W 27th & Sidney	Chattanooga	TN	37408
3156	W 27th & Sidney	Chattanooga	TN	37408
3157	W 27th & Sidney	Chattanooga	TN	37408
3158				
3159	W 27th & Sidney	Chattanooga	TN	37408
3160	W 27th & Sidney	Chattanooga	TN	37408
3161	W 27th & Sidney	Chattanooga	TN	37408
3162	W 27th & Sidney	Chattanooga	TN	37408
3163	W 27th & Sidney	Chattanooga	TN	37408
3164	W 27th & Sidney	Chattanooga	TN	37408
3165	W 27th & Sidney	Chattanooga	TN	37408
3166	W 27th & Sidney	Chattanooga	TN	37408
3167	W 27th & Sidney	Chattanooga	TN	37408
3168	W 27th & Sidney	Chattanooga	TN	37408
3169	W 27th & Sidney	Chattanooga	TN	37408
3170	W 27th & Sidney	Chattanooga	TN	37408
3171				
3172	W 27th & Sidney	Chattanooga	TN	37408
3173	W 27th & Sidney	Chattanooga	TN	37408
3174	W 27th & Sidney	Chattanooga	TN	37408
3175				
3176	401 W 33rd St	Chattanooga	TN	374101039
3177	401 W 33rd St	Chattanooga	TN	374101039
3178	401 W 33rd St	Chattanooga	TN	374101039
3179	401 W 33rd St	Chattanooga	TN	374101039
3180	401 W 33rd St	Chattanooga	TN	374101039
3181	401 W 33rd St	Chattanooga	TN	374101039
3182	401 W 33rd St	Chattanooga	TN	374101039
3183	401 W 33rd St	Chattanooga	TN	374101039
3184	401 W 33rd St	Chattanooga	TN	374101039
3185	401 W 33rd St	Chattanooga	TN	374101039
3186	401 W 33rd St	Chattanooga	TN	374101039
3187	401 W 33rd St	Chattanooga	TN	374101039
3188	401 W 33rd St	Chattanooga	TN	374101039
3189	401 W 33rd St	Chattanooga	TN	374101039
3190	401 W 33rd St	Chattanooga	TN	374101039
3191				
3192	401 W 33rd St	Chattanooga	TN	374101039
3193	401 W 33rd St	Chattanooga	TN	374101039
3194	401 W 33rd St	Chattanooga	TN	374101039
3195	401 W 33rd St	Chattanooga	TN	374101039
3196	401 W 33rd St	Chattanooga	TN	374101039
3197	401 W 33rd St	Chattanooga	TN	374101039
3198	401 W 33rd St	Chattanooga	TN	374101039
3199	401 W 33rd St	Chattanooga	TN	374101039

	N	O	P	Q
3150	21.69	1000G	94.82	A3M4
3151	29.92	1000G	124.85	A3M4
3152	29.92	1000G	124.85	A3M4
3153	26.18	1000G	111.2	A3M4
3154	29.92	1000G	124.85	A3M4
3155	29.17	1000G	122.12	A3M4
3156	35.15	1000G	143.96	A3M4
3157	64.33	1000G	229.12	A3M4
3158	346.3		1430.48	
3159	32.91	1000G	135.77	A3M4
3160	123.42	1000G	364.6	A3M4
3161	108.46	1000G	330.3	A3M4
3162	92.75	1000G	294.29	A3M4
3163	38.15	1000G	154.88	A3M4
3164	41.14	1000G	184.66	A3M4
3165	43.38	1000G	195.86	A3M4
3166	50.86	1000G	223.16	A3M4
3167	48.62	1000G	217.37	A3M4
3168	66.57	1000G	263.71	A3M4
3169	52.36	1000G	227.03	A3M4
3170	58.34	1000G	242.47	A3M4
3171	756.96		2834.1	
3172	52.36	1000G	227.03	A3M4
3173	169.05	1000G	528.26	A3M4
3174	141.38	1000G	456.81	A3M4
3175	362.79		1212.1	
3176	0	1000G	13.3	A3M4
3177	0	1000G	79.77	A3M4
3178	0	1000G	-13.3	A3M4
3179	0	1000G	79.77	A3M4
3180	0	1000G	79.77	A3M4
3181	14.96	1000G	122.48	A3M4
3182	0	1000G	79.77	A3M4
3183	0	1000G	79.77	A3M4
3184	0	1000G	79.77	A3M4
3185	2.99	1000G	80.43	A3M4
3186	2.24	1000G	80.27	A3M4
3187	0	1000G	79.77	A3M4
3188	0	1000G	29.25	A3M4
3189	-5.23	1000G	52.02	A3M4
3190	7.48	1000G	96.2	A3M4
3191	22.44		1019.04	
3192	3.74	1000G	83.06	A3M4
3193	3.74	1000G	83.06	A3M4
3194	0	1000G	81.32	A3M4
3195	112.2	1000G	395.85	A3M4
3196	0	1000G	82.85	A3M4
3197	0	1000G	82.85	A3M4
3198	-112.2	1000G	-395.85	A3M4
3199	0	1000G	82.85	A3M4

	A	B	C	D	E
3200	2600	2603	26CC	3	7
3201	2600	2603	26CC	3	8
3202	2600	2603	26CC	3	9
3203	2600	2603	26CC	3	10
3204	2600	2603	26CC	3	11
3205	2600	2603	26CC	3	12
3206					
3207	2600	2603	26CC	3	1
3208	2600	2603	26CC	3	2
3209	2600	2603	26CC	3	3
3210	2600	2603	26CC	3	4
3211	2600	2603	26CC	3	5
3212	2600	2603	26CC	3	6
3213	2600	2603	26CC	3	7
3214	2600	2603	26CC	3	8
3215	2600	2603	26CC	3	9
3216	2600	2603	26CC	3	10
3217	2600	2603	26CC	3	11
3218	2600	2603	26CC	3	12
3219					
3220	2600	2603	26CC	3	1
3221	2600	2603	26CC	3	2
3222	2600	2603	26CC	3	3
3223	2600	2603	26CC	3	4
3224	2600	2603	26CC	3	5
3225	2600	2603	26CC	3	6
3226	2600	2603	26CC	3	7
3227	2600	2603	26CC	3	8
3228	2600	2603	26CC	3	9
3229	2600	2603	26CC	3	10
3230	2600	2603	26CC	3	11
3231	2600	2603	26CC	3	12
3232					
3233	2600	2603	26CC	3	1
3234	2600	2603	26CC	3	2
3235	2600	2603	26CC	3	3
3236					
3237	2600	2603	26CC	3	1
3238	2600	2603	26CC	3	2
3239	2600	2603	26CC	3	3
3240	2600	2603	26CC	3	4
3241	2600	2603	26CC	3	5
3242	2600	2603	26CC	3	6
3243	2600	2603	26CC	3	7
3244	2600	2603	26CC	3	8
3245	2600	2603	26CC	3	9
3246	2600	2603	26CC	3	10
3247	2600	2603	26CC	3	11
3248	2600	2603	26CC	3	12
3249					

	F	G	H	I
3200	2005	104579	260073122	Southern Wood Piedmont
3201	2005	104579	260073122	Southern Wood Piedmont
3202	2005	104579	260073122	Southern Wood Piedmont
3203	2005	104579	260073122	Southern Wood Piedmont
3204	2005	104579	260073122	Southern Wood Piedmont
3205	2005	104579	260073122	Southern Wood Piedmont
3206	**2005 Total**			
3207	2006	104579	260073122	Southern Wood Piedmont
3208	2006	104579	260073122	Southern Wood Piedmont
3209	2006	104579	260073122	Southern Wood Piedmont
3210	2006	104579	260073122	Southern Wood Piedmont
3211	2006	104579	260073122	Southern Wood Piedmont
3212	2006	104579	260073122	Southern Wood Piedmont
3213	2006	104579	260073122	Southern Wood Piedmont
3214	2006	104579	260073122	Southern Wood Piedmont
3215	2006	104579	260073122	Southern Wood Piedmont
3216	2006	104579	260073122	Southern Wood Piedmont
3217	2006	104579	260073122	Southern Wood Piedmont
3218	2006	104579	260073122	Southern Wood Piedmont
3219	**2006 Total**			
3220	2007	104579	260073122	Southern Wood Piedmont
3221	2007	104579	260073122	Southern Wood Piedmont
3222	2007	104579	260073122	Southern Wood Piedmont
3223	2007	104579	260073122	Southern Wood Piedmont
3224	2007	104579	260073122	Southern Wood Piedmont
3225	2007	104579	260073122	Southern Wood Piedmont
3226	2007	104579	260073122	Southern Wood Piedmont
3227	2007	104579	260073122	Southern Wood Piedmont
3228	2007	104579	260073122	Southern Wood Piedmont
3229	2007	104579	260073122	Southern Wood Piedmont
3230	2007	104579	260073122	Southern Wood Piedmont
3231	2007	104579	260073122	Southern Wood Piedmont
3232	**2007 Total**			
3233	2008	104579	260073122	Southern Wood Piedmont
3234	2008	104579	260073122	Southern Wood Piedmont
3235	2008	104579	260073122	Southern Wood Piedmont
3236	**2008 Total**			
3237	2004	104596	260073137	Chatt Paperboard Corp
3238	2004	104596	260073137	Chatt Paperboard Corp
3239	2004	104596	260073137	Chatt Paperboard Corp
3240	2004	104596	260073137	Chatt Paperboard Corp
3241	2004	104596	260073137	Chatt Paperboard Corp
3242	2004	104596	260073137	Chatt Paperboard Corp
3243	2004	104596	260073137	Chatt Paperboard Corp
3244	2004	104596	260073137	Chatt Paperboard Corp
3245	2004	104596	260073137	Chatt Paperboard Corp
3246	2004	104596	260073137	Chatt Paperboard Corp
3247	2004	104596	260073137	Chatt Paperboard Corp
3248	2004	104596	260073137	Chatt Paperboard Corp
3249	**2004 Total**			

	J	K	L	M
3200	401 W 33rd St	Chattanooga	TN	374101039
3201	401 W 33rd St	Chattanooga	TN	374101039
3202	401 W 33rd St	Chattanooga	TN	374101039
3203	401 W 33rd St	Chattanooga	TN	374101039
3204	401 W 33rd St	Chattanooga	TN	374101039
3205	401 W 33rd St	Chattanooga	TN	374101039
3206				
3207	401 W 33rd St	Chattanooga	TN	374101039
3208	401 W 33rd St	Chattanooga	TN	374101039
3209	401 W 33rd St	Chattanooga	TN	374101039
3210	401 W 33rd St	Chattanooga	TN	374101039
3211	401 W 33rd St	Chattanooga	TN	374101039
3212	401 W 33rd St	Chattanooga	TN	374101039
3213	401 W 33rd St	Chattanooga	TN	374101039
3214	401 W 33rd St	Chattanooga	TN	374101039
3215	401 W 33rd St	Chattanooga	TN	374101039
3216	401 W 33rd St	Chattanooga	TN	374101039
3217	401 W 33rd St	Chattanooga	TN	374101039
3218	401 W 33rd St	Chattanooga	TN	374101039
3219				
3220	401 W 33rd St	Chattanooga	TN	374101039
3221	401 W 33rd St	Chattanooga	TN	374101039
3222	401 W 33rd St	Chattanooga	TN	374101039
3223	401 W 33rd St	Chattanooga	TN	374101039
3224	401 W 33rd St	Chattanooga	TN	374101039
3225	401 W 33rd St	Chattanooga	TN	374101039
3226	401 W 33rd St	Chattanooga	TN	374101039
3227	401 W 33rd St	Chattanooga	TN	374101039
3228	401 W 33rd St	Chattanooga	TN	374101039
3229	401 W 33rd St	Chattanooga	TN	374101039
3230	401 W 33rd St	Chattanooga	TN	374101039
3231	401 W 33rd St	Chattanooga	TN	374101039
3232				
3233	401 W 33rd St	Chattanooga	TN	374101039
3234	401 W 33rd St	Chattanooga	TN	374101039
3235	401 W 33rd St	Chattanooga	TN	374101039
3236				
3237	2112 Rossville Ave	Chattanooga	TN	374082145
3238	2112 Rossville Ave	Chattanooga	TN	374082145
3239	2112 Rossville Ave	Chattanooga	TN	374082145
3240	2112 Rossville Ave	Chattanooga	TN	374082145
3241	2112 Rossville Ave	Chattanooga	TN	374082145
3242	2112 Rossville Ave	Chattanooga	TN	374082145
3243	2112 Rossville Ave	Chattanooga	TN	374082145
3244	2112 Rossville Ave	Chattanooga	TN	374082145
3245	2112 Rossville Ave	Chattanooga	TN	374082145
3246	2112 Rossville Ave	Chattanooga	TN	374082145
3247	2112 Rossville Ave	Chattanooga	TN	374082145
3248	2112 Rossville Ave	Chattanooga	TN	374082145
3249				

	N	O	P	Q
3200	0	1000G	82.85	A3M4
3201	0	1000G	82.85	A3M4
3202	0	1000G	93.9	A3M4
3203	7.48	1000G	99.92	A3M4
3204	0	1000G	82.85	A3M4
3205	0	1000G	82.85	A3M4
3206	14.96		1021.21	
3207	3.74	1000G	86.27	A3M4
3208	-3.74	1000G	79.43	A3M4
3209	0	1000G	82.85	A3M4
3210	7.48	1000G	99.92	A3M4
3211	0	1000G	82.85	A3M4
3212	0	1000G	82.85	A3M4
3213	0	1000G	82.85	A3M4
3214	2.99	1000G	83.54	A3M4
3215	0.74	1000G	83.02	A3M4
3216	0	1000G	82.85	A3M4
3217	1.49	1000G	83.19	A3M4
3218	1.49	1000G	83.19	A3M4
3219	14.19		1012.81	
3220	2.99	1000G	83.54	A3M4
3221	0.74	1000G	83.02	A3M4
3222	0.74	1000G	83.02	A3M4
3223	1.49	1000G	83.19	A3M4
3224	0.74	1000G	83.02	A3M4
3225	0.74	1000G	92.16	A3M4
3226	1.49	1000G	93.66	A3M4
3227	0.74	1000G	93.46	A3M4
3228	3.74	1000G	97.12	A3M4
3229	17.2	1000G	152.44	A3M4
3230	23.93	1000G	180.09	A3M4
3231	1.49	1000G	93.66	A3M4
3232	56.03		1218.38	
3233	23.18	1000G	177.02	A3M4
3234	1.49	1000G	93.66	A3M4
3235	0.74	1000G	93.46	A3M4
3236	25.41		364.14	
3237	1357.71	1000G	3000.47	A3M4M
3238	1684.61	1000G	3539.73	A3M4M
3239	1680.87	1000G	3533.56	A3M4M
3240	1656.18	1000G	3492.84	A3M4M
3241	1703.31	1000G	3570.58	A3M4M
3242	2111	1000G	4243.11	A3M4M
3243	2176.83	1000G	4351.7	A3M4M
3244	1722.76	1000G	3602.66	A3M4M
3245	1891.07	1000G	3880.31	A3M4M
3246	1656.93	1000G	3494.07	A3M4M
3247	1828.23	1000G	3776.66	A3M4M
3248	2166.35	1000G	4334.42	A3M4M
3249	21635.85		44820.11	

	A	B	C	D	E
3250	2600	2603	26CC	3	1
3251	2600	2603	26CC	3	2
3252	2600	2603	26CC	3	3
3253	2600	2603	26CC	3	4
3254	2600	2603	26CC	3	5
3255	2600	2603	26CC	3	6
3256	2600	2603	26CC	3	7
3257	2600	2603	26CC	3	8
3258	2600	2603	26CC	3	9
3259	2600	2603	26CC	3	10
3260	2600	2603	26CC	3	11
3261	2600	2603	26CC	3	12
3262					
3263	2600	2603	26CC	3	1
3264	2600	2603	26CC	3	2
3265	2600	2603	26CC	3	3
3266	2600	2603	26CC	3	4
3267	2600	2603	26CC	3	5
3268	2600	2603	26CC	3	6
3269	2600	2603	26CC	3	7
3270	2600	2603	26CC	3	8
3271	2600	2603	26CC	3	9
3272	2600	2603	26CC	3	10
3273	2600	2603	26CC	3	11
3274	2600	2603	26CC	3	12
3275					
3276	2600	2603	26CC	3	1
3277	2600	2603	26CC	3	1
3278	2600	2603	26CC	3	3
3279	2600	2603	26CC	3	3
3280	2600	2603	26CC	3	5
3281	2600	2603	26CC	3	5
3282	2600	2603	26CC	3	7
3283	2600	2603	26CC	3	8
3284	2600	2603	26CC	3	8
3285	2600	2603	26CC	3	9
3286	2600	2603	26CC	3	10
3287	2600	2603	26CC	3	11
3288	2600	2603	26CC	3	12
3289					
3290	2600	2603	26CC	3	1
3291	2600	2603	26CC	3	2
3292	2600	2603	26CC	3	3
3293					
3294	2600	2603	26CC	3	1
3295	2600	2603	26CC	3	2
3296	2600	2603	26CC	3	3
3297	2600	2603	26CC	3	4
3298	2600	2603	26CC	3	5
3299	2600	2603	26CC	3	6

	F	G	H	I
3250	2005	104596	260073137	Chatt Paperboard Corp
3251	2005	104596	260073137	Chatt Paperboard Corp
3252	2005	104596	260073137	Chatt Paperboard Corp
3253	2005	104596	260073137	Chatt Paperboard Corp
3254	2005	104596	260073137	Chatt Paperboard Corp
3255	2005	104596	260073137	Chatt Paperboard Corp
3256	2005	104596	260073137	Chatt Paperboard Corp
3257	2005	104596	260073137	Chatt Paperboard Corp
3258	2005	104596	260073137	Chatt Paperboard Corp
3259	2005	104596	260073137	Chatt Paperboard Corp
3260	2005	104596	260073137	Chatt Paperboard Corp
3261	2005	104596	260073137	Chatt Paperboard Corp
3262	**2005 Total**			
3263	2006	104596	260073137	Chatt Paperboard Corp
3264	2006	104596	260073137	Chatt Paperboard Corp
3265	2006	104596	260073137	Chatt Paperboard Corp
3266	2006	104596	260073137	Chatt Paperboard Corp
3267	2006	104596	260073137	Chatt Paperboard Corp
3268	2006	104596	260073137	Chatt Paperboard Corp
3269	2006	104596	260073137	Chatt Paperboard Corp
3270	2006	104596	260073137	Chatt Paperboard Corp
3271	2006	104596	260073137	Chatt Paperboard Corp
3272	2006	104596	260073137	Chatt Paperboard Corp
3273	2006	104596	260073137	Chatt Paperboard Corp
3274	2006	104596	260073137	Chatt Paperboard Corp
3275	**2006 Total**			
3276	2007	104596	260073137	Chatt Paperboard Corp
3277	2007	104596	260073137	Chatt Paperboard Corp
3278	2007	104596	260073137	Chatt Paperboard Corp
3279	2007	104596	260073137	Chatt Paperboard Corp
3280	2007	104596	260073137	Chatt Paperboard Corp
3281	2007	104596	260073137	Chatt Paperboard Corp
3282	2007	104596	260073137	Chatt Paperboard Corp
3283	2007	104596	260073137	Chatt Paperboard Corp
3284	2007	104596	260073137	Chatt Paperboard Corp
3285	2007	104596	260073137	Chatt Paperboard Corp
3286	2007	104596	260073137	Chatt Paperboard Corp
3287	2007	104596	260073137	Chatt Paperboard Corp
3288	2007	104596	260073137	Chatt Paperboard Corp
3289	**2007 Total**			
3290	2008	104596	260073137	Chatt Paperboard Corp
3291	2008	104596	260073137	Chatt Paperboard Corp
3292	2008	104596	260073137	Chatt Paperboard Corp
3293	**2008 Total**			
3294	2004	104598	260073138	Ccd Properties
3295	2004	104598	260073138	Ccd Properties
3296	2004	104598	260073138	Ccd Properties
3297	2004	104598	260073138	Ccd Properties
3298	2004	104598	260073138	Ccd Properties
3299	2004	104598	260073138	Ccd Properties

	J	K	L	M
3250	2112 Rossville Ave	Chattanooga	TN	374082145
3251	2112 Rossville Ave	Chattanooga	TN	374082145
3252	2112 Rossville Ave	Chattanooga	TN	374082145
3253	2112 Rossville Ave	Chattanooga	TN	374082145
3254	2112 Rossville Ave	Chattanooga	TN	374082145
3255	2112 Rossville Ave	Chattanooga	TN	374082145
3256	2112 Rossville Ave	Chattanooga	TN	374082145
3257	2112 Rossville Ave	Chattanooga	TN	374082145
3258	2112 Rossville Ave	Chattanooga	TN	374082145
3259	2112 Rossville Ave	Chattanooga	TN	374082145
3260	2112 Rossville Ave	Chattanooga	TN	374082145
3261	2112 Rossville Ave	Chattanooga	TN	374082145
3262				
3263	2112 Rossville Ave	Chattanooga	TN	374082145
3264	2112 Rossville Ave	Chattanooga	TN	374082145
3265	2112 Rossville Ave	Chattanooga	TN	374082145
3266	2112 Rossville Ave	Chattanooga	TN	374082145
3267	2112 Rossville Ave	Chattanooga	TN	374082145
3268	2112 Rossville Ave	Chattanooga	TN	374082145
3269	2112 Rossville Ave	Chattanooga	TN	374082145
3270	2112 Rossville Ave	Chattanooga	TN	374082145
3271	2112 Rossville Ave	Chattanooga	TN	374082145
3272	2112 Rossville Ave	Chattanooga	TN	374082145
3273	2112 Rossville Ave	Chattanooga	TN	374082145
3274	2112 Rossville Ave	Chattanooga	TN	374082145
3275				
3276	2112 Rossville Ave	Chattanooga	TN	374082145
3277	2112 Rossville Ave	Chattanooga	TN	374082145
3278	2112 Rossville Ave	Chattanooga	TN	374082145
3279	2112 Rossville Ave	Chattanooga	TN	374082145
3280	2112 Rossville Ave	Chattanooga	TN	374082145
3281	2112 Rossville Ave	Chattanooga	TN	374082145
3282	2112 Rossville Ave	Chattanooga	TN	374082145
3283	2112 Rossville Ave	Chattanooga	TN	374082145
3284	2112 Rossville Ave	Chattanooga	TN	374082145
3285	2112 Rossville Ave	Chattanooga	TN	374082145
3286	2112 Rossville Ave	Chattanooga	TN	374082145
3287	2112 Rossville Ave	Chattanooga	TN	374082145
3288	2112 Rossville Ave	Chattanooga	TN	374082145
3289				
3290	2112 Rossville Ave	Chattanooga	TN	374082145
3291	2112 Rossville Ave	Chattanooga	TN	374082145
3292	2112 Rossville Ave	Chattanooga	TN	374082145
3293				
3294	2101 Rossville Ave	Chattanooga	TN	374082146
3295	2101 Rossville Ave	Chattanooga	TN	374082146
3296	2101 Rossville Ave	Chattanooga	TN	374082146
3297	2101 Rossville Ave	Chattanooga	TN	374082146
3298	2101 Rossville Ave	Chattanooga	TN	374082146
3299	2101 Rossville Ave	Chattanooga	TN	374082146

	N	O	P	Q
3250	1359.21	1000G	1524.19	A3M4M
3251	1273.93	1000G	3356.67	A3M4M
3252	1222.31	1000G	2777.12	A3M4M
3253	1068.21	1000G	2603.3	A3M4M
3254	1106.36	1000G	2686.17	A3M4M
3255	1763.9	1000G	3944.7	A3M4M
3256	1232.04	1000G	2901.54	A3M4M
3257	1534.25	1000G	3419.47	A3M4M
3258	1560.43	1000G	3464.34	A3M4M
3259	1864.89	1000G	3986.12	A3M4M
3260	1628.5	1000G	3581	A3M4M
3261	2449.12	1000G	5171.7	A3M4M
3262	18063.15		39416.32	
3263	1372.67	1000G	3037.23	A3M4M
3264	1710.04	1000G	3720.74	A3M4M
3265	2324.94	1000G	4774.55	A3M4M
3266	1596.34	1000G	3525.88	A3M4M
3267	1597.83	1000G	3528.44	A3M4M
3268	1996.55	1000G	4211.75	A3M4M
3269	1911.27	1000G	4065.6	A3M4M
3270	2064.62	1000G	4328.41	A3M4M
3271	1849.93	1000G	3960.48	A3M4M
3272	1388.38	1000G	3169.48	A3M4M
3273	1634.49	1000G	3591.26	A3M4M
3274	2041.43	1000G	4288.67	A3M4M
3275	21488.49		46202.49	
3276	1490.86	1000G	3345.12	A3M4M
3277	1567.16	1000G	3475.88	A3M4M
3278	1994.3	1000G	4207.9	A3M4M
3279	2057.14	1000G	4315.59	A3M4M
3280	1795.32	1000G	3866.89	A3M4M
3281	1797.56	1000G	3937.84	A3M4M
3282	1797.56	1000G	4063.07	A3M4M
3283	2962.28	1000G	6603.98	A3M4M
3284	3812.82	1000G	8328.29	A3M4M
3285	3625.05	1000G	7882.48	A3M4M
3286	2525.42	1000G	5761.27	A3M4M
3287	3493.4	1000G	7628.51	A3M4M
3288	3053.54	1000G	6780.03	A3M4M
3289	31972.41		70196.85	
3290	2124.46	1000G	4987.82	A3M4M
3291	1925.48	1000G	4603.98	A3M4M
3292	2108.75	1000G	4957.52	A3M4M
3293	6158.69		14549.32	
3294	0.74	1000G	9.09	A3M4
3295	0.74	1000G	9.09	A3M4
3296	0.74	1000G	9.09	A3M4
3297	1.49	1000G	9.25	A3M4
3298	2.24	1000G	9.42	A3M4
3299	4.48	1000G	14.84	A3M4

	A	B	C	D	E
3300	2600	2603	26CC	3	7
3301	2600	2603	26CC	3	8
3302	2600	2603	26CC	3	9
3303	2600	2603	26CC	3	10
3304	2600	2603	26CC	3	11
3305	2600	2603	26CC	3	12
3306					
3307	2600	2603	26CC	3	1
3308	2600	2603	26CC	3	2
3309	2600	2603	26CC	3	3
3310	2600	2603	26CC	3	4
3311	2600	2603	26CC	3	5
3312	2600	2603	26CC	3	6
3313	2600	2603	26CC	3	7
3314	2600	2603	26CC	3	8
3315	2600	2603	26CC	3	9
3316	2600	2603	26CC	3	10
3317	2600	2603	26CC	3	11
3318	2600	2603	26CC	3	12
3319					
3320	2600	2603	26CC	3	1
3321	2600	2603	26CC	3	2
3322	2600	2603	26CC	3	3
3323	2600	2603	26CC	3	4
3324	2600	2603	26CC	3	5
3325	2600	2603	26CC	3	6
3326	2600	2603	26CC	3	7
3327	2600	2603	26CC	3	8
3328	2600	2603	26CC	3	9
3329	2600	2603	26CC	3	10
3330	2600	2603	26CC	3	11
3331	2600	2603	26CC	3	12
3332					
3333	2600	2603	26CC	3	1
3334	2600	2603	26CC	3	1
3335	2600	2603	26CC	3	3
3336	2600	2603	26CC	3	3
3337	2600	2603	26CC	3	5
3338	2600	2603	26CC	3	5
3339	2600	2603	26CC	3	6
3340	2600	2603	26CC	3	7
3341	2600	2603	26CC	3	8
3342	2600	2603	26CC	3	9
3343	2600	2603	26CC	3	10
3344	2600	2603	26CC	3	11
3345	2600	2603	26CC	3	12
3346					
3347	2600	2603	26CC	3	1
3348	2600	2603	26CC	3	2
3349	2600	2603	26CC	3	3

	F	G	H	I
3300	2004	104598	260073138	Ccd Properties
3301	2004	104598	260073138	Ccd Properties
3302	2004	104598	260073138	Ccd Properties
3303	2004	104598	260073138	Ccd Properties
3304	2004	104598	260073138	Ccd Properties
3305	2004	104598	260073138	Ccd Properties
3306	**2004 Total**			
3307	2005	104598	260073138	Ccd Properties
3308	2005	104598	260073138	Ccd Properties
3309	2005	104598	260073138	Ccd Properties
3310	2005	104598	260073138	Ccd Properties
3311	2005	104598	260073138	Ccd Properties
3312	2005	104598	260073138	Ccd Properties
3313	2005	104598	260073138	Ccd Properties
3314	2005	104598	260073138	Ccd Properties
3315	2005	104598	260073138	Ccd Properties
3316	2005	104598	260073138	Ccd Properties
3317	2005	104598	260073138	Ccd Properties
3318	2005	104598	260073138	Ccd Properties
3319	**2005 Total**			
3320	2006	104598	260073138	Ccd Properties
3321	2006	104598	260073138	Ccd Properties
3322	2006	104598	260073138	Ccd Properties
3323	2006	104598	260073138	Ccd Properties
3324	2006	104598	260073138	Ccd Properties
3325	2006	104598	260073138	Ccd Properties
3326	2006	104598	260073138	Ccd Properties
3327	2006	104598	260073138	Ccd Properties
3328	2006	104598	260073138	Ccd Properties
3329	2006	104598	260073138	Ccd Properties
3330	2006	104598	260073138	Ccd Properties
3331	2006	104598	260073138	Ccd Properties
3332	**2006 Total**			
3333	2007	104598	260073138	Ccd Properties
3334	2007	104598	260073138	Ccd Properties
3335	2007	104598	260073138	Ccd Properties
3336	2007	104598	260073138	Ccd Properties
3337	2007	104598	260073138	Ccd Properties
3338	2007	104598	260073138	Ccd Properties
3339	2007	104598	260073138	Ccd Properties
3340	2007	104598	260073138	Ccd Properties
3341	2007	104598	260073138	Ccd Properties
3342	2007	104598	260073138	Ccd Properties
3343	2007	104598	260073138	Ccd Properties
3344	2007	104598	260073138	Ccd Properties
3345	2007	104598	260073138	Ccd Properties
3346	**2007 Total**			
3347	2008	104598	260073138	Ccd Properties
3348	2008	104598	260073138	Ccd Properties
3349	2008	104598	260073138	Ccd Properties

	J	K	L	M
3300	2101 Rossville Ave	Chattanooga	TN	374082146
3301	2101 Rossville Ave	Chattanooga	TN	374082146
3302	2101 Rossville Ave	Chattanooga	TN	374082146
3303	2101 Rossville Ave	Chattanooga	TN	374082146
3304	2101 Rossville Ave	Chattanooga	TN	374082146
3305	2101 Rossville Ave	Chattanooga	TN	374082146
3306				
3307	2101 Rossville Ave	Chattanooga	TN	374082146
3308	2101 Rossville Ave	Chattanooga	TN	374082146
3309	2101 Rossville Ave	Chattanooga	TN	374082146
3310	2101 Rossville Ave	Chattanooga	TN	374082146
3311	2101 Rossville Ave	Chattanooga	TN	374082146
3312	2101 Rossville Ave	Chattanooga	TN	374082146
3313	2101 Rossville Ave	Chattanooga	TN	374082146
3314	2101 Rossville Ave	Chattanooga	TN	374082146
3315	2101 Rossville Ave	Chattanooga	TN	374082146
3316	2101 Rossville Ave	Chattanooga	TN	374082146
3317	2101 Rossville Ave	Chattanooga	TN	374082146
3318	2101 Rossville Ave	Chattanooga	TN	374082146
3319				
3320	2101 Rossville Ave	Chattanooga	TN	374082146
3321	2101 Rossville Ave	Chattanooga	TN	374082146
3322	2101 Rossville Ave	Chattanooga	TN	374082146
3323	2101 Rossville Ave	Chattanooga	TN	374082146
3324	2101 Rossville Ave	Chattanooga	TN	374082146
3325	2101 Rossville Ave	Chattanooga	TN	374082146
3326	2101 Rossville Ave	Chattanooga	TN	374082146
3327	2101 Rossville Ave	Chattanooga	TN	374082146
3328	2101 Rossville Ave	Chattanooga	TN	374082146
3329	2101 Rossville Ave	Chattanooga	TN	374082146
3330	2101 Rossville Ave	Chattanooga	TN	374082146
3331	2101 Rossville Ave	Chattanooga	TN	374082146
3332				
3333	2101 Rossville Ave	Chattanooga	TN	374082146
3334	2101 Rossville Ave	Chattanooga	TN	374082146
3335	2101 Rossville Ave	Chattanooga	TN	374082146
3336	2101 Rossville Ave	Chattanooga	TN	374082146
3337	2101 Rossville Ave	Chattanooga	TN	374082146
3338	2101 Rossville Ave	Chattanooga	TN	374082146
3339	2101 Rossville Ave	Chattanooga	TN	374082146
3340	2101 Rossville Ave	Chattanooga	TN	374082146
3341	2101 Rossville Ave	Chattanooga	TN	374082146
3342	2101 Rossville Ave	Chattanooga	TN	374082146
3343	2101 Rossville Ave	Chattanooga	TN	374082146
3344	2101 Rossville Ave	Chattanooga	TN	374082146
3345	2101 Rossville Ave	Chattanooga	TN	374082146
3346				
3347	2101 Rossville Ave	Chattanooga	TN	374082146
3348	2101 Rossville Ave	Chattanooga	TN	374082146
3349	2101 Rossville Ave	Chattanooga	TN	374082146

	N	O	P	Q
3300	2.99	1000G	9.58	A3M4
3301	1.49	1000G	9.25	A3M4
3302	1.49	1000G	9.25	A3M4
3303	0	1000G	8.92	A3M4
3304	1.49	1000G	9.25	A3M4
3305	0.74	1000G	9.09	A3M4
3306	18.63		116.12	
3307	0.74	1000G	9.09	A3M4
3308	0	1000G	8.92	A3M4
3309	0.74	1000G	9.09	A3M4
3310	0	1000G	9.18	A3M4
3311	1.49	1000G	9.6	A3M4
3312	4.48	1000G	15.41	A3M4
3313	-3.74	1000G	3.28	A3M4
3314	1.49	1000G	9.6	A3M4
3315	0	1000G	9.26	A3M4
3316	0	1000G	9.26	A3M4
3317	1.49	1000G	9.6	A3M4
3318	0	1000G	9.26	A3M4
3319	6.69		111.55	
3320	0.74	1000G	9.43	A3M4
3321	0	1000G	9.26	A3M4
3322	0.74	1000G	9.43	A3M4
3323	0.74	1000G	9.43	A3M4
3324	0	1000G	9.26	A3M4
3325	0.74	1000G	9.43	A3M4
3326	0.74	1000G	9.43	A3M4
3327	0	1000G	9.26	A3M4
3328	0.74	1000G	9.43	A3M4
3329	0.74	1000G	9.43	A3M4
3330	0	1000G	9.26	A3M4
3331	0.74	1000G	9.43	A3M4
3332	5.92		112.48	
3333	0.74	1000G	9.43	A3M4
3334	2.24	1000G	9.78	A3M4
3335	2.99	1000G	9.95	A3M4
3336	5.98	1000G	20.87	A3M4
3337	3.74	1000G	12.68	A3M4
3338	3.74	1000G	12.9	A3M4
3339	5.23	1000G	20.42	A3M4
3340	3.74	1000G	14.27	A3M4
3341	2.99	1000G	11.2	A3M4
3342	11.96	1000G	48.08	A3M4
3343	3.74	1000G	14.27	A3M4
3344	2.99	1000G	11.2	A3M4
3345	2.99	1000G	11.2	A3M4
3346	53.07		206.25	
3347	2.99	1000G	11.2	A3M4
3348	3.74	1000G	14.27	A3M4
3349	4.48	1000G	17.35	A3M4

	A	B	C	D	E
3350					
3351	2600	2603	26CC	3	1
3352	2600	2603	26CC	3	2
3353	2600	2603	26CC	3	3
3354	2600	2603	26CC	3	4
3355	2600	2603	26CC	3	5
3356	2600	2603	26CC	3	6
3357	2600	2603	26CC	3	7
3358	2600	2603	26CC	3	8
3359	2600	2603	26CC	3	9
3360	2600	2603	26CC	3	10
3361	2600	2603	26CC	3	11
3362	2600	2603	26CC	3	12
3363					
3364	2600	2603	26CC	3	1
3365	2600	2603	26CC	3	2
3366	2600	2603	26CC	3	3
3367	2600	2603	26CC	3	4
3368	2600	2603	26CC	3	5
3369	2600	2603	26CC	3	6
3370	2600	2603	26CC	3	7
3371	2600	2603	26CC	3	8
3372	2600	2603	26CC	3	9
3373	2600	2603	26CC	3	10
3374	2600	2603	26CC	3	11
3375	2600	2603	26CC	3	12
3376					
3377	2600	2603	26CC	3	1
3378	2600	2603	26CC	3	2
3379	2600	2603	26CC	3	3
3380	2600	2603	26CC	3	4
3381	2600	2603	26CC	3	5
3382	2600	2603	26CC	3	6
3383	2600	2603	26CC	3	7
3384	2600	2603	26CC	3	8
3385	2600	2603	26CC	3	9
3386	2600	2603	26CC	3	10
3387	2600	2603	26CC	3	11
3388	2600	2603	26CC	3	12
3389					
3390	2600	2603	26CC	3	1
3391	2600	2603	26CC	3	1
3392	2600	2603	26CC	3	3
3393	2600	2603	26CC	3	3
3394	2600	2603	26CC	3	5
3395	2600	2603	26CC	3	5
3396	2600	2603	26CC	3	6
3397	2600	2603	26CC	3	7
3398	2600	2603	26CC	3	8
3399	2600	2603	26CC	3	9

	F	G	H	I
3350	**2008 Total**			
3351	2004	104600	260073140	ENGINEERED REFRIGERATION
3352	2004	104600	260073140	ENGINEERED REFRIGERATION
3353	2004	104600	260073140	ENGINEERED REFRIGERATION
3354	2004	104600	260073140	ENGINEERED REFRIGERATION
3355	2004	104600	260073140	ENGINEERED REFRIGERATION
3356	2004	104600	260073140	ENGINEERED REFRIGERATION
3357	2004	104600	260073140	ENGINEERED REFRIGERATION
3358	2004	104600	260073140	ENGINEERED REFRIGERATION
3359	2004	104600	260073140	ENGINEERED REFRIGERATION
3360	2004	104600	260073140	ENGINEERED REFRIGERATION
3361	2004	104600	260073140	ENGINEERED REFRIGERATION
3362	2004	104600	260073140	ENGINEERED REFRIGERATION
3363	**2004 Total**			
3364	2005	104600	260073140	ENGINEERED REFRIGERATION
3365	2005	104600	260073140	ENGINEERED REFRIGERATION
3366	2005	104600	260073140	ENGINEERED REFRIGERATION
3367	2005	104600	260073140	ENGINEERED REFRIGERATION
3368	2005	104600	260073140	ENGINEERED REFRIGERATION
3369	2005	104600	260073140	ENGINEERED REFRIGERATION
3370	2005	104600	260073140	ENGINEERED REFRIGERATION
3371	2005	104600	260073140	ENGINEERED REFRIGERATION
3372	2005	104600	260073140	ENGINEERED REFRIGERATION
3373	2005	104600	260073140	ENGINEERED REFRIGERATION
3374	2005	104600	260073140	ENGINEERED REFRIGERATION
3375	2005	104600	260073140	ENGINEERED REFRIGERATION
3376	**2005 Total**			
3377	2006	104600	260073140	ENGINEERED REFRIGERATION
3378	2006	104600	260073140	ENGINEERED REFRIGERATION
3379	2006	104600	260073140	ENGINEERED REFRIGERATION
3380	2006	104600	260073140	ENGINEERED REFRIGERATION
3381	2006	104600	260073140	ENGINEERED REFRIGERATION
3382	2006	104600	260073140	ENGINEERED REFRIGERATION
3383	2006	104600	260073140	ENGINEERED REFRIGERATION
3384	2006	104600	260073140	ENGINEERED REFRIGERATION
3385	2006	104600	260073140	ENGINEERED REFRIGERATION
3386	2006	104600	260073140	ENGINEERED REFRIGERATION
3387	2006	104600	260073140	ENGINEERED REFRIGERATION
3388	2006	104600	260073140	ENGINEERED REFRIGERATION
3389	**2006 Total**			
3390	2007	104600	260073140	ENGINEERED REFRIGERATION
3391	2007	104600	260073140	ENGINEERED REFRIGERATION
3392	2007	104600	260073140	ENGINEERED REFRIGERATION
3393	2007	104600	260073140	ENGINEERED REFRIGERATION
3394	2007	104600	260073140	ENGINEERED REFRIGERATION
3395	2007	104600	260073140	ENGINEERED REFRIGERATION
3396	2007	104600	260073140	ENGINEERED REFRIGERATION
3397	2007	104600	260073140	ENGINEERED REFRIGERATION
3398	2007	104600	260073140	ENGINEERED REFRIGERATION
3399	2007	104600	260073140	ENGINEERED REFRIGERATION

	J	K	L	M
3350				
3351	2555 CANNON ST	CHATTANOOGA	TN	374045620
3352	2555 CANNON ST	CHATTANOOGA	TN	374045620
3353	2555 CANNON ST	CHATTANOOGA	TN	374045620
3354	2555 CANNON ST	CHATTANOOGA	TN	374045620
3355	2555 CANNON ST	CHATTANOOGA	TN	374045620
3356	2555 CANNON ST	CHATTANOOGA	TN	374045620
3357	2555 CANNON ST	CHATTANOOGA	TN	374045620
3358	2555 CANNON ST	CHATTANOOGA	TN	374045620
3359	2555 CANNON ST	CHATTANOOGA	TN	374045620
3360	2555 CANNON ST	CHATTANOOGA	TN	374045620
3361	2555 CANNON ST	CHATTANOOGA	TN	374045620
3362	2555 CANNON ST	CHATTANOOGA	TN	374045620
3363				
3364	2555 CANNON ST	CHATTANOOGA	TN	374045620
3365	2555 CANNON ST	CHATTANOOGA	TN	374045620
3366	2555 CANNON ST	CHATTANOOGA	TN	374045620
3367	2555 CANNON ST	CHATTANOOGA	TN	374045620
3368	2555 CANNON ST	CHATTANOOGA	TN	374045620
3369	2555 CANNON ST	CHATTANOOGA	TN	374045620
3370	2555 CANNON ST	CHATTANOOGA	TN	374045620
3371	2555 CANNON ST	CHATTANOOGA	TN	374045620
3372	2555 CANNON ST	CHATTANOOGA	TN	374045620
3373	2555 CANNON ST	CHATTANOOGA	TN	374045620
3374	2555 CANNON ST	CHATTANOOGA	TN	374045620
3375	2555 CANNON ST	CHATTANOOGA	TN	374045620
3376				
3377	2555 CANNON ST	CHATTANOOGA	TN	374045620
3378	2555 CANNON ST	CHATTANOOGA	TN	374045620
3379	2555 CANNON ST	CHATTANOOGA	TN	374045620
3380	2555 CANNON ST	CHATTANOOGA	TN	374045620
3381	2555 CANNON ST	CHATTANOOGA	TN	374045620
3382	2555 CANNON ST	CHATTANOOGA	TN	374045620
3383	2555 CANNON ST	CHATTANOOGA	TN	374045620
3384	2555 CANNON ST	CHATTANOOGA	TN	374045620
3385	2555 CANNON ST	CHATTANOOGA	TN	374045620
3386	2555 CANNON ST	CHATTANOOGA	TN	374045620
3387	2555 CANNON ST	CHATTANOOGA	TN	374045620
3388	2555 CANNON ST	CHATTANOOGA	TN	374045620
3389				
3390	2555 CANNON ST	CHATTANOOGA	TN	374045620
3391	2555 CANNON ST	CHATTANOOGA	TN	374045620
3392	2555 CANNON ST	CHATTANOOGA	TN	374045620
3393	2555 CANNON ST	CHATTANOOGA	TN	374045620
3394	2555 CANNON ST	CHATTANOOGA	TN	374045620
3395	2555 CANNON ST	CHATTANOOGA	TN	374045620
3396	2555 CANNON ST	CHATTANOOGA	TN	374045620
3397	2555 CANNON ST	CHATTANOOGA	TN	374045620
3398	2555 CANNON ST	CHATTANOOGA	TN	374045620
3399	2555 CANNON ST	CHATTANOOGA	TN	374045620

	N	O	P	Q
3350	11.21		42.82	
3351	8.22	1000G	43.98	A3M4
3352	7.48	1000G	41.35	A3M4
3353	7.48	1000G	41.35	A3M4
3354	7.48	1000G	41.35	A3M4
3355	12.71	1000G	59.74	A3M4
3356	2.99	1000G	25.58	A3M4
3357	7.48	1000G	41.35	A3M4
3358	8.22	1000G	43.98	A3M4
3359	8.97	1000G	46.6	A3M4
3360	8.22	1000G	43.98	A3M4
3361	10.47	1000G	51.86	A3M4
3362	8.97	1000G	46.6	A3M4
3363	98.69		527.72	
3364	8.97	1000G	46.6	A3M4
3365	8.97	1000G	46.6	A3M4
3366	6.73	1000G	38.72	A3M4
3367	13.46	1000G	64.21	A3M4
3368	8.97	1000G	48.41	A3M4
3369	2.99	1000G	26.57	A3M4
3370	19.44	1000G	86.63	A3M4
3371	11.96	1000G	59.33	A3M4
3372	9.72	1000G	51.14	A3M4
3373	11.22	1000G	56.6	A3M4
3374	9.72	1000G	51.14	A3M4
3375	8.97	1000G	48.41	A3M4
3376	121.12		624.36	
3377	14.21	1000G	67.52	A3M4
3378	8.22	1000G	45.68	A3M4
3379	8.97	1000G	48.41	A3M4
3380	8.22	1000G	45.68	A3M4
3381	9.72	1000G	51.14	A3M4
3382	8.97	1000G	48.41	A3M4
3383	9.72	1000G	51.14	A3M4
3384	11.22	1000G	56.6	A3M4
3385	8.97	1000G	48.41	A3M4
3386	9.72	1000G	51.14	A3M4
3387	9.72	1000G	51.14	A3M4
3388	8.22	1000G	45.68	A3M4
3389	115.88		610.95	
3390	6.73	1000G	40.22	A3M4
3391	7.48	1000G	42.95	A3M4
3392	2.24	1000G	26.4	A3M4
3393	3.74	1000G	29.3	A3M4
3394	2.24	1000G	26.4	A3M4
3395	2.24	1000G	26.86	A3M4
3396	1.49	1000G	29.53	A3M4
3397	2.24	1000G	29.72	A3M4
3398	1.49	1000G	29.53	A3M4
3399	1.49	1000G	29.53	A3M4

	A	B	C	D	E
3400	2600	2603	26CC	3	10
3401	2600	2603	26CC	3	11
3402	2600	2603	26CC	3	12
3403					
3404	2600	2603	26CC	3	1
3405	2600	2603	26CC	3	2
3406	2600	2603	26CC	3	3
3407					
3408	2600	2603	26CC	3	1
3409	2600	2603	26CC	3	2
3410	2600	2603	26CC	3	3
3411	2600	2603	26CC	3	4
3412	2600	2603	26CC	3	5
3413	2600	2603	26CC	3	6
3414	2600	2603	26CC	3	7
3415	2600	2603	26CC	3	8
3416	2600	2603	26CC	3	9
3417	2600	2603	26CC	3	10
3418	2600	2603	26CC	3	11
3419	2600	2603	26CC	3	12
3420					
3421	2600	2603	26CC	3	1
3422	2600	2603	26CC	3	2
3423	2600	2603	26CC	3	3
3424	2600	2603	26CC	3	4
3425	2600	2603	26CC	3	5
3426	2600	2603	26CC	3	6
3427	2600	2603	26CC	3	7
3428	2600	2603	26CC	3	8
3429	2600	2603	26CC	3	9
3430	2600	2603	26CC	3	10
3431	2600	2603	26CC	3	11
3432	2600	2603	26CC	3	12
3433					
3434	2600	2603	26CC	3	1
3435	2600	2603	26CC	3	2
3436	2600	2603	26CC	3	3
3437	2600	2603	26CC	3	4
3438	2600	2603	26CC	3	5
3439	2600	2603	26CC	3	6
3440	2600	2603	26CC	3	7
3441	2600	2603	26CC	3	8
3442	2600	2603	26CC	3	9
3443	2600	2603	26CC	3	10
3444	2600	2603	26CC	3	11
3445	2600	2603	26CC	3	12
3446					
3447	2600	2603	26CC	3	1
3448	2600	2603	26CC	3	2
3449	2600	2603	26CC	3	3

	F	G	H	I
3400	2007	104600	260073140	ENGINEERED REFRIGERATION
3401	2007	104600	260073140	ENGINEERED REFRIGERATION
3402	2007	104600	260073140	ENGINEERED REFRIGERATION
3403	**2007 Total**			
3404	2008	104600	260073140	ENGINEERED REFRIGERATION
3405	2008	104600	260073140	ENGINEERED REFRIGERATION
3406	2008	104600	260073140	ENGINEERED REFRIGERATION
3407	**2008 Total**			
3408	2004	104605	260073145	D M Steward Mfg Co
3409	2004	104605	260073145	D M Steward Mfg Co
3410	2004	104605	260073145	D M Steward Mfg Co
3411	2004	104605	260073145	D M Steward Mfg Co
3412	2004	104605	260073145	D M Steward Mfg Co
3413	2004	104605	260073145	D M Steward Mfg Co
3414	2004	104605	260073145	D M Steward Mfg Co
3415	2004	104605	260073145	D M Steward Mfg Co
3416	2004	104605	260073145	D M Steward Mfg Co
3417	2004	104605	260073145	D M Steward Mfg Co
3418	2004	104605	260073145	D M Steward Mfg Co
3419	2004	104605	260073145	D M Steward Mfg Co
3420	**2004 Total**			
3421	2005	104605	260073145	D M Steward Mfg Co
3422	2005	104605	260073145	D M Steward Mfg Co
3423	2005	104605	260073145	D M Steward Mfg Co
3424	2005	104605	260073145	D M Steward Mfg Co
3425	2005	104605	260073145	D M Steward Mfg Co
3426	2005	104605	260073145	D M Steward Mfg Co
3427	2005	104605	260073145	D M Steward Mfg Co
3428	2005	104605	260073145	D M Steward Mfg Co
3429	2005	104605	260073145	D M Steward Mfg Co
3430	2005	104605	260073145	D M Steward Mfg Co
3431	2005	104605	260073145	D M Steward Mfg Co
3432	2005	104605	260073145	D M Steward Mfg Co
3433	**2005 Total**			
3434	2006	104605	260073145	D M Steward Mfg Co
3435	2006	104605	260073145	D M Steward Mfg Co
3436	2006	104605	260073145	D M Steward Mfg Co
3437	2006	104605	260073145	D M Steward Mfg Co
3438	2006	104605	260073145	D M Steward Mfg Co
3439	2006	104605	260073145	D M Steward Mfg Co
3440	2006	104605	260073145	D M Steward Mfg Co
3441	2006	104605	260073145	D M Steward Mfg Co
3442	2006	104605	260073145	D M Steward Mfg Co
3443	2006	104605	260073145	D M Steward Mfg Co
3444	2006	104605	260073145	D M Steward Mfg Co
3445	2006	104605	260073145	D M Steward Mfg Co
3446	**2006 Total**			
3447	2007	104605	260073145	D M Steward Mfg Co
3448	2007	104605	260073145	D M Steward Mfg Co
3449	2007	104605	260073145	D M Steward Mfg Co

	J	K	L	M
3400	2555 CANNON ST	CHATTANOOGA	TN	374045620
3401	2555 CANNON ST	CHATTANOOGA	TN	374045620
3402	2555 CANNON ST	CHATTANOOGA	TN	374045620
3403				
3404	2555 CANNON ST	CHATTANOOGA	TN	374045620
3405	2555 CANNON ST	CHATTANOOGA	TN	374045620
3406	2555 CANNON ST	CHATTANOOGA	TN	374045620
3407				
3408	1200 E 36th St	Chattanooga	TN	374072489
3409	1200 E 36th St	Chattanooga	TN	374072489
3410	1200 E 36th St	Chattanooga	TN	374072489
3411	1200 E 36th St	Chattanooga	TN	374072489
3412	1200 E 36th St	Chattanooga	TN	374072489
3413	1200 E 36th St	Chattanooga	TN	374072489
3414	1200 E 36th St	Chattanooga	TN	374072489
3415	1200 E 36th St	Chattanooga	TN	374072489
3416	1200 E 36th St	Chattanooga	TN	374072489
3417	1200 E 36th St	Chattanooga	TN	374072489
3418	1200 E 36th St	Chattanooga	TN	374072489
3419	1200 E 36th St	Chattanooga	TN	374072489
3420				
3421	1200 E 36th St	Chattanooga	TN	374072489
3422	1200 E 36th St	Chattanooga	TN	374072489
3423	1200 E 36th St	Chattanooga	TN	374072489
3424	1200 E 36th St	Chattanooga	TN	374072489
3425	1200 E 36th St	Chattanooga	TN	374072489
3426	1200 E 36th St	Chattanooga	TN	374072489
3427	1200 E 36th St	Chattanooga	TN	374072489
3428	1200 E 36th St	Chattanooga	TN	374072489
3429	1200 E 36th St	Chattanooga	TN	374072489
3430	1200 E 36th St	Chattanooga	TN	374072489
3431	1200 E 36th St	Chattanooga	TN	374072489
3432	1200 E 36th St	Chattanooga	TN	374072489
3433				
3434	1200 E 36th St	Chattanooga	TN	374072489
3435	1200 E 36th St	Chattanooga	TN	374072489
3436	1200 E 36th St	Chattanooga	TN	374072489
3437	1200 E 36th St	Chattanooga	TN	374072489
3438	1200 E 36th St	Chattanooga	TN	374072489
3439	1200 E 36th St	Chattanooga	TN	374072489
3440	1200 E 36th St	Chattanooga	TN	374072489
3441	1200 E 36th St	Chattanooga	TN	374072489
3442	1200 E 36th St	Chattanooga	TN	374072489
3443	1200 E 36th St	Chattanooga	TN	374072489
3444	1200 E 36th St	Chattanooga	TN	374072489
3445	1200 E 36th St	Chattanooga	TN	374072489
3446				
3447	1200 E 36th St	Chattanooga	TN	374072489
3448	1200 E 36th St	Chattanooga	TN	374072489
3449	1200 E 36th St	Chattanooga	TN	374072489

	N	O	P	Q
3400	2.99	1000G	29.92	A3M4
3401	1.49	1000G	29.53	A3M4
3402	2.24	1000G	29.72	A3M4
3403	38.1		399.61	
3404	1.49	1000G	29.53	A3M4
3405	1.49	1000G	29.53	A3M4
3406	2.99	1000G	29.92	A3M4
3407	5.97		88.98	
3408	149.61	1000G	543.4	A3MSM
3409	193.74	1000G	640.8	A3MSM
3410	261.81	1000G	791.05	A3MSM
3411	246.85	1000G	758.03	A3MSM
3412	285.75	1000G	843.88	A3MSM
3413	363.55	1000G	1015.58	A3MSM
3414	404.69	1000G	1134.82	A3MSM
3415	319.41	1000G	918.17	A3MSM
3416	368.04	1000G	1025.49	A3MSM
3417	407.68	1000G	1094.23	A3MSM
3418	251.34	1000G	767.93	A3MSM
3419	256.58	1000G	779.49	A3MSM
3420	3509.05		10312.87	
3421	284.25	1000G	840.58	A3MSM
3422	249.84	1000G	764.63	A3MSM
3423	253.58	1000G	772.88	A3MSM
3424	283.51	1000G	864.08	A3MSM
3425	342.6	1000G	1006.92	A3MSM
3426	339.61	1000G	1000.06	A3MSM
3427	361.3	1000G	1049.79	A3MSM
3428	391.23	1000G	1108.44	A3MSM
3429	282.76	1000G	869.72	A3MSM
3430	276.77	1000G	856	A3MSM
3431	307.44	1000G	926.31	A3MSM
3432	340.36	1000G	1001.77	A3MSM
3433	3713.25		11061.18	
3434	417.41	1000G	1153.31	A3MSM
3435	409.93	1000G	1140.49	A3MSM
3436	486.23	1000G	1271.25	A3MSM
3437	634.34	1000G	1525.09	A3MSM
3438	671	1000G	1587.9	A3MSM
3439	653.04	1000G	1557.14	A3MSM
3440	669.5	1000G	1585.34	A3MSM
3441	768.24	1000G	1754.56	A3MSM
3442	676.98	1000G	1598.16	A3MSM
3443	123.42	1000G	504.42	A3MSM
3444	129.41	1000G	518.14	A3MSM
3445	112.2	1000G	478.7	A3MSM
3446	5751.7		14674.5	
3447	163.07	1000G	595.32	A3MSM
3448	144.37	1000G	552.44	A3MSM
3449	164.57	1000G	598.75	A3MSM

	A	B	C	D	E
3450	2600	2603	26CC	3	4
3451	2600	2603	26CC	3	5
3452	2600	2603	26CC	3	6
3453	2600	2603	26CC	3	7
3454	2600	2603	26CC	3	8
3455	2600	2603	26CC	3	8
3456	2600	2603	26CC	3	10
3457	2600	2603	26CC	3	10
3458	2600	2603	26CC	3	11
3459					
3460	2600	2603	26CC	3	1
3461	2600	2603	26CC	3	1
3462	2600	2603	26CC	3	2
3463					
3464	2600	2603	26CC	3	1
3465	2600	2603	26CC	3	2
3466	2600	2603	26CC	3	3
3467	2600	2603	26CC	3	4
3468	2600	2603	26CC	3	5
3469	2600	2603	26CC	3	6
3470	2600	2603	26CC	3	7
3471	2600	2603	26CC	3	8
3472	2600	2603	26CC	3	9
3473	2600	2603	26CC	3	10
3474	2600	2603	26CC	3	11
3475	2600	2603	26CC	3	12
3476					
3477	2600	2603	26CC	3	1
3478	2600	2603	26CC	3	2
3479	2600	2603	26CC	3	3
3480	2600	2603	26CC	3	4
3481	2600	2603	26CC	3	5
3482	2600	2603	26CC	3	6
3483	2600	2603	26CC	3	7
3484	2600	2603	26CC	3	8
3485	2600	2603	26CC	3	9
3486	2600	2603	26CC	3	10
3487	2600	2603	26CC	3	11
3488	2600	2603	26CC	3	12
3489					
3490	2600	2603	26CC	3	1
3491	2600	2603	26CC	3	2
3492	2600	2603	26CC	3	3
3493	2600	2603	26CC	3	4
3494	2600	2603	26CC	3	5
3495	2600	2603	26CC	3	6
3496	2600	2603	26CC	3	7
3497	2600	2603	26CC	3	8
3498	2600	2603	26CC	3	9
3499	2600	2603	26CC	3	10

	F	G	H	I
3450	2007	104605	260073145	D M Steward Mfg Co
3451	2007	104605	260073145	D M Steward Mfg Co
3452	2007	104605	260073145	D M Steward Mfg Co
3453	2007	104605	260073145	D M Steward Mfg Co
3454	2007	104605	260073145	D M Steward Mfg Co
3455	2007	104605	260073145	D M Steward Mfg Co
3456	2007	104605	260073145	D M Steward Mfg Co
3457	2007	104605	260073145	D M Steward Mfg Co
3458	2007	104605	260073145	D M Steward Mfg Co
3459	**2007 Total**			
3460	2008	104605	260073145	D M Steward Mfg Co
3461	2008	104605	260073145	D M Steward Mfg Co
3462	2008	104605	260073145	D M Steward Mfg Co
3463	**2008 Total**			
3464	2004	104620	260073160	Chattem Chemicals Inc
3465	2004	104620	260073160	Chattem Chemicals Inc
3466	2004	104620	260073160	Chattem Chemicals Inc
3467	2004	104620	260073160	Chattem Chemicals Inc
3468	2004	104620	260073160	Chattem Chemicals Inc
3469	2004	104620	260073160	Chattem Chemicals Inc
3470	2004	104620	260073160	Chattem Chemicals Inc
3471	2004	104620	260073160	Chattem Chemicals Inc
3472	2004	104620	260073160	Chattem Chemicals Inc
3473	2004	104620	260073160	Chattem Chemicals Inc
3474	2004	104620	260073160	Chattem Chemicals Inc
3475	2004	104620	260073160	Chattem Chemicals Inc
3476	**2004 Total**			
3477	2005	104620	260073160	Chattem Chemicals Inc
3478	2005	104620	260073160	Chattem Chemicals Inc
3479	2005	104620	260073160	Chattem Chemicals Inc
3480	2005	104620	260073160	Chattem Chemicals Inc
3481	2005	104620	260073160	Chattem Chemicals Inc
3482	2005	104620	260073160	Chattem Chemicals Inc
3483	2005	104620	260073160	Chattem Chemicals Inc
3484	2005	104620	260073160	Chattem Chemicals Inc
3485	2005	104620	260073160	Chattem Chemicals Inc
3486	2005	104620	260073160	Chattem Chemicals Inc
3487	2005	104620	260073160	Chattem Chemicals Inc
3488	2005	104620	260073160	Chattem Chemicals Inc
3489	**2005 Total**			
3490	2006	104620	260073160	Chattem Chemicals Inc
3491	2006	104620	260073160	Chattem Chemicals Inc
3492	2006	104620	260073160	Chattem Chemicals Inc
3493	2006	104620	260073160	Chattem Chemicals Inc
3494	2006	104620	260073160	Chattem Chemicals Inc
3495	2006	104620	260073160	Chattem Chemicals Inc
3496	2006	104620	260073160	Chattem Chemicals Inc
3497	2006	104620	260073160	Chattem Chemicals Inc
3498	2006	104620	260073160	Chattem Chemicals Inc
3499	2006	104620	260073160	Chattem Chemicals Inc

	J	K	L	M
3450	1200 E 36th St	Chattanooga	TN	374072489
3451	1200 E 36th St	Chattanooga	TN	374072489
3452	1200 E 36th St	Chattanooga	TN	374072489
3453	1200 E 36th St	Chattanooga	TN	374072489
3454	1200 E 36th St	Chattanooga	TN	374072489
3455	1200 E 36th St	Chattanooga	TN	374072489
3456	1200 E 36th St	Chattanooga	TN	374072489
3457	1200 E 36th St	Chattanooga	TN	374072489
3458	1200 E 36th St	Chattanooga	TN	374072489
3459				
3460	1200 E 36th St	Chattanooga	TN	374072489
3461	1200 E 36th St	Chattanooga	TN	374072489
3462	1200 E 36th St	Chattanooga	TN	374072489
3463				
3464	1715 W 38th St	Chattanooga	TN	374091248
3465	1715 W 38th St	Chattanooga	TN	374091248
3466	1715 W 38th St	Chattanooga	TN	374091248
3467	1715 W 38th St	Chattanooga	TN	374091248
3468	1715 W 38th St	Chattanooga	TN	374091248
3469	1715 W 38th St	Chattanooga	TN	374091248
3470	1715 W 38th St	Chattanooga	TN	374091248
3471	1715 W 38th St	Chattanooga	TN	374091248
3472	1715 W 38th St	Chattanooga	TN	374091248
3473	1715 W 38th St	Chattanooga	TN	374091248
3474	1715 W 38th St	Chattanooga	TN	374091248
3475	1715 W 38th St	Chattanooga	TN	374091248
3476				
3477	1715 W 38th St	Chattanooga	TN	374091248
3478	1715 W 38th St	Chattanooga	TN	374091248
3479	1715 W 38th St	Chattanooga	TN	374091248
3480	1715 W 38th St	Chattanooga	TN	374091248
3481	1715 W 38th St	Chattanooga	TN	374091248
3482	1715 W 38th St	Chattanooga	TN	374091248
3483	1715 W 38th St	Chattanooga	TN	374091248
3484	1715 W 38th St	Chattanooga	TN	374091248
3485	1715 W 38th St	Chattanooga	TN	374091248
3486	1715 W 38th St	Chattanooga	TN	374091248
3487	1715 W 38th St	Chattanooga	TN	374091248
3488	1715 W 38th St	Chattanooga	TN	374091248
3489				
3490	1715 W 38th St	Chattanooga	TN	374091248
3491	1715 W 38th St	Chattanooga	TN	374091248
3492	1715 W 38th St	Chattanooga	TN	374091248
3493	1715 W 38th St	Chattanooga	TN	374091248
3494	1715 W 38th St	Chattanooga	TN	374091248
3495	1715 W 38th St	Chattanooga	TN	374091248
3496	1715 W 38th St	Chattanooga	TN	374091248
3497	1715 W 38th St	Chattanooga	TN	374091248
3498	1715 W 38th St	Chattanooga	TN	374091248
3499	1715 W 38th St	Chattanooga	TN	374091248

	N	O	P	Q
3450	196.73	1000G	672.49	A3MSM
3451	214.69	1000G	713.65	A3MSM
3452	192.24	1000G	683.04	A3MSM
3453	121.18	1000G	562.08	A3MSM
3454	107.71	1000G	527.32	A3MSM
3455	109.21	1000G	531.18	A3MSM
3456	85.27	1000G	469.39	A3MSM
3457	116.69	1000G	550.49	A3MSM
3458	58.34	1000G	399.87	A3MSM
3459	1674.07		6856.02	
3460	72.56	1000G	436.56	A3MSM
3461	77.04	1000G	448.15	A3MSM
3462	45.63	1000G	362.48	A3MSM
3463	195.23		1247.19	
3464	33.66	1000G	437.48	A3M4M
3465	42.63	1000G	469.01	A3M4M
3466	1068.21	1000G	2353.38	A3M4M
3467	1686.1	1000G	3372.67	A3M4M
3468	887.93	1000G	2055.99	A3M4M
3469	68.82	1000G	534.62	A3M4M
3470	166.06	1000G	749.25	A3M4M
3471	379.26	1000G	1216.87	A3M4M
3472	20.94	1000G	392.8	A3M4M
3473	16.45	1000G	377.03	A3M4M
3474	89.01	1000G	579.19	A3M4M
3475	79.29	1000G	557.73	A3M4M
3476	4538.36		13096.02	
3477	139.13	1000G	689.81	A3M4M
3478	87.52	1000G	575.89	A3M4M
3479	75.55	1000G	560.87	A3M4M
3480	96.49	1000G	618.75	A3M4M
3481	524.38	1000G	1512.7	A3M4M
3482	416.66	1000G	1328.09	A3M4M
3483	456.31	1000G	1396.04	A3M4M
3484	582.73	1000G	1612.7	A3M4M
3485	336.62	1000G	1169.27	A3M4M
3486	190	1000G	833.13	A3M4M
3487	293.98	1000G	1071.51	A3M4M
3488	296.22	1000G	1076.66	A3M4M
3489	3495.59		12445.42	
3490	472.76	1000G	1424.24	A3M4M
3491	231.14	1000G	927.45	A3M4M
3492	127.91	1000G	690.78	A3M4M
3493	195.98	1000G	846.85	A3M4M
3494	231.89	1000G	929.17	A3M4M
3495	168.31	1000G	783.39	A3M4M
3496	175.79	1000G	800.54	A3M4M
3497	235.63	1000G	937.74	A3M4M
3498	115.2	1000G	661.63	A3M4M
3499	266.3	1000G	1008.06	A3M4M

	A	B	C	D	E
3500	2600	2603	26CC	3	11
3501	2600	2603	26CC	3	12
3502					
3503	2600	2603	26CC	3	1
3504	2600	2603	26CC	3	2
3505	2600	2603	26CC	3	3
3506	2600	2603	26CC	3	4
3507	2600	2603	26CC	3	5
3508	2600	2603	26CC	3	6
3509	2600	2603	26CC	3	7
3510	2600	2603	26CC	3	8
3511	2600	2603	26CC	3	9
3512	2600	2603	26CC	3	10
3513	2600	2603	26CC	3	11
3514	2600	2603	26CC	3	12
3515					
3516	2600	2603	26CC	3	1
3517	2600	2603	26CC	3	2
3518	2600	2603	26CC	3	3
3519					
3520	2600	2603	26CC	3	1
3521	2600	2603	26CC	3	2
3522	2600	2603	26CC	3	3
3523	2600	2603	26CC	3	4
3524	2600	2603	26CC	3	5
3525	2600	2603	26CC	3	6
3526	2600	2603	26CC	3	7
3527	2600	2603	26CC	3	8
3528	2600	2603	26CC	3	10
3529	2600	2603	26CC	3	10
3530	2600	2603	26CC	3	11
3531	2600	2603	26CC	3	12
3532					
3533	2600	2603	26CC	3	1
3534	2600	2603	26CC	3	2
3535	2600	2603	26CC	3	3
3536	2600	2603	26CC	3	4
3537	2600	2603	26CC	3	5
3538	2600	2603	26CC	3	6
3539	2600	2603	26CC	3	7
3540	2600	2603	26CC	3	8
3541	2600	2603	26CC	3	9
3542	2600	2603	26CC	3	10
3543	2600	2603	26CC	3	11
3544	2600	2603	26CC	3	12
3545					
3546	2600	2603	26CC	3	1
3547	2600	2603	26CC	3	2
3548	2600	2603	26CC	3	3
3549	2600	2603	26CC	3	4

	F	G	H	I
3500	2006	104620	260073160	Chattem Chemicals Inc
3501	2006	104620	260073160	Chattem Chemicals Inc
3502	**2006 Total**			
3503	2007	104620	260073160	Chattem Chemicals Inc
3504	2007	104620	260073160	Chattem Chemicals Inc
3505	2007	104620	260073160	Chattem Chemicals Inc
3506	2007	104620	260073160	Chattem Chemicals Inc
3507	2007	104620	260073160	Chattem Chemicals Inc
3508	2007	104620	260073160	Chattem Chemicals Inc
3509	2007	104620	260073160	Chattem Chemicals Inc
3510	2007	104620	260073160	Chattem Chemicals Inc
3511	2007	104620	260073160	Chattem Chemicals Inc
3512	2007	104620	260073160	Chattem Chemicals Inc
3513	2007	104620	260073160	Chattem Chemicals Inc
3514	2007	104620	260073160	Chattem Chemicals Inc
3515	**2007 Total**			
3516	2008	104620	260073160	Chattem Chemicals Inc
3517	2008	104620	260073160	Chattem Chemicals Inc
3518	2008	104620	260073160	Chattem Chemicals Inc
3519	**2008 Total**			
3520	2004	104627	260073166	Velsicol Chemical Corp
3521	2004	104627	260073166	Velsicol Chemical Corp
3522	2004	104627	260073166	Velsicol Chemical Corp
3523	2004	104627	260073166	Velsicol Chemical Corp
3524	2004	104627	260073166	Velsicol Chemical Corp
3525	2004	104627	260073166	Velsicol Chemical Corp
3526	2004	104627	260073166	Velsicol Chemical Corp
3527	2004	104627	260073166	Velsicol Chemical Corp
3528	2004	104627	260073166	Velsicol Chemical Corp
3529	2004	104627	260073166	Velsicol Chemical Corp
3530	2004	104627	260073166	Velsicol Chemical Corp
3531	2004	104627	260073166	Velsicol Chemical Corp
3532	**2004 Total**			
3533	2005	104627	260073166	Velsicol Chemical Corp
3534	2005	104627	260073166	Velsicol Chemical Corp
3535	2005	104627	260073166	Velsicol Chemical Corp
3536	2005	104627	260073166	Velsicol Chemical Corp
3537	2005	104627	260073166	Velsicol Chemical Corp
3538	2005	104627	260073166	Velsicol Chemical Corp
3539	2005	104627	260073166	Velsicol Chemical Corp
3540	2005	104627	260073166	Velsicol Chemical Corp
3541	2005	104627	260073166	Velsicol Chemical Corp
3542	2005	104627	260073166	Velsicol Chemical Corp
3543	2005	104627	260073166	Velsicol Chemical Corp
3544	2005	104627	260073166	Velsicol Chemical Corp
3545	**2005 Total**			
3546	2006	104627	260073166	Velsicol Chemical Corp
3547	2006	104627	260073166	Velsicol Chemical Corp
3548	2006	104627	260073166	Velsicol Chemical Corp
3549	2006	104627	260073166	Velsicol Chemical Corp

	J	K	L	M
3500	1715 W 38th St	Chattanooga	TN	374091248
3501	1715 W 38th St	Chattanooga	TN	374091248
3502				
3503	1715 W 38th St	Chattanooga	TN	374091248
3504	1715 W 38th St	Chattanooga	TN	374091248
3505	1715 W 38th St	Chattanooga	TN	374091248
3506	1715 W 38th St	Chattanooga	TN	374091248
3507	1715 W 38th St	Chattanooga	TN	374091248
3508	1715 W 38th St	Chattanooga	TN	374091248
3509	1715 W 38th St	Chattanooga	TN	374091248
3510	1715 W 38th St	Chattanooga	TN	374091248
3511	1715 W 38th St	Chattanooga	TN	374091248
3512	1715 W 38th St	Chattanooga	TN	374091248
3513	1715 W 38th St	Chattanooga	TN	374091248
3514	1715 W 38th St	Chattanooga	TN	374091248
3515				
3516	1715 W 38th St	Chattanooga	TN	374091248
3517	1715 W 38th St	Chattanooga	TN	374091248
3518	1715 W 38th St	Chattanooga	TN	374091248
3519				
3520	4902 Central Ave	Chattanooga	TN	374102009
3521	4902 Central Ave	Chattanooga	TN	374102009
3522	4902 Central Ave	Chattanooga	TN	374102009
3523	4902 Central Ave	Chattanooga	TN	374102009
3524	4902 Central Ave	Chattanooga	TN	374102009
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3530	4902 Central Ave	Chattanooga	TN	374102009
3531	4902 Central Ave	Chattanooga	TN	374102009
3532				
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3538	4902 Central Ave	Chattanooga	TN	374102009
3539	4902 Central Ave	Chattanooga	TN	374102009
3540	4902 Central Ave	Chattanooga	TN	374102009
3541	4902 Central Ave	Chattanooga	TN	374102009
3542	4902 Central Ave	Chattanooga	TN	374102009
3543	4902 Central Ave	Chattanooga	TN	374102009
3544	4902 Central Ave	Chattanooga	TN	374102009
3545				
3546	4902 Central Ave	Chattanooga	TN	374102009
3547	4902 Central Ave	Chattanooga	TN	374102009
3548	4902 Central Ave	Chattanooga	TN	374102009
3549	4902 Central Ave	Chattanooga	TN	374102009

	N	O	P	Q
3500	339.61	1000G	1176.13	A3M4M
3501	215.43	1000G	891.44	A3M4M
3502	2775.95		11077.42	
3503	544.58	1000G	1547.32	A3M4M
3504	525.88	1000G	1515.27	A3M4M
3505	171.3	1000G	790.25	A3M4M
3506	384.49	1000G	1272.97	A3M4M
3507	1022.58	1000G	2366.51	A3M4M
3508	1481.14	1000G	3511.48	A3M4M
3509	1540.98	1000G	3664.06	A3M4M
3510	3184.45	1000G	6834.33	A3M4M
3511	1796.82	1000G	4157.57	A3M4M
3512	1398.1	1000G	3480.65	A3M4M
3513	216.18	1000G	901.13	A3M4M
3514	234.88	1000G	1053.81	A3M4M
3515	12501.38		31095.35	
3516	670.25	1000G	1984.41	A3M4M
3517	283.5	1000G	1179.32	A3M4M
3518	529.62	1000G	1805.32	A3M4M
3519	1483.37		4969.05	
3520	15988.86	1000G	20269.27	A3M4M
3521	15870.67	1000G	20180.79	A3M4M
3522	15418.84	1000G	18829.09	A3M4M
3523	14710.44	1000G	19312.23	A3M4M
3524	15422.58	1000G	19845.35	A3M4M
3525	14652.09	1000G	19268.55	A3M4M
3526	17616.62	1000G	21487.83	A3M4M
3527	15682.91	1000G	20040.23	A3M4M
3528	8087.93	1000G	12323.04	A3M4M
3529	17786.43	1000G	23274.91	A3M4M
3530	16312.76	1000G	20511.75	A3M4M
3531	17645.79	1000G	21509.67	A3M4M
3532	185195.92		236852.71	
3533	17259.8	1000G	21220.71	A3M4M
3534	15571.45	1000G	19956.79	A3M4M
3535	13115.59	1000G	18492.12	A3M4M
3536	16020.28	1000G	21075.98	A3M4M
3537	15781.65	1000G	20890.32	A3M4M
3538	15699.36	1000G	20826.3	A3M4M
3539	18656.41	1000G	23126.95	A3M4M
3540	15548.26	1000G	20708.74	A3M4M
3541	17760.25	1000G	22429.71	A3M4M
3542	14741.86	1000G	20081.34	A3M4M
3543	13208.35	1000G	18888.24	A3M4M
3544	15381.44	1000G	20578.95	A3M4M
3545	188744.7		248276.15	
3546	17285.98	1000G	22060.73	A3M4M
3547	15668.69	1000G	20802.44	A3M4M
3548	17876.94	1000G	22520.51	A3M4M
3549	17549.29	1000G	22265.59	A3M4M

	A	B	C	D	E
3550	2600	2603	26CC	3	5
3551	2600	2603	26CC	3	6
3552	2600	2603	26CC	3	7
3553	2600	2603	26CC	3	8
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3555	2600	2603	26CC	3	10
3556	2600	2603	26CC	3	11
3557	2600	2603	26CC	3	12
3558					
3559	2600	2603	26CC	3	1
3560	2600	2603	26CC	3	2
3561	2600	2603	26CC	3	3
3562	2600	2603	26CC	3	4
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3566	2600	2603	26CC	3	8
3567	2600	2603	26CC	3	9
3568	2600	2603	26CC	3	10
3569	2600	2603	26CC	3	11
3570	2600	2603	26CC	3	12
3571					
3572	2600	2603	26CC	3	1
3573	2600	2603	26CC	3	2
3574	2600	2603	26CC	3	3
3575					
3576	2600	2603	26CC	3	1
3577	2600	2603	26CC	3	2
3578	2600	2603	26CC	3	3
3579	2600	2603	26CC	3	4
3580	2600	2603	26CC	3	5
3581	2600	2603	26CC	3	6
3582	2600	2603	26CC	3	7
3583	2600	2603	26CC	3	8
3584	2600	2603	26CC	3	10
3585	2600	2603	26CC	3	10
3586	2600	2603	26CC	3	11
3587	2600	2603	26CC	3	12
3588					
3589	2600	2603	26CC	3	1
3590	2600	2603	26CC	3	2
3591	2600	2603	26CC	3	3
3592	2600	2603	26CC	3	4
3593	2600	2603	26CC	3	5
3594	2600	2603	26CC	3	6
3595	2600	2603	26CC	3	7
3596	2600	2603	26CC	3	8
3597	2600	2603	26CC	3	9
3598	2600	2603	26CC	3	10
3599	2600	2603	26CC	3	11

	F	G	H	I
3550	2006	104627	260073166	Velsicol Chemical Corp
3551	2006	104627	260073166	Velsicol Chemical Corp
3552	2006	104627	260073166	Velsicol Chemical Corp
3553	2006	104627	260073166	Velsicol Chemical Corp
3554	2006	104627	260073166	Velsicol Chemical Corp
3555	2006	104627	260073166	Velsicol Chemical Corp
3556	2006	104627	260073166	Velsicol Chemical Corp
3557	2006	104627	260073166	Velsicol Chemical Corp
3558	**2006 Total**			
3559	2007	104627	260073166	Velsicol Chemical Corp
3560	2007	104627	260073166	Velsicol Chemical Corp
3561	2007	104627	260073166	Velsicol Chemical Corp
3562	2007	104627	260073166	Velsicol Chemical Corp
3563	2007	104627	260073166	Velsicol Chemical Corp
3564	2007	104627	260073166	Velsicol Chemical Corp
3565	2007	104627	260073166	Velsicol Chemical Corp
3566	2007	104627	260073166	Velsicol Chemical Corp
3567	2007	104627	260073166	Velsicol Chemical Corp
3568	2007	104627	260073166	Velsicol Chemical Corp
3569	2007	104627	260073166	Velsicol Chemical Corp
3570	2007	104627	260073166	Velsicol Chemical Corp
3571	**2007 Total**			
3572	2008	104627	260073166	Velsicol Chemical Corp
3573	2008	104627	260073166	Velsicol Chemical Corp
3574	2008	104627	260073166	Velsicol Chemical Corp
3575	**2008 Total**			
3576	2004	104629	260073168	Velsicol Chemical Corp
3577	2004	104629	260073168	Velsicol Chemical Corp
3578	2004	104629	260073168	Velsicol Chemical Corp
3579	2004	104629	260073168	Velsicol Chemical Corp
3580	2004	104629	260073168	Velsicol Chemical Corp
3581	2004	104629	260073168	Velsicol Chemical Corp
3582	2004	104629	260073168	Velsicol Chemical Corp
3583	2004	104629	260073168	Velsicol Chemical Corp
3584	2004	104629	260073168	Velsicol Chemical Corp
3585	2004	104629	260073168	Velsicol Chemical Corp
3586	2004	104629	260073168	Velsicol Chemical Corp
3587	2004	104629	260073168	Velsicol Chemical Corp
3588	**2004 Total**			
3589	2005	104629	260073168	Velsicol Chemical Corp
3590	2005	104629	260073168	Velsicol Chemical Corp
3591	2005	104629	260073168	Velsicol Chemical Corp
3592	2005	104629	260073168	Velsicol Chemical Corp
3593	2005	104629	260073168	Velsicol Chemical Corp
3594	2005	104629	260073168	Velsicol Chemical Corp
3595	2005	104629	260073168	Velsicol Chemical Corp
3596	2005	104629	260073168	Velsicol Chemical Corp
3597	2005	104629	260073168	Velsicol Chemical Corp
3598	2005	104629	260073168	Velsicol Chemical Corp
3599	2005	104629	260073168	Velsicol Chemical Corp

	J	K	L	M
3550	4902 Central Ave	Chattanooga	TN	374102009
3551	4902 Central Ave	Chattanooga	TN	374102009
3552	4902 Central Ave	Chattanooga	TN	374102009
3553	4902 Central Ave	Chattanooga	TN	374102009
3554	4902 Central Ave	Chattanooga	TN	374102009
3555	4902 Central Ave	Chattanooga	TN	374102009
3556	4902 Central Ave	Chattanooga	TN	374102009
3557	4902 Central Ave	Chattanooga	TN	374102009
3558				
3559	4902 Central Ave	Chattanooga	TN	374102009
3560	4902 Central Ave	Chattanooga	TN	374102009
3561	4902 Central Ave	Chattanooga	TN	374102009
3562	4902 Central Ave	Chattanooga	TN	374102009
3563	4902 Central Ave	Chattanooga	TN	374102009
3564	4902 Central Ave	Chattanooga	TN	374102009
3565	4902 Central Ave	Chattanooga	TN	374102009
3566	4902 Central Ave	Chattanooga	TN	374102009
3567	4902 Central Ave	Chattanooga	TN	374102009
3568	4902 Central Ave	Chattanooga	TN	374102009
3569	4902 Central Ave	Chattanooga	TN	374102009
3570	4902 Central Ave	Chattanooga	TN	374102009
3571				
3572	4902 Central Ave	Chattanooga	TN	374102009
3573	4902 Central Ave	Chattanooga	TN	374102009
3574	4902 Central Ave	Chattanooga	TN	374102009
3575				
3576	4901 Central Ave	Chattanooga	TN	374102074
3577	4901 Central Ave	Chattanooga	TN	374102074
3578	4901 Central Ave	Chattanooga	TN	374102074
3579	4901 Central Ave	Chattanooga	TN	374102074
3580	4901 Central Ave	Chattanooga	TN	374102074
3581	4901 Central Ave	Chattanooga	TN	374102074
3582	4901 Central Ave	Chattanooga	TN	374102074
3583	4901 Central Ave	Chattanooga	TN	374102074
3584	4901 Central Ave	Chattanooga	TN	374102074
3585	4901 Central Ave	Chattanooga	TN	374102074
3586	4901 Central Ave	Chattanooga	TN	374102074
3587	4901 Central Ave	Chattanooga	TN	374102074
3588				
3589	4901 Central Ave	Chattanooga	TN	374102074
3590	4901 Central Ave	Chattanooga	TN	374102074
3591	4901 Central Ave	Chattanooga	TN	374102074
3592	4901 Central Ave	Chattanooga	TN	374102074
3593	4901 Central Ave	Chattanooga	TN	374102074
3594	4901 Central Ave	Chattanooga	TN	374102074
3595	4901 Central Ave	Chattanooga	TN	374102074
3596	4901 Central Ave	Chattanooga	TN	374102074
3597	4901 Central Ave	Chattanooga	TN	374102074
3598	4901 Central Ave	Chattanooga	TN	374102074
3599	4901 Central Ave	Chattanooga	TN	374102074

	N	O	P	Q
3550	16922.43	1000G	21777.87	A3M4M
3551	18708.03	1000G	23167.11	A3M4M
3552	18432.74	1000G	22952.93	A3M4M
3553	15644.01	1000G	20783.24	A3M4M
3554	13993.8	1000G	19499.34	A3M4M
3555	14247.39	1000G	19696.64	A3M4M
3556	11209.55	1000G	17327.17	A3M4M
3557	11808	1000G	17798.74	A3M4M
3558	189346.85		250652.31	
3559	11968.83	1000G	17923.87	A3M4M
3560	14714.93	1000G	20060.39	A3M4M
3561	11980.8	1000G	17933.18	A3M4M
3562	4439.68	1000G	8458.17	A3M4M
3563	601.43	1000G	2162.6	A3M4M
3564	32.16	1000G	1077.32	A3M4M
3565	26.18	1000G	1063.79	A3M4M
3566	26.18	1000G	1063.79	A3M4M
3567	14.96	1000G	1017.7	A3M4M
3568	8.97	1000G	993.11	A3M4M
3569	97.24	1000G	1101.94	A3M4
3570	220.67	1000G	1215.35	A3M4
3571	44132.03		74071.21	
3572	441.35	1000G	1741.08	A3M4
3573	362.8	1000G	1582.24	A3M4
3574	306.7	1000G	1437.42	A3M4
3575	1110.85		4760.74	
3576	0	1000G	159.54	A3MSM
3577	0	1000G	159.54	A3MSM
3578	0	1000G	159.54	A3MSM
3579	0	1000G	159.54	A3MSM
3580	0	1000G	159.54	A3MSM
3581	0	1000G	159.54	A3MSM
3582	0	1000G	159.54	A3MSM
3583	0	1000G	159.54	A3MSM
3584	0	1000G	132.94	A3MSM
3585	0	1000G	191.44	A3MSM
3586	0	1000G	159.54	A3MSM
3587	0	1000G	191.44	A3MSM
3588	0		1951.68	
3589	0	1000G	138.26	A3MSM
3590	0	1000G	159.54	A3MSM
3591	0	1000G	162.84	A3MSM
3592	0	1000G	165.7	A3MSM
3593	1.49	1000G	166.04	A3MSM
3594	1.49	1000G	166.04	A3MSM
3595	11.96	1000G	199.15	A3MSM
3596	0	1000G	165.7	A3MSM
3597	0	1000G	165.7	A3MSM
3598	0	1000G	165.7	A3MSM
3599	0	1000G	165.7	A3MSM

	A	B	C	D	E
3600	2600	2603	26CC	3	12
3601					
3602	2600	2603	26CC	3	1
3603	2600	2603	26CC	3	2
3604	2600	2603	26CC	3	3
3605	2600	2603	26CC	3	4
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3607	2600	2603	26CC	3	6
3608	2600	2603	26CC	3	7
3609	2600	2603	26CC	3	8
3610	2600	2603	26CC	3	9
3611	2600	2603	26CC	3	10
3612	2600	2603	26CC	3	11
3613	2600	2603	26CC	3	12
3614					
3615	2600	2603	26CC	3	1
3616	2600	2603	26CC	3	2
3617	2600	2603	26CC	3	3
3618	2600	2603	26CC	3	4
3619	2600	2603	26CC	3	5
3620	2600	2603	26CC	3	6
3621	2600	2603	26CC	3	7
3622					
3623	2600	2603	26CC	3	1
3624	2600	2603	26CC	3	2
3625	2600	2603	26CC	3	3
3626	2600	2603	26CC	3	4
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3632	2600	2603	26CC	3	10
3633	2600	2603	26CC	3	11
3634	2600	2603	26CC	3	12
3635					
3636	2600	2603	26CC	3	1
3637	2600	2603	26CC	3	2
3638	2600	2603	26CC	3	3
3639	2600	2603	26CC	3	4
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3642	2600	2603	26CC	3	7
3643	2600	2603	26CC	3	8
3644	2600	2603	26CC	3	9
3645	2600	2603	26CC	3	10
3646	2600	2603	26CC	3	11
3647	2600	2603	26CC	3	12
3648					
3649	2600	2603	26CC	3	1

	F	G	H	I
3600	2005	104629	260073168	Velsicol Chemical Corp
3601	**2005 Total**			
3602	2006	104629	260073168	Velsicol Chemical Corp
3603	2006	104629	260073168	Velsicol Chemical Corp
3604	2006	104629	260073168	Velsicol Chemical Corp
3605	2006	104629	260073168	Velsicol Chemical Corp
3606	2006	104629	260073168	Velsicol Chemical Corp
3607	2006	104629	260073168	Velsicol Chemical Corp
3608	2006	104629	260073168	Velsicol Chemical Corp
3609	2006	104629	260073168	Velsicol Chemical Corp
3610	2006	104629	260073168	Velsicol Chemical Corp
3611	2006	104629	260073168	Velsicol Chemical Corp
3612	2006	104629	260073168	Velsicol Chemical Corp
3613	2006	104629	260073168	Velsicol Chemical Corp
3614	**2006 Total**			
3615	2007	104629	260073168	Velsicol Chemical Corp
3616	2007	104629	260073168	Velsicol Chemical Corp
3617	2007	104629	260073168	Velsicol Chemical Corp
3618	2007	104629	260073168	Velsicol Chemical Corp
3619	2007	104629	260073168	Velsicol Chemical Corp
3620	2007	104629	260073168	Velsicol Chemical Corp
3621	2007	104629	260073168	Velsicol Chemical Corp
3622	**2007 Total**			
3623	2004	104630	260073169	Bunge Foods Corporation
3624	2004	104630	260073169	Bunge Foods Corporation
3625	2004	104630	260073169	Bunge Foods Corporation
3626	2004	104630	260073169	Bunge Foods Corporation
3627	2004	104630	260073169	Bunge Foods Corporation
3628	2004	104630	260073169	Bunge Foods Corporation
3629	2004	104630	260073169	Bunge Foods Corporation
3630	2004	104630	260073169	Bunge Foods Corporation
3631	2004	104630	260073169	Bunge Foods Corporation
3632	2004	104630	260073169	Bunge Foods Corporation
3633	2004	104630	260073169	Bunge Foods Corporation
3634	2004	104630	260073169	Bunge Foods Corporation
3635	**2004 Total**			
3636	2005	104630	260073169	Bunge Foods Corporation
3637	2005	104630	260073169	Bunge Foods Corporation
3638	2005	104630	260073169	Bunge Foods Corporation
3639	2005	104630	260073169	Bunge Foods Corporation
3640	2005	104630	260073169	Bunge Foods Corporation
3641	2005	104630	260073169	Bunge Foods Corporation
3642	2005	104630	260073169	Bunge Foods Corporation
3643	2005	104630	260073169	Bunge Foods Corporation
3644	2005	104630	260073169	Bunge Foods Corporation
3645	2005	104630	260073169	Bunge Foods Corporation
3646	2005	104630	260073169	Bunge Foods Corporation
3647	2005	104630	260073169	Bunge Foods Corporation
3648	**2005 Total**			
3649	2006	104630	260073169	Bunge Foods Corporation

	J	K	L	M
3600	4901 Central Ave	Chattanooga	TN	374102074
3601				
3602	4901 Central Ave	Chattanooga	TN	374102074
3603	4901 Central Ave	Chattanooga	TN	374102074
3604	4901 Central Ave	Chattanooga	TN	374102074
3605	4901 Central Ave	Chattanooga	TN	374102074
3606	4901 Central Ave	Chattanooga	TN	374102074
3607	4901 Central Ave	Chattanooga	TN	374102074
3608	4901 Central Ave	Chattanooga	TN	374102074
3609	4901 Central Ave	Chattanooga	TN	374102074
3610	4901 Central Ave	Chattanooga	TN	374102074
3611	4901 Central Ave	Chattanooga	TN	374102074
3612	4901 Central Ave	Chattanooga	TN	374102074
3613	4901 Central Ave	Chattanooga	TN	374102074
3614				
3615	4901 Central Ave	Chattanooga	TN	374102074
3616	4901 Central Ave	Chattanooga	TN	374102074
3617	4901 Central Ave	Chattanooga	TN	374102074
3618	4901 Central Ave	Chattanooga	TN	374102074
3619	4901 Central Ave	Chattanooga	TN	374102074
3620	4901 Central Ave	Chattanooga	TN	374102074
3621	4901 Central Ave	Chattanooga	TN	374102074
3622				
3623	11 W 47th St	Chattanooga	TN	37403
3624	11 W 47th St	Chattanooga	TN	37403
3625	11 W 47th St	Chattanooga	TN	37403
3626	11 W 47th St	Chattanooga	TN	37403
3627	11 W 47th St	Chattanooga	TN	37403
3628	11 W 47th St	Chattanooga	TN	37403
3629	11 W 47th St	Chattanooga	TN	37403
3630	11 W 47th St	Chattanooga	TN	37403
3631	11 W 47th St	Chattanooga	TN	37403
3632	11 W 47th St	Chattanooga	TN	37403
3633	11 W 47th St	Chattanooga	TN	37403
3634	11 W 47th St	Chattanooga	TN	37403
3635				
3636	11 W 47th St	Chattanooga	TN	37403
3637	11 W 47th St	Chattanooga	TN	37403
3638	11 W 47th St	Chattanooga	TN	37403
3639	11 W 47th St	Chattanooga	TN	37403
3640	11 W 47th St	Chattanooga	TN	37403
3641	11 W 47th St	Chattanooga	TN	37403
3642	11 W 47th St	Chattanooga	TN	37403
3643	11 W 47th St	Chattanooga	TN	37403
3644	11 W 47th St	Chattanooga	TN	37403
3645	11 W 47th St	Chattanooga	TN	37403
3646	11 W 47th St	Chattanooga	TN	37403
3647	11 W 47th St	Chattanooga	TN	37403
3648				
3649	11 W 47th St	Chattanooga	TN	37403

	N	O	P	Q
3600	0	1000G	165.7	A3MSM
3601	14.94		1986.07	
3602	0	1000G	165.7	A3MSM
3603	0	1000G	165.7	A3MSM
3604	0	1000G	165.7	A3MSM
3605	0	1000G	165.7	A3MSM
3606	0	1000G	165.7	A3MSM
3607	0	1000G	165.7	A3MSM
3608	0	1000G	165.7	A3MSM
3609	0	1000G	165.7	A3MSM
3610	0	1000G	165.7	A3MSM
3611	0	1000G	165.7	A3MSM
3612	0	1000G	165.7	A3MSM
3613	0	1000G	165.7	A3MSM
3614	0		1988.4	
3615	0	1000G	165.7	A3MSM
3616	0	1000G	165.7	A3MSM
3617	0	1000G	165.7	A3MSM
3618	0	1000G	165.7	A3MSM
3619	0	1000G	165.7	A3MSM
3620	0	1000G	184.6	A3MSM
3621	0	1000G	55.96	A3MSM
3622	0		1069.06	
3623	5999.37	1000G	9612.11	A3M4M
3624	5608.14	1000G	9118.4	A3M4M
3625	5406.91	1000G	8864.46	A3M4M
3626	5294.71	1000G	8722.86	A3M4M
3627	5903.62	1000G	9491.28	A3M4M
3628	5619.36	1000G	9132.56	A3M4M
3629	5929.8	1000G	9524.32	A3M4M
3630	5366.52	1000G	8813.49	A3M4M
3631	5147.34	1000G	8536.89	A3M4M
3632	5420.38	1000G	8881.45	A3M4M
3633	5557.27	1000G	9054.21	A3M4M
3634	5653.77	1000G	9175.98	A3M4M
3635	66907.19		108928.01	
3636	5493.69	1000G	8973.97	A3M4M
3637	4895.25	1000G	8218.77	A3M4M
3638	5021.67	1000G	8552.12	A3M4M
3639	4699.26	1000G	8280.38	A3M4M
3640	5020.17	1000G	8700.8	A3M4M
3641	5097.97	1000G	8802.72	A3M4M
3642	5321.64	1000G	9095.74	A3M4M
3643	4949.11	1000G	8607.7	A3M4M
3644	5671.73	1000G	9554.38	A3M4M
3645	5240.1	1000G	8988.92	A3M4M
3646	4833.16	1000G	8455.8	A3M4M
3647	4992.49	1000G	8664.54	A3M4M
3648	61236.24		104895.84	
3649	5569.24	1000G	9420.12	A3M4M

	A	B	C	D	E
3650	2600	2603	26CC	3	2
3651	2600	2603	26CC	3	3
3652	2600	2603	26CC	3	4
3653	2600	2603	26CC	3	5
3654	2600	2603	26CC	3	6
3655	2600	2603	26CC	3	7
3656	2600	2603	26CC	3	8
3657	2600	2603	26CC	3	9
3658	2600	2603	26CC	3	10
3659	2600	2603	26CC	3	11
3660	2600	2603	26CC	3	12
3661					
3662	2600	2603	26CC	3	1
3663	2600	2603	26CC	3	2
3664	2600	2603	26CC	3	3
3665	2600	2603	26CC	3	4
3666	2600	2603	26CC	3	5
3667	2600	2603	26CC	3	6
3668	2600	2603	26CC	3	7
3669	2600	2603	26CC	3	8
3670	2600	2603	26CC	3	9
3671	2600	2603	26CC	3	10
3672	2600	2603	26CC	3	11
3673	2600	2603	26CC	3	12
3674					
3675	2600	2603	26CC	3	1
3676	2600	2603	26CC	3	2
3677	2600	2603	26CC	3	3
3678					
3679	2600	2603	26CC	3	1
3680	2600	2603	26CC	3	2
3681	2600	2603	26CC	3	2
3682	2600	2603	26CC	3	3
3683	2600	2603	26CC	3	4
3684	2600	2603	26CC	3	5
3685	2600	2603	26CC	3	6
3686	2600	2603	26CC	3	7
3687	2600	2603	26CC	3	8
3688	2600	2603	26CC	3	9
3689	2600	2603	26CC	3	10
3690	2600	2603	26CC	3	11
3691	2600	2603	26CC	3	12
3692					
3693	2600	2603	26CC	3	1
3694	2600	2603	26CC	3	2
3695	2600	2603	26CC	3	3
3696	2600	2603	26CC	3	4
3697	2600	2603	26CC	3	5
3698	2600	2603	26CC	3	6
3699	2600	2603	26CC	3	7

	F	G	H	I
3650	2006	104630	260073169	Bunge Foods Corporation
3651	2006	104630	260073169	Bunge Foods Corporation
3652	2006	104630	260073169	Bunge Foods Corporation
3653	2006	104630	260073169	Bunge Foods Corporation
3654	2006	104630	260073169	Bunge Foods Corporation
3655	2006	104630	260073169	Bunge Foods Corporation
3656	2006	104630	260073169	Bunge Foods Corporation
3657	2006	104630	260073169	Bunge Foods Corporation
3658	2006	104630	260073169	Bunge Foods Corporation
3659	2006	104630	260073169	Bunge Foods Corporation
3660	2006	104630	260073169	Bunge Foods Corporation
3661	**2006 Total**			
3662	2007	104630	260073169	Bunge Foods Corporation
3663	2007	104630	260073169	Bunge Foods Corporation
3664	2007	104630	260073169	Bunge Foods Corporation
3665	2007	104630	260073169	Bunge Foods Corporation
3666	2007	104630	260073169	Bunge Foods Corporation
3667	2007	104630	260073169	Bunge Foods Corporation
3668	2007	104630	260073169	Bunge Foods Corporation
3669	2007	104630	260073169	Bunge Foods Corporation
3670	2007	104630	260073169	Bunge Foods Corporation
3671	2007	104630	260073169	Bunge Foods Corporation
3672	2007	104630	260073169	Bunge Foods Corporation
3673	2007	104630	260073169	Bunge Foods Corporation
3674	**2007 Total**			
3675	2008	104630	260073169	Bunge Foods Corporation
3676	2008	104630	260073169	Bunge Foods Corporation
3677	2008	104630	260073169	Bunge Foods Corporation
3678	**2008 Total**			
3679	2004	104637	260073175	Southern Cellulose
3680	2004	104637	260073175	Southern Cellulose
3681	2004	104637	260073175	Southern Cellulose
3682	2004	104637	260073175	Southern Cellulose
3683	2004	104637	260073175	Southern Cellulose
3684	2004	104637	260073175	Southern Cellulose
3685	2004	104637	260073175	Southern Cellulose
3686	2004	104637	260073175	Southern Cellulose
3687	2004	104637	260073175	Southern Cellulose
3688	2004	104637	260073175	Southern Cellulose
3689	2004	104637	260073175	Southern Cellulose
3690	2004	104637	260073175	Southern Cellulose
3691	2004	104637	260073175	Southern Cellulose
3692	**2004 Total**			
3693	2005	104637	260073175	Southern Cellulose
3694	2005	104637	260073175	Southern Cellulose
3695	2005	104637	260073175	Southern Cellulose
3696	2005	104637	260073175	Southern Cellulose
3697	2005	104637	260073175	Southern Cellulose
3698	2005	104637	260073175	Southern Cellulose
3699	2005	104637	260073175	Southern Cellulose

	J	K	L	M
3650	11 W 47th St	Chattanooga	TN	37403
3651	11 W 47th St	Chattanooga	TN	37403
3652	11 W 47th St	Chattanooga	TN	37403
3653	11 W 47th St	Chattanooga	TN	37403
3654	11 W 47th St	Chattanooga	TN	37403
3655	11 W 47th St	Chattanooga	TN	37403
3656	11 W 47th St	Chattanooga	TN	37403
3657	11 W 47th St	Chattanooga	TN	37403
3658	11 W 47th St	Chattanooga	TN	37403
3659	11 W 47th St	Chattanooga	TN	37403
3660	11 W 47th St	Chattanooga	TN	37403
3661				
3662	11 W 47th St	Chattanooga	TN	37403
3663	11 W 47th St	Chattanooga	TN	37403
3664	11 W 47th St	Chattanooga	TN	37403
3665	11 W 47th St	Chattanooga	TN	37403
3666	11 W 47th St	Chattanooga	TN	37403
3667	11 W 47th St	Chattanooga	TN	37403
3668	11 W 47th St	Chattanooga	TN	37403
3669	11 W 47th St	Chattanooga	TN	37403
3670	11 W 47th St	Chattanooga	TN	37403
3671	11 W 47th St	Chattanooga	TN	37403
3672	11 W 47th St	Chattanooga	TN	37403
3673	11 W 47th St	Chattanooga	TN	37403
3674				
3675	11 W 47th St	Chattanooga	TN	37403
3676	11 W 47th St	Chattanooga	TN	37403
3677	11 W 47th St	Chattanooga	TN	37403
3678				
3679	105 W 45th St	Chattanooga	TN	374101602
3680	105 W 45th St	Chattanooga	TN	374101602
3681	105 W 45th St	Chattanooga	TN	374101602
3682	105 W 45th St	Chattanooga	TN	374101602
3683	105 W 45th St	Chattanooga	TN	374101602
3684	105 W 45th St	Chattanooga	TN	374101602
3685	105 W 45th St	Chattanooga	TN	374101602
3686	105 W 45th St	Chattanooga	TN	374101602
3687	105 W 45th St	Chattanooga	TN	374101602
3688	105 W 45th St	Chattanooga	TN	374101602
3689	105 W 45th St	Chattanooga	TN	374101602
3690	105 W 45th St	Chattanooga	TN	374101602
3691	105 W 45th St	Chattanooga	TN	374101602
3692				
3693	105 W 45th St	Chattanooga	TN	374101602
3694	105 W 45th St	Chattanooga	TN	374101602
3695	105 W 45th St	Chattanooga	TN	374101602
3696	105 W 45th St	Chattanooga	TN	374101602
3697	105 W 45th St	Chattanooga	TN	374101602
3698	105 W 45th St	Chattanooga	TN	374101602
3699	105 W 45th St	Chattanooga	TN	374101602

	N	O	P	Q
3650	5059.82	1000G	8752.74	A3M4M
3651	6133.27	1000G	10159.04	A3M4M
3652	5256.56	1000G	9010.48	A3M4M
3653	5430.1	1000G	9237.84	A3M4M
3654	5522.11	1000G	9358.38	A3M4M
3655	6506.55	1000G	10648.06	A3M4M
3656	6714.51	1000G	10920.5	A3M4M
3657	5461.52	1000G	9279	A3M4M
3658	5664.24	1000G	9544.58	A3M4M
3659	6077.17	1000G	10085.54	A3M4M
3660	5823.58	1000G	9753.32	A3M4M
3661	69218.67		116169.6	
3662	6356.19	1000G	10451.08	A3M4M
3663	6633.72	1000G	10814.66	A3M4M
3664	6454.19	1000G	10579.46	A3M4M
3665	6300.84	1000G	10378.56	A3M4M
3666	6146.74	1000G	10176.68	A3M4M
3667	6844.67	1000G	12357.28	A3M4M
3668	6300.09	1000G	11680.95	A3M4M
3669	6182.64	1000G	11507.78	A3M4M
3670	6641.2	1000G	12183.91	A3M4M
3671	6197.61	1000G	11529.84	A3M4M
3672	5546.8	1000G	10570.23	A3M4M
3673	6596.31	1000G	12117.73	A3M4M
3674	76201		134348.16	
3675	6433.24	1000G	11877.28	A3M4M
3676	6350.21	1000G	11754.85	A3M4M
3677	5815.35	1000G	10966.2	A3M4M
3678	18598.8		34598.33	
3679	9155.4	1000G	14761.58	A3M4M
3680	0	1000G	-2935.22	CRLC
3681	8256.24	1000G	13626.89	A3M4M
3682	9881.01	1000G	15677.26	A3M4M
3683	8919.02	1000G	14463.27	A3M4M
3684	9754.59	1000G	15517.72	A3M4M
3685	10605.13	1000G	16591.05	A3M4M
3686	11496.06	1000G	17574.04	A3M4M
3687	9042.45	1000G	14619.03	A3M4M
3688	17099.72	1000G	21769	A3M4M
3689	10032.87	1000G	15868.89	A3M4M
3690	9191.31	1000G	14806.89	A3M4M
3691	16131.74	1000G	21044.36	A3M4M
3692	129565.54		193384.76	
3693	10788.4	1000G	16822.33	A3M4M
3694	9406.75	1000G	15078.76	A3M4M
3695	7851.55	1000G	13387.08	A3M4M
3696	8974.37	1000G	15092.85	A3M4M
3697	10406.89	1000G	16969.55	A3M4M
3698	10662.73	1000G	17304.71	A3M4M
3699	10326.85	1000G	16864.69	A3M4M

	A	B	C	D	E
3700	2600	2603	26CC	3	8
3701	2600	2603	26CC	3	9
3702	2600	2603	26CC	3	10
3703	2600	2603	26CC	3	12
3704	2600	2603	26CC	3	12
3705					
3706	2600	2603	26CC	3	1
3707	2600	2603	26CC	3	2
3708	2600	2603	26CC	3	3
3709	2600	2603	26CC	3	4
3710	2600	2603	26CC	3	5
3711	2600	2603	26CC	3	6
3712	2600	2603	26CC	3	7
3713	2600	2603	26CC	3	8
3714	2600	2603	26CC	3	9
3715	2600	2603	26CC	3	10
3716	2600	2603	26CC	3	10
3717	2600	2603	26CC	3	11
3718	2600	2603	26CC	3	12
3719					
3720	2600	2603	26CC	3	1
3721	2600	2603	26CC	3	2
3722	2600	2603	26CC	3	3
3723	2600	2603	26CC	3	4
3724	2600	2603	26CC	3	5
3725	2600	2603	26CC	3	6
3726	2600	2603	26CC	3	7
3727	2600	2603	26CC	3	8
3728	2600	2603	26CC	3	9
3729	2600	2603	26CC	3	10
3730	2600	2603	26CC	3	11
3731	2600	2603	26CC	3	12
3732					
3733	2600	2603	26CC	3	1
3734	2600	2603	26CC	3	2
3735	2600	2603	26CC	3	3
3736					
3737	2600	2604	26RG	3	1
3738	2600	2604	26RG	3	2
3739	2600	2604	26RG	3	3
3740	2600	2604	26RG	3	4
3741	2600	2606	26ER	3	5
3742	2600	2606	26ER	3	6
3743	2600	2606	26ER	3	7
3744	2600	2606	26ER	3	8
3745	2600	2606	26ER	3	9
3746	2600	2606	26ER	3	10
3747	2600	2606	26ER	3	11
3748	2600	2606	26ER	3	12
3749					

	F	G	H	I
3700	2005	104637	260073175	Southern Cellulose
3701	2005	104637	260073175	Southern Cellulose
3702	2005	104637	260073175	Southern Cellulose
3703	2005	104637	260073175	Southern Cellulose
3704	2005	104637	260073175	Southern Cellulose
3705	**2005 Total**			
3706	2006	104637	260073175	Southern Cellulose
3707	2006	104637	260073175	Southern Cellulose
3708	2006	104637	260073175	Southern Cellulose
3709	2006	104637	260073175	Southern Cellulose
3710	2006	104637	260073175	Southern Cellulose
3711	2006	104637	260073175	Southern Cellulose
3712	2006	104637	260073175	Southern Cellulose
3713	2006	104637	260073175	Southern Cellulose
3714	2006	104637	260073175	Southern Cellulose
3715	2006	104637	260073175	Southern Cellulose
3716	2006	104637	260073175	Southern Cellulose
3717	2006	104637	260073175	Southern Cellulose
3718	2006	104637	260073175	Southern Cellulose
3719	**2006 Total**			
3720	2007	104637	260073175	Southern Cellulose
3721	2007	104637	260073175	Southern Cellulose
3722	2007	104637	260073175	Southern Cellulose
3723	2007	104637	260073175	Southern Cellulose
3724	2007	104637	260073175	Southern Cellulose
3725	2007	104637	260073175	Southern Cellulose
3726	2007	104637	260073175	Southern Cellulose
3727	2007	104637	260073175	Southern Cellulose
3728	2007	104637	260073175	Southern Cellulose
3729	2007	104637	260073175	Southern Cellulose
3730	2007	104637	260073175	Southern Cellulose
3731	2007	104637	260073175	Southern Cellulose
3732	**2007 Total**			
3733	2008	104637	260073175	Southern Cellulose
3734	2008	104637	260073175	Southern Cellulose
3735	2008	104637	260073175	Southern Cellulose
3736	**2008 Total**			
3737	2004	104651	260073189	Rdc Inc
3738	2004	104651	260073189	Rdc Inc
3739	2004	104651	260073189	Rdc Inc
3740	2004	104651	260073189	Rdc Inc
3741	2004	104651	260073189	Rdc Inc
3742	2004	104651	260073189	Rdc Inc
3743	2004	104651	260073189	Rdc Inc
3744	2004	104651	260073189	Rdc Inc
3745	2004	104651	260073189	Rdc Inc
3746	2004	104651	260073189	Rdc Inc
3747	2004	104651	260073189	Rdc Inc
3748	2004	104651	260073189	Rdc Inc
3749	**2004 Total**			

	J	K	L	M
3700	105 W 45th St	Chattanooga	TN	374101602
3701	105 W 45th St	Chattanooga	TN	374101602
3702	105 W 45th St	Chattanooga	TN	374101602
3703	105 W 45th St	Chattanooga	TN	374101602
3704	105 W 45th St	Chattanooga	TN	374101602
3705				
3706	105 W 45th St	Chattanooga	TN	374101602
3707	105 W 45th St	Chattanooga	TN	374101602
3708	105 W 45th St	Chattanooga	TN	374101602
3709	105 W 45th St	Chattanooga	TN	374101602
3710	105 W 45th St	Chattanooga	TN	374101602
3711	105 W 45th St	Chattanooga	TN	374101602
3712	105 W 45th St	Chattanooga	TN	374101602
3713	105 W 45th St	Chattanooga	TN	374101602
3714	105 W 45th St	Chattanooga	TN	374101602
3715	105 W 45th St	Chattanooga	TN	374101602
3716	105 W 45th St	Chattanooga	TN	374101602
3717	105 W 45th St	Chattanooga	TN	374101602
3718	105 W 45th St	Chattanooga	TN	374101602
3719				
3720	105 W 45th St	Chattanooga	TN	374101602
3721	105 W 45th St	Chattanooga	TN	374101602
3722	105 W 45th St	Chattanooga	TN	374101602
3723	105 W 45th St	Chattanooga	TN	374101602
3724	105 W 45th St	Chattanooga	TN	374101602
3725	105 W 45th St	Chattanooga	TN	374101602
3726	105 W 45th St	Chattanooga	TN	374101602
3727	105 W 45th St	Chattanooga	TN	374101602
3728	105 W 45th St	Chattanooga	TN	374101602
3729	105 W 45th St	Chattanooga	TN	374101602
3730	105 W 45th St	Chattanooga	TN	374101602
3731	105 W 45th St	Chattanooga	TN	374101602
3732				
3733	105 W 45th St	Chattanooga	TN	374101602
3734	105 W 45th St	Chattanooga	TN	374101602
3735	105 W 45th St	Chattanooga	TN	374101602
3736				
3737	555 Williams St	Rossville	GA	30741
3738	555 Williams St	Rossville	GA	30741
3739	555 Williams St	Rossville	GA	30741
3740	555 Williams St	Rossville	GA	30741
3741	555 Williams St	Rossville	GA	30741
3742	555 Williams St	Rossville	GA	30741
3743	555 Williams St	Rossville	GA	30741
3744	555 Williams St	Rossville	GA	30741
3745	555 Williams St	Rossville	GA	30741
3746	555 Williams St	Rossville	GA	30741
3747	555 Williams St	Rossville	GA	30741
3748	555 Williams St	Rossville	GA	30741
3749				

	N	O	P	Q
3700	8936.97	1000G	15043.85	A3M4M
3701	13071.46	1000G	19475.66	A3M4M
3702	11647.16	1000G	18367.53	A3M4M
3703	49069.21	1000G	44380.73	A3M4M
3704	70147.82	1000G	66363.81	A3M4M
3705	221290.16		275151.55	
3706	20564.69	1000G	25305.55	A3M4M
3707	8494.13	1000G	14463.69	A3M4M
3708	9157.65	1000G	15332.95	A3M4M
3709	9002.8	1000G	15130.09	A3M4M
3710	17992.89	1000G	23304.64	A3M4M
3711	57018.76	1000G	53667.58	A3M4M
3712	42825.97	1000G	42625.29	A3M4M
3713	56369.45	1000G	53162.4	A3M4M
3714	50239.16	1000G	49057.03	A3M4M
3715	-223.66	1000G	-174.02	CRAC3
3716	36173.55	1000G	37345.99	A3M4M
3717	34679.69	1000G	36287.31	A3M4M
3718	16177.37	1000G	21892.12	A3M4M
3719	358472.45		387400.62	
3720	21720.43	1000G	26204.74	A3M4M
3721	10207.16	1000G	16707.89	A3M4M
3722	16806.48	1000G	22381.58	A3M4M
3723	9168.87	1000G	15347.65	A3M4M
3724	14038.69	1000G	20228.18	A3M4M
3725	36041.14	1000G	41594.17	A3M4M
3726	34372.24	1000G	40572.28	A3M4M
3727	20873.64	1000G	28752.8	A3M4M
3728	35830.94	1000G	41849.53	A3M4M
3729	48928.58	1000G	53317.92	A3M4M
3730	24236.13	1000G	31697.03	A3M4M
3731	19959.52	1000G	27952.39	A3M4M
3732	292183.82		366606.16	
3733	10938.01	1000G	19883.75	A3M4M
3734	9745.62	1000G	18125.56	A3M4M
3735	10307.4	1000G	18953.92	A3M4M
3736	30991.03		56963.23	
3737	15.7	1000G	462.49	A3MSM
3738	21.69	1000G	564.96	A3MSM
3739	20.94	1000G	562.33	A3MSM
3740	26.18	1000G	580.73	A3MSM
3741	148.11	1000G	879.15	A3MSM
3742	338.11	1000G	1298.51	A3MSM
3743	384.49	1000G	1395.04	A3MSM
3744	356.82	1000G	1339.78	A3MSM
3745	315.67	1000G	1248.98	A3MSM
3746	941.79	1000G	2314.37	A3MSM
3747	203.47	1000G	1001.33	A3MSM
3748	29.92	1000G	593.87	A3MSM
3749	2802.89		12241.54	

	A	B	C	D	E
3750	2600	2606	26ER	3	1
3751	2600	2606	26ER	3	2
3752	2600	2606	26ER	3	3
3753	2600	2606	26ER	3	4
3754	2600	2606	26ER	3	5
3755	2600	2606	26ER	3	6
3756	2600	2606	26ER	3	7
3757	2600	2606	26ER	3	8
3758	2600	2606	26ER	3	9
3759	2600	2606	26ER	3	10
3760	2600	2606	26ER	3	11
3761	2600	2606	26ER	3	12
3762					
3763	2600	2606	26ER	3	1
3764	2600	2606	26ER	3	1
3765	2600	2606	26ER	3	2
3766	2600	2606	26ER	3	2
3767	2600	2606	26ER	3	3
3768	2600	2606	26ER	3	4
3769	2600	2606	26ER	3	5
3770	2600	2606	26ER	3	6
3771	2600	2606	26ER	3	7
3772	2600	2606	26ER	3	8
3773	2600	2606	26ER	3	9
3774	2600	2606	26ER	3	10
3775	2600	2606	26ER	3	10
3776	2600	2606	26ER	3	10
3777	2600	2606	26ER	3	11
3778	2600	2606	26ER	3	12
3779					
3780	2600	2606	26ER	3	1
3781	2600	2606	26ER	3	2
3782	2600	2606	26ER	3	3
3783	2600	2606	26ER	3	3
3784	2600	2606	26ER	3	4
3785	2600	2604	26RG	3	5
3786	2600	2604	26RG	3	6
3787	2600	2604	26RG	3	7
3788					
3789	2600	2604	26RG	3	3
3790	2600	2604	26RG	3	4
3791	2600	2604	26RG	3	5
3792	2600	2604	26RG	3	5
3793	2600	2604	26RG	3	6
3794	2600	2604	26RG	3	7
3795	2600	2604	26RG	3	9
3796	2600	2604	26RG	3	10
3797	2600	2604	26RG	3	10
3798	2600	2604	26RG	3	12
3799	2600	2604	26RG	3	12

	F	G	H	I
3750	2005	104651	260073189	Rdc Inc
3751	2005	104651	260073189	Rdc Inc
3752	2005	104651	260073189	Rdc Inc
3753	2005	104651	260073189	Rdc Inc
3754	2005	104651	260073189	Rdc Inc
3755	2005	104651	260073189	Rdc Inc
3756	2005	104651	260073189	Rdc Inc
3757	2005	104651	260073189	Rdc Inc
3758	2005	104651	260073189	Rdc Inc
3759	2005	104651	260073189	Rdc Inc
3760	2005	104651	260073189	Rdc Inc
3761	2005	104651	260073189	Rdc Inc
3762	**2005 Total**			
3763	2006	104651	260073189	Rdc Inc
3764	2006	104651	260073189	Rdc Inc
3765	2006	104651	260073189	Rdc Inc
3766	2006	104651	260073189	Rdc Inc
3767	2006	104651	260073189	Rdc Inc
3768	2006	104651	260073189	Rdc Inc
3769	2006	104651	260073189	Rdc Inc
3770	2006	104651	260073189	Rdc Inc
3771	2006	104651	260073189	Rdc Inc
3772	2006	104651	260073189	Rdc Inc
3773	2006	104651	260073189	Rdc Inc
3774	2006	104651	260073189	Rdc Inc
3775	2006	104651	260073189	Rdc Inc
3776	2006	104651	260073189	Rdc Inc
3777	2006	104651	260073189	Rdc Inc
3778	2006	104651	260073189	Rdc Inc
3779	**2006 Total**			
3780	2007	104651	260073189	Rdc Inc
3781	2007	104651	260073189	Rdc Inc
3782	2007	104651	260073189	Rdc Inc
3783	2007	104651	260073189	Rdc Inc
3784	2007	104651	260073189	Rdc Inc
3785	2007	104651	260073189	Rdc Inc
3786	2007	104651	260073189	Rdc Inc
3787	2007	104651	260073189	Rdc Inc
3788	**2007 Total**			
3789	2004	104652	260073190	COATS AMERICAN
3790	2004	104652	260073190	COATS AMERICAN
3791	2004	104652	260073190	COATS AMERICAN
3792	2004	104652	260073190	COATS AMERICAN
3793	2004	104652	260073190	COATS AMERICAN
3794	2004	104652	260073190	COATS AMERICAN
3795	2004	104652	260073190	COATS AMERICAN
3796	2004	104652	260073190	COATS AMERICAN
3797	2004	104652	260073190	COATS AMERICAN
3798	2004	104652	260073190	COATS AMERICAN
3799	2004	104652	260073190	COATS AMERICAN

	J	K	L	M
3750	555 Williams St	Rossville	GA	30741
3751	555 Williams St	Rossville	GA	30741
3752	555 Williams St	Rossville	GA	30741
3753	555 Williams St	Rossville	GA	30741
3754	555 Williams St	Rossville	GA	30741
3755	555 Williams St	Rossville	GA	30741
3756	555 Williams St	Rossville	GA	30741
3757	555 Williams St	Rossville	GA	30741
3758	555 Williams St	Rossville	GA	30741
3759	555 Williams St	Rossville	GA	30741
3760	555 Williams St	Rossville	GA	30741
3761	555 Williams St	Rossville	GA	30741
3762				
3763	555 Williams St	Rossville	GA	30741
3764	555 Williams St	Rossville	GA	30741
3765	555 Williams St	Rossville	GA	30741
3766	555 Williams St	Rossville	GA	30741
3767	555 Williams St	Rossville	GA	30741
3768	555 Williams St	Rossville	GA	30741
3769	555 Williams St	Rossville	GA	30741
3770	555 Williams St	Rossville	GA	30741
3771	555 Williams St	Rossville	GA	30741
3772	555 Williams St	Rossville	GA	30741
3773	555 Williams St	Rossville	GA	30741
3774	555 Williams St	Rossville	GA	30741
3775	555 Williams St	Rossville	GA	30741
3776	555 Williams St	Rossville	GA	30741
3777	555 Williams St	Rossville	GA	30741
3778	555 Williams St	Rossville	GA	30741
3779				
3780	555 Williams St	Rossville	GA	30741
3781	555 Williams St	Rossville	GA	30741
3782	555 Williams St	Rossville	GA	30741
3783	555 Williams St	Rossville	GA	30741
3784	555 Williams St	Rossville	GA	30741
3785	555 Williams St	Rossville	GA	30741
3786	555 Williams St	Rossville	GA	30741
3787	555 Williams St	Rossville	GA	30741
3788				
3789	200 Maple St	Rossville	GA	30741
3790	200 Maple St	Rossville	GA	30741
3791	200 Maple St	Rossville	GA	30741
3792	200 Maple St	Rossville	GA	30741
3793	200 Maple St	Rossville	GA	30741
3794	200 Maple St	Rossville	GA	30741
3795	200 Maple St	Rossville	GA	30741
3796	200 Maple St	Rossville	GA	30741
3797	200 Maple St	Rossville	GA	30741
3798	200 Maple St	Rossville	GA	30741
3799	200 Maple St	Rossville	GA	30741

	N	O	P	Q
3750	17.95	1000G	551.82	A3MSM
3751	4.48	1000G	504.52	A3MSM
3752	3.74	1000G	512.28	A3MSM
3753	5.23	1000G	526.72	A3MSM
3754	94.25	1000G	789.68	A3MSM
3755	257.32	1000G	1163.55	A3MSM
3756	353.82	1000G	1384.78	A3MSM
3757	334.37	1000G	1340.19	A3MSM
3758	379.26	1000G	1440.06	A3MSM
3759	197.48	1000G	1026.35	A3MSM
3760	34.41	1000G	633.19	A3MSM
3761	13.46	1000G	556.75	A3MSM
3762	1695.77		10429.89	
3763	-13.46	1000G	-297.83	A3M4
3764	13.46	1000G	297.83	A3M4
3765	17.2	1000G	311.48	A3M4
3766	36.64	1000G	421.37	A3MSM
3767	117.44	1000G	583.92	A3M4
3768	273.78	1000G	942.36	A3M4
3769	162.32	1000G	686.82	A3M4
3770	342.6	1000G	1100.14	A3M4
3771	211.69	1000G	800.01	A3M4
3772	189.25	1000G	748.56	A3M4
3773	55537.62	1000G	868.61	A3M4
3774	11.22	1000G	289.64	A3M4
3775	241.62	1000G	868.61	A3M4
3776	-55537.62	1000G	-868.61	A3M4
3777	11.22	1000G	289.64	A3M4
3778	12.71	1000G	295.1	A3M4
3779	1627.69		7337.65	
3780	14.21	1000G	300.56	A3M4
3781	237.87	1000G	1060.67	A3M4
3782	98.73	1000G	541.05	A3M4
3783	275.28	1000G	683.3	CRUS3
3784	292.48	1000G	1121.59	A3M4
3785	298.47	1000G	998.95	A3M4
3786	585.72	1000G	1709.96	A3M4
3787	592.45	1000G	1741.07	A3M4
3788	2395.21		8157.15	
3789	23.93	1000G	228.59	A3MSM
3790	38.15	1000G	203.95	A3MSM
3791	37.4	1000G	201.32	A3MSM
3792	44.88	1000G	227.6	A3MSM
3793	49.37	1000G	242.39	A3MSM
3794	54.6	1000G	273.42	A3MSM
3795	49.37	1000G	242.39	A3MSM
3796	37.4	1000G	201.32	A3MSM
3797	44.88	1000G	227.6	A3MSM
3798	24.68	1000G	156.64	A3MSM
3799	68.82	1000G	285.32	A3MSM

	A	B	C	D	E
3800					
3801	2600	2604	26RG	3	2
3802	2600	2604	26RG	3	2
3803	2600	2604	26RG	3	3
3804	2600	2604	26RG	3	4
3805	2600	2604	26RG	3	6
3806	2600	2604	26RG	3	6
3807	2600	2604	26RG	3	8
3808	2600	2604	26RG	3	8
3809	2600	2604	26RG	3	9
3810	2600	2604	26RG	3	11
3811	2600	2604	26RG	3	11
3812					
3813	2600	2604	26RG	3	1
3814	2600	2604	26RG	3	1
3815	2600	2604	26RG	3	2
3816	2600	2604	26RG	3	3
3817	2600	2604	26RG	3	5
3818	2600	2604	26RG	3	6
3819	2600	2604	26RG	3	6
3820	2600	2604	26RG	3	7
3821	2600	2604	26RG	3	8
3822	2600	2604	26RG	3	9
3823	2600	2604	26RG	3	10
3824	2600	2604	26RG	3	11
3825	2600	2604	26RG	3	12
3826					
3827	2600	2604	26RG	3	1
3828	2600	2604	26RG	3	2
3829	2600	2604	26RG	3	3
3830	2600	2604	26RG	3	4
3831	2600	2604	26RG	3	5
3832	2600	2604	26RG	3	6
3833	2600	2604	26RG	3	7
3834	2600	2604	26RG	3	8
3835	2600	2604	26RG	3	9
3836	2600	2604	26RG	3	10
3837	2600	2604	26RG	3	11
3838	2600	2604	26RG	3	11
3839	2600	2604	26RG	3	11
3840	2600	2604	26RG	3	11
3841	2600	2604	26RG	3	12
3842					
3843	2600	2604	26RG	3	1
3844					
3845	2600	2603	26CC	3	1
3846	2600	2603	26CC	3	2
3847	2600	2603	26CC	3	3
3848	2600	2603	26CC	3	4
3849	2600	2603	26CC	3	5

	F	G	H	I
3800	**2004 Total**			
3801	2005	104652	260073190	COATS AMERICAN
3802	2005	104652	260073190	COATS AMERICAN
3803	2005	104652	260073190	COATS AMERICAN
3804	2005	104652	260073190	COATS AMERICAN
3805	2005	104652	260073190	COATS AMERICAN
3806	2005	104652	260073190	COATS AMERICAN
3807	2005	104652	260073190	COATS AMERICAN
3808	2005	104652	260073190	COATS AMERICAN
3809	2005	104652	260073190	COATS AMERICAN
3810	2005	104652	260073190	COATS AMERICAN
3811	2005	104652	260073190	COATS AMERICAN
3812	**2005 Total**			
3813	2006	104652	260073190	COATS AMERICAN
3814	2006	104652	260073190	COATS AMERICAN
3815	2006	104652	260073190	COATS AMERICAN
3816	2006	104652	260073190	COATS AMERICAN
3817	2006	104652	260073190	COATS AMERICAN
3818	2006	104652	260073190	COATS AMERICAN
3819	2006	104652	260073190	COATS AMERICAN
3820	2006	104652	260073190	COATS AMERICAN
3821	2006	104652	260073190	COATS AMERICAN
3822	2006	104652	260073190	COATS AMERICAN
3823	2006	104652	260073190	COATS AMERICAN
3824	2006	104652	260073190	COATS AMERICAN
3825	2006	104652	260073190	COATS AMERICAN
3826	**2006 Total**			
3827	2007	104652	260073190	COATS AMERICAN
3828	2007	104652	260073190	COATS AMERICAN
3829	2007	104652	260073190	COATS AMERICAN
3830	2007	104652	260073190	COATS AMERICAN
3831	2007	104652	260073190	COATS AMERICAN
3832	2007	104652	260073190	COATS AMERICAN
3833	2007	104652	260073190	COATS AMERICAN
3834	2007	104652	260073190	COATS AMERICAN
3835	2007	104652	260073190	COATS AMERICAN
3836	2007	104652	260073190	COATS AMERICAN
3837	2007	104652	260073190	COATS AMERICAN
3838	2007	104652	260073190	COATS AMERICAN
3839	2007	104652	260073190	COATS AMERICAN
3840	2007	104652	260073190	COATS AMERICAN
3841	2007	104652	260073190	COATS AMERICAN
3842	**2007 Total**			
3843	2008	104652	260073190	COATS AMERICAN
3844	**2008 Total**			
3845	2003	104672	260073211	Standard Merc & Spec Yarn
3846	2003	104672	260073211	Standard Merc & Spec Yarn
3847	2003	104672	260073211	Standard Merc & Spec Yarn
3848	2003	104672	260073211	Standard Merc & Spec Yarn
3849	2003	104672	260073211	Standard Merc & Spec Yarn

	J	K	L	M
3800				
3801	200 Maple St	Rossville	GA	30741
3802	200 Maple St	Rossville	GA	30741
3803	200 Maple St	Rossville	GA	30741
3804	200 Maple St	Rossville	GA	30741
3805	200 Maple St	Rossville	GA	30741
3806	200 Maple St	Rossville	GA	30741
3807	200 Maple St	Rossville	GA	30741
3808	200 Maple St	Rossville	GA	30741
3809	200 Maple St	Rossville	GA	30741
3810	200 Maple St	Rossville	GA	30741
3811	200 Maple St	Rossville	GA	30741
3812				
3813	200 Maple St	Rossville	GA	30741
3814	200 Maple St	Rossville	GA	30741
3815	200 Maple St	Rossville	GA	30741
3816	200 Maple St	Rossville	GA	30741
3817	200 Maple St	Rossville	GA	30741
3818	200 Maple St	Rossville	GA	30741
3819	200 Maple St	Rossville	GA	30741
3820	200 Maple St	Rossville	GA	30741
3821	200 Maple St	Rossville	GA	30741
3822	200 Maple St	Rossville	GA	30741
3823	200 Maple St	Rossville	GA	30741
3824	200 Maple St	Rossville	GA	30741
3825	200 Maple St	Rossville	GA	30741
3826				
3827	200 Maple St	Rossville	GA	30741
3828	200 Maple St	Rossville	GA	30741
3829	200 Maple St	Rossville	GA	30741
3830	200 Maple St	Rossville	GA	30741
3831	200 Maple St	Rossville	GA	30741
3832	200 Maple St	Rossville	GA	30741
3833	200 Maple St	Rossville	GA	30741
3834	200 Maple St	Rossville	GA	30741
3835	200 Maple St	Rossville	GA	30741
3836	200 Maple St	Rossville	GA	30741
3837	200 Maple St	Rossville	GA	30741
3838	200 Maple St	Rossville	GA	30741
3839	200 Maple St	Rossville	GA	30741
3840	200 Maple St	Rossville	GA	30741
3841	200 Maple St	Rossville	GA	30741
3842				
3843	200 Maple St	Rossville	GA	30741
3844				
3845	1700 S Watkins St	Chattanooga	TN	374045326
3846	1700 S Watkins St	Chattanooga	TN	374045326
3847	1700 S Watkins St	Chattanooga	TN	374045326
3848	1700 S Watkins St	Chattanooga	TN	374045326
3849	1700 S Watkins St	Chattanooga	TN	374045326

	N	O	P	Q
3800	473.48		2490.54	
3801	21.69	1000G	146.13	A3MSM
3802	77.79	1000G	305.13	A3MSM
3803	59.84	1000G	271.02	A3MSM
3804	36.65	1000G	206.39	A3MSM
3805	29.17	1000G	188.78	A3MSM
3806	32.91	1000G	192.74	A3MSM
3807	20.19	1000G	146.33	A3MSM
3808	23.18	1000G	157.25	A3MSM
3809	23.93	1000G	172.07	A3MSM
3810	22.44	1000G	137.57	A3MSM
3811	23.18	1000G	157.25	A3MSM
3812	370.97		2080.66	
3813	22.44	1000G	181.14	A3MSM
3814	36.65	1000G	181.05	A3MSM
3815	23.18	1000G	157.25	A3MSM
3816	18.69	1000G	140.87	A3MSM
3817	22.44	1000G	154.52	A3MSM
3818	15.7	1000G	129.95	A3M4
3819	17.95	1000G	138.14	A3MSM
3820	4.48	1000G	89	A3M4
3821	3.74	1000G	86.27	A3M4
3822	4.48	1000G	89	A3M4
3823	3.74	1000G	86.27	A3M4
3824	22.44	1000G	154.52	A3M4
3825	26.92	1000G	170.9	A3M4
3826	222.85		1758.88	
3827	-35.16	1000G	-55.69	A3M4
3828	5.98	1000G	94.46	A3M4
3829	4.48	1000G	89	A3M4
3830	3.74	1000G	86.27	A3M4
3831	2.99	1000G	83.54	A3M4
3832	4.48	1000G	99.12	A3M4
3833	3.74	1000G	97.12	A3M4
3834	2.99	1000G	94.05	A3M4
3835	2.99	1000G	94.05	A3M4
3836	553.55	1000G	17178.51	A3M4
3837	2.24	1000G	69.19	A3M4
3838	-115.94	1000G	-335.98	CRLK3
3839	237.88	1000G	801.23	A3M4
3840	-553.55	1000G	-17178.51	A3M4
3841	3.74	1000G	97.12	A3M4
3842	124.15		1313.48	
3843	33.66	1000G	180.49	A3M4
3844	33.66		180.49	
3845	2315.96	1000G	4452.33	A3MSM
3846	2665.3	1000G	4981.4	A3MSM
3847	2947.32	1000G	5437.4	A3MSM
3848	1543.23	1000G	3320.97	A3MSM
3849	1037.54	1000G	2444.1	A3MSM

	A	B	C	D	E
3850	2600	2603	26CC	3	6
3851	2600	2603	26CC	3	6
3852					
3853	2600	2603	26CC	3	1
3854	2600	2603	26CC	3	2
3855	2600	2603	26CC	3	3
3856	2600	2603	26CC	3	4
3857	2600	2603	26CC	3	5
3858	2600	2603	26CC	3	6
3859	2600	2603	26CC	3	7
3860	2600	2603	26CC	3	8
3861	2600	2603	26CC	3	10
3862	2600	2603	26CC	3	10
3863	2600	2603	26CC	3	12
3864	2600	2603	26CC	3	12
3865					
3866	2600	2603	26CC	3	1
3867	2600	2603	26CC	3	2
3868	2600	2603	26CC	3	3
3869	2600	2603	26CC	3	4
3870	2600	2603	26CC	3	5
3871	2600	2603	26CC	3	6
3872	2600	2603	26CC	3	7
3873	2600	2603	26CC	3	8
3874	2600	2603	26CC	3	9
3875	2600	2603	26CC	3	10
3876	2600	2603	26CC	3	11
3877	2600	2603	26CC	3	12
3878					
3879	2600	2603	26CC	3	1
3880	2600	2603	26CC	3	2
3881	2600	2603	26CC	3	3
3882	2600	2603	26CC	3	4
3883	2600	2603	26CC	3	5
3884	2600	2603	26CC	3	6
3885	2600	2603	26CC	3	7
3886	2600	2603	26CC	3	8
3887	2600	2603	26CC	3	9
3888	2600	2603	26CC	3	10
3889	2600	2603	26CC	3	11
3890	2600	2603	26CC	3	12
3891					
3892	2600	2603	26CC	3	1
3893	2600	2603	26CC	3	1
3894	2600	2603	26CC	3	1
3895	2600	2603	26CC	3	2
3896	2600	2603	26CC	3	3
3897	2600	2603	26CC	3	4
3898	2600	2603	26CC	3	5
3899	2600	2603	26CC	3	6

	F	G	H	I
3850	2003	104672	260073211	Standard Merc & Spec Yarn
3851	2003	104672	260073211	Standard Merc & Spec Yarn
3852	**2003 Total**			
3853	2004	104676	260073216	R L Stowe Mills Inc
3854	2004	104676	260073216	R L Stowe Mills Inc
3855	2004	104676	260073216	R L Stowe Mills Inc
3856	2004	104676	260073216	R L Stowe Mills Inc
3857	2004	104676	260073216	R L Stowe Mills Inc
3858	2004	104676	260073216	R L Stowe Mills Inc
3859	2004	104676	260073216	R L Stowe Mills Inc
3860	2004	104676	260073216	R L Stowe Mills Inc
3861	2004	104676	260073216	R L Stowe Mills Inc
3862	2004	104676	260073216	R L Stowe Mills Inc
3863	2004	104676	260073216	R L Stowe Mills Inc
3864	2004	104676	260073216	R L Stowe Mills Inc
3865	**2004 Total**			
3866	2005	104676	260073216	R L Stowe Mills Inc
3867	2005	104676	260073216	R L Stowe Mills Inc
3868	2005	104676	260073216	R L Stowe Mills Inc
3869	2005	104676	260073216	R L Stowe Mills Inc
3870	2005	104676	260073216	R L Stowe Mills Inc
3871	2005	104676	260073216	R L Stowe Mills Inc
3872	2005	104676	260073216	R L Stowe Mills Inc
3873	2005	104676	260073216	R L Stowe Mills Inc
3874	2005	104676	260073216	R L Stowe Mills Inc
3875	2005	104676	260073216	R L Stowe Mills Inc
3876	2005	104676	260073216	R L Stowe Mills Inc
3877	2005	104676	260073216	R L Stowe Mills Inc
3878	**2005 Total**			
3879	2006	104676	260073216	R L Stowe Mills Inc
3880	2006	104676	260073216	R L Stowe Mills Inc
3881	2006	104676	260073216	R L Stowe Mills Inc
3882	2006	104676	260073216	R L Stowe Mills Inc
3883	2006	104676	260073216	R L Stowe Mills Inc
3884	2006	104676	260073216	R L Stowe Mills Inc
3885	2006	104676	260073216	R L Stowe Mills Inc
3886	2006	104676	260073216	R L Stowe Mills Inc
3887	2006	104676	260073216	R L Stowe Mills Inc
3888	2006	104676	260073216	R L Stowe Mills Inc
3889	2006	104676	260073216	R L Stowe Mills Inc
3890	2006	104676	260073216	R L Stowe Mills Inc
3891	**2006 Total**			
3892	2007	104676	260073216	R L Stowe Mills Inc
3893	2007	104676	260073216	R L Stowe Mills Inc
3894	2007	104676	260073216	R L Stowe Mills Inc
3895	2007	104676	260073216	R L Stowe Mills Inc
3896	2007	104676	260073216	R L Stowe Mills Inc
3897	2007	104676	260073216	R L Stowe Mills Inc
3898	2007	104676	260073216	R L Stowe Mills Inc
3899	2007	104676	260073216	R L Stowe Mills Inc

	J	K	L	M
3850	1700 S Watkins St	Chattanooga	TN	374045326
3851	1700 S Watkins St	Chattanooga	TN	374045326
3852				
3853	1100 S Lyerly St	Chattanooga	TN	37404
3854	1100 S Lyerly St	Chattanooga	TN	37404
3855	1100 S Lyerly St	Chattanooga	TN	37404
3856	1100 S Lyerly St	Chattanooga	TN	37404
3857	1100 S Lyerly St	Chattanooga	TN	37404
3858	1100 S Lyerly St	Chattanooga	TN	37404
3859	1100 S Lyerly St	Chattanooga	TN	37404
3860	1100 S Lyerly St	Chattanooga	TN	37404
3861	1100 S Lyerly St	Chattanooga	TN	37404
3862	1100 S Lyerly St	Chattanooga	TN	37404
3863	1100 S Lyerly St	Chattanooga	TN	37404
3864	1100 S Lyerly St	Chattanooga	TN	37404
3865				
3866	1100 S Lyerly St	Chattanooga	TN	37404
3867	1100 S Lyerly St	Chattanooga	TN	37404
3868	1100 S Lyerly St	Chattanooga	TN	37404
3869	1100 S Lyerly St	Chattanooga	TN	37404
3870	1100 S Lyerly St	Chattanooga	TN	37404
3871	1100 S Lyerly St	Chattanooga	TN	37404
3872	1100 S Lyerly St	Chattanooga	TN	37404
3873	1100 S Lyerly St	Chattanooga	TN	37404
3874	1100 S Lyerly St	Chattanooga	TN	37404
3875	1100 S Lyerly St	Chattanooga	TN	37404
3876	1100 S Lyerly St	Chattanooga	TN	37404
3877	1100 S Lyerly St	Chattanooga	TN	37404
3878				
3879	1100 S Lyerly St	Chattanooga	TN	37404
3880	1100 S Lyerly St	Chattanooga	TN	37404
3881	1100 S Lyerly St	Chattanooga	TN	37404
3882	1100 S Lyerly St	Chattanooga	TN	37404
3883	1100 S Lyerly St	Chattanooga	TN	37404
3884	1100 S Lyerly St	Chattanooga	TN	37404
3885	1100 S Lyerly St	Chattanooga	TN	37404
3886	1100 S Lyerly St	Chattanooga	TN	37404
3887	1100 S Lyerly St	Chattanooga	TN	37404
3888	1100 S Lyerly St	Chattanooga	TN	37404
3889	1100 S Lyerly St	Chattanooga	TN	37404
3890	1100 S Lyerly St	Chattanooga	TN	37404
3891				
3892	1100 S Lyerly St	Chattanooga	TN	37404
3893	1100 S Lyerly St	Chattanooga	TN	37404
3894	1100 S Lyerly St	Chattanooga	TN	37404
3895	1100 S Lyerly St	Chattanooga	TN	37404
3896	1100 S Lyerly St	Chattanooga	TN	37404
3897	1100 S Lyerly St	Chattanooga	TN	37404
3898	1100 S Lyerly St	Chattanooga	TN	37404
3899	1100 S Lyerly St	Chattanooga	TN	37404

	N	O	P	Q
3850	411.42	1000G	1180.55	A3MSM
3851	1473.66	1000G	3069.64	A3MSM
3852	12394.43		24886.39	
3853	15245.29	1000G	19882.16	A3M4M
3854	18996.78	1000G	22690.56	A3M4M
3855	21106.28	1000G	24269.76	A3M4M
3856	19337.14	1000G	22945.36	A3M4M
3857	20167.48	1000G	23566.96	A3M4M
3858	20698.59	1000G	23964.56	A3M4M
3859	20380.67	1000G	23726.56	A3M4M
3860	22295.68	1000G	25160.16	A3M4M
3861	14078.33	1000G	15903.12	A3M4M
3862	34582.44	1000G	37745.9	A3M4M
3863	16277.61	1000G	18678.78	A3M4M
3864	22318.13	1000G	26588.52	A3M4M
3865	245484.42		285122.4	
3866	18742.44	1000G	22500.16	A3M4M
3867	21988.98	1000G	24930.56	A3M4M
3868	22344.31	1000G	25719.27	A3M4M
3869	22972.67	1000G	26661.17	A3M4M
3870	24401.45	1000G	27772.79	A3M4M
3871	24969.97	1000G	28215.11	A3M4M
3872	24453.81	1000G	27813.53	A3M4M
3873	22538.8	1000G	26323.61	A3M4M
3874	22336.83	1000G	26166.47	A3M4M
3875	20545.24	1000G	24772.58	A3M4M
3876	17755.01	1000G	22601.72	A3M4M
3877	14212.98	1000G	19845.95	A3M4M
3878	257262.49		303322.92	
3879	13408.83	1000G	19220.3	A3M4M
3880	15480.93	1000G	20832.44	A3M4M
3881	14306.49	1000G	19918.7	A3M4M
3882	14695.48	1000G	20221.34	A3M4M
3883	14557.09	1000G	20113.67	A3M4M
3884	14347.63	1000G	19950.71	A3M4M
3885	11624.72	1000G	17832.23	A3M4M
3886	14729.14	1000G	20247.53	A3M4M
3887	15140.57	1000G	20567.63	A3M4M
3888	15169.74	1000G	20590.33	A3M4M
3889	15747.24	1000G	21039.63	A3M4M
3890	13019.84	1000G	18917.66	A3M4M
3891	172227.7		239452.17	
3892	-11336.72	1000G	-15127.13	A3M4M
3893	11336.72	1000G	15127.13	A3M4M
3894	11336.72	1000G	17608.16	A3M4M
3895	14429.92	1000G	20014.73	A3M4M
3896	14414.96	1000G	20003.09	A3M4M
3897	13396.86	1000G	19210.99	A3M4M
3898	15608.85	1000G	20931.96	A3M4M
3899	18463.41	1000G	25795.16	A3M4M

	A	B	C	D	E
3900	2600	2603	26CC	3	7
3901	2600	2603	26CC	3	8
3902	2600	2603	26CC	3	9
3903	2600	2603	26CC	3	10
3904	2600	2603	26CC	3	11
3905	2600	2603	26CC	3	12
3906					
3907	2600	2603	26CC	3	1
3908	2600	2603	26CC	3	2
3909	2600	2603	26CC	3	3
3910					
3911	2600	2603	26CC	3	1
3912	2600	2603	26CC	3	2
3913	2600	2603	26CC	3	3
3914	2600	2603	26CC	3	4
3915	2600	2603	26CC	3	5
3916	2600	2603	26CC	3	6
3917	2600	2603	26CC	3	7
3918	2600	2603	26CC	3	8
3919	2600	2603	26CC	3	9
3920	2600	2603	26CC	3	10
3921	2600	2603	26CC	3	11
3922	2600	2603	26CC	3	12
3923					
3924	2600	2603	26CC	3	1
3925	2600	2603	26CC	3	2
3926	2600	2603	26CC	3	3
3927	2600	2603	26CC	3	4
3928	2600	2603	26CC	3	5
3929	2600	2603	26CC	3	6
3930	2600	2603	26CC	3	7
3931	2600	2603	26CC	3	8
3932	2600	2603	26CC	3	9
3933	2600	2603	26CC	3	10
3934	2600	2603	26CC	3	11
3935	2600	2603	26CC	3	12
3936					
3937	2600	2603	26CC	3	1
3938	2600	2603	26CC	3	2
3939	2600	2603	26CC	3	3
3940	2600	2603	26CC	3	4
3941	2600	2603	26CC	3	5
3942	2600	2603	26CC	3	6
3943	2600	2603	26CC	3	7
3944	2600	2603	26CC	3	8
3945	2600	2603	26CC	3	8
3946					
3947	2600	2603	26CC	3	1
3948	2600	2603	26CC	3	2
3949	2600	2603	26CC	3	3

	F	G	H	I
3900	2007	104676	260073216	R L Stowe Mills Inc
3901	2007	104676	260073216	R L Stowe Mills Inc
3902	2007	104676	260073216	R L Stowe Mills Inc
3903	2007	104676	260073216	R L Stowe Mills Inc
3904	2007	104676	260073216	R L Stowe Mills Inc
3905	2007	104676	260073216	R L Stowe Mills Inc
3906	**2007 Total**			
3907	2008	104676	260073216	R L Stowe Mills Inc
3908	2008	104676	260073216	R L Stowe Mills Inc
3909	2008	104676	260073216	R L Stowe Mills Inc
3910	**2008 Total**			
3911	2004	104684	260073225	Gateway Hosiery Mills
3912	2004	104684	260073225	Gateway Hosiery Mills
3913	2004	104684	260073225	Gateway Hosiery Mills
3914	2004	104684	260073225	Gateway Hosiery Mills
3915	2004	104684	260073225	Gateway Hosiery Mills
3916	2004	104684	260073225	Gateway Hosiery Mills
3917	2004	104684	260073225	Gateway Hosiery Mills
3918	2004	104684	260073225	Gateway Hosiery Mills
3919	2004	104684	260073225	Gateway Hosiery Mills
3920	2004	104684	260073225	Gateway Hosiery Mills
3921	2004	104684	260073225	Gateway Hosiery Mills
3922	2004	104684	260073225	Gateway Hosiery Mills
3923	**2004 Total**			
3924	2005	104684	260073225	Gateway Hosiery Mills
3925	2005	104684	260073225	Gateway Hosiery Mills
3926	2005	104684	260073225	Gateway Hosiery Mills
3927	2005	104684	260073225	Gateway Hosiery Mills
3928	2005	104684	260073225	Gateway Hosiery Mills
3929	2005	104684	260073225	Gateway Hosiery Mills
3930	2005	104684	260073225	Gateway Hosiery Mills
3931	2005	104684	260073225	Gateway Hosiery Mills
3932	2005	104684	260073225	Gateway Hosiery Mills
3933	2005	104684	260073225	Gateway Hosiery Mills
3934	2005	104684	260073225	Gateway Hosiery Mills
3935	2005	104684	260073225	Gateway Hosiery Mills
3936	**2005 Total**			
3937	2006	104684	260073225	Gateway Hosiery Mills
3938	2006	104684	260073225	Gateway Hosiery Mills
3939	2006	104684	260073225	Gateway Hosiery Mills
3940	2006	104684	260073225	Gateway Hosiery Mills
3941	2006	104684	260073225	Gateway Hosiery Mills
3942	2006	104684	260073225	Gateway Hosiery Mills
3943	2006	104684	260073225	Gateway Hosiery Mills
3944	2006	104684	260073225	Gateway Hosiery Mills
3945	2006	104684	260073225	Gateway Hosiery Mills
3946	**2006 Total**			
3947	2004	104687	260073227	Schrader, Herman
3948	2004	104687	260073227	Schrader, Herman
3949	2004	104687	260073227	Schrader, Herman

	J	K	L	M
3900	1100 S Lyerly St	Chattanooga	TN	37404
3901	1100 S Lyerly St	Chattanooga	TN	37404
3902	1100 S Lyerly St	Chattanooga	TN	37404
3903	1100 S Lyerly St	Chattanooga	TN	37404
3904	1100 S Lyerly St	Chattanooga	TN	37404
3905	1100 S Lyerly St	Chattanooga	TN	37404
3906				
3907	1100 S Lyerly St	Chattanooga	TN	37404
3908	1100 S Lyerly St	Chattanooga	TN	37404
3909	1100 S Lyerly St	Chattanooga	TN	37404
3910				
3911	1609 Holtzclaw Ave	Chattanooga	TN	374044802
3912	1609 Holtzclaw Ave	Chattanooga	TN	374044802
3913	1609 Holtzclaw Ave	Chattanooga	TN	374044802
3914	1609 Holtzclaw Ave	Chattanooga	TN	374044802
3915	1609 Holtzclaw Ave	Chattanooga	TN	374044802
3916	1609 Holtzclaw Ave	Chattanooga	TN	374044802
3917	1609 Holtzclaw Ave	Chattanooga	TN	374044802
3918	1609 Holtzclaw Ave	Chattanooga	TN	374044802
3919	1609 Holtzclaw Ave	Chattanooga	TN	374044802
3920	1609 Holtzclaw Ave	Chattanooga	TN	374044802
3921	1609 Holtzclaw Ave	Chattanooga	TN	374044802
3922	1609 Holtzclaw Ave	Chattanooga	TN	374044802
3923				
3924	1609 Holtzclaw Ave	Chattanooga	TN	374044802
3925	1609 Holtzclaw Ave	Chattanooga	TN	374044802
3926	1609 Holtzclaw Ave	Chattanooga	TN	374044802
3927	1609 Holtzclaw Ave	Chattanooga	TN	374044802
3928	1609 Holtzclaw Ave	Chattanooga	TN	374044802
3929	1609 Holtzclaw Ave	Chattanooga	TN	374044802
3930	1609 Holtzclaw Ave	Chattanooga	TN	374044802
3931	1609 Holtzclaw Ave	Chattanooga	TN	374044802
3932	1609 Holtzclaw Ave	Chattanooga	TN	374044802
3933	1609 Holtzclaw Ave	Chattanooga	TN	374044802
3934	1609 Holtzclaw Ave	Chattanooga	TN	374044802
3935	1609 Holtzclaw Ave	Chattanooga	TN	374044802
3936				
3937	1609 Holtzclaw Ave	Chattanooga	TN	374044802
3938	1609 Holtzclaw Ave	Chattanooga	TN	374044802
3939	1609 Holtzclaw Ave	Chattanooga	TN	374044802
3940	1609 Holtzclaw Ave	Chattanooga	TN	374044802
3941	1609 Holtzclaw Ave	Chattanooga	TN	374044802
3942	1609 Holtzclaw Ave	Chattanooga	TN	374044802
3943	1609 Holtzclaw Ave	Chattanooga	TN	374044802
3944	1609 Holtzclaw Ave	Chattanooga	TN	374044802
3945	1609 Holtzclaw Ave	Chattanooga	TN	374044802
3946				
3947	1310 E 14TH ST	CHATTANOOGA	TN	374044244
3948	1310 E 14TH ST	CHATTANOOGA	TN	374044244
3949	1310 E 14TH ST	CHATTANOOGA	TN	374044244

	N	O	P	Q
3900	12139.38	1000G	20522.04	A3M4M
3901	15274.46	1000G	23267.15	A3M4M
3902	16232.72	1000G	24106.2	A3M4M
3903	17523.11	1000G	25236.08	A3M4M
3904	16214.02	1000G	24089.83	A3M4M
3905	14310.23	1000G	22422.85	A3M4M
3906	179344.64		263208.24	
3907	12062.33	1000G	20454.58	A3M4M
3908	15544.52	1000G	23503.6	A3M4M
3909	14657.33	1000G	22726.77	A3M4M
3910	42264.18		66684.95	
3911	11.22	1000G	54.49	A3M4
3912	13.46	1000G	62.37	A3M4
3913	14.96	1000G	67.63	A3M4
3914	21.69	1000G	91.28	A3M4
3915	2.99	1000G	25.58	A3M4
3916	12.71	1000G	59.74	A3M4
3917	14.21	1000G	65	A3M4
3918	18.7	1000G	80.77	A3M4
3919	14.96	1000G	67.63	A3M4
3920	12.71	1000G	59.74	A3M4
3921	14.96	1000G	67.63	A3M4
3922	14.21	1000G	65	A3M4
3923	166.78		766.86	
3924	8.97	1000G	46.6	A3M4
3925	12.71	1000G	59.74	A3M4
3926	14.96	1000G	67.63	A3M4
3927	19.44	1000G	85.9	A3M4
3928	16.45	1000G	75.71	A3M4
3929	17.95	1000G	81.17	A3M4
3930	15.7	1000G	72.98	A3M4
3931	13.46	1000G	64.79	A3M4
3932	19.44	1000G	86.63	A3M4
3933	26.92	1000G	113.93	A3M4
3934	20.19	1000G	89.36	A3M4
3935	16.45	1000G	75.71	A3M4
3936	202.64		920.15	
3937	14.21	1000G	67.52	A3M4
3938	10.47	1000G	53.87	A3M4
3939	11.96	1000G	59.33	A3M4
3940	11.96	1000G	59.33	A3M4
3941	11.96	1000G	59.33	A3M4
3942	5.98	1000G	37.49	A3M4
3943	3.74	1000G	29.3	A3M4
3944	2.24	1000G	16.55	A3M4
3945	3.74	1000G	29.3	A3M4
3946	76.26		412.02	
3947	10.47	1000G	51.86	A3M4
3948	9.72	1000G	49.23	A3M4
3949	10.47	1000G	51.86	A3M4

	A	B	C	D	E
3950	2600	2603	26CC	3	4
3951	2600	2603	26CC	3	5
3952	2600	2603	26CC	3	6
3953	2600	2603	26CC	3	7
3954	2600	2603	26CC	3	8
3955	2600	2603	26CC	3	9
3956	2600	2603	26CC	3	10
3957	2600	2603	26CC	3	11
3958	2600	2603	26CC	3	12
3959					
3960	2600	2603	26CC	3	1
3961	2600	2603	26CC	3	2
3962	2600	2603	26CC	3	3
3963	2600	2603	26CC	3	4
3964	2600	2603	26CC	3	5
3965	2600	2603	26CC	3	6
3966	2600	2603	26CC	3	7
3967	2600	2603	26CC	3	8
3968	2600	2603	26CC	3	9
3969	2600	2603	26CC	3	10
3970	2600	2603	26CC	3	11
3971	2600	2603	26CC	3	12
3972					
3973	2600	2603	26CC	3	1
3974	2600	2603	26CC	3	2
3975	2600	2603	26CC	3	3
3976	2600	2603	26CC	3	4
3977	2600	2603	26CC	3	5
3978	2600	2603	26CC	3	6
3979	2600	2603	26CC	3	7
3980	2600	2603	26CC	3	8
3981	2600	2603	26CC	3	9
3982	2600	2603	26CC	3	10
3983	2600	2603	26CC	3	11
3984	2600	2603	26CC	3	12
3985					
3986	2600	2603	26CC	3	1
3987	2600	2603	26CC	3	2
3988	2600	2603	26CC	3	3
3989	2600	2603	26CC	3	4
3990	2600	2603	26CC	3	5
3991	2600	2603	26CC	3	6
3992	2600	2603	26CC	3	7
3993	2600	2603	26CC	3	8
3994	2600	2603	26CC	3	9
3995	2600	2603	26CC	3	10
3996	2600	2603	26CC	3	11
3997	2600	2603	26CC	3	12
3998					
3999	2600	2603	26CC	3	1

	F	G	H	I
3950	2004	104687	260073227	Schrader, Herman
3951	2004	104687	260073227	Schrader, Herman
3952	2004	104687	260073227	Schrader, Herman
3953	2004	104687	260073227	Schrader, Herman
3954	2004	104687	260073227	Schrader, Herman
3955	2004	104687	260073227	Schrader, Herman
3956	2004	104687	260073227	Schrader, Herman
3957	2004	104687	260073227	Schrader, Herman
3958	2004	104687	260073227	Schrader, Herman
3959	**2004 Total**			
3960	2005	104687	260073227	Schrader, Herman
3961	2005	104687	260073227	Schrader, Herman
3962	2005	104687	260073227	Schrader, Herman
3963	2005	104687	260073227	Schrader, Herman
3964	2005	104687	260073227	Schrader, Herman
3965	2005	104687	260073227	Schrader, Herman
3966	2005	104687	260073227	Schrader, Herman
3967	2005	104687	260073227	Schrader, Herman
3968	2005	104687	260073227	Schrader, Herman
3969	2005	104687	260073227	Schrader, Herman
3970	2005	104687	260073227	Schrader, Herman
3971	2005	104687	260073227	Schrader, Herman
3972	**2005 Total**			
3973	2006	104687	260073227	Schrader, Herman
3974	2006	104687	260073227	Schrader, Herman
3975	2006	104687	260073227	Schrader, Herman
3976	2006	104687	260073227	Schrader, Herman
3977	2006	104687	260073227	Schrader, Herman
3978	2006	104687	260073227	Schrader, Herman
3979	2006	104687	260073227	Schrader, Herman
3980	2006	104687	260073227	Schrader, Herman
3981	2006	104687	260073227	Schrader, Herman
3982	2006	104687	260073227	Schrader, Herman
3983	2006	104687	260073227	Schrader, Herman
3984	2006	104687	260073227	Schrader, Herman
3985	**2006 Total**			
3986	2007	104687	260073227	Schrader, Herman
3987	2007	104687	260073227	Schrader, Herman
3988	2007	104687	260073227	Schrader, Herman
3989	2007	104687	260073227	Schrader, Herman
3990	2007	104687	260073227	Schrader, Herman
3991	2007	104687	260073227	Schrader, Herman
3992	2007	104687	260073227	Schrader, Herman
3993	2007	104687	260073227	Schrader, Herman
3994	2007	104687	260073227	Schrader, Herman
3995	2007	104687	260073227	Schrader, Herman
3996	2007	104687	260073227	Schrader, Herman
3997	2007	104687	260073227	Schrader, Herman
3998	**2007 Total**			
3999	2008	104687	260073227	Schrader, Herman

	J	K	L	M
3950	1310 E 14TH ST	CHATTANOOGA	TN	374044244
3951	1310 E 14TH ST	CHATTANOOGA	TN	374044244
3952	1310 E 14TH ST	CHATTANOOGA	TN	374044244
3953	1310 E 14TH ST	CHATTANOOGA	TN	374044244
3954	1310 E 14TH ST	CHATTANOOGA	TN	374044244
3955	1310 E 14TH ST	CHATTANOOGA	TN	374044244
3956	1310 E 14TH ST	CHATTANOOGA	TN	374044244
3957	1310 E 14TH ST	CHATTANOOGA	TN	374044244
3958	1310 E 14TH ST	CHATTANOOGA	TN	374044244
3959				
3960	1310 E 14TH ST	CHATTANOOGA	TN	374044244
3961	1310 E 14TH ST	CHATTANOOGA	TN	374044244
3962	1310 E 14TH ST	CHATTANOOGA	TN	374044244
3963	1310 E 14TH ST	CHATTANOOGA	TN	374044244
3964	1310 E 14TH ST	CHATTANOOGA	TN	374044244
3965	1310 E 14TH ST	CHATTANOOGA	TN	374044244
3966	1310 E 14TH ST	CHATTANOOGA	TN	374044244
3967	1310 E 14TH ST	CHATTANOOGA	TN	374044244
3968	1310 E 14TH ST	CHATTANOOGA	TN	374044244
3969	1310 E 14TH ST	CHATTANOOGA	TN	374044244
3970	1310 E 14TH ST	CHATTANOOGA	TN	374044244
3971	1310 E 14TH ST	CHATTANOOGA	TN	374044244
3972				
3973	1310 E 14TH ST	CHATTANOOGA	TN	374044244
3974	1310 E 14TH ST	CHATTANOOGA	TN	374044244
3975	1310 E 14TH ST	CHATTANOOGA	TN	374044244
3976	1310 E 14TH ST	CHATTANOOGA	TN	374044244
3977	1310 E 14TH ST	CHATTANOOGA	TN	374044244
3978	1310 E 14TH ST	CHATTANOOGA	TN	374044244
3979	1310 E 14TH ST	CHATTANOOGA	TN	374044244
3980	1310 E 14TH ST	CHATTANOOGA	TN	374044244
3981	1310 E 14TH ST	CHATTANOOGA	TN	374044244
3982	1310 E 14TH ST	CHATTANOOGA	TN	374044244
3983	1310 E 14TH ST	CHATTANOOGA	TN	374044244
3984	1310 E 14TH ST	CHATTANOOGA	TN	374044244
3985				
3986	1310 E 14TH ST	CHATTANOOGA	TN	374044244
3987	1310 E 14TH ST	CHATTANOOGA	TN	374044244
3988	1310 E 14TH ST	CHATTANOOGA	TN	374044244
3989	1310 E 14TH ST	CHATTANOOGA	TN	374044244
3990	1310 E 14TH ST	CHATTANOOGA	TN	374044244
3991	1310 E 14TH ST	CHATTANOOGA	TN	374044244
3992	1310 E 14TH ST	CHATTANOOGA	TN	374044244
3993	1310 E 14TH ST	CHATTANOOGA	TN	374044244
3994	1310 E 14TH ST	CHATTANOOGA	TN	374044244
3995	1310 E 14TH ST	CHATTANOOGA	TN	374044244
3996	1310 E 14TH ST	CHATTANOOGA	TN	374044244
3997	1310 E 14TH ST	CHATTANOOGA	TN	374044244
3998				
3999	1310 E 14TH ST	CHATTANOOGA	TN	374044244

	N	O	P	Q
3950	9.72	1000G	49.23	A3M4
3951	14.96	1000G	67.63	A3M4
3952	1.49	1000G	25.25	A3M4
3953	7.48	1000G	41.35	A3M4
3954	8.22	1000G	43.98	A3M4
3955	18.7	1000G	80.77	A3M4
3956	11.96	1000G	57.12	A3M4
3957	11.96	1000G	57.12	A3M4
3958	10.47	1000G	51.86	A3M4
3959	125.62		627.26	
3960	12.71	1000G	59.74	A3M4
3961	15.7	1000G	70.26	A3M4
3962	20.19	1000G	86.02	A3M4
3963	13.46	1000G	64.42	A3M4
3964	12.71	1000G	62.06	A3M4
3965	14.21	1000G	67.52	A3M4
3966	13.46	1000G	64.79	A3M4
3967	8.97	1000G	48.41	A3M4
3968	6.73	1000G	40.22	A3M4
3969	6.73	1000G	40.22	A3M4
3970	7.48	1000G	42.95	A3M4
3971	5.98	1000G	37.49	A3M4
3972	138.33		684.1	
3973	6.73	1000G	40.22	A3M4
3974	5.23	1000G	34.76	A3M4
3975	5.98	1000G	37.49	A3M4
3976	3.74	1000G	29.3	A3M4
3977	5.23	1000G	34.76	A3M4
3978	3.74	1000G	29.3	A3M4
3979	3.73	1000G	29.3	A3M4
3980	3.74	1000G	29.3	A3M4
3981	3.74	1000G	29.3	A3M4
3982	4.48	1000G	32.03	A3M4
3983	5.23	1000G	34.76	A3M4
3984	5.23	1000G	34.76	A3M4
3985	56.8		395.28	
3986	5.23	1000G	34.76	A3M4
3987	4.48	1000G	32.03	A3M4
3988	3.74	1000G	29.3	A3M4
3989	2.99	1000G	26.57	A3M4
3990	3.74	1000G	29.3	A3M4
3991	3.74	1000G	30.52	A3M4
3992	2.99	1000G	29.92	A3M4
3993	2.99	1000G	29.92	A3M4
3994	2.99	1000G	29.92	A3M4
3995	3.74	1000G	32.99	A3M4
3996	4.48	1000G	36.07	A3M4
3997	13.46	1000G	72.94	A3M4
3998	54.57		414.24	
3999	62.08	1000G	264.39	A3M4

	A	B	C	D	E
4000	2600	2603	26CC	3	2
4001	2600	2603	26CC	3	3
4002					
4003	2600	2603	26CC	3	1
4004	2600	2603	26CC	3	2
4005	2600	2603	26CC	3	3
4006	2600	2603	26CC	3	4
4007	2600	2603	26CC	3	5
4008	2600	2603	26CC	3	6
4009	2600	2603	26CC	3	7
4010	2600	2603	26CC	3	8
4011	2600	2603	26CC	3	9
4012	2600	2603	26CC	3	10
4013	2600	2603	26CC	3	11
4014	2600	2603	26CC	3	12
4015					
4016	2600	2603	26CC	3	1
4017	2600	2603	26CC	3	2
4018	2600	2603	26CC	3	3
4019	2600	2603	26CC	3	4
4020	2600	2603	26CC	3	5
4021	2600	2603	26CC	3	6
4022	2600	2603	26CC	3	7
4023	2600	2603	26CC	3	8
4024	2600	2603	26CC	3	9
4025	2600	2603	26CC	3	10
4026	2600	2603	26CC	3	11
4027	2600	2603	26CC	3	12
4028					
4029	2600	2603	26CC	3	1
4030	2600	2603	26CC	3	2
4031	2600	2603	26CC	3	3
4032	2600	2603	26CC	3	4
4033	2600	2603	26CC	3	5
4034	2600	2603	26CC	3	6
4035	2600	2603	26CC	3	7
4036	2600	2603	26CC	3	8
4037	2600	2603	26CC	3	9
4038	2600	2603	26CC	3	10
4039	2600	2603	26CC	3	11
4040	2600	2603	26CC	3	12
4041					
4042	2600	2603	26CC	3	1
4043	2600	2603	26CC	3	2
4044	2600	2603	26CC	3	3
4045	2600	2603	26CC	3	4
4046	2600	2603	26CC	3	5
4047	2600	2603	26CC	3	6
4048	2600	2603	26CC	3	7
4049	2600	2603	26CC	3	8

	F	G	H	I
4000	2008	104687	260073227	Schrader, Herman
4001	2008	104687	260073227	Schrader, Herman
4002	**2008 Total**			
4003	2004	104693	260073232	Structure Group
4004	2004	104693	260073232	Structure Group
4005	2004	104693	260073232	Structure Group
4006	2004	104693	260073232	Structure Group
4007	2004	104693	260073232	Structure Group
4008	2004	104693	260073232	Structure Group
4009	2004	104693	260073232	Structure Group
4010	2004	104693	260073232	Structure Group
4011	2004	104693	260073232	Structure Group
4012	2004	104693	260073232	Structure Group
4013	2004	104693	260073232	Structure Group
4014	2004	104693	260073232	Structure Group
4015	**2004 Total**			
4016	2005	104693	260073232	Structure Group
4017	2005	104693	260073232	Structure Group
4018	2005	104693	260073232	Structure Group
4019	2005	104693	260073232	Structure Group
4020	2005	104693	260073232	Structure Group
4021	2005	104693	260073232	Structure Group
4022	2005	104693	260073232	Structure Group
4023	2005	104693	260073232	Structure Group
4024	2005	104693	260073232	Structure Group
4025	2005	104693	260073232	Structure Group
4026	2005	104693	260073232	Structure Group
4027	2005	104693	260073232	Structure Group
4028	**2005 Total**			
4029	2006	104693	260073232	Structure Group
4030	2006	104693	260073232	Structure Group
4031	2006	104693	260073232	Structure Group
4032	2006	104693	260073232	Structure Group
4033	2006	104693	260073232	Structure Group
4034	2006	104693	260073232	Structure Group
4035	2006	104693	260073232	Structure Group
4036	2006	104693	260073232	Structure Group
4037	2006	104693	260073232	Structure Group
4038	2006	104693	260073232	Structure Group
4039	2006	104693	260073232	Structure Group
4040	2006	104693	260073232	Structure Group
4041	**2006 Total**			
4042	2007	104693	260073232	Structure Group
4043	2007	104693	260073232	Structure Group
4044	2007	104693	260073232	Structure Group
4045	2007	104693	260073232	Structure Group
4046	2007	104693	260073232	Structure Group
4047	2007	104693	260073232	Structure Group
4048	2007	104693	260073232	Structure Group
4049	2007	104693	260073232	Structure Group

	J	K	L	M
4000	1310 E 14TH ST	CHATTANOOGA	TN	374044244
4001	1310 E 14TH ST	CHATTANOOGA	TN	374044244
4002				
4003	1100 E 16th St	Chattanooga	TN	374082301
4004	1100 E 16th St	Chattanooga	TN	374082301
4005	1100 E 16th St	Chattanooga	TN	374082301
4006	1100 E 16th St	Chattanooga	TN	374082301
4007	1100 E 16th St	Chattanooga	TN	374082301
4008	1100 E 16th St	Chattanooga	TN	374082301
4009	1100 E 16th St	Chattanooga	TN	374082301
4010	1100 E 16th St	Chattanooga	TN	374082301
4011	1100 E 16th St	Chattanooga	TN	374082301
4012	1100 E 16th St	Chattanooga	TN	374082301
4013	1100 E 16th St	Chattanooga	TN	374082301
4014	1100 E 16th St	Chattanooga	TN	374082301
4015				
4016	1100 E 16th St	Chattanooga	TN	374082301
4017	1100 E 16th St	Chattanooga	TN	374082301
4018	1100 E 16th St	Chattanooga	TN	374082301
4019	1100 E 16th St	Chattanooga	TN	374082301
4020	1100 E 16th St	Chattanooga	TN	374082301
4021	1100 E 16th St	Chattanooga	TN	374082301
4022	1100 E 16th St	Chattanooga	TN	374082301
4023	1100 E 16th St	Chattanooga	TN	374082301
4024	1100 E 16th St	Chattanooga	TN	374082301
4025	1100 E 16th St	Chattanooga	TN	374082301
4026	1100 E 16th St	Chattanooga	TN	374082301
4027	1100 E 16th St	Chattanooga	TN	374082301
4028				
4029	1100 E 16th St	Chattanooga	TN	374082301
4030	1100 E 16th St	Chattanooga	TN	374082301
4031	1100 E 16th St	Chattanooga	TN	374082301
4032	1100 E 16th St	Chattanooga	TN	374082301
4033	1100 E 16th St	Chattanooga	TN	374082301
4034	1100 E 16th St	Chattanooga	TN	374082301
4035	1100 E 16th St	Chattanooga	TN	374082301
4036	1100 E 16th St	Chattanooga	TN	374082301
4037	1100 E 16th St	Chattanooga	TN	374082301
4038	1100 E 16th St	Chattanooga	TN	374082301
4039	1100 E 16th St	Chattanooga	TN	374082301
4040	1100 E 16th St	Chattanooga	TN	374082301
4041				
4042	1100 E 16th St	Chattanooga	TN	374082301
4043	1100 E 16th St	Chattanooga	TN	374082301
4044	1100 E 16th St	Chattanooga	TN	374082301
4045	1100 E 16th St	Chattanooga	TN	374082301
4046	1100 E 16th St	Chattanooga	TN	374082301
4047	1100 E 16th St	Chattanooga	TN	374082301
4048	1100 E 16th St	Chattanooga	TN	374082301
4049	1100 E 16th St	Chattanooga	TN	374082301

	N	O	P	Q
4000	18.7	1000G	94.45	A3M4
4001	3.74	1000G	32.99	A3M4
4002	84.52		391.83	
4003	10.47	1000G	35.86	A3M4
4004	6.73	1000G	22.72	A3M4
4005	8.22	1000G	27.98	A3M4
4006	20.94	1000G	72.65	A3M4
4007	19.44	1000G	67.4	A3M4
4008	11.96	1000G	41.12	A3M4
4009	10.47	1000G	35.86	A3M4
4010	13.46	1000G	46.37	A3M4
4011	17.2	1000G	59.51	A3M4
4012	14.21	1000G	49	A3M4
4013	14.96	1000G	51.63	A3M4
4014	12.71	1000G	43.74	A3M4
4015	160.77		553.84	
4016	10.47	1000G	35.86	A3M4
4017	11.22	1000G	38.49	A3M4
4018	11.96	1000G	41.12	A3M4
4019	14.21	1000G	50.47	A3M4
4020	18.7	1000G	67.28	A3M4
4021	14.96	1000G	53.63	A3M4
4022	10.47	1000G	37.25	A3M4
4023	13.46	1000G	48.17	A3M4
4024	9.72	1000G	34.52	A3M4
4025	11.96	1000G	42.71	A3M4
4026	11.96	1000G	42.71	A3M4
4027	11.96	1000G	42.71	A3M4
4028	151.05		534.92	
4029	12.71	1000G	45.44	A3M4
4030	8.22	1000G	29.06	A3M4
4031	11.22	1000G	39.98	A3M4
4032	11.96	1000G	42.71	A3M4
4033	11.96	1000G	42.71	A3M4
4034	14.96	1000G	53.63	A3M4
4035	19.44	1000G	70.01	A3M4
4036	20.94	1000G	75.47	A3M4
4037	16.45	1000G	59.09	A3M4
4038	11.96	1000G	42.71	A3M4
4039	12.71	1000G	45.44	A3M4
4040	11.22	1000G	39.98	A3M4
4041	163.75		586.23	
4042	14.96	1000G	53.63	A3M4
4043	10.47	1000G	37.25	A3M4
4044	11.22	1000G	39.98	A3M4
4045	12.71	1000G	45.44	A3M4
4046	14.21	1000G	50.9	A3M4
4047	22.44	1000G	83.48	A3M4
4048	22.44	1000G	91.1	A3M4
4049	20.94	1000G	84.95	A3M4

	A	B	C	D	E
4050	2600	2603	26CC	3	8
4051	2600	2603	26CC	3	10
4052	2600	2603	26CC	3	10
4053	2600	2603	26CC	3	11
4054					
4055	2600	2603	26CC	3	1
4056	2600	2603	26CC	3	1
4057	2600	2603	26CC	3	2
4058					
4059	2600	2603	26CC	3	1
4060	2600	2603	26CC	3	2
4061	2600	2603	26CC	3	3
4062	2600	2603	26CC	3	3
4063	2600	2603	26CC	3	4
4064	2600	2603	26CC	3	5
4065	2600	2603	26CC	3	6
4066	2600	2603	26CC	3	7
4067	2600	2603	26CC	3	8
4068	2600	2603	26CC	3	9
4069	2600	2603	26CC	3	10
4070	2600	2603	26CC	3	11
4071	2600	2603	26CC	3	12
4072					
4073	2600	2603	26CC	3	1
4074	2600	2603	26CC	3	2
4075	2600	2603	26CC	3	3
4076	2600	2603	26CC	3	4
4077	2600	2603	26CC	3	5
4078	2600	2603	26CC	3	6
4079	2600	2603	26CC	3	7
4080	2600	2603	26CC	3	8
4081	2600	2603	26CC	3	9
4082	2600	2603	26CC	3	10
4083	2600	2603	26CC	3	11
4084	2600	2603	26CC	3	12
4085					
4086	2600	2603	26CC	3	1
4087	2600	2603	26CC	3	2
4088	2600	2603	26CC	3	3
4089	2600	2603	26CC	3	4
4090	2600	2603	26CC	3	5
4091	2600	2603	26CC	3	6
4092	2600	2603	26CC	3	7
4093	2600	2603	26CC	3	8
4094	2600	2603	26CC	3	9
4095	2600	2603	26CC	3	10
4096	2600	2603	26CC	3	11
4097	2600	2603	26CC	3	12
4098					
4099	2600	2603	26CC	3	1

	F	G	H	I
4050	2007	104693	260073232	Structure Group
4051	2007	104693	260073232	Structure Group
4052	2007	104693	260073232	Structure Group
4053	2007	104693	260073232	Structure Group
4054	**2007 Total**			
4055	2008	104693	260073232	Structure Group
4056	2008	104693	260073232	Structure Group
4057	2008	104693	260073232	Structure Group
4058	**2008 Total**			
4059	2004	104711	260073248	CHATT PUBLISHING CO
4060	2004	104711	260073248	CHATT PUBLISHING CO
4061	2004	104711	260073248	CHATT PUBLISHING CO
4062	2004	104711	260073248	CHATT PUBLISHING CO
4063	2004	104711	260073248	CHATT PUBLISHING CO
4064	2004	104711	260073248	CHATT PUBLISHING CO
4065	2004	104711	260073248	CHATT PUBLISHING CO
4066	2004	104711	260073248	CHATT PUBLISHING CO
4067	2004	104711	260073248	CHATT PUBLISHING CO
4068	2004	104711	260073248	CHATT PUBLISHING CO
4069	2004	104711	260073248	CHATT PUBLISHING CO
4070	2004	104711	260073248	CHATT PUBLISHING CO
4071	2004	104711	260073248	CHATT PUBLISHING CO
4072	**2004 Total**			
4073	2005	104711	260073248	CHATT PUBLISHING CO
4074	2005	104711	260073248	CHATT PUBLISHING CO
4075	2005	104711	260073248	CHATT PUBLISHING CO
4076	2005	104711	260073248	CHATT PUBLISHING CO
4077	2005	104711	260073248	CHATT PUBLISHING CO
4078	2005	104711	260073248	CHATT PUBLISHING CO
4079	2005	104711	260073248	CHATT PUBLISHING CO
4080	2005	104711	260073248	CHATT PUBLISHING CO
4081	2005	104711	260073248	CHATT PUBLISHING CO
4082	2005	104711	260073248	CHATT PUBLISHING CO
4083	2005	104711	260073248	CHATT PUBLISHING CO
4084	2005	104711	260073248	CHATT PUBLISHING CO
4085	**2005 Total**			
4086	2006	104711	260073248	CHATT PUBLISHING CO
4087	2006	104711	260073248	CHATT PUBLISHING CO
4088	2006	104711	260073248	CHATT PUBLISHING CO
4089	2006	104711	260073248	CHATT PUBLISHING CO
4090	2006	104711	260073248	CHATT PUBLISHING CO
4091	2006	104711	260073248	CHATT PUBLISHING CO
4092	2006	104711	260073248	CHATT PUBLISHING CO
4093	2006	104711	260073248	CHATT PUBLISHING CO
4094	2006	104711	260073248	CHATT PUBLISHING CO
4095	2006	104711	260073248	CHATT PUBLISHING CO
4096	2006	104711	260073248	CHATT PUBLISHING CO
4097	2006	104711	260073248	CHATT PUBLISHING CO
4098	**2006 Total**			
4099	2007	104711	260073248	CHATT PUBLISHING CO

	J	K	L	M
4050	1100 E 16th St	Chattanooga	TN	374082301
4051	1100 E 16th St	Chattanooga	TN	374082301
4052	1100 E 16th St	Chattanooga	TN	374082301
4053	1100 E 16th St	Chattanooga	TN	374082301
4054				
4055	1100 E 16th St	Chattanooga	TN	374082301
4056	1100 E 16th St	Chattanooga	TN	374082301
4057	1100 E 16th St	Chattanooga	TN	374082301
4058				
4059	466 E 11th St	Chattanooga	TN	374034203
4060	466 E 11th St	Chattanooga	TN	374034203
4061	466 E 11th St	Chattanooga	TN	374034203
4062	466 E 11th St	Chattanooga	TN	374034203
4063	466 E 11th St	Chattanooga	TN	374034203
4064	466 E 11th St	Chattanooga	TN	374034203
4065	466 E 11th St	Chattanooga	TN	374034203
4066	466 E 11th St	Chattanooga	TN	374034203
4067	466 E 11th St	Chattanooga	TN	374034203
4068	466 E 11th St	Chattanooga	TN	374034203
4069	466 E 11th St	Chattanooga	TN	374034203
4070	466 E 11th St	Chattanooga	TN	374034203
4071	466 E 11th St	Chattanooga	TN	374034203
4072				
4073	466 E 11th St	Chattanooga	TN	374034203
4074	466 E 11th St	Chattanooga	TN	374034203
4075	466 E 11th St	Chattanooga	TN	374034203
4076	466 E 11th St	Chattanooga	TN	374034203
4077	466 E 11th St	Chattanooga	TN	374034203
4078	466 E 11th St	Chattanooga	TN	374034203
4079	466 E 11th St	Chattanooga	TN	374034203
4080	466 E 11th St	Chattanooga	TN	374034203
4081	466 E 11th St	Chattanooga	TN	374034203
4082	466 E 11th St	Chattanooga	TN	374034203
4083	466 E 11th St	Chattanooga	TN	374034203
4084	466 E 11th St	Chattanooga	TN	374034203
4085				
4086	466 E 11th St	Chattanooga	TN	374034203
4087	466 E 11th St	Chattanooga	TN	374034203
4088	466 E 11th St	Chattanooga	TN	374034203
4089	466 E 11th St	Chattanooga	TN	374034203
4090	466 E 11th St	Chattanooga	TN	374034203
4091	466 E 11th St	Chattanooga	TN	374034203
4092	466 E 11th St	Chattanooga	TN	374034203
4093	466 E 11th St	Chattanooga	TN	374034203
4094	466 E 11th St	Chattanooga	TN	374034203
4095	466 E 11th St	Chattanooga	TN	374034203
4096	466 E 11th St	Chattanooga	TN	374034203
4097	466 E 11th St	Chattanooga	TN	374034203
4098				
4099	466 E 11th St	Chattanooga	TN	374034203

	N	O	P	Q
4050	22.44	1000G	91.1	A3M4
4051	14.21	1000G	57.3	A3M4
4052	17.95	1000G	72.66	A3M4
4053	14.21	1000G	57.3	A3M4
4054	198.2		765.09	
4055	12.71	1000G	51.15	A3M4
4056	14.96	1000G	60.37	A3M4
4057	14.21	1000G	57.3	A3M4
4058	41.88		168.82	
4059	197.48	1000G	684.6	A3MSM
4060	134.64	1000G	474.83	A3MSM
4061	0	1000G	-34.23	CRLC
4062	201.22	1000G	657.31	A3MSM
4063	211.69	1000G	680.43	A3MSM
4064	251.34	1000G	767.93	A3MSM
4065	352.33	1000G	990.82	A3MSM
4066	323.15	1000G	926.43	A3MSM
4067	323.15	1000G	926.43	A3MSM
4068	285.75	1000G	843.88	A3MSM
4069	226.65	1000G	713.45	A3MSM
4070	213.94	1000G	685.38	A3MSM
4071	162.32	1000G	571.46	A3MSM
4072	2883.66		8888.72	
4073	169.8	1000G	587.97	A3MSM
4074	179.53	1000G	609.44	A3MSM
4075	182.52	1000G	627.98	A3MSM
4076	232.64	1000G	754.81	A3MSM
4077	233.39	1000G	756.53	A3MSM
4078	286.5	1000G	878.29	A3MSM
4079	380.01	1000G	1089.21	A3MSM
4080	365.79	1000G	1060.08	A3MSM
4081	375.52	1000G	1081.51	A3MSM
4082	279.02	1000G	861.14	A3MSM
4083	192.99	1000G	663.92	A3MSM
4084	194.49	1000G	667.35	A3MSM
4085	3072.2		9638.23	
4086	270.79	1000G	842.28	A3MSM
4087	213.18	1000G	710.22	A3MSM
4088	243.11	1000G	808.35	A3MSM
4089	236.38	1000G	763.39	A3MSM
4090	218.43	1000G	722.23	A3MSM
4091	344.1	1000G	1010.35	A3MSM
4092	343.35	1000G	1008.63	A3MSM
4093	331.38	1000G	981.19	A3MSM
4094	274.53	1000G	850.85	A3MSM
4095	208.7	1000G	699.93	A3MSM
4096	182.52	1000G	639.91	A3MSM
4097	139.88	1000G	542.15	A3MSM
4098	3006.35		9579.48	
4099	145.12	1000G	554.16	A3MSM

	A	B	C	D	E
4100	2600	2603	26CC	3	2
4101	2600	2603	26CC	3	3
4102	2600	2603	26CC	3	4
4103	2600	2603	26CC	3	5
4104	2600	2603	26CC	3	6
4105	2600	2603	26CC	3	7
4106	2600	2603	26CC	3	8
4107	2600	2603	26CC	3	9
4108	2600	2603	26CC	3	10
4109	2600	2603	26CC	3	11
4110	2600	2603	26CC	3	12
4111					
4112	2600	2603	26CC	3	1
4113	2600	2603	26CC	3	2
4114	2600	2603	26CC	3	3
4115					
4116	2600	2603	26CC	3	1
4117	2600	2603	26CC	3	2
4118	2600	2603	26CC	3	3
4119	2600	2603	26CC	3	4
4120	2600	2603	26CC	3	5
4121	2600	2603	26CC	3	6
4122	2600	2603	26CC	3	7
4123	2600	2603	26CC	3	8
4124	2600	2603	26CC	3	9
4125	2600	2603	26CC	3	10
4126	2600	2603	26CC	3	11
4127	2600	2603	26CC	3	12
4128					
4129	2600	2603	26CC	3	1
4130	2600	2603	26CC	3	2
4131	2600	2603	26CC	3	3
4132	2600	2603	26CC	3	4
4133	2600	2603	26CC	3	5
4134	2600	2603	26CC	3	6
4135	2600	2603	26CC	3	7
4136	2600	2603	26CC	3	8
4137	2600	2603	26CC	3	9
4138	2600	2603	26CC	3	10
4139	2600	2603	26CC	3	11
4140	2600	2603	26CC	3	12
4141					
4142	2600	2603	26CC	3	1
4143	2600	2603	26CC	3	2
4144	2600	2603	26CC	3	3
4145	2600	2603	26CC	3	4
4146	2600	2603	26CC	3	5
4147	2600	2603	26CC	3	6
4148	2600	2603	26CC	3	7
4149	2600	2603	26CC	3	8

	F	G	H	I
4100	2007	104711	260073248	CHATT PUBLISHING CO
4101	2007	104711	260073248	CHATT PUBLISHING CO
4102	2007	104711	260073248	CHATT PUBLISHING CO
4103	2007	104711	260073248	CHATT PUBLISHING CO
4104	2007	104711	260073248	CHATT PUBLISHING CO
4105	2007	104711	260073248	CHATT PUBLISHING CO
4106	2007	104711	260073248	CHATT PUBLISHING CO
4107	2007	104711	260073248	CHATT PUBLISHING CO
4108	2007	104711	260073248	CHATT PUBLISHING CO
4109	2007	104711	260073248	CHATT PUBLISHING CO
4110	2007	104711	260073248	CHATT PUBLISHING CO
4111	**2007 Total**			
4112	2008	104711	260073248	CHATT PUBLISHING CO
4113	2008	104711	260073248	CHATT PUBLISHING CO
4114	2008	104711	260073248	CHATT PUBLISHING CO
4115	**2008 Total**			
4116	2004	104724	260073259	Southeast Local Dev Corp
4117	2004	104724	260073259	Southeast Local Dev Corp
4118	2004	104724	260073259	Southeast Local Dev Corp
4119	2004	104724	260073259	Southeast Local Dev Corp
4120	2004	104724	260073259	Southeast Local Dev Corp
4121	2004	104724	260073259	Southeast Local Dev Corp
4122	2004	104724	260073259	Southeast Local Dev Corp
4123	2004	104724	260073259	Southeast Local Dev Corp
4124	2004	104724	260073259	Southeast Local Dev Corp
4125	2004	104724	260073259	Southeast Local Dev Corp
4126	2004	104724	260073259	Southeast Local Dev Corp
4127	2004	104724	260073259	Southeast Local Dev Corp
4128	**2004 Total**			
4129	2005	104724	260073259	Southeast Local Dev Corp
4130	2005	104724	260073259	Southeast Local Dev Corp
4131	2005	104724	260073259	Southeast Local Dev Corp
4132	2005	104724	260073259	Southeast Local Dev Corp
4133	2005	104724	260073259	Southeast Local Dev Corp
4134	2005	104724	260073259	Southeast Local Dev Corp
4135	2005	104724	260073259	Southeast Local Dev Corp
4136	2005	104724	260073259	Southeast Local Dev Corp
4137	2005	104724	260073259	Southeast Local Dev Corp
4138	2005	104724	260073259	Southeast Local Dev Corp
4139	2005	104724	260073259	Southeast Local Dev Corp
4140	2005	104724	260073259	Southeast Local Dev Corp
4141	**2005 Total**			
4142	2006	104724	260073259	Southeast Local Dev Corp
4143	2006	104724	260073259	Southeast Local Dev Corp
4144	2006	104724	260073259	Southeast Local Dev Corp
4145	2006	104724	260073259	Southeast Local Dev Corp
4146	2006	104724	260073259	Southeast Local Dev Corp
4147	2006	104724	260073259	Southeast Local Dev Corp
4148	2006	104724	260073259	Southeast Local Dev Corp
4149	2006	104724	260073259	Southeast Local Dev Corp

	J	K	L	M
4100	466 E 11th St	Chattanooga	TN	374034203
4101	466 E 11th St	Chattanooga	TN	374034203
4102	466 E 11th St	Chattanooga	TN	374034203
4103	466 E 11th St	Chattanooga	TN	374034203
4104	466 E 11th St	Chattanooga	TN	374034203
4105	466 E 11th St	Chattanooga	TN	374034203
4106	466 E 11th St	Chattanooga	TN	374034203
4107	466 E 11th St	Chattanooga	TN	374034203
4108	466 E 11th St	Chattanooga	TN	374034203
4109	466 E 11th St	Chattanooga	TN	374034203
4110	466 E 11th St	Chattanooga	TN	374034203
4111				
4112	466 E 11th St	Chattanooga	TN	374034203
4113	466 E 11th St	Chattanooga	TN	374034203
4114	466 E 11th St	Chattanooga	TN	374034203
4115				
4116	1115 E M L King Blvd	Chattanooga	TN	37402
4117	1115 E M L King Blvd	Chattanooga	TN	37402
4118	1115 E M L King Blvd	Chattanooga	TN	37402
4119	1115 E M L King Blvd	Chattanooga	TN	37402
4120	1115 E M L King Blvd	Chattanooga	TN	37402
4121	1115 E M L King Blvd	Chattanooga	TN	37402
4122	1115 E M L King Blvd	Chattanooga	TN	37402
4123	1115 E M L King Blvd	Chattanooga	TN	37402
4124	1115 E M L King Blvd	Chattanooga	TN	37402
4125	1115 E M L King Blvd	Chattanooga	TN	37402
4126	1115 E M L King Blvd	Chattanooga	TN	37402
4127	1115 E M L King Blvd	Chattanooga	TN	37402
4128				
4129	1115 E M L King Blvd	Chattanooga	TN	37402
4130	1115 E M L King Blvd	Chattanooga	TN	37402
4131	1115 E M L King Blvd	Chattanooga	TN	37402
4132	1115 E M L King Blvd	Chattanooga	TN	37402
4133	1115 E M L King Blvd	Chattanooga	TN	37402
4134	1115 E M L King Blvd	Chattanooga	TN	37402
4135	1115 E M L King Blvd	Chattanooga	TN	37402
4136	1115 E M L King Blvd	Chattanooga	TN	37402
4137	1115 E M L King Blvd	Chattanooga	TN	37402
4138	1115 E M L King Blvd	Chattanooga	TN	37402
4139	1115 E M L King Blvd	Chattanooga	TN	37402
4140	1115 E M L King Blvd	Chattanooga	TN	37402
4141				
4142	1115 E M L King Blvd	Chattanooga	TN	37402
4143	1115 E M L King Blvd	Chattanooga	TN	37402
4144	1115 E M L King Blvd	Chattanooga	TN	37402
4145	1115 E M L King Blvd	Chattanooga	TN	37402
4146	1115 E M L King Blvd	Chattanooga	TN	37402
4147	1115 E M L King Blvd	Chattanooga	TN	37402
4148	1115 E M L King Blvd	Chattanooga	TN	37402
4149	1115 E M L King Blvd	Chattanooga	TN	37402

	N	O	P	Q
4100	139.88	1000G	542.15	A3MSM
4101	187.76	1000G	651.91	A3MSM
4102	209.45	1000G	701.65	A3MSM
4103	239.37	1000G	770.25	A3MSM
4104	306.7	1000G	1026.44	A3MSM
4105	296.22	1000G	1013.93	A3MSM
4106	317.17	1000G	1068	A3MSM
4107	344.1	1000G	1137.52	A3MSM
4108	255.83	1000G	909.66	A3MSM
4109	184.76	1000G	726.21	A3MSM
4110	173.54	1000G	697.25	A3MSM
4111	2799.9		9799.13	
4112	175.04	1000G	701.11	A3MSM
4113	175.79	1000G	703.04	A3MSM
4114	181.77	1000G	718.49	A3MSM
4115	532.6		2122.64	
4116	6.73	1000G	38.72	A3M4
4117	9.72	1000G	49.23	A3M4
4118	10.47	1000G	51.86	A3M4
4119	8.97	1000G	46.6	A3M4
4120	8.22	1000G	43.98	A3M4
4121	8.22	1000G	43.98	A3M4
4122	8.22	1000G	43.98	A3M4
4123	8.22	1000G	43.98	A3M4
4124	8.22	1000G	43.98	A3M4
4125	138.38	1000G	384.01	A3M4
4126	0	1000G	24.92	A3M4
4127	5.98	1000G	36.09	A3M4
4128	221.35		851.33	
4129	9.72	1000G	49.23	A3M4
4130	10.47	1000G	51.86	A3M4
4131	8.97	1000G	47.5	A3M4
4132	4.48	1000G	32.03	A3M4
4133	11.96	1000G	59.33	A3M4
4134	7.48	1000G	42.95	A3M4
4135	11.22	1000G	56.6	A3M4
4136	8.22	1000G	45.68	A3M4
4137	9.72	1000G	51.14	A3M4
4138	8.97	1000G	48.41	A3M4
4139	8.22	1000G	45.68	A3M4
4140	8.22	1000G	45.68	A3M4
4141	107.65		576.09	
4142	8.22	1000G	45.68	A3M4
4143	9.72	1000G	51.14	A3M4
4144	10.47	1000G	53.87	A3M4
4145	9.72	1000G	51.14	A3M4
4146	8.97	1000G	48.41	A3M4
4147	8.97	1000G	48.41	A3M4
4148	9.72	1000G	51.14	A3M4
4149	8.97	1000G	48.41	A3M4

	A	B	C	D	E
4150	2600	2603	26CC	3	9
4151	2600	2603	26CC	3	10
4152	2600	2603	26CC	3	11
4153	2600	2603	26CC	3	12
4154					
4155	2600	2603	26CC	3	1
4156	2600	2603	26CC	3	2
4157	2600	2603	26CC	3	3
4158	2600	2603	26CC	3	4
4159	2600	2603	26CC	3	5
4160	2600	2603	26CC	3	6
4161	2600	2603	26CC	3	7
4162	2600	2603	26CC	3	8
4163	2600	2603	26CC	3	9
4164	2600	2603	26CC	3	10
4165	2600	2603	26CC	3	11
4166	2600	2603	26CC	3	12
4167					
4168	2600	2603	26CC	3	1
4169	2600	2603	26CC	3	2
4170	2600	2603	26CC	3	3
4171					
4172	2600	2603	26CC	3	1
4173	2600	2603	26CC	3	2
4174	2600	2603	26CC	3	3
4175	2600	2603	26CC	3	4
4176	2600	2603	26CC	3	5
4177	2600	2603	26CC	3	6
4178	2600	2603	26CC	3	7
4179	2600	2603	26CC	3	8
4180	2600	2603	26CC	3	9
4181	2600	2603	26CC	3	10
4182	2600	2603	26CC	3	11
4183	2600	2603	26CC	3	12
4184					
4185	2600	2603	26CC	3	1
4186	2600	2603	26CC	3	2
4187	2600	2603	26CC	3	3
4188	2600	2603	26CC	3	4
4189	2600	2603	26CC	3	5
4190	2600	2603	26CC	3	6
4191	2600	2603	26CC	3	7
4192	2600	2603	26CC	3	8
4193	2600	2603	26CC	3	9
4194	2600	2603	26CC	3	10
4195	2600	2603	26CC	3	11
4196	2600	2603	26CC	3	12
4197					
4198	2600	2603	26CC	3	1
4199	2600	2603	26CC	3	2

	F	G	H	I
4150	2006	104724	260073259	Southeast Local Dev Corp
4151	2006	104724	260073259	Southeast Local Dev Corp
4152	2006	104724	260073259	Southeast Local Dev Corp
4153	2006	104724	260073259	Southeast Local Dev Corp
4154	**2006 Total**			
4155	2007	104724	260073259	Southeast Local Dev Corp
4156	2007	104724	260073259	Southeast Local Dev Corp
4157	2007	104724	260073259	Southeast Local Dev Corp
4158	2007	104724	260073259	Southeast Local Dev Corp
4159	2007	104724	260073259	Southeast Local Dev Corp
4160	2007	104724	260073259	Southeast Local Dev Corp
4161	2007	104724	260073259	Southeast Local Dev Corp
4162	2007	104724	260073259	Southeast Local Dev Corp
4163	2007	104724	260073259	Southeast Local Dev Corp
4164	2007	104724	260073259	Southeast Local Dev Corp
4165	2007	104724	260073259	Southeast Local Dev Corp
4166	2007	104724	260073259	Southeast Local Dev Corp
4167	**2007 Total**			
4168	2008	104724	260073259	Southeast Local Dev Corp
4169	2008	104724	260073259	Southeast Local Dev Corp
4170	2008	104724	260073259	Southeast Local Dev Corp
4171	**2008 Total**			
4172	2004	104782	260073317	Cannon Equipment Se Inc
4173	2004	104782	260073317	Cannon Equipment Se Inc
4174	2004	104782	260073317	Cannon Equipment Se Inc
4175	2004	104782	260073317	Cannon Equipment Se Inc
4176	2004	104782	260073317	Cannon Equipment Se Inc
4177	2004	104782	260073317	Cannon Equipment Se Inc
4178	2004	104782	260073317	Cannon Equipment Se Inc
4179	2004	104782	260073317	Cannon Equipment Se Inc
4180	2004	104782	260073317	Cannon Equipment Se Inc
4181	2004	104782	260073317	Cannon Equipment Se Inc
4182	2004	104782	260073317	Cannon Equipment Se Inc
4183	2004	104782	260073317	Cannon Equipment Se Inc
4184	**2004 Total**			
4185	2005	104782	260073317	Cannon Equipment Se Inc
4186	2005	104782	260073317	Cannon Equipment Se Inc
4187	2005	104782	260073317	Cannon Equipment Se Inc
4188	2005	104782	260073317	Cannon Equipment Se Inc
4189	2005	104782	260073317	Cannon Equipment Se Inc
4190	2005	104782	260073317	Cannon Equipment Se Inc
4191	2005	104782	260073317	Cannon Equipment Se Inc
4192	2005	104782	260073317	Cannon Equipment Se Inc
4193	2005	104782	260073317	Cannon Equipment Se Inc
4194	2005	104782	260073317	Cannon Equipment Se Inc
4195	2005	104782	260073317	Cannon Equipment Se Inc
4196	2005	104782	260073317	Cannon Equipment Se Inc
4197	**2005 Total**			
4198	2006	104782	260073317	Cannon Equipment Se Inc
4199	2006	104782	260073317	Cannon Equipment Se Inc

	J	K	L	M
4150	1115 E M L King Blvd	Chattanooga	TN	37402
4151	1115 E M L King Blvd	Chattanooga	TN	37402
4152	1115 E M L King Blvd	Chattanooga	TN	37402
4153	1115 E M L King Blvd	Chattanooga	TN	37402
4154				
4155	1115 E M L King Blvd	Chattanooga	TN	37402
4156	1115 E M L King Blvd	Chattanooga	TN	37402
4157	1115 E M L King Blvd	Chattanooga	TN	37402
4158	1115 E M L King Blvd	Chattanooga	TN	37402
4159	1115 E M L King Blvd	Chattanooga	TN	37402
4160	1115 E M L King Blvd	Chattanooga	TN	37402
4161	1115 E M L King Blvd	Chattanooga	TN	37402
4162	1115 E M L King Blvd	Chattanooga	TN	37402
4163	1115 E M L King Blvd	Chattanooga	TN	37402
4164	1115 E M L King Blvd	Chattanooga	TN	37402
4165	1115 E M L King Blvd	Chattanooga	TN	37402
4166	1115 E M L King Blvd	Chattanooga	TN	37402
4167				
4168	1115 E M L King Blvd	Chattanooga	TN	37402
4169	1115 E M L King Blvd	Chattanooga	TN	37402
4170	1115 E M L King Blvd	Chattanooga	TN	37402
4171				
4172	950 Riverside Dr	Chattanooga	TN	374031307
4173	950 Riverside Dr	Chattanooga	TN	374031307
4174	950 Riverside Dr	Chattanooga	TN	374031307
4175	950 Riverside Dr	Chattanooga	TN	374031307
4176	950 Riverside Dr	Chattanooga	TN	374031307
4177	950 Riverside Dr	Chattanooga	TN	374031307
4178	950 Riverside Dr	Chattanooga	TN	374031307
4179	950 Riverside Dr	Chattanooga	TN	374031307
4180	950 Riverside Dr	Chattanooga	TN	374031307
4181	950 Riverside Dr	Chattanooga	TN	374031307
4182	950 Riverside Dr	Chattanooga	TN	374031307
4183	950 Riverside Dr	Chattanooga	TN	374031307
4184				
4185	950 Riverside Dr	Chattanooga	TN	374031307
4186	950 Riverside Dr	Chattanooga	TN	374031307
4187	950 Riverside Dr	Chattanooga	TN	374031307
4188	950 Riverside Dr	Chattanooga	TN	374031307
4189	950 Riverside Dr	Chattanooga	TN	374031307
4190	950 Riverside Dr	Chattanooga	TN	374031307
4191	950 Riverside Dr	Chattanooga	TN	374031307
4192	950 Riverside Dr	Chattanooga	TN	374031307
4193	950 Riverside Dr	Chattanooga	TN	374031307
4194	950 Riverside Dr	Chattanooga	TN	374031307
4195	950 Riverside Dr	Chattanooga	TN	374031307
4196	950 Riverside Dr	Chattanooga	TN	374031307
4197				
4198	950 Riverside Dr	Chattanooga	TN	374031307
4199	950 Riverside Dr	Chattanooga	TN	374031307

	N	O	P	Q
4150	9.72	1000G	51.14	A3M4
4151	8.97	1000G	48.41	A3M4
4152	10.47	1000G	53.87	A3M4
4153	8.22	1000G	45.68	A3M4
4154	112.14		597.3	
4155	7.48	1000G	42.95	A3M4
4156	8.22	1000G	45.68	A3M4
4157	8.22	1000G	45.68	A3M4
4158	11.22	1000G	56.6	A3M4
4159	8.22	1000G	45.68	A3M4
4160	5.98	1000G	41.64	A3M4
4161	8.22	1000G	51.43	A3M4
4162	8.22	1000G	51.43	A3M4
4163	7.48	1000G	48.36	A3M4
4164	7.48	1000G	48.36	A3M4
4165	8.97	1000G	54.5	A3M4
4166	8.97	1000G	54.5	A3M4
4167	98.68		586.81	
4168	9.72	1000G	57.58	A3M4
4169	9.72	1000G	57.58	A3M4
4170	17.2	1000G	88.31	A3M4
4171	36.64		203.47	
4172	789.19	1000G	1723.57	A3MSM
4173	867.74	1000G	1853.14	A3MSM
4174	975.45	1000G	2030.84	A3MSM
4175	783.95	1000G	1714.93	A3MSM
4176	814.62	1000G	1765.53	A3MSM
4177	830.33	1000G	1791.44	A3MSM
4178	774.23	1000G	1698.89	A3MSM
4179	725.61	1000G	1618.68	A3MSM
4180	662.02	1000G	1513.79	A3MSM
4181	669.5	1000G	1526.13	A3MSM
4182	675.49	1000G	1536	A3MSM
4183	624.62	1000G	1452.09	A3MSM
4184	9192.75		20225.03	
4185	585.72	1000G	1387.92	A3MSM
4186	678.48	1000G	1540.94	A3MSM
4187	679.23	1000G	1572.1	A3MSM
4188	732.34	1000G	1693.03	A3MSM
4189	777.97	1000G	1771.23	A3MSM
4190	766	1000G	1750.72	A3MSM
4191	813.88	1000G	1832.77	A3MSM
4192	752.54	1000G	1727.64	A3MSM
4193	811.63	1000G	1828.92	A3MSM
4194	757.02	1000G	1735.33	A3MSM
4195	705.41	1000G	1646.88	A3MSM
4196	593.2	1000G	1454.58	A3MSM
4197	8653.42		19942.06	
4198	706.16	1000G	1648.16	A3MSM
4199	642.57	1000G	1539.19	A3MSM

	A	B	C	D	E
4200	2600	2603	26CC	3	3
4201	2600	2603	26CC	3	4
4202	2600	2603	26CC	3	5
4203	2600	2603	26CC	3	6
4204	2600	2603	26CC	3	7
4205	2600	2603	26CC	3	8
4206	2600	2603	26CC	3	9
4207	2600	2603	26CC	3	10
4208	2600	2603	26CC	3	11
4209	2600	2603	26CC	3	12
4210					
4211	2600	2603	26CC	3	1
4212	2600	2603	26CC	3	2
4213	2600	2603	26CC	3	3
4214	2600	2603	26CC	3	4
4215	2600	2603	26CC	3	5
4216	2600	2603	26CC	3	6
4217	2600	2603	26CC	3	7
4218	2600	2603	26CC	3	8
4219	2600	2603	26CC	3	9
4220	2600	2603	26CC	3	10
4221	2600	2603	26CC	3	11
4222	2600	2603	26CC	3	12
4223					
4224	2600	2603	26CC	3	1
4225	2600	2603	26CC	3	2
4226	2600	2603	26CC	3	3
4227					
4228	2600	2603	26CC	3	1
4229	2600	2603	26CC	3	2
4230	2600	2603	26CC	3	3
4231	2600	2603	26CC	3	4
4232	2600	2603	26CC	3	5
4233	2600	2603	26CC	3	6
4234	2600	2603	26CC	3	7
4235	2600	2603	26CC	3	8
4236	2600	2603	26CC	3	9
4237	2600	2603	26CC	3	10
4238	2600	2603	26CC	3	11
4239	2600	2603	26CC	3	12
4240					
4241	2600	2603	26CC	3	1
4242	2600	2603	26CC	3	2
4243	2600	2603	26CC	3	3
4244	2600	2603	26CC	3	4
4245	2600	2603	26CC	3	5
4246	2600	2603	26CC	3	6
4247	2600	2603	26CC	3	7
4248	2600	2603	26CC	3	8
4249	2600	2603	26CC	3	9

	F	G	H	I
4200	2006	104782	260073317	Cannon Equipment Se Inc
4201	2006	104782	260073317	Cannon Equipment Se Inc
4202	2006	104782	260073317	Cannon Equipment Se Inc
4203	2006	104782	260073317	Cannon Equipment Se Inc
4204	2006	104782	260073317	Cannon Equipment Se Inc
4205	2006	104782	260073317	Cannon Equipment Se Inc
4206	2006	104782	260073317	Cannon Equipment Se Inc
4207	2006	104782	260073317	Cannon Equipment Se Inc
4208	2006	104782	260073317	Cannon Equipment Se Inc
4209	2006	104782	260073317	Cannon Equipment Se Inc
4210	**2006 Total**			
4211	2007	104782	260073317	Cannon Equipment Se Inc
4212	2007	104782	260073317	Cannon Equipment Se Inc
4213	2007	104782	260073317	Cannon Equipment Se Inc
4214	2007	104782	260073317	Cannon Equipment Se Inc
4215	2007	104782	260073317	Cannon Equipment Se Inc
4216	2007	104782	260073317	Cannon Equipment Se Inc
4217	2007	104782	260073317	Cannon Equipment Se Inc
4218	2007	104782	260073317	Cannon Equipment Se Inc
4219	2007	104782	260073317	Cannon Equipment Se Inc
4220	2007	104782	260073317	Cannon Equipment Se Inc
4221	2007	104782	260073317	Cannon Equipment Se Inc
4222	2007	104782	260073317	Cannon Equipment Se Inc
4223	**2007 Total**			
4224	2008	104782	260073317	Cannon Equipment Se Inc
4225	2008	104782	260073317	Cannon Equipment Se Inc
4226	2008	104782	260073317	Cannon Equipment Se Inc
4227	**2008 Total**			
4228	2004	104839	260073375	Buster Brown Prop LLC
4229	2004	104839	260073375	Buster Brown Prop LLC
4230	2004	104839	260073375	Buster Brown Prop LLC
4231	2004	104839	260073375	Buster Brown Prop LLC
4232	2004	104839	260073375	Buster Brown Prop LLC
4233	2004	104839	260073375	Buster Brown Prop LLC
4234	2004	104839	260073375	Buster Brown Prop LLC
4235	2004	104839	260073375	Buster Brown Prop LLC
4236	2004	104839	260073375	Buster Brown Prop LLC
4237	2004	104839	260073375	Buster Brown Prop LLC
4238	2004	104839	260073375	Buster Brown Prop LLC
4239	2004	104839	260073375	Buster Brown Prop LLC
4240	**2004 Total**			
4241	2005	104839	260073375	Buster Brown Prop LLC
4242	2005	104839	260073375	Buster Brown Prop LLC
4243	2005	104839	260073375	Buster Brown Prop LLC
4244	2005	104839	260073375	Buster Brown Prop LLC
4245	2005	104839	260073375	Buster Brown Prop LLC
4246	2005	104839	260073375	Buster Brown Prop LLC
4247	2005	104839	260073375	Buster Brown Prop LLC
4248	2005	104839	260073375	Buster Brown Prop LLC
4249	2005	104839	260073375	Buster Brown Prop LLC

	J	K	L	M
4200	950 Riverside Dr	Chattanooga	TN	374031307
4201	950 Riverside Dr	Chattanooga	TN	374031307
4202	950 Riverside Dr	Chattanooga	TN	374031307
4203	950 Riverside Dr	Chattanooga	TN	374031307
4204	950 Riverside Dr	Chattanooga	TN	374031307
4205	950 Riverside Dr	Chattanooga	TN	374031307
4206	950 Riverside Dr	Chattanooga	TN	374031307
4207	950 Riverside Dr	Chattanooga	TN	374031307
4208	950 Riverside Dr	Chattanooga	TN	374031307
4209	950 Riverside Dr	Chattanooga	TN	374031307
4210				
4211	950 Riverside Dr	Chattanooga	TN	374031307
4212	950 Riverside Dr	Chattanooga	TN	374031307
4213	950 Riverside Dr	Chattanooga	TN	374031307
4214	950 Riverside Dr	Chattanooga	TN	374031307
4215	950 Riverside Dr	Chattanooga	TN	374031307
4216	950 Riverside Dr	Chattanooga	TN	374031307
4217	950 Riverside Dr	Chattanooga	TN	374031307
4218	950 Riverside Dr	Chattanooga	TN	374031307
4219	950 Riverside Dr	Chattanooga	TN	374031307
4220	950 Riverside Dr	Chattanooga	TN	374031307
4221	950 Riverside Dr	Chattanooga	TN	374031307
4222	950 Riverside Dr	Chattanooga	TN	374031307
4223				
4224	950 Riverside Dr	Chattanooga	TN	374031307
4225	950 Riverside Dr	Chattanooga	TN	374031307
4226	950 Riverside Dr	Chattanooga	TN	374031307
4227				
4228	2001 Wheeler Ave	Chattanooga	TN	374063853
4229	2001 Wheeler Ave	Chattanooga	TN	374063853
4230	2001 Wheeler Ave	Chattanooga	TN	374063853
4231	2001 Wheeler Ave	Chattanooga	TN	374063853
4232	2001 Wheeler Ave	Chattanooga	TN	374063853
4233	2001 Wheeler Ave	Chattanooga	TN	374063853
4234	2001 Wheeler Ave	Chattanooga	TN	374063853
4235	2001 Wheeler Ave	Chattanooga	TN	374063853
4236	2001 Wheeler Ave	Chattanooga	TN	374063853
4237	2001 Wheeler Ave	Chattanooga	TN	374063853
4238	2001 Wheeler Ave	Chattanooga	TN	374063853
4239	2001 Wheeler Ave	Chattanooga	TN	374063853
4240				
4241	2001 Wheeler Ave	Chattanooga	TN	374063853
4242	2001 Wheeler Ave	Chattanooga	TN	374063853
4243	2001 Wheeler Ave	Chattanooga	TN	374063853
4244	2001 Wheeler Ave	Chattanooga	TN	374063853
4245	2001 Wheeler Ave	Chattanooga	TN	374063853
4246	2001 Wheeler Ave	Chattanooga	TN	374063853
4247	2001 Wheeler Ave	Chattanooga	TN	374063853
4248	2001 Wheeler Ave	Chattanooga	TN	374063853
4249	2001 Wheeler Ave	Chattanooga	TN	374063853

	N	O	P	Q
4200	644.82	1000G	1543.03	A3MSM
4201	654.54	1000G	1559.7	A3MSM
4202	712.89	1000G	1659.7	A3MSM
4203	720.37	1000G	1672.52	A3MSM
4204	676.98	1000G	1598.16	A3MSM
4205	787.69	1000G	1787.9	A3MSM
4206	747.3	1000G	1718.67	A3MSM
4207	803.4	1000G	1814.82	A3MSM
4208	788.44	1000G	1789.18	A3MSM
4209	778.72	1000G	1772.51	A3MSM
4210	8663.88		20103.54	
4211	811.63	1000G	1828.92	A3MSM
4212	735.33	1000G	1698.16	A3MSM
4213	815.37	1000G	1835.33	A3MSM
4214	890.17	1000G	1963.53	A3MSM
4215	815.37	1000G	1835.33	A3MSM
4216	954.51	1000G	2301.96	A3MSM
4217	945.53	1000G	2317.21	A3MSM
4218	828.84	1000G	2092.1	A3MSM
4219	846.04	1000G	2125.29	A3MSM
4220	818.36	1000G	2071.9	A3MSM
4221	754.78	1000G	1949.25	A3MSM
4222	768.24	1000G	1975.22	A3MSM
4223	9984.17		23994.2	
4224	802.65	1000G	2041.6	A3MSM
4225	762.26	1000G	1963.68	A3MSM
4226	792.93	1000G	2022.84	A3MSM
4227	2357.84		6028.12	
4228	5.98	1000G	36.09	A3M4
4229	15.7	1000G	70.26	A3M4
4230	7.48	1000G	41.35	A3M4
4231	11.22	1000G	54.49	A3M4
4232	13.46	1000G	62.37	A3M4
4233	16.45	1000G	72.88	A3M4
4234	14.96	1000G	67.63	A3M4
4235	0	1000G	24.92	A3M4
4236	31.41	1000G	125.44	A3M4
4237	26.18	1000G	107.05	A3M4
4238	40.39	1000G	156.98	A3M4
4239	45.63	1000G	175.38	A3M4
4240	228.86		994.84	
4241	18.7	1000G	80.77	A3M4
4242	19.44	1000G	83.4	A3M4
4243	49.37	1000G	187.54	A3M4
4244	31.41	1000G	129.72	A3M4
4245	29.17	1000G	122.12	A3M4
4246	25.43	1000G	108.47	A3M4
4247	25.43	1000G	108.47	A3M4
4248	43.38	1000G	173.99	A3M4
4249	49.37	1000G	194.82	A3M4

	A	B	C	D	E
4250	2600	2603	26CC	3	10
4251	2600	2603	26CC	3	11
4252	2600	2603	26CC	3	12
4253					
4254	2600	2603	26CC	3	1
4255	2600	2603	26CC	3	2
4256	2600	2603	26CC	3	3
4257	2600	2603	26CC	3	4
4258	2600	2603	26CC	3	5
4259	2600	2603	26CC	3	6
4260	2600	2603	26CC	3	7
4261	2600	2603	26CC	3	8
4262	2600	2603	26CC	3	9
4263	2600	2603	26CC	3	10
4264	2600	2603	26CC	3	11
4265	2600	2603	26CC	3	12
4266					
4267	2600	2603	26CC	3	1
4268	2600	2603	26CC	3	2
4269	2600	2603	26CC	3	3
4270	2600	2603	26CC	3	4
4271	2600	2603	26CC	3	5
4272	2600	2603	26CC	3	6
4273	2600	2603	26CC	3	7
4274	2600	2603	26CC	3	8
4275	2600	2603	26CC	3	9
4276	2600	2603	26CC	3	10
4277	2600	2603	26CC	3	11
4278	2600	2603	26CC	3	12
4279					
4280	2600	2603	26CC	3	1
4281	2600	2603	26CC	3	2
4282	2600	2603	26CC	3	3
4283					
4284	2600	2603	26CC	3	1
4285	2600	2603	26CC	3	2
4286	2600	2603	26CC	3	3
4287	2600	2603	26CC	3	4
4288	2600	2603	26CC	3	5
4289	2600	2603	26CC	3	6
4290	2600	2603	26CC	3	7
4291	2600	2603	26CC	3	8
4292	2600	2603	26CC	3	9
4293	2600	2603	26CC	3	10
4294	2600	2603	26CC	3	11
4295	2600	2603	26CC	3	12
4296					
4297	2600	2603	26CC	3	1
4298	2600	2603	26CC	3	2
4299	2600	2603	26CC	3	3

	F	G	H	I
4250	2005	104839	260073375	Buster Brown Prop LLC
4251	2005	104839	260073375	Buster Brown Prop LLC
4252	2005	104839	260073375	Buster Brown Prop LLC
4253	**2005 Total**			
4254	2006	104839	260073375	Buster Brown Prop LLC
4255	2006	104839	260073375	Buster Brown Prop LLC
4256	2006	104839	260073375	Buster Brown Prop LLC
4257	2006	104839	260073375	Buster Brown Prop LLC
4258	2006	104839	260073375	Buster Brown Prop LLC
4259	2006	104839	260073375	Buster Brown Prop LLC
4260	2006	104839	260073375	Buster Brown Prop LLC
4261	2006	104839	260073375	Buster Brown Prop LLC
4262	2006	104839	260073375	Buster Brown Prop LLC
4263	2006	104839	260073375	Buster Brown Prop LLC
4264	2006	104839	260073375	Buster Brown Prop LLC
4265	2006	104839	260073375	Buster Brown Prop LLC
4266	**2006 Total**			
4267	2007	104839	260073375	Buster Brown Prop LLC
4268	2007	104839	260073375	Buster Brown Prop LLC
4269	2007	104839	260073375	Buster Brown Prop LLC
4270	2007	104839	260073375	Buster Brown Prop LLC
4271	2007	104839	260073375	Buster Brown Prop LLC
4272	2007	104839	260073375	Buster Brown Prop LLC
4273	2007	104839	260073375	Buster Brown Prop LLC
4274	2007	104839	260073375	Buster Brown Prop LLC
4275	2007	104839	260073375	Buster Brown Prop LLC
4276	2007	104839	260073375	Buster Brown Prop LLC
4277	2007	104839	260073375	Buster Brown Prop LLC
4278	2007	104839	260073375	Buster Brown Prop LLC
4279	**2007 Total**			
4280	2008	104839	260073375	Buster Brown Prop LLC
4281	2008	104839	260073375	Buster Brown Prop LLC
4282	2008	104839	260073375	Buster Brown Prop LLC
4283	**2008 Total**			
4284	2004	104844	260073381	PIONEER MAT COMPANY
4285	2004	104844	260073381	PIONEER MAT COMPANY
4286	2004	104844	260073381	PIONEER MAT COMPANY
4287	2004	104844	260073381	PIONEER MAT COMPANY
4288	2004	104844	260073381	PIONEER MAT COMPANY
4289	2004	104844	260073381	PIONEER MAT COMPANY
4290	2004	104844	260073381	PIONEER MAT COMPANY
4291	2004	104844	260073381	PIONEER MAT COMPANY
4292	2004	104844	260073381	PIONEER MAT COMPANY
4293	2004	104844	260073381	PIONEER MAT COMPANY
4294	2004	104844	260073381	PIONEER MAT COMPANY
4295	2004	104844	260073381	PIONEER MAT COMPANY
4296	**2004 Total**			
4297	2005	104844	260073381	PIONEER MAT COMPANY
4298	2005	104844	260073381	PIONEER MAT COMPANY
4299	2005	104844	260073381	PIONEER MAT COMPANY

	J	K	L	M
4250	2001 Wheeler Ave	Chattanooga	TN	374063853
4251	2001 Wheeler Ave	Chattanooga	TN	374063853
4252	2001 Wheeler Ave	Chattanooga	TN	374063853
4253				
4254	2001 Wheeler Ave	Chattanooga	TN	374063853
4255	2001 Wheeler Ave	Chattanooga	TN	374063853
4256	2001 Wheeler Ave	Chattanooga	TN	374063853
4257	2001 Wheeler Ave	Chattanooga	TN	374063853
4258	2001 Wheeler Ave	Chattanooga	TN	374063853
4259	2001 Wheeler Ave	Chattanooga	TN	374063853
4260	2001 Wheeler Ave	Chattanooga	TN	374063853
4261	2001 Wheeler Ave	Chattanooga	TN	374063853
4262	2001 Wheeler Ave	Chattanooga	TN	374063853
4263	2001 Wheeler Ave	Chattanooga	TN	374063853
4264	2001 Wheeler Ave	Chattanooga	TN	374063853
4265	2001 Wheeler Ave	Chattanooga	TN	374063853
4266				
4267	2001 Wheeler Ave	Chattanooga	TN	374063853
4268	2001 Wheeler Ave	Chattanooga	TN	374063853
4269	2001 Wheeler Ave	Chattanooga	TN	374063853
4270	2001 Wheeler Ave	Chattanooga	TN	374063853
4271	2001 Wheeler Ave	Chattanooga	TN	374063853
4272	2001 Wheeler Ave	Chattanooga	TN	374063853
4273	2001 Wheeler Ave	Chattanooga	TN	374063853
4274	2001 Wheeler Ave	Chattanooga	TN	374063853
4275	2001 Wheeler Ave	Chattanooga	TN	374063853
4276	2001 Wheeler Ave	Chattanooga	TN	374063853
4277	2001 Wheeler Ave	Chattanooga	TN	374063853
4278	2001 Wheeler Ave	Chattanooga	TN	374063853
4279				
4280	2001 Wheeler Ave	Chattanooga	TN	374063853
4281	2001 Wheeler Ave	Chattanooga	TN	374063853
4282	2001 Wheeler Ave	Chattanooga	TN	374063853
4283				
4284	2914 ROANOKE AVE	CHATTANOOGA	TN	374065202
4285	2914 ROANOKE AVE	CHATTANOOGA	TN	374065202
4286	2914 ROANOKE AVE	CHATTANOOGA	TN	374065202
4287	2914 ROANOKE AVE	CHATTANOOGA	TN	374065202
4288	2914 ROANOKE AVE	CHATTANOOGA	TN	374065202
4289	2914 ROANOKE AVE	CHATTANOOGA	TN	374065202
4290	2914 ROANOKE AVE	CHATTANOOGA	TN	374065202
4291	2914 ROANOKE AVE	CHATTANOOGA	TN	374065202
4292	2914 ROANOKE AVE	CHATTANOOGA	TN	374065202
4293	2914 ROANOKE AVE	CHATTANOOGA	TN	374065202
4294	2914 ROANOKE AVE	CHATTANOOGA	TN	374065202
4295	2914 ROANOKE AVE	CHATTANOOGA	TN	374065202
4296				
4297	2914 ROANOKE AVE	CHATTANOOGA	TN	374065202
4298	2914 ROANOKE AVE	CHATTANOOGA	TN	374065202
4299	2914 ROANOKE AVE	CHATTANOOGA	TN	374065202

	N	O	P	Q
4250	23.18	1000G	100.28	A3M4
4251	19.44	1000G	86.63	A3M4
4252	29.92	1000G	124.85	A3M4
4253	364.24		1501.06	
4254	12.71	1000G	62.06	A3M4
4255	21.69	1000G	94.82	A3M4
4256	11.96	1000G	59.33	A3M4
4257	62.08	1000G	223.97	A3M4
4258	11.96	1000G	59.33	A3M4
4259	8.22	1000G	45.68	A3M4
4260	11.96	1000G	59.33	A3M4
4261	10.47	1000G	53.87	A3M4
4262	26.92	1000G	113.93	A3M4
4263	36.65	1000G	149.42	A3M4
4264	27.67	1000G	116.66	A3M4
4265	26.92	1000G	113.93	A3M4
4266	269.21		1152.33	
4267	32.16	1000G	133.04	A3M4
4268	23.93	1000G	103.01	A3M4
4269	23.93	1000G	103.01	A3M4
4270	28.42	1000G	119.39	A3M4
4271	26.18	1000G	111.2	A3M4
4272	35.9	1000G	153.46	A3M4
4273	50.86	1000G	223.16	A3M4
4274	8.22	1000G	51.43	A3M4
4275	15.7	1000G	82.16	A3M4
4276	23.93	1000G	115.96	A3M4
4277	1.49	1000G	29.53	A3M4
4278	8.97	1000G	54.5	A3M4
4279	279.69		1279.85	
4280	1.49	1000G	29.53	A3M4
4281	2.24	1000G	29.72	A3M4
4282	7.48	1000G	48.36	A3M4
4283	11.21		107.61	
4284	14.21	1000G	119.85	A3M4
4285	14.21	1000G	119.85	A3M4
4286	8.97	1000G	101.45	A3M4
4287	14.96	1000G	122.48	A3M4
4288	15.7	1000G	125.11	A3M4
4289	14.21	1000G	119.85	A3M4
4290	12.71	1000G	114.59	A3M4
4291	17.95	1000G	132.99	A3M4
4292	19.44	1000G	138.25	A3M4
4293	17.2	1000G	130.36	A3M4
4294	17.2	1000G	130.36	A3M4
4295	17.2	1000G	130.36	A3M4
4296	183.96		1485.5	
4297	10.47	1000G	106.71	A3M4
4298	11.96	1000G	111.97	A3M4
4299	13.46	1000G	117.22	A3M4

	A	B	C	D	E
4300	2600	2603	26CC	3	4
4301	2600	2603	26CC	3	5
4302	2600	2603	26CC	3	6
4303	2600	2603	26CC	3	7
4304	2600	2603	26CC	3	8
4305	2600	2603	26CC	3	9
4306	2600	2603	26CC	3	10
4307	2600	2603	26CC	3	11
4308	2600	2603	26CC	3	12
4309					
4310	2600	2603	26CC	3	1
4311	2600	2603	26CC	3	2
4312	2600	2603	26CC	3	3
4313	2600	2603	26CC	3	4
4314	2600	2603	26CC	3	5
4315	2600	2603	26CC	3	6
4316	2600	2603	26CC	3	7
4317	2600	2603	26CC	3	8
4318	2600	2603	26CC	3	9
4319	2600	2603	26CC	3	10
4320	2600	2603	26CC	3	11
4321	2600	2603	26CC	3	12
4322					
4323	2600	2603	26CC	3	1
4324	2600	2603	26CC	3	2
4325	2600	2603	26CC	3	3
4326	2600	2603	26CC	3	4
4327	2600	2603	26CC	3	5
4328	2600	2603	26CC	3	6
4329	2600	2603	26CC	3	7
4330	2600	2603	26CC	3	8
4331	2600	2603	26CC	3	9
4332	2600	2603	26CC	3	10
4333	2600	2603	26CC	3	11
4334	2600	2603	26CC	3	12
4335					
4336	2600	2603	26CC	3	1
4337	2600	2603	26CC	3	2
4338	2600	2603	26CC	3	3
4339					
4340	2600	2603	26CC	3	1
4341	2600	2603	26CC	3	2
4342	2600	2603	26CC	3	3
4343	2600	2603	26CC	3	4
4344	2600	2603	26CC	3	5
4345	2600	2603	26CC	3	6
4346	2600	2603	26CC	3	7
4347	2600	2603	26CC	3	8
4348	2600	2603	26CC	3	9
4349	2600	2603	26CC	3	10

	F	G	H	I
4300	2005	104844	260073381	PIONEER MAT COMPANY
4301	2005	104844	260073381	PIONEER MAT COMPANY
4302	2005	104844	260073381	PIONEER MAT COMPANY
4303	2005	104844	260073381	PIONEER MAT COMPANY
4304	2005	104844	260073381	PIONEER MAT COMPANY
4305	2005	104844	260073381	PIONEER MAT COMPANY
4306	2005	104844	260073381	PIONEER MAT COMPANY
4307	2005	104844	260073381	PIONEER MAT COMPANY
4308	2005	104844	260073381	PIONEER MAT COMPANY
4309	**2005 Total**			
4310	2006	104844	260073381	PIONEER MAT COMPANY
4311	2006	104844	260073381	PIONEER MAT COMPANY
4312	2006	104844	260073381	PIONEER MAT COMPANY
4313	2006	104844	260073381	PIONEER MAT COMPANY
4314	2006	104844	260073381	PIONEER MAT COMPANY
4315	2006	104844	260073381	PIONEER MAT COMPANY
4316	2006	104844	260073381	PIONEER MAT COMPANY
4317	2006	104844	260073381	PIONEER MAT COMPANY
4318	2006	104844	260073381	PIONEER MAT COMPANY
4319	2006	104844	260073381	PIONEER MAT COMPANY
4320	2006	104844	260073381	PIONEER MAT COMPANY
4321	2006	104844	260073381	PIONEER MAT COMPANY
4322	**2006 Total**			
4323	2007	104844	260073381	PIONEER MAT COMPANY
4324	2007	104844	260073381	PIONEER MAT COMPANY
4325	2007	104844	260073381	PIONEER MAT COMPANY
4326	2007	104844	260073381	PIONEER MAT COMPANY
4327	2007	104844	260073381	PIONEER MAT COMPANY
4328	2007	104844	260073381	PIONEER MAT COMPANY
4329	2007	104844	260073381	PIONEER MAT COMPANY
4330	2007	104844	260073381	PIONEER MAT COMPANY
4331	2007	104844	260073381	PIONEER MAT COMPANY
4332	2007	104844	260073381	PIONEER MAT COMPANY
4333	2007	104844	260073381	PIONEER MAT COMPANY
4334	2007	104844	260073381	PIONEER MAT COMPANY
4335	**2007 Total**			
4336	2008	104844	260073381	PIONEER MAT COMPANY
4337	2008	104844	260073381	PIONEER MAT COMPANY
4338	2008	104844	260073381	PIONEER MAT COMPANY
4339	**2008 Total**			
4340	2004	104848	260073384	W R Grace Company
4341	2004	104848	260073384	W R Grace Company
4342	2004	104848	260073384	W R Grace Company
4343	2004	104848	260073384	W R Grace Company
4344	2004	104848	260073384	W R Grace Company
4345	2004	104848	260073384	W R Grace Company
4346	2004	104848	260073384	W R Grace Company
4347	2004	104848	260073384	W R Grace Company
4348	2004	104848	260073384	W R Grace Company
4349	2004	104848	260073384	W R Grace Company

	J	K	L	M
4300	2914 ROANOKE AVE	CHATTANOOGA	TN	374065202
4301	2914 ROANOKE AVE	CHATTANOOGA	TN	374065202
4302	2914 ROANOKE AVE	CHATTANOOGA	TN	374065202
4303	2914 ROANOKE AVE	CHATTANOOGA	TN	374065202
4304	2914 ROANOKE AVE	CHATTANOOGA	TN	374065202
4305	2914 ROANOKE AVE	CHATTANOOGA	TN	374065202
4306	2914 ROANOKE AVE	CHATTANOOGA	TN	374065202
4307	2914 ROANOKE AVE	CHATTANOOGA	TN	374065202
4308	2914 ROANOKE AVE	CHATTANOOGA	TN	374065202
4309				
4310	2914 ROANOKE AVE	CHATTANOOGA	TN	374065202
4311	2914 ROANOKE AVE	CHATTANOOGA	TN	374065202
4312	2914 ROANOKE AVE	CHATTANOOGA	TN	374065202
4313	2914 ROANOKE AVE	CHATTANOOGA	TN	374065202
4314	2914 ROANOKE AVE	CHATTANOOGA	TN	374065202
4315	2914 ROANOKE AVE	CHATTANOOGA	TN	374065202
4316	2914 ROANOKE AVE	CHATTANOOGA	TN	374065202
4317	2914 ROANOKE AVE	CHATTANOOGA	TN	374065202
4318	2914 ROANOKE AVE	CHATTANOOGA	TN	374065202
4319	2914 ROANOKE AVE	CHATTANOOGA	TN	374065202
4320	2914 ROANOKE AVE	CHATTANOOGA	TN	374065202
4321	2914 ROANOKE AVE	CHATTANOOGA	TN	374065202
4322				
4323	2914 ROANOKE AVE	CHATTANOOGA	TN	374065202
4324	2914 ROANOKE AVE	CHATTANOOGA	TN	374065202
4325	2914 ROANOKE AVE	CHATTANOOGA	TN	374065202
4326	2914 ROANOKE AVE	CHATTANOOGA	TN	374065202
4327	2914 ROANOKE AVE	CHATTANOOGA	TN	374065202
4328	2914 ROANOKE AVE	CHATTANOOGA	TN	374065202
4329	2914 ROANOKE AVE	CHATTANOOGA	TN	374065202
4330	2914 ROANOKE AVE	CHATTANOOGA	TN	374065202
4331	2914 ROANOKE AVE	CHATTANOOGA	TN	374065202
4332	2914 ROANOKE AVE	CHATTANOOGA	TN	374065202
4333	2914 ROANOKE AVE	CHATTANOOGA	TN	374065202
4334	2914 ROANOKE AVE	CHATTANOOGA	TN	374065202
4335				
4336	2914 ROANOKE AVE	CHATTANOOGA	TN	374065202
4337	2914 ROANOKE AVE	CHATTANOOGA	TN	374065202
4338	2914 ROANOKE AVE	CHATTANOOGA	TN	374065202
4339				
4340	4000 N HAWTHORNE ST	CHATTANOOGA	TN	374061313
4341	4000 N HAWTHORNE ST	CHATTANOOGA	TN	374061313
4342	4000 N HAWTHORNE ST	CHATTANOOGA	TN	374061313
4343	4000 N HAWTHORNE ST	CHATTANOOGA	TN	374061313
4344	4000 N HAWTHORNE ST	CHATTANOOGA	TN	374061313
4345	4000 N HAWTHORNE ST	CHATTANOOGA	TN	374061313
4346	4000 N HAWTHORNE ST	CHATTANOOGA	TN	374061313
4347	4000 N HAWTHORNE ST	CHATTANOOGA	TN	374061313
4348	4000 N HAWTHORNE ST	CHATTANOOGA	TN	374061313
4349	4000 N HAWTHORNE ST	CHATTANOOGA	TN	374061313

	N	O	P	Q
4300	14.96	1000G	126.65	A3M4
4301	17.2	1000G	135.41	A3M4
4302	19.44	1000G	143.6	A3M4
4303	17.95	1000G	138.14	A3M4
4304	19.44	1000G	143.6	A3M4
4305	19.44	1000G	143.6	A3M4
4306	17.2	1000G	135.41	A3M4
4307	14.96	1000G	127.22	A3M4
4308	12.71	1000G	119.03	A3M4
4309	189.19		1548.56	
4310	15.7	1000G	129.95	A3M4
4311	12.71	1000G	119.03	A3M4
4312	13.46	1000G	121.76	A3M4
4313	13.46	1000G	121.76	A3M4
4314	14.96	1000G	127.22	A3M4
4315	17.2	1000G	135.41	A3M4
4316	17.2	1000G	135.41	A3M4
4317	17.2	1000G	135.41	A3M4
4318	16.45	1000G	132.68	A3M4
4319	13.46	1000G	121.76	A3M4
4320	14.21	1000G	124.49	A3M4
4321	8.97	1000G	105.38	A3M4
4322	174.98		1510.26	
4323	4.48	1000G	89	A3M4
4324	6.73	1000G	97.19	A3M4
4325	9.72	1000G	108.11	A3M4
4326	12.71	1000G	119.03	A3M4
4327	14.21	1000G	124.49	A3M4
4328	9.72	1000G	113.1	A3M4
4329	8.22	1000G	115.56	A3M4
4330	5.23	1000G	103.27	A3M4
4331	3.74	1000G	97.12	A3M4
4332	5.23	1000G	103.27	A3M4
4333	9.72	1000G	121.71	A3M4
4334	15.7	1000G	146.29	A3M4
4335	105.41		1338.14	
4336	16.45	1000G	149.36	A3M4
4337	14.96	1000G	143.22	A3M4
4338	14.96	1000G	143.22	A3M4
4339	46.37		435.8	
4340	2420.69	1000G	5322.36	A3M4M
4341	2753.57	1000G	5871.49	A3M4M
4342	2380.3	1000G	5255.73	A3M4M
4343	2449.87	1000G	5370.49	A3M4M
4344	2604.71	1000G	5625.93	A3M4M
4345	2671.29	1000G	5735.75	A3M4M
4346	2880.74	1000G	6081.27	A3M4M
4347	3150.04	1000G	6525.51	A3M4M
4348	2380.3	1000G	5255.73	A3M4M
4349	2383.29	1000G	5260.66	A3M4M

	A	B	C	D	E
4350	2600	2603	26CC	3	11
4351	2600	2603	26CC	3	12
4352					
4353	2600	2603	26CC	3	1
4354	2600	2603	26CC	3	2
4355	2600	2603	26CC	3	3
4356	2600	2603	26CC	3	4
4357	2600	2603	26CC	3	5
4358	2600	2603	26CC	3	6
4359	2600	2603	26CC	3	7
4360	2600	2603	26CC	3	8
4361	2600	2603	26CC	3	9
4362	2600	2603	26CC	3	10
4363	2600	2603	26CC	3	11
4364	2600	2603	26CC	3	12
4365					
4366	2600	2603	26CC	3	1
4367	2600	2603	26CC	3	2
4368	2600	2603	26CC	3	3
4369	2600	2603	26CC	3	4
4370	2600	2603	26CC	3	5
4371	2600	2603	26CC	3	6
4372	2600	2603	26CC	3	7
4373	2600	2603	26CC	3	8
4374	2600	2603	26CC	3	9
4375	2600	2603	26CC	3	10
4376	2600	2603	26CC	3	11
4377	2600	2603	26CC	3	12
4378					
4379	2600	2603	26CC	3	1
4380	2600	2603	26CC	3	2
4381	2600	2603	26CC	3	3
4382	2600	2603	26CC	3	4
4383	2600	2603	26CC	3	5
4384	2600	2603	26CC	3	6
4385	2600	2603	26CC	3	7
4386	2600	2603	26CC	3	8
4387	2600	2603	26CC	3	9
4388	2600	2603	26CC	3	10
4389	2600	2603	26CC	3	11
4390	2600	2603	26CC	3	12
4391					
4392	2600	2603	26CC	3	1
4393	2600	2603	26CC	3	2
4394	2600	2603	26CC	3	3
4395					
4396	2600	2603	26CC	3	1
4397	2600	2603	26CC	3	2
4398	2600	2603	26CC	3	3
4399	2600	2603	26CC	3	4

	F	G	H	I
4350	2004	104848	260073384	W R Grace Company
4351	2004	104848	260073384	W R Grace Company
4352	**2004 Total**			
4353	2005	104848	260073384	W R Grace Company
4354	2005	104848	260073384	W R Grace Company
4355	2005	104848	260073384	W R Grace Company
4356	2005	104848	260073384	W R Grace Company
4357	2005	104848	260073384	W R Grace Company
4358	2005	104848	260073384	W R Grace Company
4359	2005	104848	260073384	W R Grace Company
4360	2005	104848	260073384	W R Grace Company
4361	2005	104848	260073384	W R Grace Company
4362	2005	104848	260073384	W R Grace Company
4363	2005	104848	260073384	W R Grace Company
4364	2005	104848	260073384	W R Grace Company
4365	**2005 Total**			
4366	2006	104848	260073384	W R Grace Company
4367	2006	104848	260073384	W R Grace Company
4368	2006	104848	260073384	W R Grace Company
4369	2006	104848	260073384	W R Grace Company
4370	2006	104848	260073384	W R Grace Company
4371	2006	104848	260073384	W R Grace Company
4372	2006	104848	260073384	W R Grace Company
4373	2006	104848	260073384	W R Grace Company
4374	2006	104848	260073384	W R Grace Company
4375	2006	104848	260073384	W R Grace Company
4376	2006	104848	260073384	W R Grace Company
4377	2006	104848	260073384	W R Grace Company
4378	**2006 Total**			
4379	2007	104848	260073384	W R Grace Company
4380	2007	104848	260073384	W R Grace Company
4381	2007	104848	260073384	W R Grace Company
4382	2007	104848	260073384	W R Grace Company
4383	2007	104848	260073384	W R Grace Company
4384	2007	104848	260073384	W R Grace Company
4385	2007	104848	260073384	W R Grace Company
4386	2007	104848	260073384	W R Grace Company
4387	2007	104848	260073384	W R Grace Company
4388	2007	104848	260073384	W R Grace Company
4389	2007	104848	260073384	W R Grace Company
4390	2007	104848	260073384	W R Grace Company
4391	**2007 Total**			
4392	2008	104848	260073384	W R Grace Company
4393	2008	104848	260073384	W R Grace Company
4394	2008	104848	260073384	W R Grace Company
4395	**2008 Total**			
4396	2004	104853	260073387	Mueller Co
4397	2004	104853	260073387	Mueller Co
4398	2004	104853	260073387	Mueller Co
4399	2004	104853	260073387	Mueller Co

	J	K	L	M
4350	4000 N HAWTHORNE ST	CHATTANOOGA	TN	374061313
4351	4000 N HAWTHORNE ST	CHATTANOOGA	TN	374061313
4352				
4353	4000 N HAWTHORNE ST	CHATTANOOGA	TN	374061313
4354	4000 N HAWTHORNE ST	CHATTANOOGA	TN	374061313
4355	4000 N HAWTHORNE ST	CHATTANOOGA	TN	374061313
4356	4000 N HAWTHORNE ST	CHATTANOOGA	TN	374061313
4357	4000 N HAWTHORNE ST	CHATTANOOGA	TN	374061313
4358	4000 N HAWTHORNE ST	CHATTANOOGA	TN	374061313
4359	4000 N HAWTHORNE ST	CHATTANOOGA	TN	374061313
4360	4000 N HAWTHORNE ST	CHATTANOOGA	TN	374061313
4361	4000 N HAWTHORNE ST	CHATTANOOGA	TN	374061313
4362	4000 N HAWTHORNE ST	CHATTANOOGA	TN	374061313
4363	4000 N HAWTHORNE ST	CHATTANOOGA	TN	374061313
4364	4000 N HAWTHORNE ST	CHATTANOOGA	TN	374061313
4365				
4366	4000 N HAWTHORNE ST	CHATTANOOGA	TN	374061313
4367	4000 N HAWTHORNE ST	CHATTANOOGA	TN	374061313
4368	4000 N HAWTHORNE ST	CHATTANOOGA	TN	374061313
4369	4000 N HAWTHORNE ST	CHATTANOOGA	TN	374061313
4370	4000 N HAWTHORNE ST	CHATTANOOGA	TN	374061313
4371	4000 N HAWTHORNE ST	CHATTANOOGA	TN	374061313
4372	4000 N HAWTHORNE ST	CHATTANOOGA	TN	374061313
4373	4000 N HAWTHORNE ST	CHATTANOOGA	TN	374061313
4374	4000 N HAWTHORNE ST	CHATTANOOGA	TN	374061313
4375	4000 N HAWTHORNE ST	CHATTANOOGA	TN	374061313
4376	4000 N HAWTHORNE ST	CHATTANOOGA	TN	374061313
4377	4000 N HAWTHORNE ST	CHATTANOOGA	TN	374061313
4378				
4379	4000 N HAWTHORNE ST	CHATTANOOGA	TN	374061313
4380	4000 N HAWTHORNE ST	CHATTANOOGA	TN	374061313
4381	4000 N HAWTHORNE ST	CHATTANOOGA	TN	374061313
4382	4000 N HAWTHORNE ST	CHATTANOOGA	TN	374061313
4383	4000 N HAWTHORNE ST	CHATTANOOGA	TN	374061313
4384	4000 N HAWTHORNE ST	CHATTANOOGA	TN	374061313
4385	4000 N HAWTHORNE ST	CHATTANOOGA	TN	374061313
4386	4000 N HAWTHORNE ST	CHATTANOOGA	TN	374061313
4387	4000 N HAWTHORNE ST	CHATTANOOGA	TN	374061313
4388	4000 N HAWTHORNE ST	CHATTANOOGA	TN	374061313
4389	4000 N HAWTHORNE ST	CHATTANOOGA	TN	374061313
4390	4000 N HAWTHORNE ST	CHATTANOOGA	TN	374061313
4391				
4392	4000 N HAWTHORNE ST	CHATTANOOGA	TN	374061313
4393	4000 N HAWTHORNE ST	CHATTANOOGA	TN	374061313
4394	4000 N HAWTHORNE ST	CHATTANOOGA	TN	374061313
4395				
4396	1401 Mueller Ave	Chattanooga	TN	374061344
4397	1401 Mueller Ave	Chattanooga	TN	374061344
4398	1401 Mueller Ave	Chattanooga	TN	374061344
4399	1401 Mueller Ave	Chattanooga	TN	374061344

	N	O	P	Q
4350	2407.23	1000G	5300.15	A3M4M
4351	2289.03	1000G	5105.18	A3M4M
4352	30771.06		66710.25	
4353	3284.69	1000G	6747.63	A3M4M
4354	2723.65	1000G	5822.13	A3M4M
4355	2610.7	1000G	5635.8	A3M4M
4356	2643.61	1000G	5884.26	A3M4M
4357	2983.23	1000G	6493.03	A3M4M
4358	2292.03	1000G	5308.46	A3M4M
4359	3293.67	1000G	7025.06	A3M4M
4360	3120.87	1000G	6728.91	A3M4M
4361	2723.65	1000G	6048.17	A3M4M
4362	2189.54	1000G	5132.82	A3M4M
4363	2654.83	1000G	5930.23	A3M4M
4364	1624.02	1000G	4163.63	A3M4M
4365	32144.49		70920.13	
4366	2154.38	1000G	5072.57	A3M4M
4367	2905.43	1000G	6359.7	A3M4M
4368	1957.64	1000G	4735.4	A3M4M
4369	2330.18	1000G	5373.84	A3M4M
4370	2583.77	1000G	5808.44	A3M4M
4371	1912.02	1000G	4657.2	A3M4M
4372	1971.11	1000G	4758.48	A3M4M
4373	1920.99	1000G	4672.59	A3M4M
4374	1432.51	1000G	3835.44	A3M4M
4375	1886.58	1000G	4613.61	A3M4M
4376	2140.17	1000G	5048.21	A3M4M
4377	1546.97	1000G	4031.59	A3M4M
4378	24741.75		58967.07	
4379	2665.3	1000G	5948.18	A3M4M
4380	3159.77	1000G	6795.58	A3M4M
4381	2594.24	1000G	5860.91	A3M4M
4382	2773.02	1000G	6098.26	A3M4M
4383	2478.29	1000G	5627.68	A3M4M
4384	2331.67	1000G	5627.8	A3M4M
4385	2567.31	1000G	6664.14	A3M4M
4386	2146.16	1000G	5626.23	A3M4M
4387	3939.98	1000G	9063.77	A3M4M
4388	3488.91	1000G	8284.42	A3M4M
4389	2240.41	1000G	5876.06	A3M4M
4390	2485.77	1000G	6364.91	A3M4M
4391	32870.83		77837.94	
4392	3307.88	1000G	7935.22	A3M4M
4393	3440.29	1000G	8190.63	A3M4M
4394	3119.37	1000G	7571.58	A3M4M
4395	9867.54		23697.43	
4396	3255.52	1000G	5961.6	A3M4M
4397	3278.71	1000G	5999.85	A3M4M
4398	3312.37	1000G	6055.38	A3M4M
4399	3726.79	1000G	6739.02	A3M4M

	A	B	C	D	E
4400	2600	2603	26CC	3	5
4401	2600	2603	26CC	3	6
4402	2600	2603	26CC	3	7
4403	2600	2603	26CC	3	8
4404	2600	2603	26CC	3	9
4405	2600	2603	26CC	3	10
4406	2600	2603	26CC	3	11
4407	2600	2603	26CC	3	12
4408					
4409	2600	2603	26CC	3	1
4410	2600	2603	26CC	3	2
4411	2600	2603	26CC	3	3
4412	2600	2603	26CC	3	4
4413	2600	2603	26CC	3	5
4414	2600	2603	26CC	3	6
4415	2600	2603	26CC	3	7
4416	2600	2603	26CC	3	8
4417	2600	2603	26CC	3	9
4418	2600	2603	26CC	3	10
4419	2600	2603	26CC	3	11
4420	2600	2603	26CC	3	12
4421					
4422	2600	2603	26CC	3	1
4423	2600	2603	26CC	3	2
4424	2600	2603	26CC	3	3
4425	2600	2603	26CC	3	4
4426	2600	2603	26CC	3	5
4427	2600	2603	26CC	3	6
4428	2600	2603	26CC	3	7
4429	2600	2603	26CC	3	8
4430	2600	2603	26CC	3	9
4431	2600	2603	26CC	3	10
4432	2600	2603	26CC	3	11
4433	2600	2603	26CC	3	12
4434					
4435	2600	2603	26CC	3	1
4436	2600	2603	26CC	3	2
4437	2600	2603	26CC	3	3
4438	2600	2603	26CC	3	4
4439	2600	2603	26CC	3	5
4440	2600	2603	26CC	3	6
4441	2600	2603	26CC	3	7
4442	2600	2603	26CC	3	8
4443	2600	2603	26CC	3	9
4444	2600	2603	26CC	3	10
4445	2600	2603	26CC	3	11
4446	2600	2603	26CC	3	12
4447					
4448	2600	2603	26CC	3	1
4449	2600	2603	26CC	3	2

	F	G	H	I
4400	2004	104853	260073387	Mueller Co
4401	2004	104853	260073387	Mueller Co
4402	2004	104853	260073387	Mueller Co
4403	2004	104853	260073387	Mueller Co
4404	2004	104853	260073387	Mueller Co
4405	2004	104853	260073387	Mueller Co
4406	2004	104853	260073387	Mueller Co
4407	2004	104853	260073387	Mueller Co
4408	**2004 Total**			
4409	2005	104853	260073387	Mueller Co
4410	2005	104853	260073387	Mueller Co
4411	2005	104853	260073387	Mueller Co
4412	2005	104853	260073387	Mueller Co
4413	2005	104853	260073387	Mueller Co
4414	2005	104853	260073387	Mueller Co
4415	2005	104853	260073387	Mueller Co
4416	2005	104853	260073387	Mueller Co
4417	2005	104853	260073387	Mueller Co
4418	2005	104853	260073387	Mueller Co
4419	2005	104853	260073387	Mueller Co
4420	2005	104853	260073387	Mueller Co
4421	**2005 Total**			
4422	2006	104853	260073387	Mueller Co
4423	2006	104853	260073387	Mueller Co
4424	2006	104853	260073387	Mueller Co
4425	2006	104853	260073387	Mueller Co
4426	2006	104853	260073387	Mueller Co
4427	2006	104853	260073387	Mueller Co
4428	2006	104853	260073387	Mueller Co
4429	2006	104853	260073387	Mueller Co
4430	2006	104853	260073387	Mueller Co
4431	2006	104853	260073387	Mueller Co
4432	2006	104853	260073387	Mueller Co
4433	2006	104853	260073387	Mueller Co
4434	**2006 Total**			
4435	2007	104853	260073387	Mueller Co
4436	2007	104853	260073387	Mueller Co
4437	2007	104853	260073387	Mueller Co
4438	2007	104853	260073387	Mueller Co
4439	2007	104853	260073387	Mueller Co
4440	2007	104853	260073387	Mueller Co
4441	2007	104853	260073387	Mueller Co
4442	2007	104853	260073387	Mueller Co
4443	2007	104853	260073387	Mueller Co
4444	2007	104853	260073387	Mueller Co
4445	2007	104853	260073387	Mueller Co
4446	2007	104853	260073387	Mueller Co
4447	**2007 Total**			
4448	2008	104853	260073387	Mueller Co
4449	2008	104853	260073387	Mueller Co

	J	K	L	M
4400	1401 Mueller Ave	Chattanooga	TN	374061344
4401	1401 Mueller Ave	Chattanooga	TN	374061344
4402	1401 Mueller Ave	Chattanooga	TN	374061344
4403	1401 Mueller Ave	Chattanooga	TN	374061344
4404	1401 Mueller Ave	Chattanooga	TN	374061344
4405	1401 Mueller Ave	Chattanooga	TN	374061344
4406	1401 Mueller Ave	Chattanooga	TN	374061344
4407	1401 Mueller Ave	Chattanooga	TN	374061344
4408				
4409	1401 Mueller Ave	Chattanooga	TN	374061344
4410	1401 Mueller Ave	Chattanooga	TN	374061344
4411	1401 Mueller Ave	Chattanooga	TN	374061344
4412	1401 Mueller Ave	Chattanooga	TN	374061344
4413	1401 Mueller Ave	Chattanooga	TN	374061344
4414	1401 Mueller Ave	Chattanooga	TN	374061344
4415	1401 Mueller Ave	Chattanooga	TN	374061344
4416	1401 Mueller Ave	Chattanooga	TN	374061344
4417	1401 Mueller Ave	Chattanooga	TN	374061344
4418	1401 Mueller Ave	Chattanooga	TN	374061344
4419	1401 Mueller Ave	Chattanooga	TN	374061344
4420	1401 Mueller Ave	Chattanooga	TN	374061344
4421				
4422	1401 Mueller Ave	Chattanooga	TN	374061344
4423	1401 Mueller Ave	Chattanooga	TN	374061344
4424	1401 Mueller Ave	Chattanooga	TN	374061344
4425	1401 Mueller Ave	Chattanooga	TN	374061344
4426	1401 Mueller Ave	Chattanooga	TN	374061344
4427	1401 Mueller Ave	Chattanooga	TN	374061344
4428	1401 Mueller Ave	Chattanooga	TN	374061344
4429	1401 Mueller Ave	Chattanooga	TN	374061344
4430	1401 Mueller Ave	Chattanooga	TN	374061344
4431	1401 Mueller Ave	Chattanooga	TN	374061344
4432	1401 Mueller Ave	Chattanooga	TN	374061344
4433	1401 Mueller Ave	Chattanooga	TN	374061344
4434				
4435	1401 Mueller Ave	Chattanooga	TN	374061344
4436	1401 Mueller Ave	Chattanooga	TN	374061344
4437	1401 Mueller Ave	Chattanooga	TN	374061344
4438	1401 Mueller Ave	Chattanooga	TN	374061344
4439	1401 Mueller Ave	Chattanooga	TN	374061344
4440	1401 Mueller Ave	Chattanooga	TN	374061344
4441	1401 Mueller Ave	Chattanooga	TN	374061344
4442	1401 Mueller Ave	Chattanooga	TN	374061344
4443	1401 Mueller Ave	Chattanooga	TN	374061344
4444	1401 Mueller Ave	Chattanooga	TN	374061344
4445	1401 Mueller Ave	Chattanooga	TN	374061344
4446	1401 Mueller Ave	Chattanooga	TN	374061344
4447				
4448	1401 Mueller Ave	Chattanooga	TN	374061344
4449	1401 Mueller Ave	Chattanooga	TN	374061344

	N	O	P	Q
4400	3864.43	1000G	6917.93	A3M4M
4401	4540.67	1000G	7771.31	A3M4M
4402	3746.24	1000G	6768.78	A3M4M
4403	4260.15	1000G	7417.31	A3M4M
4404	4887.02	1000G	8208.38	A3M4M
4405	4085.86	1000G	7197.36	A3M4M
4406	3664.7	1000G	6636.6	A3M4M
4407	3675.17	1000G	6653.87	A3M4M
4408	46297.63		82327.39	
4409	3638.52	1000G	6593.41	A3M4M
4410	3748.48	1000G	6771.61	A3M4M
4411	3998.33	1000G	7086.91	A3M4M
4412	4193.57	1000G	7583.42	A3M4M
4413	4434.45	1000G	7933.46	A3M4M
4414	5084.5	1000G	8785.08	A3M4M
4415	4803.98	1000G	8417.58	A3M4M
4416	4820.44	1000G	8439.14	A3M4M
4417	4658.86	1000G	8227.46	A3M4M
4418	4570.59	1000G	8111.82	A3M4M
4419	4211.53	1000G	7641.42	A3M4M
4420	3607.85	1000G	6797.11	A3M4M
4421	51771.1		92388.42	
4422	2977.24	1000G	5716.38	A3M4M
4423	3189.69	1000G	6080.47	A3M4M
4424	3277.21	1000G	6230.46	A3M4M
4425	3641.51	1000G	6854.8	A3M4M
4426	4540.67	1000G	8072.62	A3M4M
4427	4487.56	1000G	8003.04	A3M4M
4428	4459.13	1000G	7965.8	A3M4M
4429	4961.82	1000G	8624.36	A3M4M
4430	5190.73	1000G	8924.24	A3M4M
4431	4220.5	1000G	7653.18	A3M4M
4432	3987.86	1000G	7348.4	A3M4M
4433	3819.55	1000G	7127.9	A3M4M
4434	48753.47		88601.65	
4435	3416.35	1000G	6468.91	A3M4M
4436	3773.92	1000G	7068.12	A3M4M
4437	3736.51	1000G	7017.61	A3M4M
4438	5172.03	1000G	8899.74	A3M4M
4439	4890.76	1000G	8531.26	A3M4M
4440	4715.71	1000G	8684.31	A3M4M
4441	4344.68	1000G	8797.7	A3M4M
4442	3511.35	1000G	7464.92	A3M4M
4443	4252.67	1000G	8662.04	A3M4M
4444	4637.92	1000G	9230.08	A3M4M
4445	3944.47	1000G	8207.6	A3M4M
4446	3917.54	1000G	8167.89	A3M4M
4447	50313.91		97200.18	
4448	3912.31	1000G	8160.17	A3M4M
4449	3530.8	1000G	7502.44	A3M4M

	A	B	C	D	E
4450	2600	2603	26CC	3	3
4451					
4452	2600	2603	26CC	3	1
4453	2600	2603	26CC	3	2
4454	2600	2603	26CC	3	3
4455	2600	2603	26CC	3	4
4456	2600	2603	26CC	3	5
4457	2600	2603	26CC	3	6
4458	2600	2603	26CC	3	7
4459	2600	2603	26CC	3	8
4460	2600	2603	26CC	3	9
4461	2600	2603	26CC	3	10
4462	2600	2603	26CC	3	11
4463	2600	2603	26CC	3	12
4464					
4465	2600	2603	26CC	3	1
4466	2600	2603	26CC	3	2
4467	2600	2603	26CC	3	3
4468	2600	2603	26CC	3	4
4469	2600	2603	26CC	3	5
4470	2600	2603	26CC	3	6
4471	2600	2603	26CC	3	7
4472	2600	2603	26CC	3	8
4473	2600	2603	26CC	3	9
4474	2600	2603	26CC	3	10
4475	2600	2603	26CC	3	11
4476	2600	2603	26CC	3	12
4477					
4478	2600	2603	26CC	3	1
4479	2600	2603	26CC	3	2
4480	2600	2603	26CC	3	3
4481	2600	2603	26CC	3	4
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4483	2600	2603	26CC	3	6
4484	2600	2603	26CC	3	7
4485	2600	2603	26CC	3	8
4486	2600	2603	26CC	3	9
4487	2600	2603	26CC	3	10
4488	2600	2603	26CC	3	11
4489	2600	2603	26CC	3	12
4490					
4491	2600	2603	26CC	3	1
4492	2600	2603	26CC	3	2
4493	2600	2603	26CC	3	3
4494	2600	2603	26CC	3	4
4495	2600	2603	26CC	3	5
4496	2600	2603	26CC	3	6
4497	2600	2603	26CC	3	7
4498	2600	2603	26CC	3	8
4499	2600	2603	26CC	3	9

	F	G	H	I
4450	2008	104853	260073387	Mueller Co
4451	**2008 Total**			
4452	2004	104854	260073388	Mueller Co
4453	2004	104854	260073388	Mueller Co
4454	2004	104854	260073388	Mueller Co
4455	2004	104854	260073388	Mueller Co
4456	2004	104854	260073388	Mueller Co
4457	2004	104854	260073388	Mueller Co
4458	2004	104854	260073388	Mueller Co
4459	2004	104854	260073388	Mueller Co
4460	2004	104854	260073388	Mueller Co
4461	2004	104854	260073388	Mueller Co
4462	2004	104854	260073388	Mueller Co
4463	2004	104854	260073388	Mueller Co
4464	**2004 Total**			
4465	2005	104854	260073388	Mueller Co
4466	2005	104854	260073388	Mueller Co
4467	2005	104854	260073388	Mueller Co
4468	2005	104854	260073388	Mueller Co
4469	2005	104854	260073388	Mueller Co
4470	2005	104854	260073388	Mueller Co
4471	2005	104854	260073388	Mueller Co
4472	2005	104854	260073388	Mueller Co
4473	2005	104854	260073388	Mueller Co
4474	2005	104854	260073388	Mueller Co
4475	2005	104854	260073388	Mueller Co
4476	2005	104854	260073388	Mueller Co
4477	**2005 Total**			
4478	2006	104854	260073388	Mueller Co
4479	2006	104854	260073388	Mueller Co
4480	2006	104854	260073388	Mueller Co
4481	2006	104854	260073388	Mueller Co
4482	2006	104854	260073388	Mueller Co
4483	2006	104854	260073388	Mueller Co
4484	2006	104854	260073388	Mueller Co
4485	2006	104854	260073388	Mueller Co
4486	2006	104854	260073388	Mueller Co
4487	2006	104854	260073388	Mueller Co
4488	2006	104854	260073388	Mueller Co
4489	2006	104854	260073388	Mueller Co
4490	**2006 Total**			
4491	2007	104854	260073388	Mueller Co
4492	2007	104854	260073388	Mueller Co
4493	2007	104854	260073388	Mueller Co
4494	2007	104854	260073388	Mueller Co
4495	2007	104854	260073388	Mueller Co
4496	2007	104854	260073388	Mueller Co
4497	2007	104854	260073388	Mueller Co
4498	2007	104854	260073388	Mueller Co
4499	2007	104854	260073388	Mueller Co

	J	K	L	M
4450	1401 Mueller Ave	Chattanooga	TN	374061344
4451				
4452	1401 Mueller Ave	Chattanooga	TN	374061344
4453	1401 Mueller Ave	Chattanooga	TN	374061344
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4460	1401 Mueller Ave	Chattanooga	TN	374061344
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4464				
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4470	1401 Mueller Ave	Chattanooga	TN	374061344
4471	1401 Mueller Ave	Chattanooga	TN	374061344
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4477				
4478	1401 Mueller Ave	Chattanooga	TN	374061344
4479	1401 Mueller Ave	Chattanooga	TN	374061344
4480	1401 Mueller Ave	Chattanooga	TN	374061344
4481	1401 Mueller Ave	Chattanooga	TN	374061344
4482	1401 Mueller Ave	Chattanooga	TN	374061344
4483	1401 Mueller Ave	Chattanooga	TN	374061344
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4487	1401 Mueller Ave	Chattanooga	TN	374061344
4488	1401 Mueller Ave	Chattanooga	TN	374061344
4489	1401 Mueller Ave	Chattanooga	TN	374061344
4490				
4491	1401 Mueller Ave	Chattanooga	TN	374061344
4492	1401 Mueller Ave	Chattanooga	TN	374061344
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4494	1401 Mueller Ave	Chattanooga	TN	374061344
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4498	1401 Mueller Ave	Chattanooga	TN	374061344
4499	1401 Mueller Ave	Chattanooga	TN	374061344

	N	O	P	Q
4450	3980.38	1000G	8260.54	A3M4M
4451	11423.49		23923.15	
4452	0	1000G	8.92	A3M4
4453	0	1000G	8.92	A3M4
4454	0	1000G	8.92	A3M4
4455	0	1000G	8.92	A3M4
4456	0	1000G	8.92	A3M4
4457	0	1000G	8.92	A3M4
4458	0	1000G	8.92	A3M4
4459	0	1000G	8.92	A3M4
4460	0	1000G	8.92	A3M4
4461	0	1000G	8.92	A3M4
4462	0	1000G	8.92	A3M4
4463	0	1000G	8.92	A3M4
4464	0		107.04	
4465	0	1000G	8.92	A3M4
4466	0	1000G	8.92	A3M4
4467	0	1000G	8.92	A3M4
4468	0	1000G	9.22	A3M4
4469	0	1000G	9.26	A3M4
4470	0	1000G	9.26	A3M4
4471	0	1000G	9.26	A3M4
4472	0	1000G	9.26	A3M4
4473	0	1000G	9.26	A3M4
4474	0	1000G	9.26	A3M4
4475	0	1000G	9.26	A3M4
4476	0	1000G	9.26	A3M4
4477	0		110.06	
4478	0	1000G	9.26	A3M4
4479	0	1000G	9.26	A3M4
4480	0	1000G	9.26	A3M4
4481	0	1000G	9.26	A3M4
4482	0	1000G	9.26	A3M4
4483	0	1000G	9.26	A3M4
4484	0	1000G	9.26	A3M4
4485	0	1000G	9.26	A3M4
4486	0	1000G	9.26	A3M4
4487	0	1000G	9.26	A3M4
4488	0	1000G	9.26	A3M4
4489	0	1000G	9.26	A3M4
4490	0		111.12	
4491	0	1000G	9.26	A3M4
4492	0	1000G	9.26	A3M4
4493	0	1000G	9.26	A3M4
4494	0	1000G	9.26	A3M4
4495	0	1000G	9.26	A3M4
4496	0	1000G	9.68	A3M4
4497	0	1000G	10.42	A3M4
4498	0	1000G	10.42	A3M4
4499	0	1000G	10.42	A3M4

	A	B	C	D	E
4500	2600	2603	26CC	3	10
4501	2600	2603	26CC	3	11
4502	2600	2603	26CC	3	12
4503					
4504	2600	2603	26CC	3	1
4505	2600	2603	26CC	3	2
4506	2600	2603	26CC	3	3
4507					
4508	2600	2603	26CC	3	1
4509	2600	2603	26CC	3	2
4510	2600	2603	26CC	3	3
4511	2600	2603	26CC	3	4
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4515	2600	2603	26CC	3	8
4516	2600	2603	26CC	3	9
4517	2600	2603	26CC	3	10
4518	2600	2603	26CC	3	11
4519	2600	2603	26CC	3	12
4520					
4521	2600	2603	26CC	3	1
4522	2600	2603	26CC	3	2
4523	2600	2603	26CC	3	3
4524	2600	2603	26CC	3	4
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4528	2600	2603	26CC	3	8
4529	2600	2603	26CC	3	9
4530	2600	2603	26CC	3	10
4531	2600	2603	26CC	3	11
4532	2600	2603	26CC	3	12
4533					
4534	2600	2603	26CC	3	1
4535	2600	2603	26CC	3	2
4536	2600	2603	26CC	3	3
4537	2600	2603	26CC	3	4
4538	2600	2603	26CC	3	5
4539	2600	2603	26CC	3	6
4540	2600	2603	26CC	3	7
4541	2600	2603	26CC	3	8
4542	2600	2603	26CC	3	9
4543	2600	2603	26CC	3	10
4544	2600	2603	26CC	3	11
4545	2600	2603	26CC	3	12
4546					
4547	2600	2603	26CC	3	1
4548	2600	2603	26CC	3	2
4549	2600	2603	26CC	3	3

	F	G	H	I
4500	2007	104854	260073388	Mueller Co
4501	2007	104854	260073388	Mueller Co
4502	2007	104854	260073388	Mueller Co
4503	**2007 Total**			
4504	2008	104854	260073388	Mueller Co
4505	2008	104854	260073388	Mueller Co
4506	2008	104854	260073388	Mueller Co
4507	**2008 Total**			
4508	2004	104856	260073390	ALCO CHEMICAL CORP
4509	2004	104856	260073390	ALCO CHEMICAL CORP
4510	2004	104856	260073390	ALCO CHEMICAL CORP
4511	2004	104856	260073390	ALCO CHEMICAL CORP
4512	2004	104856	260073390	ALCO CHEMICAL CORP
4513	2004	104856	260073390	ALCO CHEMICAL CORP
4514	2004	104856	260073390	ALCO CHEMICAL CORP
4515	2004	104856	260073390	ALCO CHEMICAL CORP
4516	2004	104856	260073390	ALCO CHEMICAL CORP
4517	2004	104856	260073390	ALCO CHEMICAL CORP
4518	2004	104856	260073390	ALCO CHEMICAL CORP
4519	2004	104856	260073390	ALCO CHEMICAL CORP
4520	**2004 Total**			
4521	2005	104856	260073390	ALCO CHEMICAL CORP
4522	2005	104856	260073390	ALCO CHEMICAL CORP
4523	2005	104856	260073390	ALCO CHEMICAL CORP
4524	2005	104856	260073390	ALCO CHEMICAL CORP
4525	2005	104856	260073390	ALCO CHEMICAL CORP
4526	2005	104856	260073390	ALCO CHEMICAL CORP
4527	2005	104856	260073390	ALCO CHEMICAL CORP
4528	2005	104856	260073390	ALCO CHEMICAL CORP
4529	2005	104856	260073390	ALCO CHEMICAL CORP
4530	2005	104856	260073390	ALCO CHEMICAL CORP
4531	2005	104856	260073390	ALCO CHEMICAL CORP
4532	2005	104856	260073390	ALCO CHEMICAL CORP
4533	**2005 Total**			
4534	2006	104856	260073390	ALCO CHEMICAL CORP
4535	2006	104856	260073390	ALCO CHEMICAL CORP
4536	2006	104856	260073390	ALCO CHEMICAL CORP
4537	2006	104856	260073390	ALCO CHEMICAL CORP
4538	2006	104856	260073390	ALCO CHEMICAL CORP
4539	2006	104856	260073390	ALCO CHEMICAL CORP
4540	2006	104856	260073390	ALCO CHEMICAL CORP
4541	2006	104856	260073390	ALCO CHEMICAL CORP
4542	2006	104856	260073390	ALCO CHEMICAL CORP
4543	2006	104856	260073390	ALCO CHEMICAL CORP
4544	2006	104856	260073390	ALCO CHEMICAL CORP
4545	2006	104856	260073390	ALCO CHEMICAL CORP
4546	**2006 Total**			
4547	2007	104856	260073390	ALCO CHEMICAL CORP
4548	2007	104856	260073390	ALCO CHEMICAL CORP
4549	2007	104856	260073390	ALCO CHEMICAL CORP

	J	K	L	M
4500	1401 Mueller Ave	Chattanooga	TN	374061344
4501	1401 Mueller Ave	Chattanooga	TN	374061344
4502	1401 Mueller Ave	Chattanooga	TN	374061344
4503				
4504	1401 Mueller Ave	Chattanooga	TN	374061344
4505	1401 Mueller Ave	Chattanooga	TN	374061344
4506	1401 Mueller Ave	Chattanooga	TN	374061344
4507				
4508	909 Mueller Ave	Chattanooga	TN	374061334
4509	909 Mueller Ave	Chattanooga	TN	374061334
4510	909 Mueller Ave	Chattanooga	TN	374061334
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4515	909 Mueller Ave	Chattanooga	TN	374061334
4516	909 Mueller Ave	Chattanooga	TN	374061334
4517	909 Mueller Ave	Chattanooga	TN	374061334
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4520				
4521	909 Mueller Ave	Chattanooga	TN	374061334
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4523	909 Mueller Ave	Chattanooga	TN	374061334
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4530	909 Mueller Ave	Chattanooga	TN	374061334
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4533				
4534	909 Mueller Ave	Chattanooga	TN	374061334
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4543	909 Mueller Ave	Chattanooga	TN	374061334
4544	909 Mueller Ave	Chattanooga	TN	374061334
4545	909 Mueller Ave	Chattanooga	TN	374061334
4546				
4547	909 Mueller Ave	Chattanooga	TN	374061334
4548	909 Mueller Ave	Chattanooga	TN	374061334
4549	909 Mueller Ave	Chattanooga	TN	374061334

	N	O	P	Q
4500	0	1000G	10.42	A3M4
4501	0	1000G	10.42	A3M4
4502	0	1000G	10.42	A3M4
4503	0		118.5	
4504	0	1000G	10.42	A3M4
4505	0	1000G	10.42	A3M4
4506	0	1000G	10.42	A3M4
4507	0		31.26	
4508	0	1000G	159.54	A3M4S
4509	3233.82	1000G	6166.58	A3MSM
4510	3251.03	1000G	5864.43	A3MSM
4511	4132.23	1000G	7166.13	A3MSM
4512	3042.32	1000G	5520.15	A3MSM
4513	3627.3	1000G	6485.14	A3MSM
4514	3398.4	1000G	6107.53	A3MSM
4515	3431.31	1000G	6161.83	A3MSM
4516	3546.51	1000G	6351.86	A3MSM
4517	2903.18	1000G	5290.62	A3MSM
4518	2863.54	1000G	5225.22	A3MSM
4519	2828.38	1000G	5167.22	A3MSM
4520	36258.02		65666.25	
4521	2032.45	1000G	3854.25	A3MSM
4522	2182.06	1000G	4101.05	A3MSM
4523	2223.95	1000G	4170.15	A3MSM
4524	2478.29	1000G	4746.46	A3MSM
4525	2253.13	1000G	4382.18	A3MSM
4526	2480.54	1000G	4771.91	A3MSM
4527	2273.33	1000G	4416.8	A3MSM
4528	2689.24	1000G	5129.59	A3MSM
4529	2844.84	1000G	5483.03	A3MSM
4530	2690.74	1000G	5045.35	A3MSM
4531	2368.33	1000G	4579.61	A3MSM
4532	2651.08	1000G	8348.35	A3MSM
4533	29167.98		59028.73	
4534	861.75	1000G	2084.45	A3MSM
4535	2345.89	1000G	4471.71	A3MSM
4536	2295.02	1000G	4453.98	A3MSM
4537	2265.1	1000G	4402.7	A3MSM
4538	2372.82	1000G	4587.3	A3MSM
4539	2352.62	1000G	4552.69	A3MSM
4540	2345.14	1000G	4539.87	A3MSM
4541	2915.9	1000G	5518.04	A3MSM
4542	2549.36	1000G	4889.86	A3MSM
4543	2124.46	1000G	4161.68	A3MSM
4544	2752.08	1000G	5237.28	A3MSM
4545	2202.26	1000G	4295.01	A3MSM
4546	27382.4		53194.57	
4547	1793.82	1000G	3595.04	A3MSM
4548	2283.05	1000G	4433.46	A3MSM
4549	2460.34	1000G	4737.3	A3MSM

	A	B	C	D	E
4550	2600	2603	26CC	3	4
4551	2600	2603	26CC	3	5
4552	2600	2603	26CC	3	6
4553	2600	2603	26CC	3	7
4554	2600	2603	26CC	3	8
4555	2600	2603	26CC	3	9
4556	2600	2603	26CC	3	10
4557	2600	2603	26CC	3	11
4558	2600	2603	26CC	3	12
4559					
4560	2600	2603	26CC	3	1
4561	2600	2603	26CC	3	2
4562	2600	2603	26CC	3	3
4563					
4564	2600	2603	26CC	3	1
4565	2600	2603	26CC	3	2
4566	2600	2603	26CC	3	3
4567	2600	2603	26CC	3	4
4568	2600	2603	26CC	3	5
4569	2600	2603	26CC	3	6
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4571	2600	2603	26CC	3	8
4572	2600	2603	26CC	3	9
4573	2600	2603	26CC	3	10
4574	2600	2603	26CC	3	11
4575	2600	2603	26CC	3	12
4576	2600	2603	26CC	3	12
4577					
4578	2600	2603	26CC	3	1
4579	2600	2603	26CC	3	2
4580	2600	2603	26CC	3	3
4581	2600	2603	26CC	3	4
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4583	2600	2603	26CC	3	6
4584	2600	2603	26CC	3	7
4585	2600	2603	26CC	3	8
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4588	2600	2603	26CC	3	10
4589	2600	2603	26CC	3	11
4590	2600	2603	26CC	3	12
4591					
4592	2600	2603	26CC	3	1
4593	2600	2603	26CC	3	2
4594	2600	2603	26CC	3	3
4595	2600	2603	26CC	3	4
4596	2600	2603	26CC	3	5
4597	2600	2603	26CC	3	6
4598	2600	2603	26CC	3	7
4599	2600	2603	26CC	3	8

	F	G	H	I
4550	2007	104856	260073390	ALCO CHEMICAL CORP
4551	2007	104856	260073390	ALCO CHEMICAL CORP
4552	2007	104856	260073390	ALCO CHEMICAL CORP
4553	2007	104856	260073390	ALCO CHEMICAL CORP
4554	2007	104856	260073390	ALCO CHEMICAL CORP
4555	2007	104856	260073390	ALCO CHEMICAL CORP
4556	2007	104856	260073390	ALCO CHEMICAL CORP
4557	2007	104856	260073390	ALCO CHEMICAL CORP
4558	2007	104856	260073390	ALCO CHEMICAL CORP
4559	**2007 Total**			
4560	2008	104856	260073390	ALCO CHEMICAL CORP
4561	2008	104856	260073390	ALCO CHEMICAL CORP
4562	2008	104856	260073390	ALCO CHEMICAL CORP
4563	**2008 Total**			
4564	2004	104865	260073399	Chatt Coca-Cola Bottling
4565	2004	104865	260073399	Chatt Coca-Cola Bottling
4566	2004	104865	260073399	Chatt Coca-Cola Bottling
4567	2004	104865	260073399	Chatt Coca-Cola Bottling
4568	2004	104865	260073399	Chatt Coca-Cola Bottling
4569	2004	104865	260073399	Chatt Coca-Cola Bottling
4570	2004	104865	260073399	Chatt Coca-Cola Bottling
4571	2004	104865	260073399	Chatt Coca-Cola Bottling
4572	2004	104865	260073399	Chatt Coca-Cola Bottling
4573	2004	104865	260073399	Chatt Coca-Cola Bottling
4574	2004	104865	260073399	Chatt Coca-Cola Bottling
4575	2004	104865	260073399	Chatt Coca-Cola Bottling
4576	2004	104865	260073399	Chatt Coca-Cola Bottling
4577	**2004 Total**			
4578	2005	104865	260073399	Chatt Coca-Cola Bottling
4579	2005	104865	260073399	Chatt Coca-Cola Bottling
4580	2005	104865	260073399	Chatt Coca-Cola Bottling
4581	2005	104865	260073399	Chatt Coca-Cola Bottling
4582	2005	104865	260073399	Chatt Coca-Cola Bottling
4583	2005	104865	260073399	Chatt Coca-Cola Bottling
4584	2005	104865	260073399	Chatt Coca-Cola Bottling
4585	2005	104865	260073399	Chatt Coca-Cola Bottling
4586	2005	104865	260073399	Chatt Coca-Cola Bottling
4587	2005	104865	260073399	Chatt Coca-Cola Bottling
4588	2005	104865	260073399	Chatt Coca-Cola Bottling
4589	2005	104865	260073399	Chatt Coca-Cola Bottling
4590	2005	104865	260073399	Chatt Coca-Cola Bottling
4591	**2005 Total**			
4592	2006	104865	260073399	Chatt Coca-Cola Bottling
4593	2006	104865	260073399	Chatt Coca-Cola Bottling
4594	2006	104865	260073399	Chatt Coca-Cola Bottling
4595	2006	104865	260073399	Chatt Coca-Cola Bottling
4596	2006	104865	260073399	Chatt Coca-Cola Bottling
4597	2006	104865	260073399	Chatt Coca-Cola Bottling
4598	2006	104865	260073399	Chatt Coca-Cola Bottling
4599	2006	104865	260073399	Chatt Coca-Cola Bottling

	J	K	L	M
4550	909 Mueller Ave	Chattanooga	TN	374061334
4551	909 Mueller Ave	Chattanooga	TN	374061334
4552	909 Mueller Ave	Chattanooga	TN	374061334
4553	909 Mueller Ave	Chattanooga	TN	374061334
4554	909 Mueller Ave	Chattanooga	TN	374061334
4555	909 Mueller Ave	Chattanooga	TN	374061334
4556	909 Mueller Ave	Chattanooga	TN	374061334
4557	909 Mueller Ave	Chattanooga	TN	374061334
4558	909 Mueller Ave	Chattanooga	TN	374061334
4559				
4560	909 Mueller Ave	Chattanooga	TN	374061334
4561	909 Mueller Ave	Chattanooga	TN	374061334
4562	909 Mueller Ave	Chattanooga	TN	374061334
4563				
4564	4000 Amnicola Hwy	Chattanooga	TN	374061007
4565	4000 Amnicola Hwy	Chattanooga	TN	374061007
4566	4000 Amnicola Hwy	Chattanooga	TN	374061007
4567	4000 Amnicola Hwy	Chattanooga	TN	374061007
4568	4000 Amnicola Hwy	Chattanooga	TN	374061007
4569	4000 Amnicola Hwy	Chattanooga	TN	374061007
4570	4000 Amnicola Hwy	Chattanooga	TN	374061007
4571	4000 Amnicola Hwy	Chattanooga	TN	374061007
4572	4000 Amnicola Hwy	Chattanooga	TN	374061007
4573	4000 Amnicola Hwy	Chattanooga	TN	374061007
4574	4000 Amnicola Hwy	Chattanooga	TN	374061007
4575	4000 Amnicola Hwy	Chattanooga	TN	374061007
4576	4000 Amnicola Hwy	Chattanooga	TN	374061007
4577				
4578	4000 Amnicola Hwy	Chattanooga	TN	374061007
4579	4000 Amnicola Hwy	Chattanooga	TN	374061007
4580	4000 Amnicola Hwy	Chattanooga	TN	374061007
4581	4000 Amnicola Hwy	Chattanooga	TN	374061007
4582	4000 Amnicola Hwy	Chattanooga	TN	374061007
4583	4000 Amnicola Hwy	Chattanooga	TN	374061007
4584	4000 Amnicola Hwy	Chattanooga	TN	374061007
4585	4000 Amnicola Hwy	Chattanooga	TN	374061007
4586	4000 Amnicola Hwy	Chattanooga	TN	374061007
4587	4000 Amnicola Hwy	Chattanooga	TN	374061007
4588	4000 Amnicola Hwy	Chattanooga	TN	374061007
4589	4000 Amnicola Hwy	Chattanooga	TN	374061007
4590	4000 Amnicola Hwy	Chattanooga	TN	374061007
4591				
4592	4000 Amnicola Hwy	Chattanooga	TN	374061007
4593	4000 Amnicola Hwy	Chattanooga	TN	374061007
4594	4000 Amnicola Hwy	Chattanooga	TN	374061007
4595	4000 Amnicola Hwy	Chattanooga	TN	374061007
4596	4000 Amnicola Hwy	Chattanooga	TN	374061007
4597	4000 Amnicola Hwy	Chattanooga	TN	374061007
4598	4000 Amnicola Hwy	Chattanooga	TN	374061007
4599	4000 Amnicola Hwy	Chattanooga	TN	374061007

	N	O	P	Q
4550	1881.35	1000G	3745.03	A3MSM
4551	2613.69	1000G	5000.11	A3MSM
4552	2140.17	1000G	4381.59	A3MSM
4553	2495.5	1000G	5400.38	A3MSM
4554	2324.94	1000G	5071.37	A3MSM
4555	2777.51	1000G	5944.39	A3MSM
4556	2667.55	1000G	5732.27	A3MSM
4557	2211.98	1000G	4853.48	A3MSM
4558	2432.66	1000G	5279.17	A3MSM
4559	28082.56		58173.59	
4560	1643.47	1000G	3756.8	A3MSM
4561	2760.31	1000G	5911.2	A3MSM
4562	2506.72	1000G	5422.02	A3MSM
4563	6910.5		15090.02	
4564	12173.05	1000G	17083.64	A3MSM
4565	13393.87	1000G	17997.56	A3MSM
4566	14409.72	1000G	18758.04	A3MSM
4567	16950.11	1000G	20659.8	A3MSM
4568	16467.61	1000G	20298.6	A3MSM
4569	23065.42	1000G	25237.8	A3MSM
4570	16983.77	1000G	20685	A3MSM
4571	19567.54	1000G	22619.24	A3MSM
4572	19852.55	1000G	22832.6	A3MSM
4573	15646.25	1000G	19683.72	A3MSM
4574	12797.67	1000G	17551.24	A3MSM
4575	2354.85	1000G	4746.36	A3MSM
4576	11468.38	1000G	16556.12	A3MSM
4577	195130.79		244709.72	
4578	6432.49	1000G	9959.75	A3MSM
4579	14246.65	1000G	18635.96	A3MSM
4580	10719.58	1000G	15738.28	A3MSM
4581	16945.62	1000G	21357.45	A3MSM
4582	17487.21	1000G	21875.5	A3MSM
4583	24607.91	1000G	27415.56	A3MSM
4584	25444.24	1000G	28066.24	A3MSM
4585	19124.69	1000G	24527.84	A3MSM
4586	23089.37	1000G	26234.1	A3MSM
4587	5934.29	1000G	11103.71	A3MSM
4588	23913.72	1000G	26875.47	A3MSM
4589	13707.3	1000G	16177.96	A3MSM
4590	16297.06	1000G	20949.54	A3MSM
4591	217950.13		268917.36	
4592	13572.65	1000G	18829.9	A3MSM
4593	12324.9	1000G	17859.12	A3MSM
4594	13013.86	1000G	18395.14	A3MSM
4595	14170.34	1000G	19294.92	A3MSM
4596	18473.89	1000G	22643.16	A3MSM
4597	22404.9	1000G	25701.57	A3MSM
4598	17549.29	1000G	21923.81	A3MSM
4599	22054.81	1000G	25429.2	A3MSM

	A	B	C	D	E
4600	2600	2603	26CC	3	9
4601	2600	2603	26CC	3	10
4602	2600	2603	26CC	3	11
4603	2600	2603	26CC	3	12
4604					
4605	2600	2603	26CC	3	1
4606	2600	2603	26CC	3	2
4607	2600	2603	26CC	3	3
4608	2600	2603	26CC	3	4
4609	2600	2603	26CC	3	5
4610	2600	2603	26CC	3	6
4611	2600	2603	26CC	3	7
4612	2600	2603	26CC	3	8
4613	2600	2603	26CC	3	9
4614	2600	2603	26CC	3	10
4615	2600	2603	26CC	3	11
4616	2600	2603	26CC	3	12
4617					
4618	2600	2603	26CC	3	1
4619	2600	2603	26CC	3	2
4620	2600	2603	26CC	3	3
4621					
4622	2600	2603	26CC	3	1
4623	2600	2603	26CC	3	2
4624	2600	2603	26CC	3	3
4625	2600	2603	26CC	3	4
4626	2600	2603	26CC	3	5
4627	2600	2603	26CC	3	6
4628	2600	2603	26CC	3	7
4629	2600	2603	26CC	3	8
4630	2600	2603	26CC	3	9
4631	2600	2603	26CC	3	10
4632	2600	2603	26CC	3	11
4633	2600	2603	26CC	3	12
4634					
4635	2600	2603	26CC	3	1
4636	2600	2603	26CC	3	2
4637	2600	2603	26CC	3	3
4638	2600	2603	26CC	3	4
4639	2600	2603	26CC	3	5
4640	2600	2603	26CC	3	6
4641	2600	2603	26CC	3	7
4642	2600	2603	26CC	3	8
4643	2600	2603	26CC	3	9
4644	2600	2603	26CC	3	10
4645	2600	2603	26CC	3	11
4646	2600	2603	26CC	3	12
4647					
4648	2600	2603	26CC	3	1
4649	2600	2603	26CC	3	2

	F	G	H	I
4600	2006	104865	260073399	Chatt Coca-Cola Bottling
4601	2006	104865	260073399	Chatt Coca-Cola Bottling
4602	2006	104865	260073399	Chatt Coca-Cola Bottling
4603	2006	104865	260073399	Chatt Coca-Cola Bottling
4604	**2006 Total**			
4605	2007	104865	260073399	Chatt Coca-Cola Bottling
4606	2007	104865	260073399	Chatt Coca-Cola Bottling
4607	2007	104865	260073399	Chatt Coca-Cola Bottling
4608	2007	104865	260073399	Chatt Coca-Cola Bottling
4609	2007	104865	260073399	Chatt Coca-Cola Bottling
4610	2007	104865	260073399	Chatt Coca-Cola Bottling
4611	2007	104865	260073399	Chatt Coca-Cola Bottling
4612	2007	104865	260073399	Chatt Coca-Cola Bottling
4613	2007	104865	260073399	Chatt Coca-Cola Bottling
4614	2007	104865	260073399	Chatt Coca-Cola Bottling
4615	2007	104865	260073399	Chatt Coca-Cola Bottling
4616	2007	104865	260073399	Chatt Coca-Cola Bottling
4617	**2007 Total**			
4618	2008	104865	260073399	Chatt Coca-Cola Bottling
4619	2008	104865	260073399	Chatt Coca-Cola Bottling
4620	2008	104865	260073399	Chatt Coca-Cola Bottling
4621	**2008 Total**			
4622	2004	104867	260073401	Na Industries Inc
4623	2004	104867	260073401	Na Industries Inc
4624	2004	104867	260073401	Na Industries Inc
4625	2004	104867	260073401	Na Industries Inc
4626	2004	104867	260073401	Na Industries Inc
4627	2004	104867	260073401	Na Industries Inc
4628	2004	104867	260073401	Na Industries Inc
4629	2004	104867	260073401	Na Industries Inc
4630	2004	104867	260073401	Na Industries Inc
4631	2004	104867	260073401	Na Industries Inc
4632	2004	104867	260073401	Na Industries Inc
4633	2004	104867	260073401	Na Industries Inc
4634	**2004 Total**			
4635	2005	104867	260073401	Na Industries Inc
4636	2005	104867	260073401	Na Industries Inc
4637	2005	104867	260073401	Na Industries Inc
4638	2005	104867	260073401	Na Industries Inc
4639	2005	104867	260073401	Na Industries Inc
4640	2005	104867	260073401	Na Industries Inc
4641	2005	104867	260073401	Na Industries Inc
4642	2005	104867	260073401	Na Industries Inc
4643	2005	104867	260073401	Na Industries Inc
4644	2005	104867	260073401	Na Industries Inc
4645	2005	104867	260073401	Na Industries Inc
4646	2005	104867	260073401	Na Industries Inc
4647	**2005 Total**			
4648	2006	104867	260073401	Na Industries Inc
4649	2006	104867	260073401	Na Industries Inc

	J	K	L	M
4600	4000 Amnicola Hwy	Chattanooga	TN	374061007
4601	4000 Amnicola Hwy	Chattanooga	TN	374061007
4602	4000 Amnicola Hwy	Chattanooga	TN	374061007
4603	4000 Amnicola Hwy	Chattanooga	TN	374061007
4604				
4605	4000 Amnicola Hwy	Chattanooga	TN	374061007
4606	4000 Amnicola Hwy	Chattanooga	TN	374061007
4607	4000 Amnicola Hwy	Chattanooga	TN	374061007
4608	4000 Amnicola Hwy	Chattanooga	TN	374061007
4609	4000 Amnicola Hwy	Chattanooga	TN	374061007
4610	4000 Amnicola Hwy	Chattanooga	TN	374061007
4611	4000 Amnicola Hwy	Chattanooga	TN	374061007
4612	4000 Amnicola Hwy	Chattanooga	TN	374061007
4613	4000 Amnicola Hwy	Chattanooga	TN	374061007
4614	4000 Amnicola Hwy	Chattanooga	TN	374061007
4615	4000 Amnicola Hwy	Chattanooga	TN	374061007
4616	4000 Amnicola Hwy	Chattanooga	TN	374061007
4617				
4618	4000 Amnicola Hwy	Chattanooga	TN	374061007
4619	4000 Amnicola Hwy	Chattanooga	TN	374061007
4620	4000 Amnicola Hwy	Chattanooga	TN	374061007
4621				
4622	2651 Riverport Rd #16	Chattanooga	TN	374061723
4623	2651 Riverport Rd #16	Chattanooga	TN	374061723
4624	2651 Riverport Rd #16	Chattanooga	TN	374061723
4625	2651 Riverport Rd #16	Chattanooga	TN	374061723
4626	2651 Riverport Rd #16	Chattanooga	TN	374061723
4627	2651 Riverport Rd #16	Chattanooga	TN	374061723
4628	2651 Riverport Rd #16	Chattanooga	TN	374061723
4629	2651 Riverport Rd #16	Chattanooga	TN	374061723
4630	2651 Riverport Rd #16	Chattanooga	TN	374061723
4631	2651 Riverport Rd #16	Chattanooga	TN	374061723
4632	2651 Riverport Rd #16	Chattanooga	TN	374061723
4633	2651 Riverport Rd #16	Chattanooga	TN	374061723
4634				
4635	2651 Riverport Rd #16	Chattanooga	TN	374061723
4636	2651 Riverport Rd #16	Chattanooga	TN	374061723
4637	2651 Riverport Rd #16	Chattanooga	TN	374061723
4638	2651 Riverport Rd #16	Chattanooga	TN	374061723
4639	2651 Riverport Rd #16	Chattanooga	TN	374061723
4640	2651 Riverport Rd #16	Chattanooga	TN	374061723
4641	2651 Riverport Rd #16	Chattanooga	TN	374061723
4642	2651 Riverport Rd #16	Chattanooga	TN	374061723
4643	2651 Riverport Rd #16	Chattanooga	TN	374061723
4644	2651 Riverport Rd #16	Chattanooga	TN	374061723
4645	2651 Riverport Rd #16	Chattanooga	TN	374061723
4646	2651 Riverport Rd #16	Chattanooga	TN	374061723
4647				
4648	2651 Riverport Rd #16	Chattanooga	TN	374061723
4649	2651 Riverport Rd #16	Chattanooga	TN	374061723

	N	O	P	Q
4600	17660.75	1000G	22010.53	A3MSM
4601	16760.1	1000G	21309.8	A3MSM
4602	12242.61	1000G	17795.1	A3MSM
4603	10465.99	1000G	16011.27	A3MSM
4604	190694.09		247203.52	
4605	10857.97	1000G	16524.79	A3MSM
4606	10736.04	1000G	16365.05	A3MSM
4607	13829.23	1000G	19029.52	A3MSM
4608	16877.54	1000G	21401.17	A3MSM
4609	16393.55	1000G	21024.62	A3MSM
4610	21748.11	1000G	26349.94	A3MSM
4611	21647.12	1000G	28264.09	A3MSM
4612	23336.97	1000G	29743.74	A3MSM
4613	20212.36	1000G	27007.8	A3MSM
4614	28039.23	1000G	33861.07	A3MSM
4615	17828.32	1000G	24920.32	A3MSM
4616	12218.68	1000G	20008.47	A3MSM
4617	213725.12		284500.58	
4618	10853.48	1000G	18593.13	A3MSM
4619	11862.6	1000G	19696.69	A3MSM
4620	14958.79	1000G	22407.74	A3MSM
4621	37674.87		60697.56	
4622	5050.09	1000G	8324.41	A3M4M
4623	5161.55	1000G	8465.07	A3M4M
4624	5501.92	1000G	8894.59	A3M4M
4625	4792.02	1000G	7998.73	A3M4M
4626	4685.79	1000G	7864.69	A3M4M
4627	4866.82	1000G	8093.13	A3M4M
4628	4483.07	1000G	7608.86	A3M4M
4629	4780.05	1000G	7983.63	A3M4M
4630	5345.57	1000G	8697.29	A3M4M
4631	4998.48	1000G	8259.28	A3M4M
4632	5191.48	1000G	8502.83	A3M4M
4633	5176.5	1000G	14688.37	A3M4M
4634	60033.34		105380.88	
4635	7466.3	1000G	11373.53	A3M4M
4636	6739.2	1000G	10455.97	A3M4M
4637	6279.14	1000G	9875.41	A3M4M
4638	5475.74	1000G	9162.85	A3M4M
4639	3561.47	1000G	6624.4	A3M4M
4640	5061.31	1000G	8661.48	A3M4M
4641	4372.36	1000G	7758.9	A3M4M
4642	5700.9	1000G	9499.38	A3M4M
4643	5070.29	1000G	8673.24	A3M4M
4644	4278.1	1000G	7635.42	A3M4M
4645	5232.62	1000G	8885.9	A3M4M
4646	5424.87	1000G	9137.76	A3M4M
4647	64662.3		107744.24	
4648	6691.32	1000G	10796.9	A3M4M
4649	5428.6	1000G	9142.66	A3M4M

	A	B	C	D	E
4650	2600	2603	26CC	3	3
4651	2600	2603	26CC	3	4
4652	2600	2603	26CC	3	5
4653	2600	2603	26CC	3	6
4654	2600	2603	26CC	3	7
4655	2600	2603	26CC	3	8
4656	2600	2603	26CC	3	9
4657	2600	2603	26CC	3	10
4658	2600	2603	26CC	3	11
4659	2600	2603	26CC	3	12
4660					
4661	2600	2603	26CC	3	1
4662	2600	2603	26CC	3	2
4663	2600	2603	26CC	3	3
4664	2600	2603	26CC	3	4
4665	2600	2603	26CC	3	5
4666	2600	2603	26CC	3	6
4667	2600	2603	26CC	3	7
4668	2600	2603	26CC	3	8
4669	2600	2603	26CC	3	9
4670	2600	2603	26CC	3	10
4671	2600	2603	26CC	3	11
4672	2600	2603	26CC	3	12
4673					
4674	2600	2603	26CC	3	1
4675	2600	2603	26CC	3	2
4676	2600	2603	26CC	3	3
4677					
4678	2600	2603	26CC	3	1
4679	2600	2603	26CC	3	2
4680	2600	2603	26CC	3	3
4681	2600	2603	26CC	3	4
4682	2600	2603	26CC	3	5
4683	2600	2603	26CC	3	6
4684	2600	2603	26CC	3	7
4685	2600	2603	26CC	3	8
4686	2600	2603	26CC	3	9
4687	2600	2603	26CC	3	10
4688	2600	2603	26CC	3	11
4689	2600	2603	26CC	3	12
4690					
4691	2600	2603	26CC	3	1
4692	2600	2603	26CC	3	2
4693	2600	2603	26CC	3	3
4694	2600	2603	26CC	3	4
4695	2600	2603	26CC	3	5
4696	2600	2603	26CC	3	6
4697	2600	2603	26CC	3	7
4698	2600	2603	26CC	3	8
4699	2600	2603	26CC	3	9

	F	G	H	I
4650	2006	104867	260073401	Na Industries Inc
4651	2006	104867	260073401	Na Industries Inc
4652	2006	104867	260073401	Na Industries Inc
4653	2006	104867	260073401	Na Industries Inc
4654	2006	104867	260073401	Na Industries Inc
4655	2006	104867	260073401	Na Industries Inc
4656	2006	104867	260073401	Na Industries Inc
4657	2006	104867	260073401	Na Industries Inc
4658	2006	104867	260073401	Na Industries Inc
4659	2006	104867	260073401	Na Industries Inc
4660	**2006 Total**			
4661	2007	104867	260073401	Na Industries Inc
4662	2007	104867	260073401	Na Industries Inc
4663	2007	104867	260073401	Na Industries Inc
4664	2007	104867	260073401	Na Industries Inc
4665	2007	104867	260073401	Na Industries Inc
4666	2007	104867	260073401	Na Industries Inc
4667	2007	104867	260073401	Na Industries Inc
4668	2007	104867	260073401	Na Industries Inc
4669	2007	104867	260073401	Na Industries Inc
4670	2007	104867	260073401	Na Industries Inc
4671	2007	104867	260073401	Na Industries Inc
4672	2007	104867	260073401	Na Industries Inc
4673	**2007 Total**			
4674	2008	104867	260073401	Na Industries Inc
4675	2008	104867	260073401	Na Industries Inc
4676	2008	104867	260073401	Na Industries Inc
4677	**2008 Total**			
4678	2004	104868	260073402	Southern Centrifugal Inc
4679	2004	104868	260073402	Southern Centrifugal Inc
4680	2004	104868	260073402	Southern Centrifugal Inc
4681	2004	104868	260073402	Southern Centrifugal Inc
4682	2004	104868	260073402	Southern Centrifugal Inc
4683	2004	104868	260073402	Southern Centrifugal Inc
4684	2004	104868	260073402	Southern Centrifugal Inc
4685	2004	104868	260073402	Southern Centrifugal Inc
4686	2004	104868	260073402	Southern Centrifugal Inc
4687	2004	104868	260073402	Southern Centrifugal Inc
4688	2004	104868	260073402	Southern Centrifugal Inc
4689	2004	104868	260073402	Southern Centrifugal Inc
4690	**2004 Total**			
4691	2005	104868	260073402	Southern Centrifugal Inc
4692	2005	104868	260073402	Southern Centrifugal Inc
4693	2005	104868	260073402	Southern Centrifugal Inc
4694	2005	104868	260073402	Southern Centrifugal Inc
4695	2005	104868	260073402	Southern Centrifugal Inc
4696	2005	104868	260073402	Southern Centrifugal Inc
4697	2005	104868	260073402	Southern Centrifugal Inc
4698	2005	104868	260073402	Southern Centrifugal Inc
4699	2005	104868	260073402	Southern Centrifugal Inc

	J	K	L	M
4650	2651 Riverport Rd #16	Chattanooga	TN	374061723
4651	2651 Riverport Rd #16	Chattanooga	TN	374061723
4652	2651 Riverport Rd #16	Chattanooga	TN	374061723
4653	2651 Riverport Rd #16	Chattanooga	TN	374061723
4654	2651 Riverport Rd #16	Chattanooga	TN	374061723
4655	2651 Riverport Rd #16	Chattanooga	TN	374061723
4656	2651 Riverport Rd #16	Chattanooga	TN	374061723
4657	2651 Riverport Rd #16	Chattanooga	TN	374061723
4658	2651 Riverport Rd #16	Chattanooga	TN	374061723
4659	2651 Riverport Rd #16	Chattanooga	TN	374061723
4660				
4661	2651 Riverport Rd #16	Chattanooga	TN	374061723
4662	2651 Riverport Rd #16	Chattanooga	TN	374061723
4663	2651 Riverport Rd #16	Chattanooga	TN	374061723
4664	2651 Riverport Rd #16	Chattanooga	TN	374061723
4665	2651 Riverport Rd #16	Chattanooga	TN	374061723
4666	2651 Riverport Rd #16	Chattanooga	TN	374061723
4667	2651 Riverport Rd #16	Chattanooga	TN	374061723
4668	2651 Riverport Rd #16	Chattanooga	TN	374061723
4669	2651 Riverport Rd #16	Chattanooga	TN	374061723
4670	2651 Riverport Rd #16	Chattanooga	TN	374061723
4671	2651 Riverport Rd #16	Chattanooga	TN	374061723
4672	2651 Riverport Rd #16	Chattanooga	TN	374061723
4673				
4674	2651 Riverport Rd #16	Chattanooga	TN	374061723
4675	2651 Riverport Rd #16	Chattanooga	TN	374061723
4676	2651 Riverport Rd #16	Chattanooga	TN	374061723
4677				
4678	4106 S Creek Rd	Chattanooga	TN	374061021
4679	4106 S Creek Rd	Chattanooga	TN	374061021
4680	4106 S Creek Rd	Chattanooga	TN	374061021
4681	4106 S Creek Rd	Chattanooga	TN	374061021
4682	4106 S Creek Rd	Chattanooga	TN	374061021
4683	4106 S Creek Rd	Chattanooga	TN	374061021
4684	4106 S Creek Rd	Chattanooga	TN	374061021
4685	4106 S Creek Rd	Chattanooga	TN	374061021
4686	4106 S Creek Rd	Chattanooga	TN	374061021
4687	4106 S Creek Rd	Chattanooga	TN	374061021
4688	4106 S Creek Rd	Chattanooga	TN	374061021
4689	4106 S Creek Rd	Chattanooga	TN	374061021
4690				
4691	4106 S Creek Rd	Chattanooga	TN	374061021
4692	4106 S Creek Rd	Chattanooga	TN	374061021
4693	4106 S Creek Rd	Chattanooga	TN	374061021
4694	4106 S Creek Rd	Chattanooga	TN	374061021
4695	4106 S Creek Rd	Chattanooga	TN	374061021
4696	4106 S Creek Rd	Chattanooga	TN	374061021
4697	4106 S Creek Rd	Chattanooga	TN	374061021
4698	4106 S Creek Rd	Chattanooga	TN	374061021
4699	4106 S Creek Rd	Chattanooga	TN	374061021

	N	O	P	Q
4650	6028.55	1000G	9928.62	A3M4M
4651	5849.76	1000G	9694.4	A3M4M
4652	5663.5	1000G	9450.38	A3M4M
4653	6402.57	1000G	10418.62	A3M4M
4654	4585.55	1000G	8038.2	A3M4M
4655	4613.98	1000G	8075.44	A3M4M
4656	5448.06	1000G	9168.14	A3M4M
4657	4411.26	1000G	7809.86	A3M4M
4658	4409.76	1000G	7807.9	A3M4M
4659	5293.96	1000G	8966.26	A3M4M
4660	64826.87		109297.38	
4661	5275.26	1000G	8941.76	A3M4M
4662	4934.15	1000G	8494.88	A3M4M
4663	4931.15	1000G	8490.96	A3M4M
4664	5558.02	1000G	9312.2	A3M4M
4665	5519.12	1000G	9261.24	A3M4M
4666	5838.54	1000G	10125.46	A3M4M
4667	6808.02	1000G	12324.93	A3M4M
4668	5614.13	1000G	10564.55	A3M4M
4669	6600.81	1000G	12019.4	A3M4M
4670	7027.94	1000G	12649.22	A3M4M
4671	6181.15	1000G	11400.62	A3M4M
4672	6375.64	1000G	11687.4	A3M4M
4673	70663.93		125272.62	
4674	6737.7	1000G	12221.25	A3M4M
4675	6488.6	1000G	11853.95	A3M4M
4676	7302.48	1000G	13054.02	A3M4M
4677	20528.78		37129.22	
4678	92.75	1000G	417.92	A3M4M
4679	100.23	1000G	434.43	A3M4M
4680	106.97	1000G	449.29	A3M4M
4681	103.97	1000G	442.68	A3M4M
4682	116.69	1000G	470.75	A3M4M
4683	148.11	1000G	540.09	A3M4M
4684	144.37	1000G	531.84	A3M4M
4685	130.9	1000G	502.12	A3M4M
4686	115.2	1000G	467.45	A3M4M
4687	100.23	1000G	434.43	A3M4M
4688	89.01	1000G	409.66	A3M4M
4689	92.75	1000G	417.92	A3M4M
4690	1341.18		5518.58	
4691	127.91	1000G	495.52	A3M4M
4692	71.81	1000G	371.69	A3M4M
4693	75.55	1000G	379.95	A3M4M
4694	91.26	1000G	428.74	A3M4M
4695	81.53	1000G	408.38	A3M4M
4696	99.49	1000G	449.54	A3M4M
4697	86.02	1000G	418.67	A3M4M
4698	117.44	1000G	490.7	A3M4M
4699	101.73	1000G	454.69	A3M4M

	A	B	C	D	E
4700	2600	2603	26CC	3	10
4701	2600	2603	26CC	3	11
4702	2600	2603	26CC	3	12
4703					
4704	2600	2603	26CC	3	1
4705	2600	2603	26CC	3	2
4706	2600	2603	26CC	3	3
4707	2600	2603	26CC	3	4
4708	2600	2603	26CC	3	5
4709	2600	2603	26CC	3	6
4710	2600	2603	26CC	3	7
4711	2600	2603	26CC	3	8
4712	2600	2603	26CC	3	9
4713	2600	2603	26CC	3	10
4714	2600	2603	26CC	3	11
4715	2600	2603	26CC	3	12
4716					
4717	2600	2603	26CC	3	1
4718	2600	2603	26CC	3	2
4719	2600	2603	26CC	3	3
4720	2600	2603	26CC	3	4
4721	2600	2603	26CC	3	5
4722	2600	2603	26CC	3	6
4723	2600	2603	26CC	3	7
4724	2600	2603	26CC	3	8
4725	2600	2603	26CC	3	9
4726	2600	2603	26CC	3	10
4727	2600	2603	26CC	3	11
4728	2600	2603	26CC	3	12
4729					
4730	2600	2603	26CC	3	1
4731	2600	2603	26CC	3	2
4732	2600	2603	26CC	3	3
4733					
4734	2600	2603	26CC	3	1
4735	2600	2603	26CC	3	2
4736	2600	2603	26CC	3	3
4737	2600	2603	26CC	3	4
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4739	2600	2603	26CC	3	6
4740	2600	2603	26CC	3	7
4741	2600	2603	26CC	3	8
4742	2600	2603	26CC	3	9
4743	2600	2603	26CC	3	10
4744	2600	2603	26CC	3	11
4745	2600	2603	26CC	3	12
4746					
4747	2600	2603	26CC	3	1
4748	2600	2603	26CC	3	2
4749	2600	2603	26CC	3	3

	F	G	H	I
4700	2005	104868	260073402	Southern Centrifugal Inc
4701	2005	104868	260073402	Southern Centrifugal Inc
4702	2005	104868	260073402	Southern Centrifugal Inc
4703	**2005 Total**			
4704	2006	104868	260073402	Southern Centrifugal Inc
4705	2006	104868	260073402	Southern Centrifugal Inc
4706	2006	104868	260073402	Southern Centrifugal Inc
4707	2006	104868	260073402	Southern Centrifugal Inc
4708	2006	104868	260073402	Southern Centrifugal Inc
4709	2006	104868	260073402	Southern Centrifugal Inc
4710	2006	104868	260073402	Southern Centrifugal Inc
4711	2006	104868	260073402	Southern Centrifugal Inc
4712	2006	104868	260073402	Southern Centrifugal Inc
4713	2006	104868	260073402	Southern Centrifugal Inc
4714	2006	104868	260073402	Southern Centrifugal Inc
4715	2006	104868	260073402	Southern Centrifugal Inc
4716	**2006 Total**			
4717	2007	104868	260073402	Southern Centrifugal Inc
4718	2007	104868	260073402	Southern Centrifugal Inc
4719	2007	104868	260073402	Southern Centrifugal Inc
4720	2007	104868	260073402	Southern Centrifugal Inc
4721	2007	104868	260073402	Southern Centrifugal Inc
4722	2007	104868	260073402	Southern Centrifugal Inc
4723	2007	104868	260073402	Southern Centrifugal Inc
4724	2007	104868	260073402	Southern Centrifugal Inc
4725	2007	104868	260073402	Southern Centrifugal Inc
4726	2007	104868	260073402	Southern Centrifugal Inc
4727	2007	104868	260073402	Southern Centrifugal Inc
4728	2007	104868	260073402	Southern Centrifugal Inc
4729	**2007 Total**			
4730	2008	104868	260073402	Southern Centrifugal Inc
4731	2008	104868	260073402	Southern Centrifugal Inc
4732	2008	104868	260073402	Southern Centrifugal Inc
4733	**2008 Total**			
4734	2004	104869	260073403	TENN VALLEY ICE CO
4735	2004	104869	260073403	TENN VALLEY ICE CO
4736	2004	104869	260073403	TENN VALLEY ICE CO
4737	2004	104869	260073403	TENN VALLEY ICE CO
4738	2004	104869	260073403	TENN VALLEY ICE CO
4739	2004	104869	260073403	TENN VALLEY ICE CO
4740	2004	104869	260073403	TENN VALLEY ICE CO
4741	2004	104869	260073403	TENN VALLEY ICE CO
4742	2004	104869	260073403	TENN VALLEY ICE CO
4743	2004	104869	260073403	TENN VALLEY ICE CO
4744	2004	104869	260073403	TENN VALLEY ICE CO
4745	2004	104869	260073403	TENN VALLEY ICE CO
4746	**2004 Total**			
4747	2005	104869	260073403	TENN VALLEY ICE CO
4748	2005	104869	260073403	TENN VALLEY ICE CO
4749	2005	104869	260073403	TENN VALLEY ICE CO

	J	K	L	M
4700	4106 S Creek Rd	Chattanooga	TN	374061021
4701	4106 S Creek Rd	Chattanooga	TN	374061021
4702	4106 S Creek Rd	Chattanooga	TN	374061021
4703				
4704	4106 S Creek Rd	Chattanooga	TN	374061021
4705	4106 S Creek Rd	Chattanooga	TN	374061021
4706	4106 S Creek Rd	Chattanooga	TN	374061021
4707	4106 S Creek Rd	Chattanooga	TN	374061021
4708	4106 S Creek Rd	Chattanooga	TN	374061021
4709	4106 S Creek Rd	Chattanooga	TN	374061021
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4711	4106 S Creek Rd	Chattanooga	TN	374061021
4712	4106 S Creek Rd	Chattanooga	TN	374061021
4713	4106 S Creek Rd	Chattanooga	TN	374061021
4714	4106 S Creek Rd	Chattanooga	TN	374061021
4715	4106 S Creek Rd	Chattanooga	TN	374061021
4716				
4717	4106 S Creek Rd	Chattanooga	TN	374061021
4718	4106 S Creek Rd	Chattanooga	TN	374061021
4719	4106 S Creek Rd	Chattanooga	TN	374061021
4720	4106 S Creek Rd	Chattanooga	TN	374061021
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4726	4106 S Creek Rd	Chattanooga	TN	374061021
4727	4106 S Creek Rd	Chattanooga	TN	374061021
4728	4106 S Creek Rd	Chattanooga	TN	374061021
4729				
4730	4106 S Creek Rd	Chattanooga	TN	374061021
4731	4106 S Creek Rd	Chattanooga	TN	374061021
4732	4106 S Creek Rd	Chattanooga	TN	374061021
4733				
4734	4116 S Creek Rd	Chattanooga	TN	374061021
4735	4116 S Creek Rd	Chattanooga	TN	374061021
4736	4116 S Creek Rd	Chattanooga	TN	374061021
4737	4116 S Creek Rd	Chattanooga	TN	374061021
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4739	4116 S Creek Rd	Chattanooga	TN	374061021
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4743	4116 S Creek Rd	Chattanooga	TN	374061021
4744	4116 S Creek Rd	Chattanooga	TN	374061021
4745	4116 S Creek Rd	Chattanooga	TN	374061021
4746				
4747	4116 S Creek Rd	Chattanooga	TN	374061021
4748	4116 S Creek Rd	Chattanooga	TN	374061021
4749	4116 S Creek Rd	Chattanooga	TN	374061021

	N	O	P	Q
4700	154.84	1000G	576.45	A3M4M
4701	113.7	1000G	482.13	A3M4M
4702	114.45	1000G	483.84	A3M4M
4703	1235.73		5440.3	
4704	106.97	1000G	466.69	A3M4M
4705	79.29	1000G	403.24	A3M4M
4706	112.95	1000G	480.41	A3M4M
4707	124.92	1000G	507.85	A3M4M
4708	86.02	1000G	418.67	A3M4M
4709	106.22	1000G	464.98	A3M4M
4710	174.29	1000G	621.04	A3M4M
4711	186.26	1000G	648.48	A3M4M
4712	301.46	1000G	912.59	A3M4M
4713	108.46	1000G	470.12	A3M4M
4714	91.26	1000G	430.68	A3M4M
4715	104.72	1000G	461.55	A3M4M
4716	1582.82		6286.3	
4717	112.95	1000G	480.41	A3M4M
4718	121.18	1000G	499.28	A3M4M
4719	144.37	1000G	552.44	A3M4M
4720	157.09	1000G	581.6	A3M4M
4721	173.54	1000G	619.33	A3M4M
4722	174.29	1000G	649.69	A3M4M
4723	246.1	1000G	884.55	A3M4M
4724	201.22	1000G	768.69	A3M4M
4725	340.36	1000G	1127.86	A3M4M
4726	227.4	1000G	836.28	A3M4M
4727	268.55	1000G	942.48	A3M4M
4728	190	1000G	739.73	A3M4M
4729	2357.05		8682.34	
4730	153.35	1000G	645.11	A3M4M
4731	112.2	1000G	538.91	A3M4M
4732	148.85	1000G	633.52	A3M4M
4733	414.4		1817.54	
4734	350.83	1000G	907.74	A3M4
4735	309.69	1000G	816.94	A3M4
4736	296.97	1000G	788.87	A3M4
4737	555.8	1000G	1258.79	A3M4
4738	707.65	1000G	1509.29	A3M4
4739	902.15	1000G	1830.13	A3M4
4740	931.32	1000G	1878.26	A3M4
4741	985.18	1000G	1967.11	A3M4
4742	994.9	1000G	1983.15	A3M4
4743	925.34	1000G	1868.39	A3M4
4744	554.3	1000G	1256.32	A3M4
4745	555.8	1000G	1258.79	A3M4
4746	8069.93		17323.78	
4747	322.41	1000G	845.01	A3M4
4748	338.86	1000G	881.33	A3M4
4749	314.18	1000G	826.85	A3M4

	A	B	C	D	E
4750	2600	2603	26CC	3	4
4751	2600	2603	26CC	3	5
4752	2600	2603	26CC	3	7
4753	2600	2603	26CC	3	7
4754	2600	2603	26CC	3	8
4755	2600	2603	26CC	3	9
4756	2600	2603	26CC	3	10
4757	2600	2603	26CC	3	11
4758	2600	2603	26CC	3	12
4759					
4760	2600	2603	26CC	3	1
4761	2600	2603	26CC	3	2
4762	2600	2603	26CC	3	3
4763	2600	2603	26CC	3	4
4764	2600	2603	26CC	3	5
4765	2600	2603	26CC	3	6
4766	2600	2603	26CC	3	7
4767	2600	2603	26CC	3	8
4768	2600	2603	26CC	3	9
4769	2600	2603	26CC	3	10
4770	2600	2603	26CC	3	11
4771	2600	2603	26CC	3	12
4772					
4773	2600	2603	26CC	3	1
4774	2600	2603	26CC	3	2
4775	2600	2603	26CC	3	3
4776	2600	2603	26CC	3	4
4777	2600	2603	26CC	3	5
4778	2600	2603	26CC	3	6
4779	2600	2603	26CC	3	7
4780	2600	2603	26CC	3	8
4781	2600	2603	26CC	3	9
4782	2600	2603	26CC	3	10
4783	2600	2603	26CC	3	11
4784	2600	2603	26CC	3	12
4785					
4786	2600	2603	26CC	3	1
4787	2600	2603	26CC	3	2
4788	2600	2603	26CC	3	3
4789					
4790	2600	2603	26CC	3	1
4791	2600	2603	26CC	3	2
4792	2600	2603	26CC	3	3
4793	2600	2603	26CC	3	4
4794	2600	2603	26CC	3	5
4795	2600	2603	26CC	3	6
4796	2600	2603	26CC	3	7
4797	2600	2603	26CC	3	8
4798	2600	2603	26CC	3	9
4799	2600	2603	26CC	3	10

	F	G	H	I
4750	2005	104869	260073403	TENN VALLEY ICE CO
4751	2005	104869	260073403	TENN VALLEY ICE CO
4752	2005	104869	260073403	TENN VALLEY ICE CO
4753	2005	104869	260073403	TENN VALLEY ICE CO
4754	2005	104869	260073403	TENN VALLEY ICE CO
4755	2005	104869	260073403	TENN VALLEY ICE CO
4756	2005	104869	260073403	TENN VALLEY ICE CO
4757	2005	104869	260073403	TENN VALLEY ICE CO
4758	2005	104869	260073403	TENN VALLEY ICE CO
4759	**2005 Total**			
4760	2006	104869	260073403	TENN VALLEY ICE CO
4761	2006	104869	260073403	TENN VALLEY ICE CO
4762	2006	104869	260073403	TENN VALLEY ICE CO
4763	2006	104869	260073403	TENN VALLEY ICE CO
4764	2006	104869	260073403	TENN VALLEY ICE CO
4765	2006	104869	260073403	TENN VALLEY ICE CO
4766	2006	104869	260073403	TENN VALLEY ICE CO
4767	2006	104869	260073403	TENN VALLEY ICE CO
4768	2006	104869	260073403	TENN VALLEY ICE CO
4769	2006	104869	260073403	TENN VALLEY ICE CO
4770	2006	104869	260073403	TENN VALLEY ICE CO
4771	2006	104869	260073403	TENN VALLEY ICE CO
4772	**2006 Total**			
4773	2007	104869	260073403	TENN VALLEY ICE CO
4774	2007	104869	260073403	TENN VALLEY ICE CO
4775	2007	104869	260073403	TENN VALLEY ICE CO
4776	2007	104869	260073403	TENN VALLEY ICE CO
4777	2007	104869	260073403	TENN VALLEY ICE CO
4778	2007	104869	260073403	TENN VALLEY ICE CO
4779	2007	104869	260073403	TENN VALLEY ICE CO
4780	2007	104869	260073403	TENN VALLEY ICE CO
4781	2007	104869	260073403	TENN VALLEY ICE CO
4782	2007	104869	260073403	TENN VALLEY ICE CO
4783	2007	104869	260073403	TENN VALLEY ICE CO
4784	2007	104869	260073403	TENN VALLEY ICE CO
4785	**2007 Total**			
4786	2008	104869	260073403	TENN VALLEY ICE CO
4787	2008	104869	260073403	TENN VALLEY ICE CO
4788	2008	104869	260073403	TENN VALLEY ICE CO
4789	**2008 Total**			
4790	2004	104876	260073410	BASF Corpration
4791	2004	104876	260073410	BASF Corpration
4792	2004	104876	260073410	BASF Corpration
4793	2004	104876	260073410	BASF Corpration
4794	2004	104876	260073410	BASF Corpration
4795	2004	104876	260073410	BASF Corpration
4796	2004	104876	260073410	BASF Corpration
4797	2004	104876	260073410	BASF Corpration
4798	2004	104876	260073410	BASF Corpration
4799	2004	104876	260073410	BASF Corpration

	J	K	L	M
4750	4116 S Creek Rd	Chattanooga	TN	374061021
4751	4116 S Creek Rd	Chattanooga	TN	374061021
4752	4116 S Creek Rd	Chattanooga	TN	374061021
4753	4116 S Creek Rd	Chattanooga	TN	374061021
4754	4116 S Creek Rd	Chattanooga	TN	374061021
4755	4116 S Creek Rd	Chattanooga	TN	374061021
4756	4116 S Creek Rd	Chattanooga	TN	374061021
4757	4116 S Creek Rd	Chattanooga	TN	374061021
4758	4116 S Creek Rd	Chattanooga	TN	374061021
4759				
4760	4116 S Creek Rd	Chattanooga	TN	374061021
4761	4116 S Creek Rd	Chattanooga	TN	374061021
4762	4116 S Creek Rd	Chattanooga	TN	374061021
4763	4116 S Creek Rd	Chattanooga	TN	374061021
4764	4116 S Creek Rd	Chattanooga	TN	374061021
4765	4116 S Creek Rd	Chattanooga	TN	374061021
4766	4116 S Creek Rd	Chattanooga	TN	374061021
4767	4116 S Creek Rd	Chattanooga	TN	374061021
4768	4116 S Creek Rd	Chattanooga	TN	374061021
4769	4116 S Creek Rd	Chattanooga	TN	374061021
4770	4116 S Creek Rd	Chattanooga	TN	374061021
4771	4116 S Creek Rd	Chattanooga	TN	374061021
4772				
4773	4116 S Creek Rd	Chattanooga	TN	374061021
4774	4116 S Creek Rd	Chattanooga	TN	374061021
4775	4116 S Creek Rd	Chattanooga	TN	374061021
4776	4116 S Creek Rd	Chattanooga	TN	374061021
4777	4116 S Creek Rd	Chattanooga	TN	374061021
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4779	4116 S Creek Rd	Chattanooga	TN	374061021
4780	4116 S Creek Rd	Chattanooga	TN	374061021
4781	4116 S Creek Rd	Chattanooga	TN	374061021
4782	4116 S Creek Rd	Chattanooga	TN	374061021
4783	4116 S Creek Rd	Chattanooga	TN	374061021
4784	4116 S Creek Rd	Chattanooga	TN	374061021
4785				
4786	4116 S Creek Rd	Chattanooga	TN	374061021
4787	4116 S Creek Rd	Chattanooga	TN	374061021
4788	4116 S Creek Rd	Chattanooga	TN	374061021
4789				
4790	3805 AMINCOLA HWY	CHATTANOOGA	TN	374061004
4791	3805 AMINCOLA HWY	CHATTANOOGA	TN	374061004
4792	3805 AMINCOLA HWY	CHATTANOOGA	TN	374061004
4793	3805 AMINCOLA HWY	CHATTANOOGA	TN	374061004
4794	3805 AMINCOLA HWY	CHATTANOOGA	TN	374061004
4795	3805 AMINCOLA HWY	CHATTANOOGA	TN	374061004
4796	3805 AMINCOLA HWY	CHATTANOOGA	TN	374061004
4797	3805 AMINCOLA HWY	CHATTANOOGA	TN	374061004
4798	3805 AMINCOLA HWY	CHATTANOOGA	TN	374061004
4799	3805 AMINCOLA HWY	CHATTANOOGA	TN	374061004

	N	O	P	Q
4750	483.24	1000G	1177.92	A3M4
4751	698.68	1000G	1552.49	A3M4
4752	956.75	1000G	1994.78	A3M4
4753	1046.52	1000G	2148.62	A3M4
4754	1049.51	1000G	2153.75	A3M4
4755	1000.14	1000G	2069.13	A3M4
4756	735.33	1000G	1615.31	A3M4
4757	655.29	1000G	1478.13	A3M4
4758	415.16	1000G	1066.61	A3M4
4759	8016.07		17809.93	
4760	429.38	1000G	1090.97	A3M4
4761	471.27	1000G	1162.76	A3M4
4762	445.08	1000G	1117.89	A3M4
4763	555.05	1000G	1306.34	A3M4
4764	601.43	1000G	1385.83	A3M4
4765	891.67	1000G	1883.24	A3M4
4766	1024.08	1000G	2110.16	A3M4
4767	959.75	1000G	1999.91	A3M4
4768	991.16	1000G	2053.75	A3M4
4769	682.97	1000G	1525.57	A3M4
4770	620.13	1000G	1417.88	A3M4
4771	644.82	1000G	1460.18	A3M4
4772	8316.79		18514.48	
4773	375.52	1000G	998.66	A3M4
4774	434.61	1000G	1099.94	A3M4
4775	487.72	1000G	1190.96	A3M4
4776	570.01	1000G	1331.98	A3M4
4777	628.36	1000G	1431.98	A3M4
4778	872.97	1000G	1936.54	A3M4
4779	1058.49	1000G	2441.84	A3M4
4780	972.46	1000G	2275.89	A3M4
4781	984.43	1000G	2298.98	A3M4
4782	1021.83	1000G	2371.13	A3M4
4783	679.97	1000G	1711.68	A3M4
4784	431.62	1000G	1232.6	A3M4
4785	8517.99		20322.18	
4786	473.51	1000G	1313.41	A3M4
4787	448.83	1000G	1265.79	A3M4
4788	479.5	1000G	1324.95	A3M4
4789	1401.84		3904.15	
4790	2966.02	1000G	5404.27	A3M4
4791	6209.57	1000G	9797.6	A3M4
4792	6200.6	1000G	9786.28	A3M4
4793	6987.55	1000G	10779.36	A3M4
4794	7451.34	1000G	11364.64	A3M4
4795	9094.06	1000G	13437.67	A3M4
4796	8814.29	1000G	13084.61	A3M4
4797	10047.08	1000G	14640.32	A3M4
4798	9499.51	1000G	13949.32	A3M4
4799	7095.27	1000G	10915.3	A3M4

	A	B	C	D	E
4800	2600	2603	26CC	3	11
4801	2600	2603	26CC	3	12
4802					
4803	2600	2603	26CC	3	1
4804	2600	2603	26CC	3	2
4805	2600	2603	26CC	3	3
4806	2600	2603	26CC	3	4
4807	2600	2603	26CC	3	5
4808	2600	2603	26CC	3	6
4809	2600	2603	26CC	3	7
4810	2600	2603	26CC	3	8
4811	2600	2603	26CC	3	9
4812	2600	2603	26CC	3	10
4813	2600	2603	26CC	3	11
4814	2600	2603	26CC	3	12
4815					
4816	2600	2603	26CC	3	1
4817	2600	2603	26CC	3	2
4818	2600	2603	26CC	3	3
4819	2600	2603	26CC	3	4
4820	2600	2603	26CC	3	5
4821	2600	2603	26CC	3	6
4822	2600	2603	26CC	3	7
4823	2600	2603	26CC	3	8
4824	2600	2603	26CC	3	9
4825	2600	2603	26CC	3	10
4826	2600	2603	26CC	3	11
4827	2600	2603	26CC	3	12
4828					
4829	2600	2603	26CC	3	1
4830	2600	2603	26CC	3	2
4831	2600	2603	26CC	3	2
4832	2600	2603	26CC	3	2
4833	2600	2603	26CC	3	3
4834	2600	2603	26CC	3	4
4835	2600	2603	26CC	3	5
4836	2600	2603	26CC	3	6
4837	2600	2603	26CC	3	7
4838	2600	2603	26CC	3	8
4839	2600	2603	26CC	3	9
4840	2600	2603	26CC	3	10
4841	2600	2603	26CC	3	11
4842	2600	2603	26CC	3	12
4843					
4844	2600	2603	26CC	3	1
4845	2600	2603	26CC	3	2
4846	2600	2603	26CC	3	3
4847					
4848	2600	2603	26CC	3	1
4849	2600	2603	26CC	3	2

	F	G	H	I
4800	2004	104876	260073410	BASF Corpration
4801	2004	104876	260073410	BASF Corpration
4802	**2004 Total**			
4803	2005	104876	260073410	BASF Corpration
4804	2005	104876	260073410	BASF Corpration
4805	2005	104876	260073410	BASF Corpration
4806	2005	104876	260073410	BASF Corpration
4807	2005	104876	260073410	BASF Corpration
4808	2005	104876	260073410	BASF Corpration
4809	2005	104876	260073410	BASF Corpration
4810	2005	104876	260073410	BASF Corpration
4811	2005	104876	260073410	BASF Corpration
4812	2005	104876	260073410	BASF Corpration
4813	2005	104876	260073410	BASF Corpration
4814	2005	104876	260073410	BASF Corpration
4815	**2005 Total**			
4816	2006	104876	260073410	BASF Corpration
4817	2006	104876	260073410	BASF Corpration
4818	2006	104876	260073410	BASF Corpration
4819	2006	104876	260073410	BASF Corpration
4820	2006	104876	260073410	BASF Corpration
4821	2006	104876	260073410	BASF Corpration
4822	2006	104876	260073410	BASF Corpration
4823	2006	104876	260073410	BASF Corpration
4824	2006	104876	260073410	BASF Corpration
4825	2006	104876	260073410	BASF Corpration
4826	2006	104876	260073410	BASF Corpration
4827	2006	104876	260073410	BASF Corpration
4828	**2006 Total**			
4829	2007	104876	260073410	BASF Corpration
4830	2007	104876	260073410	BASF Corpration
4831	2007	104876	260073410	BASF Corpration
4832	2007	104876	260073410	BASF Corpration
4833	2007	104876	260073410	BASF Corpration
4834	2007	104876	260073410	BASF Corpration
4835	2007	104876	260073410	BASF Corpration
4836	2007	104876	260073410	BASF Corpration
4837	2007	104876	260073410	BASF Corpration
4838	2007	104876	260073410	BASF Corpration
4839	2007	104876	260073410	BASF Corpration
4840	2007	104876	260073410	BASF Corpration
4841	2007	104876	260073410	BASF Corpration
4842	2007	104876	260073410	BASF Corpration
4843	**2007 Total**			
4844	2008	104876	260073410	BASF Corpration
4845	2008	104876	260073410	BASF Corpration
4846	2008	104876	260073410	BASF Corpration
4847	**2008 Total**			
4848	2004	104878	260073412	The Pepsi Bottling Group
4849	2004	104878	260073412	The Pepsi Bottling Group

	J	K	L	M
4800	3805 AMINCOLA HWY	CHATTANOOGA	TN	374061004
4801	3805 AMINCOLA HWY	CHATTANOOGA	TN	374061004
4802				
4803	3805 AMINCOLA HWY	CHATTANOOGA	TN	374061004
4804	3805 AMINCOLA HWY	CHATTANOOGA	TN	374061004
4805	3805 AMINCOLA HWY	CHATTANOOGA	TN	374061004
4806	3805 AMINCOLA HWY	CHATTANOOGA	TN	374061004
4807	3805 AMINCOLA HWY	CHATTANOOGA	TN	374061004
4808	3805 AMINCOLA HWY	CHATTANOOGA	TN	374061004
4809	3805 AMINCOLA HWY	CHATTANOOGA	TN	374061004
4810	3805 AMINCOLA HWY	CHATTANOOGA	TN	374061004
4811	3805 AMINCOLA HWY	CHATTANOOGA	TN	374061004
4812	3805 AMINCOLA HWY	CHATTANOOGA	TN	374061004
4813	3805 AMINCOLA HWY	CHATTANOOGA	TN	374061004
4814	3805 AMINCOLA HWY	CHATTANOOGA	TN	374061004
4815				
4816	3805 AMINCOLA HWY	CHATTANOOGA	TN	374061004
4817	3805 AMINCOLA HWY	CHATTANOOGA	TN	374061004
4818	3805 AMINCOLA HWY	CHATTANOOGA	TN	374061004
4819	3805 AMINCOLA HWY	CHATTANOOGA	TN	374061004
4820	3805 AMINCOLA HWY	CHATTANOOGA	TN	374061004
4821	3805 AMINCOLA HWY	CHATTANOOGA	TN	374061004
4822	3805 AMINCOLA HWY	CHATTANOOGA	TN	374061004
4823	3805 AMINCOLA HWY	CHATTANOOGA	TN	374061004
4824	3805 AMINCOLA HWY	CHATTANOOGA	TN	374061004
4825	3805 AMINCOLA HWY	CHATTANOOGA	TN	374061004
4826	3805 AMINCOLA HWY	CHATTANOOGA	TN	374061004
4827	3805 AMINCOLA HWY	CHATTANOOGA	TN	374061004
4828				
4829	3805 AMINCOLA HWY	CHATTANOOGA	TN	374061004
4830	3805 AMINCOLA HWY	CHATTANOOGA	TN	374061004
4831	3805 AMINCOLA HWY	CHATTANOOGA	TN	374061004
4832	3805 AMINCOLA HWY	CHATTANOOGA	TN	374061004
4833	3805 AMINCOLA HWY	CHATTANOOGA	TN	374061004
4834	3805 AMINCOLA HWY	CHATTANOOGA	TN	374061004
4835	3805 AMINCOLA HWY	CHATTANOOGA	TN	374061004
4836	3805 AMINCOLA HWY	CHATTANOOGA	TN	374061004
4837	3805 AMINCOLA HWY	CHATTANOOGA	TN	374061004
4838	3805 AMINCOLA HWY	CHATTANOOGA	TN	374061004
4839	3805 AMINCOLA HWY	CHATTANOOGA	TN	374061004
4840	3805 AMINCOLA HWY	CHATTANOOGA	TN	374061004
4841	3805 AMINCOLA HWY	CHATTANOOGA	TN	374061004
4842	3805 AMINCOLA HWY	CHATTANOOGA	TN	374061004
4843				
4844	3805 AMINCOLA HWY	CHATTANOOGA	TN	374061004
4845	3805 AMINCOLA HWY	CHATTANOOGA	TN	374061004
4846	3805 AMINCOLA HWY	CHATTANOOGA	TN	374061004
4847				
4848	3609 Amnicola Hwy	Chattanooga	TN	374064704
4849	3609 Amnicola Hwy	Chattanooga	TN	374064704

	N	O	P	Q
4800	6290.36	1000G	9899.56	A3M4
4801	5655.27	1000G	9098.1	A3M4
4802	86310.92		132157.03	
4803	3162.01	1000G	5727.58	A3M4
4804	5815.35	1000G	9300.12	A3M4
4805	5730.82	1000G	9193.44	A3M4
4806	6392.85	1000G	10369.31	A3M4
4807	7297.99	1000G	11602.05	A3M4
4808	9863.81	1000G	14963.45	A3M4
4809	9161.39	1000G	14043.23	A3M4
4810	8961.66	1000G	13781.57	A3M4
4811	6950.15	1000G	11146.35	A3M4
4812	7082.55	1000G	11319.81	A3M4
4813	7597.21	1000G	11994.05	A3M4
4814	6910.5	1000G	11094.41	A3M4
4815	84926.29		134535.37	
4816	7071.33	1000G	11305.11	A3M4
4817	5031.39	1000G	8632.65	A3M4
4818	6935.19	1000G	11126.75	A3M4
4819	6191.62	1000G	10152.63	A3M4
4820	6762.39	1000G	10900.37	A3M4
4821	7712.41	1000G	12144.97	A3M4
4822	9610.97	1000G	14632.21	A3M4
4823	9416.47	1000G	14377.41	A3M4
4824	9762.07	1000G	14830.17	A3M4
4825	7208.22	1000G	11484.45	A3M4
4826	6811.01	1000G	10964.07	A3M4
4827	3802.34	1000G	7022.51	A3M4
4828	86315.41		137573.3	
4829	5430.84	1000G	9155.97	A3M4
4830	-49.37	1000G	-427.86	A3M4
4831	49.37	1000G	427.86	A3M4
4832	5929.06	1000G	9808.65	A3M4
4833	5572.23	1000G	9341.19	A3M4
4834	5705.39	1000G	9515.63	A3M4
4835	6844.67	1000G	11008.17	A3M4
4836	8859.17	1000G	14275.67	A3M4
4837	9432.93	1000G	16207.04	A3M4
4838	8951.93	1000G	15497.81	A3M4
4839	8846.46	1000G	15342.29	A3M4
4840	10482.45	1000G	17754.55	A3M4
4841	6949.4	1000G	12545.08	A3M4
4842	7695.21	1000G	13644.77	A3M4
4843	90699.74		154096.82	
4844	7306.22	1000G	13071.21	A3M4
4845	6629.23	1000G	12073	A3M4
4846	7221.69	1000G	12946.57	A3M4
4847	21157.14		38090.78	
4848	16.45	1000G	127.73	A3M4
4849	21.69	1000G	146.13	A3M4

	A	B	C	D	E
4850	2600	2603	26CC	3	3
4851	2600	2603	26CC	3	4
4852	2600	2603	26CC	3	5
4853	2600	2603	26CC	3	6
4854	2600	2603	26CC	3	7
4855	2600	2603	26CC	3	8
4856	2600	2603	26CC	3	9
4857	2600	2603	26CC	3	10
4858	2600	2603	26CC	3	11
4859	2600	2603	26CC	3	12
4860					
4861	2600	2603	26CC	3	1
4862	2600	2603	26CC	3	2
4863	2600	2603	26CC	3	3
4864	2600	2603	26CC	3	4
4865	2600	2603	26CC	3	5
4866	2600	2603	26CC	3	6
4867	2600	2603	26CC	3	7
4868	2600	2603	26CC	3	8
4869	2600	2603	26CC	3	9
4870	2600	2603	26CC	3	10
4871	2600	2603	26CC	3	11
4872	2600	2603	26CC	3	12
4873					
4874	2600	2603	26CC	3	1
4875	2600	2603	26CC	3	2
4876	2600	2603	26CC	3	3
4877	2600	2603	26CC	3	4
4878	2600	2603	26CC	3	5
4879	2600	2603	26CC	3	6
4880	2600	2603	26CC	3	7
4881	2600	2603	26CC	3	8
4882	2600	2603	26CC	3	9
4883	2600	2603	26CC	3	10
4884	2600	2603	26CC	3	11
4885	2600	2603	26CC	3	12
4886					
4887	2600	2603	26CC	3	1
4888	2600	2603	26CC	3	2
4889	2600	2603	26CC	3	3
4890	2600	2603	26CC	3	4
4891	2600	2603	26CC	3	5
4892	2600	2603	26CC	3	6
4893	2600	2603	26CC	3	7
4894	2600	2603	26CC	3	8
4895	2600	2603	26CC	3	9
4896	2600	2603	26CC	3	10
4897	2600	2603	26CC	3	11
4898	2600	2603	26CC	3	12
4899					

	F	G	H	I
4850	2004	104878	260073412	The Pepsi Bottling Group
4851	2004	104878	260073412	The Pepsi Bottling Group
4852	2004	104878	260073412	The Pepsi Bottling Group
4853	2004	104878	260073412	The Pepsi Bottling Group
4854	2004	104878	260073412	The Pepsi Bottling Group
4855	2004	104878	260073412	The Pepsi Bottling Group
4856	2004	104878	260073412	The Pepsi Bottling Group
4857	2004	104878	260073412	The Pepsi Bottling Group
4858	2004	104878	260073412	The Pepsi Bottling Group
4859	2004	104878	260073412	The Pepsi Bottling Group
4860	**2004 Total**			
4861	2005	104878	260073412	The Pepsi Bottling Group
4862	2005	104878	260073412	The Pepsi Bottling Group
4863	2005	104878	260073412	The Pepsi Bottling Group
4864	2005	104878	260073412	The Pepsi Bottling Group
4865	2005	104878	260073412	The Pepsi Bottling Group
4866	2005	104878	260073412	The Pepsi Bottling Group
4867	2005	104878	260073412	The Pepsi Bottling Group
4868	2005	104878	260073412	The Pepsi Bottling Group
4869	2005	104878	260073412	The Pepsi Bottling Group
4870	2005	104878	260073412	The Pepsi Bottling Group
4871	2005	104878	260073412	The Pepsi Bottling Group
4872	2005	104878	260073412	The Pepsi Bottling Group
4873	**2005 Total**			
4874	2006	104878	260073412	The Pepsi Bottling Group
4875	2006	104878	260073412	The Pepsi Bottling Group
4876	2006	104878	260073412	The Pepsi Bottling Group
4877	2006	104878	260073412	The Pepsi Bottling Group
4878	2006	104878	260073412	The Pepsi Bottling Group
4879	2006	104878	260073412	The Pepsi Bottling Group
4880	2006	104878	260073412	The Pepsi Bottling Group
4881	2006	104878	260073412	The Pepsi Bottling Group
4882	2006	104878	260073412	The Pepsi Bottling Group
4883	2006	104878	260073412	The Pepsi Bottling Group
4884	2006	104878	260073412	The Pepsi Bottling Group
4885	2006	104878	260073412	The Pepsi Bottling Group
4886	**2006 Total**			
4887	2007	104878	260073412	The Pepsi Bottling Group
4888	2007	104878	260073412	The Pepsi Bottling Group
4889	2007	104878	260073412	The Pepsi Bottling Group
4890	2007	104878	260073412	The Pepsi Bottling Group
4891	2007	104878	260073412	The Pepsi Bottling Group
4892	2007	104878	260073412	The Pepsi Bottling Group
4893	2007	104878	260073412	The Pepsi Bottling Group
4894	2007	104878	260073412	The Pepsi Bottling Group
4895	2007	104878	260073412	The Pepsi Bottling Group
4896	2007	104878	260073412	The Pepsi Bottling Group
4897	2007	104878	260073412	The Pepsi Bottling Group
4898	2007	104878	260073412	The Pepsi Bottling Group
4899	**2007 Total**			

	J	K	L	M
4850	3609 Amnicola Hwy	Chattanooga	TN	374064704
4851	3609 Amnicola Hwy	Chattanooga	TN	374064704
4852	3609 Amnicola Hwy	Chattanooga	TN	374064704
4853	3609 Amnicola Hwy	Chattanooga	TN	374064704
4854	3609 Amnicola Hwy	Chattanooga	TN	374064704
4855	3609 Amnicola Hwy	Chattanooga	TN	374064704
4856	3609 Amnicola Hwy	Chattanooga	TN	374064704
4857	3609 Amnicola Hwy	Chattanooga	TN	374064704
4858	3609 Amnicola Hwy	Chattanooga	TN	374064704
4859	3609 Amnicola Hwy	Chattanooga	TN	374064704
4860				
4861	3609 Amnicola Hwy	Chattanooga	TN	374064704
4862	3609 Amnicola Hwy	Chattanooga	TN	374064704
4863	3609 Amnicola Hwy	Chattanooga	TN	374064704
4864	3609 Amnicola Hwy	Chattanooga	TN	374064704
4865	3609 Amnicola Hwy	Chattanooga	TN	374064704
4866	3609 Amnicola Hwy	Chattanooga	TN	374064704
4867	3609 Amnicola Hwy	Chattanooga	TN	374064704
4868	3609 Amnicola Hwy	Chattanooga	TN	374064704
4869	3609 Amnicola Hwy	Chattanooga	TN	374064704
4870	3609 Amnicola Hwy	Chattanooga	TN	374064704
4871	3609 Amnicola Hwy	Chattanooga	TN	374064704
4872	3609 Amnicola Hwy	Chattanooga	TN	374064704
4873				
4874	3609 Amnicola Hwy	Chattanooga	TN	374064704
4875	3609 Amnicola Hwy	Chattanooga	TN	374064704
4876	3609 Amnicola Hwy	Chattanooga	TN	374064704
4877	3609 Amnicola Hwy	Chattanooga	TN	374064704
4878	3609 Amnicola Hwy	Chattanooga	TN	374064704
4879	3609 Amnicola Hwy	Chattanooga	TN	374064704
4880	3609 Amnicola Hwy	Chattanooga	TN	374064704
4881	3609 Amnicola Hwy	Chattanooga	TN	374064704
4882	3609 Amnicola Hwy	Chattanooga	TN	374064704
4883	3609 Amnicola Hwy	Chattanooga	TN	374064704
4884	3609 Amnicola Hwy	Chattanooga	TN	374064704
4885	3609 Amnicola Hwy	Chattanooga	TN	374064704
4886				
4887	3609 Amnicola Hwy	Chattanooga	TN	374064704
4888	3609 Amnicola Hwy	Chattanooga	TN	374064704
4889	3609 Amnicola Hwy	Chattanooga	TN	374064704
4890	3609 Amnicola Hwy	Chattanooga	TN	374064704
4891	3609 Amnicola Hwy	Chattanooga	TN	374064704
4892	3609 Amnicola Hwy	Chattanooga	TN	374064704
4893	3609 Amnicola Hwy	Chattanooga	TN	374064704
4894	3609 Amnicola Hwy	Chattanooga	TN	374064704
4895	3609 Amnicola Hwy	Chattanooga	TN	374064704
4896	3609 Amnicola Hwy	Chattanooga	TN	374064704
4897	3609 Amnicola Hwy	Chattanooga	TN	374064704
4898	3609 Amnicola Hwy	Chattanooga	TN	374064704
4899				

	N	O	P	Q
4850	26.18	1000G	161.9	A3M4
4851	29.17	1000G	172.41	A3M4
4852	18.7	1000G	135.62	A3M4
4853	20.19	1000G	140.87	A3M4
4854	15.7	1000G	125.11	A3M4
4855	16.45	1000G	127.73	A3M4
4856	18.7	1000G	135.62	A3M4
4857	18.7	1000G	135.62	A3M4
4858	16.45	1000G	127.73	A3M4
4859	15.7	1000G	125.11	A3M4
4860	234.08		1661.58	
4861	13.46	1000G	117.22	A3M4
4862	13.46	1000G	117.22	A3M4
4863	12.71	1000G	114.59	A3M4
4864	20.94	1000G	148.4	A3M4
4865	15.7	1000G	129.95	A3M4
4866	29.92	1000G	181.82	A3M4
4867	12.71	1000G	119.03	A3M4
4868	14.21	1000G	124.49	A3M4
4869	14.96	1000G	127.22	A3M4
4870	12.71	1000G	119.03	A3M4
4871	26.18	1000G	168.17	A3M4
4872	26.92	1000G	170.9	A3M4
4873	213.88		1638.04	
4874	16.45	1000G	132.68	A3M4
4875	19.44	1000G	143.6	A3M4
4876	29.92	1000G	181.82	A3M4
4877	26.92	1000G	170.9	A3M4
4878	29.92	1000G	181.82	A3M4
4879	19.44	1000G	143.6	A3M4
4880	14.96	1000G	127.22	A3M4
4881	17.2	1000G	135.41	A3M4
4882	16.45	1000G	132.68	A3M4
4883	30.67	1000G	184.55	A3M4
4884	20.94	1000G	149.06	A3M4
4885	21.69	1000G	151.79	A3M4
4886	264		1835.13	
4887	29.17	1000G	179.09	A3M4
4888	24.68	1000G	162.71	A3M4
4889	15.7	1000G	129.95	A3M4
4890	15.7	1000G	129.95	A3M4
4891	15.7	1000G	129.95	A3M4
4892	18.7	1000G	147.37	A3M4
4893	17.2	1000G	152.44	A3M4
4894	15.7	1000G	146.29	A3M4
4895	18.7	1000G	158.58	A3M4
4896	23.93	1000G	180.09	A3M4
4897	23.93	1000G	180.09	A3M4
4898	24.68	1000G	183.17	A3M4
4899	243.79		1879.68	

	A	B	C	D	E
4900	2600	2603	26CC	3	1
4901	2600	2603	26CC	3	2
4902	2600	2603	26CC	3	3
4903					
4904	2600	2603	26CC	3	1
4905	2600	2603	26CC	3	2
4906	2600	2603	26CC	3	3
4907	2600	2603	26CC	3	4
4908	2600	2603	26CC	3	5
4909	2600	2603	26CC	3	6
4910	2600	2603	26CC	3	7
4911	2600	2603	26CC	3	8
4912	2600	2603	26CC	3	9
4913	2600	2603	26CC	3	10
4914	2600	2603	26CC	3	11
4915	2600	2603	26CC	3	12
4916					
4917	2600	2603	26CC	3	1
4918	2600	2603	26CC	3	2
4919	2600	2603	26CC	3	3
4920	2600	2603	26CC	3	4
4921	2600	2603	26CC	3	5
4922	2600	2603	26CC	3	6
4923	2600	2603	26CC	3	7
4924	2600	2603	26CC	3	8
4925	2600	2603	26CC	3	9
4926	2600	2603	26CC	3	10
4927	2600	2603	26CC	3	11
4928	2600	2603	26CC	3	12
4929					
4930	2600	2603	26CC	3	1
4931	2600	2603	26CC	3	2
4932	2600	2603	26CC	3	3
4933	2600	2603	26CC	3	4
4934	2600	2603	26CC	3	5
4935	2600	2603	26CC	3	6
4936	2600	2603	26CC	3	7
4937	2600	2603	26CC	3	8
4938	2600	2603	26CC	3	9
4939	2600	2603	26CC	3	10
4940	2600	2603	26CC	3	11
4941	2600	2603	26CC	3	12
4942					
4943	2600	2603	26CC	3	1
4944	2600	2603	26CC	3	2
4945	2600	2603	26CC	3	3
4946	2600	2603	26CC	3	4
4947	2600	2603	26CC	3	5
4948	2600	2603	26CC	3	6
4949	2600	2603	26CC	3	7

	F	G	H	I
4900	2008	104878	260073412	The Pepsi Bottling Group
4901	2008	104878	260073412	The Pepsi Bottling Group
4902	2008	104878	260073412	The Pepsi Bottling Group
4903	**2008 Total**			
4904	2004	104879	260073413	T E Capital Partners
4905	2004	104879	260073413	T E Capital Partners
4906	2004	104879	260073413	T E Capital Partners
4907	2004	104879	260073413	T E Capital Partners
4908	2004	104879	260073413	T E Capital Partners
4909	2004	104879	260073413	T E Capital Partners
4910	2004	104879	260073413	T E Capital Partners
4911	2004	104879	260073413	T E Capital Partners
4912	2004	104879	260073413	T E Capital Partners
4913	2004	104879	260073413	T E Capital Partners
4914	2004	104879	260073413	T E Capital Partners
4915	2004	104879	260073413	T E Capital Partners
4916	**2004 Total**			
4917	2005	104879	260073413	T E Capital Partners
4918	2005	104879	260073413	T E Capital Partners
4919	2005	104879	260073413	T E Capital Partners
4920	2005	104879	260073413	T E Capital Partners
4921	2005	104879	260073413	T E Capital Partners
4922	2005	104879	260073413	T E Capital Partners
4923	2005	104879	260073413	T E Capital Partners
4924	2005	104879	260073413	T E Capital Partners
4925	2005	104879	260073413	T E Capital Partners
4926	2005	104879	260073413	T E Capital Partners
4927	2005	104879	260073413	T E Capital Partners
4928	2005	104879	260073413	T E Capital Partners
4929	**2005 Total**			
4930	2006	104879	260073413	T E Capital Partners
4931	2006	104879	260073413	T E Capital Partners
4932	2006	104879	260073413	T E Capital Partners
4933	2006	104879	260073413	T E Capital Partners
4934	2006	104879	260073413	T E Capital Partners
4935	2006	104879	260073413	T E Capital Partners
4936	2006	104879	260073413	T E Capital Partners
4937	2006	104879	260073413	T E Capital Partners
4938	2006	104879	260073413	T E Capital Partners
4939	2006	104879	260073413	T E Capital Partners
4940	2006	104879	260073413	T E Capital Partners
4941	2006	104879	260073413	T E Capital Partners
4942	**2006 Total**			
4943	2007	104879	260073413	T E Capital Partners
4944	2007	104879	260073413	T E Capital Partners
4945	2007	104879	260073413	T E Capital Partners
4946	2007	104879	260073413	T E Capital Partners
4947	2007	104879	260073413	T E Capital Partners
4948	2007	104879	260073413	T E Capital Partners
4949	2007	104879	260073413	T E Capital Partners

	J	K	L	M
4900	3609 Amnicola Hwy	Chattanooga	TN	374064704
4901	3609 Amnicola Hwy	Chattanooga	TN	374064704
4902	3609 Amnicola Hwy	Chattanooga	TN	374064704
4903				
4904	Judd Rd	Chattanooga	TN	37406
4905	Judd Rd	Chattanooga	TN	37406
4906	Judd Rd	Chattanooga	TN	37406
4907	Judd Rd	Chattanooga	TN	37406
4908	Judd Rd	Chattanooga	TN	37406
4909	Judd Rd	Chattanooga	TN	37406
4910	Judd Rd	Chattanooga	TN	37406
4911	Judd Rd	Chattanooga	TN	37406
4912	Judd Rd	Chattanooga	TN	37406
4913	Judd Rd	Chattanooga	TN	37406
4914	Judd Rd	Chattanooga	TN	37406
4915	Judd Rd	Chattanooga	TN	37406
4916				
4917	Judd Rd	Chattanooga	TN	37406
4918	Judd Rd	Chattanooga	TN	37406
4919	Judd Rd	Chattanooga	TN	37406
4920	Judd Rd	Chattanooga	TN	37406
4921	Judd Rd	Chattanooga	TN	37406
4922	Judd Rd	Chattanooga	TN	37406
4923	Judd Rd	Chattanooga	TN	37406
4924	Judd Rd	Chattanooga	TN	37406
4925	Judd Rd	Chattanooga	TN	37406
4926	Judd Rd	Chattanooga	TN	37406
4927	Judd Rd	Chattanooga	TN	37406
4928	Judd Rd	Chattanooga	TN	37406
4929				
4930	Judd Rd	Chattanooga	TN	37406
4931	Judd Rd	Chattanooga	TN	37406
4932	Judd Rd	Chattanooga	TN	37406
4933	Judd Rd	Chattanooga	TN	37406
4934	Judd Rd	Chattanooga	TN	37406
4935	Judd Rd	Chattanooga	TN	37406
4936	Judd Rd	Chattanooga	TN	37406
4937	Judd Rd	Chattanooga	TN	37406
4938	Judd Rd	Chattanooga	TN	37406
4939	Judd Rd	Chattanooga	TN	37406
4940	Judd Rd	Chattanooga	TN	37406
4941	Judd Rd	Chattanooga	TN	37406
4942				
4943	Judd Rd	Chattanooga	TN	37406
4944	Judd Rd	Chattanooga	TN	37406
4945	Judd Rd	Chattanooga	TN	37406
4946	Judd Rd	Chattanooga	TN	37406
4947	Judd Rd	Chattanooga	TN	37406
4948	Judd Rd	Chattanooga	TN	37406
4949	Judd Rd	Chattanooga	TN	37406

	N	O	P	Q
4900	77.04	1000G	354.88	A3M4
4901	61.34	1000G	314.33	A3M4
4902	45.63	1000G	269.21	A3M4
4903	184.01		938.42	
4904	2.99	1000G	9.58	A3M4
4905	4.48	1000G	14.84	A3M4
4906	5.23	1000G	17.46	A3M4
4907	4.48	1000G	14.84	A3M4
4908	8.97	1000G	30.6	A3M4
4909	8.97	1000G	30.6	A3M4
4910	5.98	1000G	20.09	A3M4
4911	14.21	1000G	49	A3M4
4912	8.22	1000G	27.98	A3M4
4913	5.98	1000G	20.09	A3M4
4914	5.23	1000G	17.46	A3M4
4915	3.74	1000G	12.21	A3M4
4916	78.48		264.75	
4917	2.99	1000G	9.58	A3M4
4918	5.23	1000G	17.46	A3M4
4919	4.48	1000G	14.84	A3M4
4920	5.23	1000G	18.06	A3M4
4921	5.23	1000G	18.14	A3M4
4922	5.23	1000G	18.14	A3M4
4923	9.72	1000G	34.52	A3M4
4924	5.23	1000G	18.14	A3M4
4925	7.48	1000G	26.33	A3M4
4926	2.99	1000G	9.95	A3M4
4927	5.98	1000G	20.87	A3M4
4928	5.98	1000G	20.87	A3M4
4929	65.77		226.9	
4930	5.23	1000G	18.14	A3M4
4931	5.23	1000G	18.14	A3M4
4932	4.48	1000G	15.41	A3M4
4933	4.48	1000G	15.41	A3M4
4934	6.73	1000G	23.47	A3M4
4935	3.74	1000G	12.68	A3M4
4936	5.98	1000G	20.87	A3M4
4937	4.48	1000G	15.41	A3M4
4938	10.47	1000G	37.12	A3M4
4939	6.73	1000G	23.6	A3M4
4940	7.48	1000G	26.33	A3M4
4941	8.97	1000G	31.79	A3M4
4942	74		258.37	
4943	8.22	1000G	29.06	A3M4
4944	9.72	1000G	34.52	A3M4
4945	8.97	1000G	31.79	A3M4
4946	13.46	1000G	48.17	A3M4
4947	18.7	1000G	67.28	A3M4
4948	16.45	1000G	61.81	A3M4
4949	35.9	1000G	146.41	A3M4

	A	B	C	D	E
4950	2600	2603	26CC	3	8
4951	2600	2603	26CC	3	9
4952	2600	2603	26CC	3	10
4953	2600	2603	26CC	3	11
4954	2600	2603	26CC	3	12
4955					
4956	2600	2603	26CC	3	1
4957	2600	2603	26CC	3	2
4958	2600	2603	26CC	3	3
4959					
4960	2600	2603	26CC	3	1
4961	2600	2603	26CC	3	2
4962	2600	2603	26CC	3	3
4963	2600	2603	26CC	3	4
4964	2600	2603	26CC	3	5
4965	2600	2603	26CC	3	6
4966	2600	2603	26CC	3	7
4967	2600	2603	26CC	3	8
4968	2600	2603	26CC	3	9
4969	2600	2603	26CC	3	10
4970	2600	2603	26CC	3	11
4971	2600	2603	26CC	3	12
4972					
4973	2600	2603	26CC	3	1
4974	2600	2603	26CC	3	2
4975	2600	2603	26CC	3	3
4976	2600	2603	26CC	3	4
4977	2600	2603	26CC	3	5
4978	2600	2603	26CC	3	6
4979	2600	2603	26CC	3	7
4980	2600	2603	26CC	3	8
4981	2600	2603	26CC	3	9
4982	2600	2603	26CC	3	10
4983	2600	2603	26CC	3	10
4984					
4985	2600	2603	26CC	3	1
4986	2600	2603	26CC	3	2
4987	2600	2603	26CC	3	3
4988	2600	2603	26CC	3	4
4989	2600	2603	26CC	3	5
4990	2600	2603	26CC	3	6
4991	2600	2603	26CC	3	7
4992	2600	2603	26CC	3	8
4993	2600	2603	26CC	3	9
4994	2600	2603	26CC	3	10
4995	2600	2603	26CC	3	11
4996	2600	2603	26CC	3	12
4997					
4998	2600	2603	26CC	3	1
4999	2600	2603	26CC	3	2

	F	G	H	I
4950	2007	104879	260073413	T E Capital Partners
4951	2007	104879	260073413	T E Capital Partners
4952	2007	104879	260073413	T E Capital Partners
4953	2007	104879	260073413	T E Capital Partners
4954	2007	104879	260073413	T E Capital Partners
4955	**2007 Total**			
4956	2008	104879	260073413	T E Capital Partners
4957	2008	104879	260073413	T E Capital Partners
4958	2008	104879	260073413	T E Capital Partners
4959	**2008 Total**			
4960	2004	104880	260073414	Archer Daniels Midland Co
4961	2004	104880	260073414	Archer Daniels Midland Co
4962	2004	104880	260073414	Archer Daniels Midland Co
4963	2004	104880	260073414	Archer Daniels Midland Co
4964	2004	104880	260073414	Archer Daniels Midland Co
4965	2004	104880	260073414	Archer Daniels Midland Co
4966	2004	104880	260073414	Archer Daniels Midland Co
4967	2004	104880	260073414	Archer Daniels Midland Co
4968	2004	104880	260073414	Archer Daniels Midland Co
4969	2004	104880	260073414	Archer Daniels Midland Co
4970	2004	104880	260073414	Archer Daniels Midland Co
4971	2004	104880	260073414	Archer Daniels Midland Co
4972	**2004 Total**			
4973	2005	104880	260073414	Archer Daniels Midland Co
4974	2005	104880	260073414	Archer Daniels Midland Co
4975	2005	104880	260073414	Archer Daniels Midland Co
4976	2005	104880	260073414	Archer Daniels Midland Co
4977	2005	104880	260073414	Archer Daniels Midland Co
4978	2005	104880	260073414	Archer Daniels Midland Co
4979	2005	104880	260073414	Archer Daniels Midland Co
4980	2005	104880	260073414	Archer Daniels Midland Co
4981	2005	104880	260073414	Archer Daniels Midland Co
4982	2005	104880	260073414	Archer Daniels Midland Co
4983	2005	104880	260073414	Archer Daniels Midland Co
4984	**2005 Total**			
4985	2004	104882	260073416	Cargill V #50026797
4986	2004	104882	260073416	Cargill V #50026797
4987	2004	104882	260073416	Cargill V #50026797
4988	2004	104882	260073416	Cargill V #50026797
4989	2004	104882	260073416	Cargill V #50026797
4990	2004	104882	260073416	Cargill V #50026797
4991	2004	104882	260073416	Cargill V #50026797
4992	2004	104882	260073416	Cargill V #50026797
4993	2004	104882	260073416	Cargill V #50026797
4994	2004	104882	260073416	Cargill V #50026797
4995	2004	104882	260073416	Cargill V #50026797
4996	2004	104882	260073416	Cargill V #50026797
4997	**2004 Total**			
4998	2005	104882	260073416	Cargill V #50026797
4999	2005	104882	260073416	Cargill V #50026797

	J	K	L	M
4950	Judd Rd	Chattanooga	TN	37406
4951	Judd Rd	Chattanooga	TN	37406
4952	Judd Rd	Chattanooga	TN	37406
4953	Judd Rd	Chattanooga	TN	37406
4954	Judd Rd	Chattanooga	TN	37406
4955				
4956	Judd Rd	Chattanooga	TN	37406
4957	Judd Rd	Chattanooga	TN	37406
4958	Judd Rd	Chattanooga	TN	37406
4959				
4960	1200 Judd Rd	Chattanooga	TN	374064711
4961	1200 Judd Rd	Chattanooga	TN	374064711
4962	1200 Judd Rd	Chattanooga	TN	374064711
4963	1200 Judd Rd	Chattanooga	TN	374064711
4964	1200 Judd Rd	Chattanooga	TN	374064711
4965	1200 Judd Rd	Chattanooga	TN	374064711
4966	1200 Judd Rd	Chattanooga	TN	374064711
4967	1200 Judd Rd	Chattanooga	TN	374064711
4968	1200 Judd Rd	Chattanooga	TN	374064711
4969	1200 Judd Rd	Chattanooga	TN	374064711
4970	1200 Judd Rd	Chattanooga	TN	374064711
4971	1200 Judd Rd	Chattanooga	TN	374064711
4972				
4973	1200 Judd Rd	Chattanooga	TN	374064711
4974	1200 Judd Rd	Chattanooga	TN	374064711
4975	1200 Judd Rd	Chattanooga	TN	374064711
4976	1200 Judd Rd	Chattanooga	TN	374064711
4977	1200 Judd Rd	Chattanooga	TN	374064711
4978	1200 Judd Rd	Chattanooga	TN	374064711
4979	1200 Judd Rd	Chattanooga	TN	374064711
4980	1200 Judd Rd	Chattanooga	TN	374064711
4981	1200 Judd Rd	Chattanooga	TN	374064711
4982	1200 Judd Rd	Chattanooga	TN	374064711
4983	1200 Judd Rd	Chattanooga	TN	374064711
4984				
4985	1 Riverside Ln	Chattanooga	TN	374061725
4986	1 Riverside Ln	Chattanooga	TN	374061725
4987	1 Riverside Ln	Chattanooga	TN	374061725
4988	1 Riverside Ln	Chattanooga	TN	374061725
4989	1 Riverside Ln	Chattanooga	TN	374061725
4990	1 Riverside Ln	Chattanooga	TN	374061725
4991	1 Riverside Ln	Chattanooga	TN	374061725
4992	1 Riverside Ln	Chattanooga	TN	374061725
4993	1 Riverside Ln	Chattanooga	TN	374061725
4994	1 Riverside Ln	Chattanooga	TN	374061725
4995	1 Riverside Ln	Chattanooga	TN	374061725
4996	1 Riverside Ln	Chattanooga	TN	374061725
4997				
4998	1 Riverside Ln	Chattanooga	TN	374061725
4999	1 Riverside Ln	Chattanooga	TN	374061725

	N	O	P	Q
4950	8.22	1000G	32.71	A3M4
4951	8.22	1000G	32.71	A3M4
4952	8.97	1000G	35.78	A3M4
4953	9.72	1000G	38.86	A3M4
4954	11.22	1000G	45	A3M4
4955	157.77		604.1	
4956	16.45	1000G	66.51	A3M4
4957	15.7	1000G	63.44	A3M4
4958	10.47	1000G	41.93	A3M4
4959	42.62		171.88	
4960	18.7	1000G	80.77	A3M4
4961	32.16	1000G	128.07	A3M4
4962	4.48	1000G	30.84	A3M4
4963	2.24	1000G	25.42	A3M4
4964	2.24	1000G	25.42	A3M4
4965	1.49	1000G	25.25	A3M4
4966	2.99	1000G	25.58	A3M4
4967	2.24	1000G	25.42	A3M4
4968	2.24	1000G	25.42	A3M4
4969	2.24	1000G	25.42	A3M4
4970	2.24	1000G	25.42	A3M4
4971	10.47	1000G	51.86	A3M4
4972	83.73		494.89	
4973	23.18	1000G	96.54	A3M4
4974	29.17	1000G	117.56	A3M4
4975	10.47	1000G	51.86	A3M4
4976	20.94	1000G	91.68	A3M4
4977	4.48	1000G	32.03	A3M4
4978	2.99	1000G	26.57	A3M4
4979	2.99	1000G	26.57	A3M4
4980	2.99	1000G	26.57	A3M4
4981	1.49	1000G	26.22	A3M4
4982	2.24	1000G	26.4	A3M4
4983	4.48	1000G	26.3	A3M4
4984	105.42		548.3	
4985	1.49	1000G	25.25	A3M4
4986	1.49	1000G	25.25	A3M4
4987	2.24	1000G	25.42	A3M4
4988	3.74	1000G	28.21	A3M4
4989	1.49	1000G	25.25	A3M4
4990	1.49	1000G	25.25	A3M4
4991	1.49	1000G	25.25	A3M4
4992	1.49	1000G	25.25	A3M4
4993	1.49	1000G	25.25	A3M4
4994	1.49	1000G	25.25	A3M4
4995	0	1000G	24.92	A3M4
4996	1.49	1000G	25.25	A3M4
4997	19.39		305.8	
4998	5.23	1000G	33.46	A3M4
4999	1.49	1000G	25.25	A3M4

	A	B	C	D	E
5000	2600	2603	26CC	3	3
5001	2600	2603	26CC	3	4
5002	2600	2603	26CC	3	5
5003	2600	2603	26CC	3	6
5004	2600	2603	26CC	3	7
5005	2600	2603	26CC	3	8
5006	2600	2603	26CC	3	9
5007	2600	2603	26CC	3	10
5008	2600	2603	26CC	3	11
5009	2600	2603	26CC	3	12
5010					
5011	2600	2603	26CC	3	1
5012	2600	2603	26CC	3	2
5013	2600	2603	26CC	3	3
5014	2600	2603	26CC	3	4
5015	2600	2603	26CC	3	5
5016	2600	2603	26CC	3	6
5017	2600	2603	26CC	3	7
5018	2600	2603	26CC	3	8
5019	2600	2603	26CC	3	9
5020	2600	2603	26CC	3	10
5021	2600	2603	26CC	3	11
5022	2600	2603	26CC	3	12
5023					
5024	2600	2603	26CC	3	1
5025	2600	2603	26CC	3	2
5026	2600	2603	26CC	3	3
5027	2600	2603	26CC	3	4
5028	2600	2603	26CC	3	5
5029	2600	2603	26CC	3	6
5030	2600	2603	26CC	3	7
5031	2600	2603	26CC	3	8
5032	2600	2603	26CC	3	9
5033	2600	2603	26CC	3	10
5034	2600	2603	26CC	3	11
5035	2600	2603	26CC	3	12
5036					
5037	2600	2603	26CC	3	1
5038	2600	2603	26CC	3	2
5039	2600	2603	26CC	3	3
5040					
5041	2600	2603	26CC	3	1
5042	2600	2603	26CC	3	2
5043	2600	2603	26CC	3	3
5044	2600	2603	26CC	3	4
5045	2600	2603	26CC	3	5
5046	2600	2603	26CC	3	6
5047	2600	2603	26CC	3	7
5048	2600	2603	26CC	3	8
5049	2600	2603	26CC	3	9

	F	G	H	I
5000	2005	104882	260073416	Cargill V #50026797
5001	2005	104882	260073416	Cargill V #50026797
5002	2005	104882	260073416	Cargill V #50026797
5003	2005	104882	260073416	Cargill V #50026797
5004	2005	104882	260073416	Cargill V #50026797
5005	2005	104882	260073416	Cargill V #50026797
5006	2005	104882	260073416	Cargill V #50026797
5007	2005	104882	260073416	Cargill V #50026797
5008	2005	104882	260073416	Cargill V #50026797
5009	2005	104882	260073416	Cargill V #50026797
5010	**2005 Total**			
5011	2006	104882	260073416	Cargill V #50026797
5012	2006	104882	260073416	Cargill V #50026797
5013	2006	104882	260073416	Cargill V #50026797
5014	2006	104882	260073416	Cargill V #50026797
5015	2006	104882	260073416	Cargill V #50026797
5016	2006	104882	260073416	Cargill V #50026797
5017	2006	104882	260073416	Cargill V #50026797
5018	2006	104882	260073416	Cargill V #50026797
5019	2006	104882	260073416	Cargill V #50026797
5020	2006	104882	260073416	Cargill V #50026797
5021	2006	104882	260073416	Cargill V #50026797
5022	2006	104882	260073416	Cargill V #50026797
5023	**2006 Total**			
5024	2007	104882	260073416	Cargill V #50026797
5025	2007	104882	260073416	Cargill V #50026797
5026	2007	104882	260073416	Cargill V #50026797
5027	2007	104882	260073416	Cargill V #50026797
5028	2007	104882	260073416	Cargill V #50026797
5029	2007	104882	260073416	Cargill V #50026797
5030	2007	104882	260073416	Cargill V #50026797
5031	2007	104882	260073416	Cargill V #50026797
5032	2007	104882	260073416	Cargill V #50026797
5033	2007	104882	260073416	Cargill V #50026797
5034	2007	104882	260073416	Cargill V #50026797
5035	2007	104882	260073416	Cargill V #50026797
5036	**2007 Total**			
5037	2008	104882	260073416	Cargill V #50026797
5038	2008	104882	260073416	Cargill V #50026797
5039	2008	104882	260073416	Cargill V #50026797
5040	**2008 Total**			
5041	2004	104883	260073417	Horizon Milling, LLC.
5042	2004	104883	260073417	Horizon Milling, LLC.
5043	2004	104883	260073417	Horizon Milling, LLC.
5044	2004	104883	260073417	Horizon Milling, LLC.
5045	2004	104883	260073417	Horizon Milling, LLC.
5046	2004	104883	260073417	Horizon Milling, LLC.
5047	2004	104883	260073417	Horizon Milling, LLC.
5048	2004	104883	260073417	Horizon Milling, LLC.
5049	2004	104883	260073417	Horizon Milling, LLC.

	J	K	L	M
5000	1 Riverside Ln	Chattanooga	TN	374061725
5001	1 Riverside Ln	Chattanooga	TN	374061725
5002	1 Riverside Ln	Chattanooga	TN	374061725
5003	1 Riverside Ln	Chattanooga	TN	374061725
5004	1 Riverside Ln	Chattanooga	TN	374061725
5005	1 Riverside Ln	Chattanooga	TN	374061725
5006	1 Riverside Ln	Chattanooga	TN	374061725
5007	1 Riverside Ln	Chattanooga	TN	374061725
5008	1 Riverside Ln	Chattanooga	TN	374061725
5009	1 Riverside Ln	Chattanooga	TN	374061725
5010				
5011	1 Riverside Ln	Chattanooga	TN	374061725
5012	1 Riverside Ln	Chattanooga	TN	374061725
5013	1 Riverside Ln	Chattanooga	TN	374061725
5014	1 Riverside Ln	Chattanooga	TN	374061725
5015	1 Riverside Ln	Chattanooga	TN	374061725
5016	1 Riverside Ln	Chattanooga	TN	374061725
5017	1 Riverside Ln	Chattanooga	TN	374061725
5018	1 Riverside Ln	Chattanooga	TN	374061725
5019	1 Riverside Ln	Chattanooga	TN	374061725
5020	1 Riverside Ln	Chattanooga	TN	374061725
5021	1 Riverside Ln	Chattanooga	TN	374061725
5022	1 Riverside Ln	Chattanooga	TN	374061725
5023				
5024	1 Riverside Ln	Chattanooga	TN	374061725
5025	1 Riverside Ln	Chattanooga	TN	374061725
5026	1 Riverside Ln	Chattanooga	TN	374061725
5027	1 Riverside Ln	Chattanooga	TN	374061725
5028	1 Riverside Ln	Chattanooga	TN	374061725
5029	1 Riverside Ln	Chattanooga	TN	374061725
5030	1 Riverside Ln	Chattanooga	TN	374061725
5031	1 Riverside Ln	Chattanooga	TN	374061725
5032	1 Riverside Ln	Chattanooga	TN	374061725
5033	1 Riverside Ln	Chattanooga	TN	374061725
5034	1 Riverside Ln	Chattanooga	TN	374061725
5035	1 Riverside Ln	Chattanooga	TN	374061725
5036				
5037	1 Riverside Ln	Chattanooga	TN	374061725
5038	1 Riverside Ln	Chattanooga	TN	374061725
5039	1 Riverside Ln	Chattanooga	TN	374061725
5040				
5041	1 Riverside Ln	Chattanooga	TN	374061725
5042	1 Riverside Ln	Chattanooga	TN	374061725
5043	1 Riverside Ln	Chattanooga	TN	374061725
5044	1 Riverside Ln	Chattanooga	TN	374061725
5045	1 Riverside Ln	Chattanooga	TN	374061725
5046	1 Riverside Ln	Chattanooga	TN	374061725
5047	1 Riverside Ln	Chattanooga	TN	374061725
5048	1 Riverside Ln	Chattanooga	TN	374061725
5049	1 Riverside Ln	Chattanooga	TN	374061725

	N	O	P	Q
5000	1.49	1000G	25.25	A3M4
5001	3.74	1000G	29.17	A3M4
5002	0.74	1000G	26.05	A3M4
5003	1.49	1000G	26.22	A3M4
5004	1.49	1000G	26.22	A3M4
5005	1.49	1000G	26.22	A3M4
5006	1.49	1000G	26.22	A3M4
5007	1.49	1000G	26.22	A3M4
5008	4.48	1000G	32.03	A3M4
5009	-5.98	1000G	19.39	A3M4
5010	18.64		321.7	
5011	7.48	1000G	42.95	A3M4
5012	2.24	1000G	26.4	A3M4
5013	2.99	1000G	26.57	A3M4
5014	1.49	1000G	26.22	A3M4
5015	1.49	1000G	26.22	A3M4
5016	2.24	1000G	26.4	A3M4
5017	1.49	1000G	26.22	A3M4
5018	1.49	1000G	29.67	A3M4
5019	0.74	1000G	26.05	A3M4
5020	2.99	1000G	26.57	A3M4
5021	2.24	1000G	26.4	A3M4
5022	3.74	1000G	29.3	A3M4
5023	30.62		338.97	
5024	6.73	1000G	40.22	A3M4
5025	0.74	1000G	23.49	A3M4
5026	5.23	1000G	34.76	A3M4
5027	3.74	1000G	29.3	A3M4
5028	3.74	1000G	29.3	A3M4
5029	2.99	1000G	27.8	A3M4
5030	2.99	1000G	29.92	A3M4
5031	3.74	1000G	32.99	A3M4
5032	2.99	1000G	29.92	A3M4
5033	3.74	1000G	32.99	A3M4
5034	4.48	1000G	36.07	A3M4
5035	4.48	1000G	36.07	A3M4
5036	45.59		382.83	
5037	6.73	1000G	45.29	A3M4
5038	5.23	1000G	39.14	A3M4
5039	5.98	1000G	42.21	A3M4
5040	17.94		126.64	
5041	339.61	1000G	882.98	A3M4
5042	368.78	1000G	947.37	A3M4
5043	415.91	1000G	1028.03	A3M4
5044	503.43	1000G	1172.41	A3M4
5045	571.51	1000G	1284.71	A3M4
5046	962.74	1000G	1930.09	A3M4
5047	1011.36	1000G	2010.3	A3M4
5048	1094.4	1000G	2147.27	A3M4
5049	1131.8	1000G	2208.97	A3M4

	A	B	C	D	E
5050	2600	2603	26CC	3	10
5051	2600	2603	26CC	3	11
5052	2600	2603	26CC	3	12
5053					
5054	2600	2603	26CC	3	1
5055	2600	2603	26CC	3	2
5056	2600	2603	26CC	3	3
5057	2600	2603	26CC	3	4
5058	2600	2603	26CC	3	5
5059	2600	2603	26CC	3	6
5060	2600	2603	26CC	3	7
5061	2600	2603	26CC	3	8
5062	2600	2603	26CC	3	9
5063	2600	2603	26CC	3	10
5064	2600	2603	26CC	3	10
5065	2600	2603	26CC	3	11
5066	2600	2603	26CC	3	12
5067	2600	2603	26CC	3	12
5068					
5069	2600	2603	26CC	3	1
5070	2600	2603	26CC	3	2
5071	2600	2603	26CC	3	3
5072	2600	2603	26CC	3	4
5073	2600	2603	26CC	3	5
5074	2600	2603	26CC	3	6
5075	2600	2603	26CC	3	7
5076	2600	2603	26CC	3	8
5077	2600	2603	26CC	3	9
5078	2600	2603	26CC	3	10
5079	2600	2603	26CC	3	11
5080	2600	2603	26CC	3	12
5081					
5082	2600	2603	26CC	3	1
5083	2600	2603	26CC	3	2
5084	2600	2603	26CC	3	3
5085	2600	2603	26CC	3	4
5086	2600	2603	26CC	3	5
5087	2600	2603	26CC	3	6
5088	2600	2603	26CC	3	7
5089	2600	2603	26CC	3	8
5090	2600	2603	26CC	3	9
5091	2600	2603	26CC	3	10
5092	2600	2603	26CC	3	11
5093	2600	2603	26CC	3	12
5094					
5095	2600	2603	26CC	3	1
5096	2600	2603	26CC	3	2
5097	2600	2603	26CC	3	3
5098					
5099	2600	2603	26CC	3	1

	F	G	H	I
5050	2004	104883	260073417	Horizon Milling, LLC.
5051	2004	104883	260073417	Horizon Milling, LLC.
5052	2004	104883	260073417	Horizon Milling, LLC.
5053	**2004 Total**			
5054	2005	104883	260073417	Horizon Milling, LLC.
5055	2005	104883	260073417	Horizon Milling, LLC.
5056	2005	104883	260073417	Horizon Milling, LLC.
5057	2005	104883	260073417	Horizon Milling, LLC.
5058	2005	104883	260073417	Horizon Milling, LLC.
5059	2005	104883	260073417	Horizon Milling, LLC.
5060	2005	104883	260073417	Horizon Milling, LLC.
5061	2005	104883	260073417	Horizon Milling, LLC.
5062	2005	104883	260073417	Horizon Milling, LLC.
5063	2005	104883	260073417	Horizon Milling, LLC.
5064	2005	104883	260073417	Horizon Milling, LLC.
5065	2005	104883	260073417	Horizon Milling, LLC.
5066	2005	104883	260073417	Horizon Milling, LLC.
5067	2005	104883	260073417	Horizon Milling, LLC.
5068	**2005 Total**			
5069	2006	104883	260073417	Horizon Milling, LLC.
5070	2006	104883	260073417	Horizon Milling, LLC.
5071	2006	104883	260073417	Horizon Milling, LLC.
5072	2006	104883	260073417	Horizon Milling, LLC.
5073	2006	104883	260073417	Horizon Milling, LLC.
5074	2006	104883	260073417	Horizon Milling, LLC.
5075	2006	104883	260073417	Horizon Milling, LLC.
5076	2006	104883	260073417	Horizon Milling, LLC.
5077	2006	104883	260073417	Horizon Milling, LLC.
5078	2006	104883	260073417	Horizon Milling, LLC.
5079	2006	104883	260073417	Horizon Milling, LLC.
5080	2006	104883	260073417	Horizon Milling, LLC.
5081	**2006 Total**			
5082	2007	104883	260073417	Horizon Milling, LLC.
5083	2007	104883	260073417	Horizon Milling, LLC.
5084	2007	104883	260073417	Horizon Milling, LLC.
5085	2007	104883	260073417	Horizon Milling, LLC.
5086	2007	104883	260073417	Horizon Milling, LLC.
5087	2007	104883	260073417	Horizon Milling, LLC.
5088	2007	104883	260073417	Horizon Milling, LLC.
5089	2007	104883	260073417	Horizon Milling, LLC.
5090	2007	104883	260073417	Horizon Milling, LLC.
5091	2007	104883	260073417	Horizon Milling, LLC.
5092	2007	104883	260073417	Horizon Milling, LLC.
5093	2007	104883	260073417	Horizon Milling, LLC.
5094	**2007 Total**			
5095	2008	104883	260073417	Horizon Milling, LLC.
5096	2008	104883	260073417	Horizon Milling, LLC.
5097	2008	104883	260073417	Horizon Milling, LLC.
5098	**2008 Total**			
5099	2004	104888	260073422	Cherokee Warehouse

	J	K	L	M
5050	1 Riverside Ln	Chattanooga	TN	374061725
5051	1 Riverside Ln	Chattanooga	TN	374061725
5052	1 Riverside Ln	Chattanooga	TN	374061725
5053				
5054	1 Riverside Ln	Chattanooga	TN	374061725
5055	1 Riverside Ln	Chattanooga	TN	374061725
5056	1 Riverside Ln	Chattanooga	TN	374061725
5057	1 Riverside Ln	Chattanooga	TN	374061725
5058	1 Riverside Ln	Chattanooga	TN	374061725
5059	1 Riverside Ln	Chattanooga	TN	374061725
5060	1 Riverside Ln	Chattanooga	TN	374061725
5061	1 Riverside Ln	Chattanooga	TN	374061725
5062	1 Riverside Ln	Chattanooga	TN	374061725
5063	1 Riverside Ln	Chattanooga	TN	374061725
5064	1 Riverside Ln	Chattanooga	TN	374061725
5065	1 Riverside Ln	Chattanooga	TN	374061725
5066	1 Riverside Ln	Chattanooga	TN	374061725
5067	1 Riverside Ln	Chattanooga	TN	374061725
5068				
5069	1 Riverside Ln	Chattanooga	TN	374061725
5070	1 Riverside Ln	Chattanooga	TN	374061725
5071	1 Riverside Ln	Chattanooga	TN	374061725
5072	1 Riverside Ln	Chattanooga	TN	374061725
5073	1 Riverside Ln	Chattanooga	TN	374061725
5074	1 Riverside Ln	Chattanooga	TN	374061725
5075	1 Riverside Ln	Chattanooga	TN	374061725
5076	1 Riverside Ln	Chattanooga	TN	374061725
5077	1 Riverside Ln	Chattanooga	TN	374061725
5078	1 Riverside Ln	Chattanooga	TN	374061725
5079	1 Riverside Ln	Chattanooga	TN	374061725
5080	1 Riverside Ln	Chattanooga	TN	374061725
5081				
5082	1 Riverside Ln	Chattanooga	TN	374061725
5083	1 Riverside Ln	Chattanooga	TN	374061725
5084	1 Riverside Ln	Chattanooga	TN	374061725
5085	1 Riverside Ln	Chattanooga	TN	374061725
5086	1 Riverside Ln	Chattanooga	TN	374061725
5087	1 Riverside Ln	Chattanooga	TN	374061725
5088	1 Riverside Ln	Chattanooga	TN	374061725
5089	1 Riverside Ln	Chattanooga	TN	374061725
5090	1 Riverside Ln	Chattanooga	TN	374061725
5091	1 Riverside Ln	Chattanooga	TN	374061725
5092	1 Riverside Ln	Chattanooga	TN	374061725
5093	1 Riverside Ln	Chattanooga	TN	374061725
5094				
5095	1 Riverside Ln	Chattanooga	TN	374061725
5096	1 Riverside Ln	Chattanooga	TN	374061725
5097	1 Riverside Ln	Chattanooga	TN	374061725
5098				
5099	2001 Riverside Dr	Chattanooga	TN	374064324

	N	O	P	Q
5050	875.96	1000G	1786.94	A3M4
5051	708.4	1000G	1510.53	A3M4
5052	503.43	1000G	1172.41	A3M4
5053	8487.33		18082.01	
5054	339.61	1000G	882.98	A3M4
5055	288.74	1000G	770.71	A3M4
5056	314.18	1000G	826.85	A3M4
5057	397.21	1000G	1031.16	A3M4
5058	505.68	1000G	1221.73	A3M4
5059	796.67	1000G	1720.43	A3M4
5060	961.24	1000G	2002.47	A3M4
5061	1140.77	1000G	2310.15	A3M4
5062	1028.57	1000G	2117.85	A3M4
5063	210.95	1000G	444.38	A3M4
5064	875.96	1000G	1856.32	A3M4
5065	626.85	1000G	1358.39	A3M4
5066	0	1000G	-11.84	CRAC3
5067	475.01	1000G	1169.17	A3M4
5068	7961.44		17700.75	
5069	350.83	1000G	942.93	A3M4
5070	356.07	1000G	954.94	A3M4
5071	495.95	1000G	1205.07	A3M4
5072	584.96	1000G	1357.62	A3M4
5073	675.49	1000G	1512.75	A3M4
5074	854.27	1000G	1819.14	A3M4
5075	824.35	1000G	1767.86	A3M4
5076	1027.07	1000G	2115.29	A3M4
5077	1248.49	1000G	2494.76	A3M4
5078	1003.13	1000G	2074.26	A3M4
5079	745.8	1000G	1633.25	A3M4
5080	429.38	1000G	1090.97	A3M4
5081	8595.79		18968.84	
5082	356.82	1000G	956.65	A3M4
5083	383.75	1000G	1012.77	A3M4
5084	405.44	1000G	1049.94	A3M4
5085	596.19	1000G	1376.85	A3M4
5086	641.08	1000G	1453.77	A3M4
5087	945.53	1000G	2066.62	A3M4
5088	1374.91	1000G	3052.22	A3M4
5089	1540.98	1000G	3372.57	A3M4
5090	1492.36	1000G	3278.78	A3M4
5091	1522.28	1000G	3336.5	A3M4
5092	1285.9	1000G	2880.51	A3M4
5093	586.47	1000G	1531.3	A3M4
5094	11131.71		25368.48	
5095	461.54	1000G	1290.32	A3M4
5096	380.01	1000G	1133.03	A3M4
5097	395.71	1000G	1163.34	A3M4
5098	1237.26		3586.69	
5099	8.22	1000G	98.83	A3M4

	A	B	C	D	E
5100	2600	2603	26CC	3	2
5101	2600	2603	26CC	3	3
5102	2600	2603	26CC	3	4
5103	2600	2603	26CC	3	5
5104	2600	2603	26CC	3	6
5105	2600	2603	26CC	3	7
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5108	2600	2603	26CC	3	10
5109	2600	2603	26CC	3	11
5110	2600	2603	26CC	3	12
5111					
5112	2600	2603	26CC	3	1
5113	2600	2603	26CC	3	2
5114	2600	2603	26CC	3	3
5115	2600	2603	26CC	3	4
5116	2600	2603	26CC	3	5
5117	2600	2603	26CC	3	6
5118	2600	2603	26CC	3	7
5119	2600	2603	26CC	3	8
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5121	2600	2603	26CC	3	10
5122	2600	2603	26CC	3	11
5123	2600	2603	26CC	3	12
5124					
5125	2600	2603	26CC	3	1
5126	2600	2603	26CC	3	2
5127	2600	2603	26CC	3	3
5128	2600	2603	26CC	3	4
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5134	2600	2603	26CC	3	10
5135	2600	2603	26CC	3	11
5136	2600	2603	26CC	3	12
5137					
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5140	2600	2603	26CC	3	3
5141	2600	2603	26CC	3	4
5142	2600	2603	26CC	3	5
5143	2600	2603	26CC	3	6
5144	2600	2603	26CC	3	7
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5146	2600	2603	26CC	3	9
5147	2600	2603	26CC	3	10
5148	2600	2603	26CC	3	11
5149	2600	2603	26CC	3	12

	F	G	H	I
5100	2004	104888	260073422	Cherokee Warehouse
5101	2004	104888	260073422	Cherokee Warehouse
5102	2004	104888	260073422	Cherokee Warehouse
5103	2004	104888	260073422	Cherokee Warehouse
5104	2004	104888	260073422	Cherokee Warehouse
5105	2004	104888	260073422	Cherokee Warehouse
5106	2004	104888	260073422	Cherokee Warehouse
5107	2004	104888	260073422	Cherokee Warehouse
5108	2004	104888	260073422	Cherokee Warehouse
5109	2004	104888	260073422	Cherokee Warehouse
5110	2004	104888	260073422	Cherokee Warehouse
5111	**2004 Total**			
5112	2005	104888	260073422	Cherokee Warehouse
5113	2005	104888	260073422	Cherokee Warehouse
5114	2005	104888	260073422	Cherokee Warehouse
5115	2005	104888	260073422	Cherokee Warehouse
5116	2005	104888	260073422	Cherokee Warehouse
5117	2005	104888	260073422	Cherokee Warehouse
5118	2005	104888	260073422	Cherokee Warehouse
5119	2005	104888	260073422	Cherokee Warehouse
5120	2005	104888	260073422	Cherokee Warehouse
5121	2005	104888	260073422	Cherokee Warehouse
5122	2005	104888	260073422	Cherokee Warehouse
5123	2005	104888	260073422	Cherokee Warehouse
5124	**2005 Total**			
5125	2006	104888	260073422	Cherokee Warehouse
5126	2006	104888	260073422	Cherokee Warehouse
5127	2006	104888	260073422	Cherokee Warehouse
5128	2006	104888	260073422	Cherokee Warehouse
5129	2006	104888	260073422	Cherokee Warehouse
5130	2006	104888	260073422	Cherokee Warehouse
5131	2006	104888	260073422	Cherokee Warehouse
5132	2006	104888	260073422	Cherokee Warehouse
5133	2006	104888	260073422	Cherokee Warehouse
5134	2006	104888	260073422	Cherokee Warehouse
5135	2006	104888	260073422	Cherokee Warehouse
5136	2006	104888	260073422	Cherokee Warehouse
5137	**2006 Total**			
5138	2007	104888	260073422	Cherokee Warehouse
5139	2007	104888	260073422	Cherokee Warehouse
5140	2007	104888	260073422	Cherokee Warehouse
5141	2007	104888	260073422	Cherokee Warehouse
5142	2007	104888	260073422	Cherokee Warehouse
5143	2007	104888	260073422	Cherokee Warehouse
5144	2007	104888	260073422	Cherokee Warehouse
5145	2007	104888	260073422	Cherokee Warehouse
5146	2007	104888	260073422	Cherokee Warehouse
5147	2007	104888	260073422	Cherokee Warehouse
5148	2007	104888	260073422	Cherokee Warehouse
5149	2007	104888	260073422	Cherokee Warehouse

	J	K	L	M
5100	2001 Riverside Dr	Chattanooga	TN	374064324
5101	2001 Riverside Dr	Chattanooga	TN	374064324
5102	2001 Riverside Dr	Chattanooga	TN	374064324
5103	2001 Riverside Dr	Chattanooga	TN	374064324
5104	2001 Riverside Dr	Chattanooga	TN	374064324
5105	2001 Riverside Dr	Chattanooga	TN	374064324
5106	2001 Riverside Dr	Chattanooga	TN	374064324
5107	2001 Riverside Dr	Chattanooga	TN	374064324
5108	2001 Riverside Dr	Chattanooga	TN	374064324
5109	2001 Riverside Dr	Chattanooga	TN	374064324
5110	2001 Riverside Dr	Chattanooga	TN	374064324
5111				
5112	2001 Riverside Dr	Chattanooga	TN	374064324
5113	2001 Riverside Dr	Chattanooga	TN	374064324
5114	2001 Riverside Dr	Chattanooga	TN	374064324
5115	2001 Riverside Dr	Chattanooga	TN	374064324
5116	2001 Riverside Dr	Chattanooga	TN	374064324
5117	2001 Riverside Dr	Chattanooga	TN	374064324
5118	2001 Riverside Dr	Chattanooga	TN	374064324
5119	2001 Riverside Dr	Chattanooga	TN	374064324
5120	2001 Riverside Dr	Chattanooga	TN	374064324
5121	2001 Riverside Dr	Chattanooga	TN	374064324
5122	2001 Riverside Dr	Chattanooga	TN	374064324
5123	2001 Riverside Dr	Chattanooga	TN	374064324
5124				
5125	2001 Riverside Dr	Chattanooga	TN	374064324
5126	2001 Riverside Dr	Chattanooga	TN	374064324
5127	2001 Riverside Dr	Chattanooga	TN	374064324
5128	2001 Riverside Dr	Chattanooga	TN	374064324
5129	2001 Riverside Dr	Chattanooga	TN	374064324
5130	2001 Riverside Dr	Chattanooga	TN	374064324
5131	2001 Riverside Dr	Chattanooga	TN	374064324
5132	2001 Riverside Dr	Chattanooga	TN	374064324
5133	2001 Riverside Dr	Chattanooga	TN	374064324
5134	2001 Riverside Dr	Chattanooga	TN	374064324
5135	2001 Riverside Dr	Chattanooga	TN	374064324
5136	2001 Riverside Dr	Chattanooga	TN	374064324
5137				
5138	2001 Riverside Dr	Chattanooga	TN	374064324
5139	2001 Riverside Dr	Chattanooga	TN	374064324
5140	2001 Riverside Dr	Chattanooga	TN	374064324
5141	2001 Riverside Dr	Chattanooga	TN	374064324
5142	2001 Riverside Dr	Chattanooga	TN	374064324
5143	2001 Riverside Dr	Chattanooga	TN	374064324
5144	2001 Riverside Dr	Chattanooga	TN	374064324
5145	2001 Riverside Dr	Chattanooga	TN	374064324
5146	2001 Riverside Dr	Chattanooga	TN	374064324
5147	2001 Riverside Dr	Chattanooga	TN	374064324
5148	2001 Riverside Dr	Chattanooga	TN	374064324
5149	2001 Riverside Dr	Chattanooga	TN	374064324

	N	O	P	Q
5100	10.47	1000G	106.71	A3M4
5101	12.71	1000G	114.59	A3M4
5102	15.7	1000G	125.11	A3M4
5103	92.01	1000G	336.5	A3M4
5104	342.6	1000G	889.58	A3M4
5105	163.82	1000G	494.99	A3M4
5106	28.42	1000G	169.78	A3M4
5107	125.67	1000G	410.79	A3M4
5108	24.68	1000G	156.64	A3M4
5109	161.57	1000G	490.04	A3M4
5110	115.94	1000G	389.33	A3M4
5111	1101.81		3782.89	
5112	8.22	1000G	98.83	A3M4
5113	85.27	1000G	321.64	A3M4
5114	23.93	1000G	154.01	A3M4
5115	23.93	1000G	159.27	A3M4
5116	30.67	1000G	184.55	A3M4
5117	30.67	1000G	184.55	A3M4
5118	45.63	1000G	239.15	A3M4
5119	25.43	1000G	165.44	A3M4
5120	113.7	1000G	399.28	A3M4
5121	-63.59	1000G	-71.13	A3M4
5122	23.93	1000G	159.98	A3M4
5123	25.43	1000G	165.44	A3M4
5124	373.22		2161.01	
5125	25.43	1000G	165.44	A3M4
5126	29.17	1000G	179.09	A3M4
5127	22.44	1000G	154.52	A3M4
5128	23.18	1000G	157.25	A3M4
5129	26.18	1000G	168.17	A3M4
5130	26.18	1000G	168.17	A3M4
5131	38.89	1000G	214.58	A3M4
5132	39.64	1000G	217.31	A3M4
5133	27.67	1000G	173.63	A3M4
5134	32.91	1000G	192.74	A3M4
5135	29.92	1000G	181.82	A3M4
5136	30.67	1000G	184.55	A3M4
5137	352.28		2157.27	
5138	26.92	1000G	170.9	A3M4
5139	30.67	1000G	184.55	A3M4
5140	37.4	1000G	209.12	A3M4
5141	35.9	1000G	203.66	A3M4
5142	40.39	1000G	220.04	A3M4
5143	42.63	1000G	238.76	A3M4
5144	47.87	1000G	278.43	A3M4
5145	41.89	1000G	253.85	A3M4
5146	24.68	1000G	183.17	A3M4
5147	71.05	1000G	339.43	A3M4
5148	45.63	1000G	269.21	A3M4
5149	51.61	1000G	289.22	A3M4

	A	B	C	D	E
5150					
5151	2600	2603	26CC	3	1
5152	2600	2603	26CC	3	2
5153	2600	2603	26CC	3	3
5154					
5155	2600	2603	26CC	3	1
5156	2600	2603	26CC	3	2
5157	2600	2603	26CC	3	3
5158	2600	2603	26CC	3	4
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5162	2600	2603	26CC	3	8
5163	2600	2603	26CC	3	9
5164	2600	2603	26CC	3	10
5165	2600	2603	26CC	3	11
5166	2600	2603	26CC	3	12
5167					
5168	2600	2603	26CC	3	1
5169	2600	2603	26CC	3	2
5170	2600	2603	26CC	3	3
5171	2600	2603	26CC	3	4
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5176	2600	2603	26CC	3	9
5177	2600	2603	26CC	3	10
5178	2600	2603	26CC	3	11
5179					
5180	2600	2603	26CC	3	1
5181	2600	2603	26CC	3	2
5182	2600	2603	26CC	3	3
5183	2600	2603	26CC	3	4
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5189	2600	2603	26CC	3	10
5190	2600	2603	26CC	3	11
5191	2600	2603	26CC	3	12
5192					
5193	2600	2603	26CC	3	1
5194	2600	2603	26CC	3	2
5195	2600	2603	26CC	3	3
5196	2600	2603	26CC	3	4
5197	2600	2603	26CC	3	5
5198	2600	2603	26CC	3	6
5199	2600	2603	26CC	3	7

	F	G	H	I
5150	**2007 Total**			
5151	2008	104888	260073422	Cherokee Warehouse
5152	2008	104888	260073422	Cherokee Warehouse
5153	2008	104888	260073422	Cherokee Warehouse
5154	**2008 Total**			
5155	2004	104941	260073468	Planters Snacks Lifesaver
5156	2004	104941	260073468	Planters Snacks Lifesaver
5157	2004	104941	260073468	Planters Snacks Lifesaver
5158	2004	104941	260073468	Planters Snacks Lifesaver
5159	2004	104941	260073468	Planters Snacks Lifesaver
5160	2004	104941	260073468	Planters Snacks Lifesaver
5161	2004	104941	260073468	Planters Snacks Lifesaver
5162	2004	104941	260073468	Planters Snacks Lifesaver
5163	2004	104941	260073468	Planters Snacks Lifesaver
5164	2004	104941	260073468	Planters Snacks Lifesaver
5165	2004	104941	260073468	Planters Snacks Lifesaver
5166	2004	104941	260073468	Planters Snacks Lifesaver
5167	**2004 Total**			
5168	2005	104941	260073468	Planters Snacks Lifesaver
5169	2005	104941	260073468	Planters Snacks Lifesaver
5170	2005	104941	260073468	Planters Snacks Lifesaver
5171	2005	104941	260073468	Planters Snacks Lifesaver
5172	2005	104941	260073468	Planters Snacks Lifesaver
5173	2005	104941	260073468	Planters Snacks Lifesaver
5174	2005	104941	260073468	Planters Snacks Lifesaver
5175	2005	104941	260073468	Planters Snacks Lifesaver
5176	2005	104941	260073468	Planters Snacks Lifesaver
5177	2005	104941	260073468	Planters Snacks Lifesaver
5178	2005	104941	260073468	Planters Snacks Lifesaver
5179	**2005 Total**			
5180	2004	104942	260073469	Planters Snacks Lifesaver
5181	2004	104942	260073469	Planters Snacks Lifesaver
5182	2004	104942	260073469	Planters Snacks Lifesaver
5183	2004	104942	260073469	Planters Snacks Lifesaver
5184	2004	104942	260073469	Planters Snacks Lifesaver
5185	2004	104942	260073469	Planters Snacks Lifesaver
5186	2004	104942	260073469	Planters Snacks Lifesaver
5187	2004	104942	260073469	Planters Snacks Lifesaver
5188	2004	104942	260073469	Planters Snacks Lifesaver
5189	2004	104942	260073469	Planters Snacks Lifesaver
5190	2004	104942	260073469	Planters Snacks Lifesaver
5191	2004	104942	260073469	Planters Snacks Lifesaver
5192	**2004 Total**			
5193	2005	104942	260073469	Planters Snacks Lifesaver
5194	2005	104942	260073469	Planters Snacks Lifesaver
5195	2005	104942	260073469	Planters Snacks Lifesaver
5196	2005	104942	260073469	Planters Snacks Lifesaver
5197	2005	104942	260073469	Planters Snacks Lifesaver
5198	2005	104942	260073469	Planters Snacks Lifesaver
5199	2005	104942	260073469	Planters Snacks Lifesaver

	J	K	L	M
5150				
5151	2001 Riverside Dr	Chattanooga	TN	374064324
5152	2001 Riverside Dr	Chattanooga	TN	374064324
5153	2001 Riverside Dr	Chattanooga	TN	374064324
5154				
5155	3002 Jersey Pike	Chattanooga	TN	374216208
5156	3002 Jersey Pike	Chattanooga	TN	374216208
5157	3002 Jersey Pike	Chattanooga	TN	374216208
5158	3002 Jersey Pike	Chattanooga	TN	374216208
5159	3002 Jersey Pike	Chattanooga	TN	374216208
5160	3002 Jersey Pike	Chattanooga	TN	374216208
5161	3002 Jersey Pike	Chattanooga	TN	374216208
5162	3002 Jersey Pike	Chattanooga	TN	374216208
5163	3002 Jersey Pike	Chattanooga	TN	374216208
5164	3002 Jersey Pike	Chattanooga	TN	374216208
5165	3002 Jersey Pike	Chattanooga	TN	374216208
5166	3002 Jersey Pike	Chattanooga	TN	374216208
5167				
5168	3002 Jersey Pike	Chattanooga	TN	374216208
5169	3002 Jersey Pike	Chattanooga	TN	374216208
5170	3002 Jersey Pike	Chattanooga	TN	374216208
5171	3002 Jersey Pike	Chattanooga	TN	374216208
5172	3002 Jersey Pike	Chattanooga	TN	374216208
5173	3002 Jersey Pike	Chattanooga	TN	374216208
5174	3002 Jersey Pike	Chattanooga	TN	374216208
5175	3002 Jersey Pike	Chattanooga	TN	374216208
5176	3002 Jersey Pike	Chattanooga	TN	374216208
5177	3002 Jersey Pike	Chattanooga	TN	374216208
5178	3002 Jersey Pike	Chattanooga	TN	374216208
5179				
5180	3002 Jersey Pike	Chattanooga	TN	374216208
5181	3002 Jersey Pike	Chattanooga	TN	374216208
5182	3002 Jersey Pike	Chattanooga	TN	374216208
5183	3002 Jersey Pike	Chattanooga	TN	374216208
5184	3002 Jersey Pike	Chattanooga	TN	374216208
5185	3002 Jersey Pike	Chattanooga	TN	374216208
5186	3002 Jersey Pike	Chattanooga	TN	374216208
5187	3002 Jersey Pike	Chattanooga	TN	374216208
5188	3002 Jersey Pike	Chattanooga	TN	374216208
5189	3002 Jersey Pike	Chattanooga	TN	374216208
5190	3002 Jersey Pike	Chattanooga	TN	374216208
5191	3002 Jersey Pike	Chattanooga	TN	374216208
5192				
5193	3002 Jersey Pike	Chattanooga	TN	374216208
5194	3002 Jersey Pike	Chattanooga	TN	374216208
5195	3002 Jersey Pike	Chattanooga	TN	374216208
5196	3002 Jersey Pike	Chattanooga	TN	374216208
5197	3002 Jersey Pike	Chattanooga	TN	374216208
5198	3002 Jersey Pike	Chattanooga	TN	374216208
5199	3002 Jersey Pike	Chattanooga	TN	374216208

	N	O	P	Q
5150	496.64		2840.34	
5151	50.86	1000G	287.29	A3M4
5152	52.36	1000G	291.16	A3M4
5153	53.11	1000G	293.09	A3M4
5154	156.33		871.54	
5155	331.38	1000G	944.59	A3M4M
5156	579.74	1000G	1378.05	A3M4M
5157	717.38	1000G	1605.11	A3M4M
5158	702.42	1000G	1580.43	A3M4M
5159	748.8	1000G	1656.93	A3M4M
5160	845.29	1000G	1816.12	A3M4M
5161	1282.16	1000G	2536.78	A3M4M
5162	1175.93	1000G	2361.55	A3M4M
5163	1318.06	1000G	2596.01	A3M4M
5164	739.82	1000G	1642.13	A3M4M
5165	746.55	1000G	1653.23	A3M4M
5166	574.5	1000G	1369.41	A3M4M
5167	9762.03		21140.34	
5168	710.64	1000G	1594	A3M4M
5169	737.57	1000G	1638.42	A3M4M
5170	769.74	1000G	1711.85	A3M4M
5171	782.46	1000G	1778.92	A3M4M
5172	562.53	1000G	1402.01	A3M4M
5173	653.04	1000G	1557.14	A3M4M
5174	578.99	1000G	1430.22	A3M4M
5175	679.23	1000G	1602.01	A3M4M
5176	617.89	1000G	1496.88	A3M4M
5177	938.05	1000G	2045.58	A3M4M
5178	-213.95	1000G	-533.27	A3M4M
5179	6816.19		15723.76	
5180	471.27	1000G	1199.12	A3M4M
5181	591.7	1000G	1397.79	A3M4M
5182	680.72	1000G	1544.64	A3M4M
5183	954.51	1000G	1996.28	A3M4M
5184	1219.32	1000G	2433.12	A3M4M
5185	1110.85	1000G	2254.19	A3M4M
5186	1508.82	1000G	2910.68	A3M4M
5187	1449.72	1000G	2813.19	A3M4M
5188	1640.47	1000G	3127.86	A3M4M
5189	863.25	1000G	1845.74	A3M4M
5190	690.45	1000G	1560.68	A3M4M
5191	727.85	1000G	1622.38	A3M4M
5192	11908.93		24705.67	
5193	656.04	1000G	1503.92	A3M4M
5194	861	1000G	1842.03	A3M4M
5195	737.57	1000G	1658.14	A3M4M
5196	815.37	1000G	1835.33	A3M4M
5197	809.39	1000G	1825.07	A3M4M
5198	635.09	1000G	1526.37	A3M4M
5199	667.26	1000G	1581.49	A3M4M

	A	B	C	D	E
5200	2600	2603	26CC	3	8
5201	2600	2603	26CC	3	9
5202	2600	2603	26CC	3	10
5203	2600	2603	26CC	3	11
5204					
5205	2600	2603	26CC	3	1
5206	2600	2603	26CC	3	2
5207	2600	2603	26CC	3	3
5208	2600	2603	26CC	3	4
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5212	2600	2603	26CC	3	8
5213	2600	2603	26CC	3	9
5214	2600	2603	26CC	3	10
5215	2600	2603	26CC	3	11
5216	2600	2603	26CC	3	12
5217					
5218	2600	2603	26CC	3	1
5219	2600	2603	26CC	3	2
5220	2600	2603	26CC	3	3
5221	2600	2603	26CC	3	4
5222	2600	2603	26CC	3	5
5223	2600	2603	26CC	3	6
5224	2600	2603	26CC	3	7
5225	2600	2603	26CC	3	8
5226	2600	2603	26CC	3	9
5227	2600	2603	26CC	3	10
5228	2600	2603	26CC	3	11
5229	2600	2603	26CC	3	12
5230					
5231	2600	2603	26CC	3	1
5232	2600	2603	26CC	3	2
5233	2600	2603	26CC	3	3
5234	2600	2603	26CC	3	4
5235	2600	2603	26CC	3	5
5236	2600	2603	26CC	3	6
5237	2600	2603	26CC	3	7
5238	2600	2603	26CC	3	8
5239	2600	2603	26CC	3	9
5240	2600	2603	26CC	3	10
5241	2600	2603	26CC	3	11
5242	2600	2603	26CC	3	12
5243					
5244	2600	2603	26CC	3	1
5245	2600	2603	26CC	3	2
5246	2600	2603	26CC	3	3
5247	2600	2603	26CC	3	4
5248	2600	2603	26CC	3	5
5249	2600	2603	26CC	3	6

	F	G	H	I
5200	2005	104942	260073469	Planters Snacks Lifesaver
5201	2005	104942	260073469	Planters Snacks Lifesaver
5202	2005	104942	260073469	Planters Snacks Lifesaver
5203	2005	104942	260073469	Planters Snacks Lifesaver
5204	**2005 Total**			
5205	2004	104943	260073470	Brock Candy Company
5206	2004	104943	260073470	Brock Candy Company
5207	2004	104943	260073470	Brock Candy Company
5208	2004	104943	260073470	Brock Candy Company
5209	2004	104943	260073470	Brock Candy Company
5210	2004	104943	260073470	Brock Candy Company
5211	2004	104943	260073470	Brock Candy Company
5212	2004	104943	260073470	Brock Candy Company
5213	2004	104943	260073470	Brock Candy Company
5214	2004	104943	260073470	Brock Candy Company
5215	2004	104943	260073470	Brock Candy Company
5216	2004	104943	260073470	Brock Candy Company
5217	**2004 Total**			
5218	2005	104943	260073470	Brock Candy Company
5219	2005	104943	260073470	Brock Candy Company
5220	2005	104943	260073470	Brock Candy Company
5221	2005	104943	260073470	Brock Candy Company
5222	2005	104943	260073470	Brock Candy Company
5223	2005	104943	260073470	Brock Candy Company
5224	2005	104943	260073470	Brock Candy Company
5225	2005	104943	260073470	Brock Candy Company
5226	2005	104943	260073470	Brock Candy Company
5227	2005	104943	260073470	Brock Candy Company
5228	2005	104943	260073470	Brock Candy Company
5229	2005	104943	260073470	Brock Candy Company
5230	**2005 Total**			
5231	2006	104943	260073470	Brock Candy Company
5232	2006	104943	260073470	Brock Candy Company
5233	2006	104943	260073470	Brock Candy Company
5234	2006	104943	260073470	Brock Candy Company
5235	2006	104943	260073470	Brock Candy Company
5236	2006	104943	260073470	Brock Candy Company
5237	2006	104943	260073470	Brock Candy Company
5238	2006	104943	260073470	Brock Candy Company
5239	2006	104943	260073470	Brock Candy Company
5240	2006	104943	260073470	Brock Candy Company
5241	2006	104943	260073470	Brock Candy Company
5242	2006	104943	260073470	Brock Candy Company
5243	**2006 Total**			
5244	2007	104943	260073470	Brock Candy Company
5245	2007	104943	260073470	Brock Candy Company
5246	2007	104943	260073470	Brock Candy Company
5247	2007	104943	260073470	Brock Candy Company
5248	2007	104943	260073470	Brock Candy Company
5249	2007	104943	260073470	Brock Candy Company

	J	K	L	M
5200	3002 Jersey Pike	Chattanooga	TN	374216208
5201	3002 Jersey Pike	Chattanooga	TN	374216208
5202	3002 Jersey Pike	Chattanooga	TN	374216208
5203	3002 Jersey Pike	Chattanooga	TN	374216208
5204				
5205	4120 Jersey Pike	Chattanooga	TN	374212201
5206	4120 Jersey Pike	Chattanooga	TN	374212201
5207	4120 Jersey Pike	Chattanooga	TN	374212201
5208	4120 Jersey Pike	Chattanooga	TN	374212201
5209	4120 Jersey Pike	Chattanooga	TN	374212201
5210	4120 Jersey Pike	Chattanooga	TN	374212201
5211	4120 Jersey Pike	Chattanooga	TN	374212201
5212	4120 Jersey Pike	Chattanooga	TN	374212201
5213	4120 Jersey Pike	Chattanooga	TN	374212201
5214	4120 Jersey Pike	Chattanooga	TN	374212201
5215	4120 Jersey Pike	Chattanooga	TN	374212201
5216	4120 Jersey Pike	Chattanooga	TN	374212201
5217				
5218	4120 Jersey Pike	Chattanooga	TN	374212201
5219	4120 Jersey Pike	Chattanooga	TN	374212201
5220	4120 Jersey Pike	Chattanooga	TN	374212201
5221	4120 Jersey Pike	Chattanooga	TN	374212201
5222	4120 Jersey Pike	Chattanooga	TN	374212201
5223	4120 Jersey Pike	Chattanooga	TN	374212201
5224	4120 Jersey Pike	Chattanooga	TN	374212201
5225	4120 Jersey Pike	Chattanooga	TN	374212201
5226	4120 Jersey Pike	Chattanooga	TN	374212201
5227	4120 Jersey Pike	Chattanooga	TN	374212201
5228	4120 Jersey Pike	Chattanooga	TN	374212201
5229	4120 Jersey Pike	Chattanooga	TN	374212201
5230				
5231	4120 Jersey Pike	Chattanooga	TN	374212201
5232	4120 Jersey Pike	Chattanooga	TN	374212201
5233	4120 Jersey Pike	Chattanooga	TN	374212201
5234	4120 Jersey Pike	Chattanooga	TN	374212201
5235	4120 Jersey Pike	Chattanooga	TN	374212201
5236	4120 Jersey Pike	Chattanooga	TN	374212201
5237	4120 Jersey Pike	Chattanooga	TN	374212201
5238	4120 Jersey Pike	Chattanooga	TN	374212201
5239	4120 Jersey Pike	Chattanooga	TN	374212201
5240	4120 Jersey Pike	Chattanooga	TN	374212201
5241	4120 Jersey Pike	Chattanooga	TN	374212201
5242	4120 Jersey Pike	Chattanooga	TN	374212201
5243				
5244	4120 Jersey Pike	Chattanooga	TN	374212201
5245	4120 Jersey Pike	Chattanooga	TN	374212201
5246	4120 Jersey Pike	Chattanooga	TN	374212201
5247	4120 Jersey Pike	Chattanooga	TN	374212201
5248	4120 Jersey Pike	Chattanooga	TN	374212201
5249	4120 Jersey Pike	Chattanooga	TN	374212201

	N	O	P	Q
5200	1305.35	1000G	2675.04	A3M4M
5201	1321.8	1000G	2703.24	A3M4M
5202	1039.04	1000G	2218.65	A3M4M
5203	671.75	1000G	1472.4	A3M4M
5204	9519.66		20841.68	
5205	3787.38	1000G	6651.17	A3M4M
5206	4057.43	1000G	6991.96	A3M4M
5207	4348.42	1000G	7359.17	A3M4M
5208	4699.26	1000G	7801.91	A3M4M
5209	4207.79	1000G	7181.7	A3M4M
5210	5202.7	1000G	8437.22	A3M4M
5211	6407.06	1000G	9957.06	A3M4M
5212	6269.42	1000G	9783.36	A3M4M
5213	5914.09	1000G	9334.96	A3M4M
5214	5150.33	1000G	8371.14	A3M4M
5215	4104.56	1000G	7051.43	A3M4M
5216	3896.6	1000G	6789	A3M4M
5217	58045.04		95710.08	
5218	3827.03	1000G	6701.2	A3M4M
5219	3670.69	1000G	6476.94	A3M4M
5220	3308.63	1000G	5950.6	A3M4M
5221	4415	1000G	7731.91	A3M4M
5222	4539.17	1000G	7894.59	A3M4M
5223	5454.79	1000G	9094.11	A3M4M
5224	5567	1000G	9241.11	A3M4M
5225	5578.97	1000G	9256.79	A3M4M
5226	5335.85	1000G	8938.29	A3M4M
5227	4022.27	1000G	7217.41	A3M4M
5228	3862.94	1000G	7008.67	A3M4M
5229	2498.49	1000G	4660.64	A3M4M
5230	52080.83		90172.26	
5231	2763.3	1000G	5173.66	A3M4M
5232	3271.97	1000G	6045.42	A3M4M
5233	3456	1000G	6360.79	A3M4M
5234	3214.37	1000G	5946.7	A3M4M
5235	3634.03	1000G	6665.91	A3M4M
5236	3865.93	1000G	7012.59	A3M4M
5237	4471.85	1000G	7806.39	A3M4M
5238	4272.86	1000G	7545.71	A3M4M
5239	4667.84	1000G	8063.15	A3M4M
5240	4504.02	1000G	7848.53	A3M4M
5241	3876.4	1000G	7026.31	A3M4M
5242	2729.64	1000G	5115.97	A3M4M
5243	44728.21		80611.13	
5244	1889.57	1000G	3676.28	A3M4M
5245	2673.53	1000G	5019.82	A3M4M
5246	3235.32	1000G	5982.6	A3M4M
5247	3835.26	1000G	6972.41	A3M4M
5248	4946.86	1000G	8428.69	A3M4M
5249	6166.19	1000G	11024.47	A3M4M

	A	B	C	D	E
5250	2600	2603	26CC	3	7
5251	2600	2603	26CC	3	8
5252	2600	2603	26CC	3	9
5253	2600	2603	26CC	3	10
5254	2600	2603	26CC	3	11
5255	2600	2603	26CC	3	12
5256					
5257	2600	2603	26CC	3	1
5258	2600	2603	26CC	3	2
5259	2600	2603	26CC	3	3
5260					
5261	2600	2603	26CC	3	1
5262	2600	2603	26CC	3	2
5263	2600	2603	26CC	3	3
5264	2600	2603	26CC	3	4
5265	2600	2603	26CC	3	5
5266	2600	2603	26CC	3	6
5267	2600	2603	26CC	3	7
5268	2600	2603	26CC	3	8
5269	2600	2603	26CC	3	9
5270	2600	2603	26CC	3	10
5271	2600	2603	26CC	3	11
5272	2600	2603	26CC	3	12
5273					
5274	2600	2603	26CC	3	1
5275	2600	2603	26CC	3	2
5276	2600	2603	26CC	3	3
5277	2600	2603	26CC	3	4
5278	2600	2603	26CC	3	5
5279	2600	2603	26CC	3	6
5280	2600	2603	26CC	3	7
5281	2600	2603	26CC	3	8
5282	2600	2603	26CC	3	9
5283	2600	2603	26CC	3	10
5284	2600	2603	26CC	3	11
5285	2600	2603	26CC	3	12
5286					
5287	2600	2603	26CC	3	1
5288	2600	2603	26CC	3	2
5289	2600	2603	26CC	3	3
5290	2600	2603	26CC	3	4
5291	2600	2603	26CC	3	5
5292	2600	2603	26CC	3	6
5293	2600	2603	26CC	3	7
5294	2600	2603	26CC	3	8
5295	2600	2603	26CC	3	9
5296	2600	2603	26CC	3	10
5297	2600	2603	26CC	3	11
5298	2600	2603	26CC	3	12
5299					

	F	G	H	I
5250	2007	104943	260073470	Brock Candy Company
5251	2007	104943	260073470	Brock Candy Company
5252	2007	104943	260073470	Brock Candy Company
5253	2007	104943	260073470	Brock Candy Company
5254	2007	104943	260073470	Brock Candy Company
5255	2007	104943	260073470	Brock Candy Company
5256	**2007 Total**			
5257	2008	104943	260073470	Brock Candy Company
5258	2008	104943	260073470	Brock Candy Company
5259	2008	104943	260073470	Brock Candy Company
5260	**2008 Total**			
5261	2004	104973	260073498	BASF Corporation
5262	2004	104973	260073498	BASF Corporation
5263	2004	104973	260073498	BASF Corporation
5264	2004	104973	260073498	BASF Corporation
5265	2004	104973	260073498	BASF Corporation
5266	2004	104973	260073498	BASF Corporation
5267	2004	104973	260073498	BASF Corporation
5268	2004	104973	260073498	BASF Corporation
5269	2004	104973	260073498	BASF Corporation
5270	2004	104973	260073498	BASF Corporation
5271	2004	104973	260073498	BASF Corporation
5272	2004	104973	260073498	BASF Corporation
5273	**2004 Total**			
5274	2005	104973	260073498	BASF Corporation
5275	2005	104973	260073498	BASF Corporation
5276	2005	104973	260073498	BASF Corporation
5277	2005	104973	260073498	BASF Corporation
5278	2005	104973	260073498	BASF Corporation
5279	2005	104973	260073498	BASF Corporation
5280	2005	104973	260073498	BASF Corporation
5281	2005	104973	260073498	BASF Corporation
5282	2005	104973	260073498	BASF Corporation
5283	2005	104973	260073498	BASF Corporation
5284	2005	104973	260073498	BASF Corporation
5285	2005	104973	260073498	BASF Corporation
5286	**2005 Total**			
5287	2006	104973	260073498	BASF Corporation
5288	2006	104973	260073498	BASF Corporation
5289	2006	104973	260073498	BASF Corporation
5290	2006	104973	260073498	BASF Corporation
5291	2006	104973	260073498	BASF Corporation
5292	2006	104973	260073498	BASF Corporation
5293	2006	104973	260073498	BASF Corporation
5294	2006	104973	260073498	BASF Corporation
5295	2006	104973	260073498	BASF Corporation
5296	2006	104973	260073498	BASF Corporation
5297	2006	104973	260073498	BASF Corporation
5298	2006	104973	260073498	BASF Corporation
5299	**2006 Total**			

	J	K	L	M
5250	4120 Jersey Pike	Chattanooga	TN	374212201
5251	4120 Jersey Pike	Chattanooga	TN	374212201
5252	4120 Jersey Pike	Chattanooga	TN	374212201
5253	4120 Jersey Pike	Chattanooga	TN	374212201
5254	4120 Jersey Pike	Chattanooga	TN	374212201
5255	4120 Jersey Pike	Chattanooga	TN	374212201
5256				
5257	4120 Jersey Pike	Chattanooga	TN	374212201
5258	4120 Jersey Pike	Chattanooga	TN	374212201
5259	4120 Jersey Pike	Chattanooga	TN	374212201
5260				
5261	2120 Polymer Dr	Chattanooga	TN	374212207
5262	2120 Polymer Dr	Chattanooga	TN	374212207
5263	2120 Polymer Dr	Chattanooga	TN	374212207
5264	2120 Polymer Dr	Chattanooga	TN	374212207
5265	2120 Polymer Dr	Chattanooga	TN	374212207
5266	2120 Polymer Dr	Chattanooga	TN	374212207
5267	2120 Polymer Dr	Chattanooga	TN	374212207
5268	2120 Polymer Dr	Chattanooga	TN	374212207
5269	2120 Polymer Dr	Chattanooga	TN	374212207
5270	2120 Polymer Dr	Chattanooga	TN	374212207
5271	2120 Polymer Dr	Chattanooga	TN	374212207
5272	2120 Polymer Dr	Chattanooga	TN	374212207
5273				
5274	2120 Polymer Dr	Chattanooga	TN	374212207
5275	2120 Polymer Dr	Chattanooga	TN	374212207
5276	2120 Polymer Dr	Chattanooga	TN	374212207
5277	2120 Polymer Dr	Chattanooga	TN	374212207
5278	2120 Polymer Dr	Chattanooga	TN	374212207
5279	2120 Polymer Dr	Chattanooga	TN	374212207
5280	2120 Polymer Dr	Chattanooga	TN	374212207
5281	2120 Polymer Dr	Chattanooga	TN	374212207
5282	2120 Polymer Dr	Chattanooga	TN	374212207
5283	2120 Polymer Dr	Chattanooga	TN	374212207
5284	2120 Polymer Dr	Chattanooga	TN	374212207
5285	2120 Polymer Dr	Chattanooga	TN	374212207
5286				
5287	2120 Polymer Dr	Chattanooga	TN	374212207
5288	2120 Polymer Dr	Chattanooga	TN	374212207
5289	2120 Polymer Dr	Chattanooga	TN	374212207
5290	2120 Polymer Dr	Chattanooga	TN	374212207
5291	2120 Polymer Dr	Chattanooga	TN	374212207
5292	2120 Polymer Dr	Chattanooga	TN	374212207
5293	2120 Polymer Dr	Chattanooga	TN	374212207
5294	2120 Polymer Dr	Chattanooga	TN	374212207
5295	2120 Polymer Dr	Chattanooga	TN	374212207
5296	2120 Polymer Dr	Chattanooga	TN	374212207
5297	2120 Polymer Dr	Chattanooga	TN	374212207
5298	2120 Polymer Dr	Chattanooga	TN	374212207
5299				

	N	O	P	Q
5250	6654.67	1000G	12005.55	A3M4M
5251	6876.09	1000G	12332.04	A3M4M
5252	6943.41	1000G	12796.86	A3M4M
5253	4020.03	1000G	7682.13	A3M4M
5254	4144.2	1000G	8303.88	A3M4M
5255	3838.25	1000G	7852.75	A3M4M
5256	55223.38		102077.48	
5257	3108.9	1000G	6490.37	A3M4M
5258	3277.96	1000G	6816.49	A3M4M
5259	3261.5	1000G	6784.74	A3M4M
5260	9648.36		20091.6	
5261	3387.92	1000G	6180.02	A3M4M
5262	3816.56	1000G	6857.52	A3M4M
5263	4125.5	1000G	7247.39	A3M4M
5264	4664.1	1000G	7927.07	A3M4M
5265	4364.13	1000G	7548.53	A3M4M
5266	4756.86	1000G	8044.13	A3M4M
5267	5077.02	1000G	8448.16	A3M4M
5268	4462.87	1000G	7673.13	A3M4M
5269	5071.04	1000G	8440.61	A3M4M
5270	4973.79	1000G	8317.89	A3M4M
5271	3672.18	1000G	6648.94	A3M4M
5272	3913.06	1000G	6979.29	A3M4M
5273	52285.03		90312.68	
5274	4342.44	1000G	7521.15	A3M4M
5275	4215.27	1000G	7360.67	A3M4M
5276	4097.08	1000G	7291.49	A3M4M
5277	4888.51	1000G	8528.32	A3M4M
5278	4272.12	1000G	7720.8	A3M4M
5279	5259.55	1000G	9014.4	A3M4M
5280	4690.28	1000G	8268.62	A3M4M
5281	4901.23	1000G	8544.98	A3M4M
5282	4643.15	1000G	8206.88	A3M4M
5283	4537.68	1000G	8068.7	A3M4M
5284	4127	1000G	7530.68	A3M4M
5285	4160.66	1000G	7574.78	A3M4M
5286	54134.97		95631.47	
5287	4168.14	1000G	7584.58	A3M4M
5288	4301.29	1000G	7759.02	A3M4M
5289	4061.92	1000G	7445.42	A3M4M
5290	4508.5	1000G	8030.48	A3M4M
5291	4146.45	1000G	7556.16	A3M4M
5292	4267.63	1000G	7714.92	A3M4M
5293	5178.76	1000G	8908.56	A3M4M
5294	5289.47	1000G	9053.6	A3M4M
5295	5116.67	1000G	8827.22	A3M4M
5296	4780.8	1000G	8387.2	A3M4M
5297	3358.75	1000G	6370.2	A3M4M
5298	3410.36	1000G	6458.66	A3M4M
5299	52588.74		94096.02	

	A	B	C	D	E
5300	2600	2603	26CC	3	1
5301	2600	2603	26CC	3	2
5302	2600	2603	26CC	3	3
5303	2600	2603	26CC	3	4
5304	2600	2603	26CC	3	5
5305	2600	2603	26CC	3	6
5306	2600	2603	26CC	3	7
5307	2600	2603	26CC	3	8
5308	2600	2603	26CC	3	9
5309	2600	2603	26CC	3	10
5310	2600	2603	26CC	3	11
5311	2600	2603	26CC	3	12
5312					
5313	2600	2603	26CC	3	1
5314	2600	2603	26CC	3	2
5315	2600	2603	26CC	3	2
5316	2600	2603	26CC	3	3
5317					
5318	2600	2603	26CC	3	1
5319	2600	2603	26CC	3	2
5320	2600	2603	26CC	3	3
5321	2600	2603	26CC	3	4
5322	2600	2603	26CC	3	5
5323	2600	2603	26CC	3	6
5324	2600	2603	26CC	3	7
5325	2600	2603	26CC	3	8
5326	2600	2603	26CC	3	9
5327	2600	2603	26CC	3	10
5328	2600	2603	26CC	3	11
5329	2600	2603	26CC	3	12
5330					
5331	2600	2603	26CC	3	1
5332	2600	2603	26CC	3	2
5333	2600	2603	26CC	3	3
5334	2600	2603	26CC	3	4
5335	2600	2603	26CC	3	5
5336	2600	2603	26CC	3	6
5337	2600	2603	26CC	3	7
5338	2600	2603	26CC	3	8
5339	2600	2603	26CC	3	9
5340	2600	2603	26CC	3	10
5341	2600	2603	26CC	3	11
5342	2600	2603	26CC	3	12
5343					
5344	2600	2603	26CC	3	1
5345	2600	2603	26CC	3	2
5346	2600	2603	26CC	3	3
5347	2600	2603	26CC	3	4
5348	2600	2603	26CC	3	5
5349	2600	2603	26CC	3	6

	F	G	H	I
5300	2007	104973	260073498	BASF Corporation
5301	2007	104973	260073498	BASF Corporation
5302	2007	104973	260073498	BASF Corporation
5303	2007	104973	260073498	BASF Corporation
5304	2007	104973	260073498	BASF Corporation
5305	2007	104973	260073498	BASF Corporation
5306	2007	104973	260073498	BASF Corporation
5307	2007	104973	260073498	BASF Corporation
5308	2007	104973	260073498	BASF Corporation
5309	2007	104973	260073498	BASF Corporation
5310	2007	104973	260073498	BASF Corporation
5311	2007	104973	260073498	BASF Corporation
5312	**2007 Total**			
5313	2008	104973	260073498	BASF Corporation
5314	2008	104973	260073498	BASF Corporation
5315	2008	104973	260073498	BASF Corporation
5316	2008	104973	260073498	BASF Corporation
5317	**2008 Total**			
5318	2004	110923	260077834	Sofix Corporation
5319	2004	110923	260077834	Sofix Corporation
5320	2004	110923	260077834	Sofix Corporation
5321	2004	110923	260077834	Sofix Corporation
5322	2004	110923	260077834	Sofix Corporation
5323	2004	110923	260077834	Sofix Corporation
5324	2004	110923	260077834	Sofix Corporation
5325	2004	110923	260077834	Sofix Corporation
5326	2004	110923	260077834	Sofix Corporation
5327	2004	110923	260077834	Sofix Corporation
5328	2004	110923	260077834	Sofix Corporation
5329	2004	110923	260077834	Sofix Corporation
5330	**2004 Total**			
5331	2005	110923	260077834	Sofix Corporation
5332	2005	110923	260077834	Sofix Corporation
5333	2005	110923	260077834	Sofix Corporation
5334	2005	110923	260077834	Sofix Corporation
5335	2005	110923	260077834	Sofix Corporation
5336	2005	110923	260077834	Sofix Corporation
5337	2005	110923	260077834	Sofix Corporation
5338	2005	110923	260077834	Sofix Corporation
5339	2005	110923	260077834	Sofix Corporation
5340	2005	110923	260077834	Sofix Corporation
5341	2005	110923	260077834	Sofix Corporation
5342	2005	110923	260077834	Sofix Corporation
5343	**2005 Total**			
5344	2006	110923	260077834	Sofix Corporation
5345	2006	110923	260077834	Sofix Corporation
5346	2006	110923	260077834	Sofix Corporation
5347	2006	110923	260077834	Sofix Corporation
5348	2006	110923	260077834	Sofix Corporation
5349	2006	110923	260077834	Sofix Corporation

	J	K	L	M
5300	2120 Polymer Dr	Chattanooga	TN	374212207
5301	2120 Polymer Dr	Chattanooga	TN	374212207
5302	2120 Polymer Dr	Chattanooga	TN	374212207
5303	2120 Polymer Dr	Chattanooga	TN	374212207
5304	2120 Polymer Dr	Chattanooga	TN	374212207
5305	2120 Polymer Dr	Chattanooga	TN	374212207
5306	2120 Polymer Dr	Chattanooga	TN	374212207
5307	2120 Polymer Dr	Chattanooga	TN	374212207
5308	2120 Polymer Dr	Chattanooga	TN	374212207
5309	2120 Polymer Dr	Chattanooga	TN	374212207
5310	2120 Polymer Dr	Chattanooga	TN	374212207
5311	2120 Polymer Dr	Chattanooga	TN	374212207
5312				
5313	2120 Polymer Dr	Chattanooga	TN	374212207
5314	2120 Polymer Dr	Chattanooga	TN	374212207
5315	2120 Polymer Dr	Chattanooga	TN	374212207
5316	2120 Polymer Dr	Chattanooga	TN	374212207
5317				
5318	2800 Riverport Rd	Chattanooga	TN	374061702
5319	2800 Riverport Rd	Chattanooga	TN	374061702
5320	2800 Riverport Rd	Chattanooga	TN	374061702
5321	2800 Riverport Rd	Chattanooga	TN	374061702
5322	2800 Riverport Rd	Chattanooga	TN	374061702
5323	2800 Riverport Rd	Chattanooga	TN	374061702
5324	2800 Riverport Rd	Chattanooga	TN	374061702
5325	2800 Riverport Rd	Chattanooga	TN	374061702
5326	2800 Riverport Rd	Chattanooga	TN	374061702
5327	2800 Riverport Rd	Chattanooga	TN	374061702
5328	2800 Riverport Rd	Chattanooga	TN	374061702
5329	2800 Riverport Rd	Chattanooga	TN	374061702
5330				
5331	2800 Riverport Rd	Chattanooga	TN	374061702
5332	2800 Riverport Rd	Chattanooga	TN	374061702
5333	2800 Riverport Rd	Chattanooga	TN	374061702
5334	2800 Riverport Rd	Chattanooga	TN	374061702
5335	2800 Riverport Rd	Chattanooga	TN	374061702
5336	2800 Riverport Rd	Chattanooga	TN	374061702
5337	2800 Riverport Rd	Chattanooga	TN	374061702
5338	2800 Riverport Rd	Chattanooga	TN	374061702
5339	2800 Riverport Rd	Chattanooga	TN	374061702
5340	2800 Riverport Rd	Chattanooga	TN	374061702
5341	2800 Riverport Rd	Chattanooga	TN	374061702
5342	2800 Riverport Rd	Chattanooga	TN	374061702
5343				
5344	2800 Riverport Rd	Chattanooga	TN	374061702
5345	2800 Riverport Rd	Chattanooga	TN	374061702
5346	2800 Riverport Rd	Chattanooga	TN	374061702
5347	2800 Riverport Rd	Chattanooga	TN	374061702
5348	2800 Riverport Rd	Chattanooga	TN	374061702
5349	2800 Riverport Rd	Chattanooga	TN	374061702

	N	O	P	Q
5300	3712.58	1000G	6976.59	A3M4M
5301	3521.07	1000G	6648.39	A3M4M
5302	4236.21	1000G	7673.76	A3M4M
5303	4168.14	1000G	7584.58	A3M4M
5304	5219.15	1000G	8961.48	A3M4M
5305	5412.9	1000G	10102.71	A3M4M
5306	5019.42	1000G	9792.61	A3M4M
5307	6064.45	1000G	11333.5	A3M4M
5308	5554.28	1000G	10581.26	A3M4M
5309	4239.95	1000G	8643.28	A3M4M
5310	3812.07	1000G	8012.37	A3M4M
5311	3761.2	1000G	7937.36	A3M4M
5312	54721.42		104247.89	
5313	3624.31	1000G	7682.82	A3M4M
5314	0	1000G	-4524.87	CRAC3
5315	4444.17	1000G	8944.4	A3M4M
5316	4107.55	1000G	8448.05	A3M4M
5317	12176.03		20550.4	
5318	402.45	1000G	1175.35	A3M4
5319	489.22	1000G	1318.5	A3M4
5320	492.96	1000G	1324.67	A3M4
5321	857.26	1000G	1925.62	A3M4
5322	582.73	1000G	1472.75	A3M4
5323	746.55	1000G	1742.99	A3M4
5324	579.74	1000G	1467.81	A3M4
5325	457.8	1000G	1266.67	A3M4
5326	607.41	1000G	1513.47	A3M4
5327	535.6	1000G	1395	A3M4
5328	496.7	1000G	1330.84	A3M4
5329	485.48	1000G	1312.33	A3M4
5330	6733.9		17246	
5331	419.65	1000G	1203.73	A3M4
5332	542.33	1000G	1406.11	A3M4
5333	573.75	1000G	1457.94	A3M4
5334	596.19	1000G	1545.91	A3M4
5335	731.59	1000G	1784.97	A3M4
5336	681.47	1000G	1699.07	A3M4
5337	657.53	1000G	1658.05	A3M4
5338	683.71	1000G	1702.92	A3M4
5339	733.83	1000G	1788.81	A3M4
5340	712.89	1000G	1752.92	A3M4
5341	644.07	1000G	1634.97	A3M4
5342	617.14	1000G	1588.82	A3M4
5343	7594.15		19224.22	
5344	674.74	1000G	1687.53	A3M4
5345	599.18	1000G	1558.05	A3M4
5346	691.2	1000G	1715.74	A3M4
5347	732.34	1000G	1786.25	A3M4
5348	769.74	1000G	1850.35	A3M4
5349	719.62	1000G	1764.45	A3M4

	A	B	C	D	E
5350	2600	2603	26CC	3	7
5351	2600	2603	26CC	3	8
5352	2600	2603	26CC	3	9
5353	2600	2603	26CC	3	10
5354	2600	2603	26CC	3	11
5355	2600	2603	26CC	3	12
5356					
5357	2600	2603	26CC	3	1
5358	2600	2603	26CC	3	2
5359	2600	2603	26CC	3	3
5360	2600	2603	26CC	3	3
5361	2600	2603	26CC	3	3
5362	2600	2603	26CC	3	4
5363	2600	2603	26CC	3	5
5364	2600	2603	26CC	3	6
5365	2600	2603	26CC	3	7
5366	2600	2603	26CC	3	8
5367	2600	2603	26CC	3	8
5368	2600	2603	26CC	3	9
5369	2600	2603	26CC	3	10
5370	2600	2603	26CC	3	11
5371	2600	2603	26CC	3	12
5372					
5373	2600	2603	26CC	3	1
5374	2600	2603	26CC	3	2
5375	2600	2603	26CC	3	3
5376					
5377	2600	2603	26CC	3	1
5378	2600	2603	26CC	3	2
5379	2600	2603	26CC	3	3
5380	2600	2603	26CC	3	4
5381	2600	2603	26CC	3	5
5382	2600	2603	26CC	3	6
5383	2600	2603	26CC	3	7
5384	2600	2603	26CC	3	8
5385	2600	2603	26CC	3	9
5386	2600	2603	26CC	3	10
5387	2600	2603	26CC	3	11
5388	2600	2603	26CC	3	12
5389					
5390	2600	2603	26CC	3	1
5391	2600	2603	26CC	3	2
5392	2600	2603	26CC	3	3
5393	2600	2603	26CC	3	4
5394	2600	2603	26CC	3	5
5395	2600	2603	26CC	3	6
5396	2600	2603	26CC	3	7
5397	2600	2603	26CC	3	8
5398	2600	2603	26CC	3	9
5399	2600	2603	26CC	3	10

	F	G	H	I
5350	2006	110923	260077834	Sofix Corporation
5351	2006	110923	260077834	Sofix Corporation
5352	2006	110923	260077834	Sofix Corporation
5353	2006	110923	260077834	Sofix Corporation
5354	2006	110923	260077834	Sofix Corporation
5355	2006	110923	260077834	Sofix Corporation
5356	**2006 Total**			
5357	2007	110923	260077834	Sofix Corporation
5358	2007	110923	260077834	Sofix Corporation
5359	2007	110923	260077834	Sofix Corporation
5360	2007	110923	260077834	Sofix Corporation
5361	2007	110923	260077834	Sofix Corporation
5362	2007	110923	260077834	Sofix Corporation
5363	2007	110923	260077834	Sofix Corporation
5364	2007	110923	260077834	Sofix Corporation
5365	2007	110923	260077834	Sofix Corporation
5366	2007	110923	260077834	Sofix Corporation
5367	2007	110923	260077834	Sofix Corporation
5368	2007	110923	260077834	Sofix Corporation
5369	2007	110923	260077834	Sofix Corporation
5370	2007	110923	260077834	Sofix Corporation
5371	2007	110923	260077834	Sofix Corporation
5372	**2007 Total**			
5373	2008	110923	260077834	Sofix Corporation
5374	2008	110923	260077834	Sofix Corporation
5375	2008	110923	260077834	Sofix Corporation
5376	**2008 Total**			
5377	2004	112440	260078914	FIBRON
5378	2004	112440	260078914	FIBRON
5379	2004	112440	260078914	FIBRON
5380	2004	112440	260078914	FIBRON
5381	2004	112440	260078914	FIBRON
5382	2004	112440	260078914	FIBRON
5383	2004	112440	260078914	FIBRON
5384	2004	112440	260078914	FIBRON
5385	2004	112440	260078914	FIBRON
5386	2004	112440	260078914	FIBRON
5387	2004	112440	260078914	FIBRON
5388	2004	112440	260078914	FIBRON
5389	**2004 Total**			
5390	2005	112440	260078914	FIBRON
5391	2005	112440	260078914	FIBRON
5392	2005	112440	260078914	FIBRON
5393	2005	112440	260078914	FIBRON
5394	2005	112440	260078914	FIBRON
5395	2005	112440	260078914	FIBRON
5396	2005	112440	260078914	FIBRON
5397	2005	112440	260078914	FIBRON
5398	2005	112440	260078914	FIBRON
5399	2005	112440	260078914	FIBRON

	J	K	L	M
5350	2800 Riverport Rd	Chattanooga	TN	374061702
5351	2800 Riverport Rd	Chattanooga	TN	374061702
5352	2800 Riverport Rd	Chattanooga	TN	374061702
5353	2800 Riverport Rd	Chattanooga	TN	374061702
5354	2800 Riverport Rd	Chattanooga	TN	374061702
5355	2800 Riverport Rd	Chattanooga	TN	374061702
5356				
5357	2800 Riverport Rd	Chattanooga	TN	374061702
5358	2800 Riverport Rd	Chattanooga	TN	374061702
5359	2800 Riverport Rd	Chattanooga	TN	374061702
5360	2800 Riverport Rd	Chattanooga	TN	374061702
5361	2800 Riverport Rd	Chattanooga	TN	374061702
5362	2800 Riverport Rd	Chattanooga	TN	374061702
5363	2800 Riverport Rd	Chattanooga	TN	374061702
5364	2800 Riverport Rd	Chattanooga	TN	374061702
5365	2800 Riverport Rd	Chattanooga	TN	374061702
5366	2800 Riverport Rd	Chattanooga	TN	374061702
5367	2800 Riverport Rd	Chattanooga	TN	374061702
5368	2800 Riverport Rd	Chattanooga	TN	374061702
5369	2800 Riverport Rd	Chattanooga	TN	374061702
5370	2800 Riverport Rd	Chattanooga	TN	374061702
5371	2800 Riverport Rd	Chattanooga	TN	374061702
5372				
5373	2800 Riverport Rd	Chattanooga	TN	374061702
5374	2800 Riverport Rd	Chattanooga	TN	374061702
5375	2800 Riverport Rd	Chattanooga	TN	374061702
5376				
5377	4019 Industry Dr	Chattanooga	TN	374163812
5378	4019 Industry Dr	Chattanooga	TN	374163812
5379	4019 Industry Dr	Chattanooga	TN	374163812
5380	4019 Industry Dr	Chattanooga	TN	374163812
5381	4019 Industry Dr	Chattanooga	TN	374163812
5382	4019 Industry Dr	Chattanooga	TN	374163812
5383	4019 Industry Dr	Chattanooga	TN	374163812
5384	4019 Industry Dr	Chattanooga	TN	374163812
5385	4019 Industry Dr	Chattanooga	TN	374163812
5386	4019 Industry Dr	Chattanooga	TN	374163812
5387	4019 Industry Dr	Chattanooga	TN	374163812
5388	4019 Industry Dr	Chattanooga	TN	374163812
5389				
5390	4019 Industry Dr	Chattanooga	TN	374163812
5391	4019 Industry Dr	Chattanooga	TN	374163812
5392	4019 Industry Dr	Chattanooga	TN	374163812
5393	4019 Industry Dr	Chattanooga	TN	374163812
5394	4019 Industry Dr	Chattanooga	TN	374163812
5395	4019 Industry Dr	Chattanooga	TN	374163812
5396	4019 Industry Dr	Chattanooga	TN	374163812
5397	4019 Industry Dr	Chattanooga	TN	374163812
5398	4019 Industry Dr	Chattanooga	TN	374163812
5399	4019 Industry Dr	Chattanooga	TN	374163812

	N	O	P	Q
5350	829.58	1000G	1952.91	A3M4
5351	933.56	1000G	2131.11	A3M4
5352	995.65	1000G	2237.51	A3M4
5353	894.67	1000G	2064.44	A3M4
5354	1125.07	1000G	2459.3	A3M4
5355	999.39	1000G	2243.92	A3M4
5356	9964.74		23451.56	
5357	878.96	1000G	2037.52	A3M4
5358	868.48	1000G	2019.57	A3M4
5359	-691.2	1000G	-1715.74	A3M4
5360	691.2	1000G	1715.74	A3M4
5361	1187.15	1000G	2565.7	A3M4
5362	984.43	1000G	2218.28	A3M4
5363	1200.62	1000G	2588.78	A3M4
5364	786.94	1000G	1966.51	A3M4
5365	201.22	1000G	873.64	A3M4
5366	237.88	1000G	968.26	A3M4
5367	1324.04	1000G	2755.65	MTRD3
5368	608.91	1000G	1772.81	A3M4
5369	1214.83	1000G	2941.64	A3M4
5370	1101.13	1000G	2722.31	A3M4
5371	1045.77	1000G	2615.52	A3M4
5372	11640.36		28046.19	
5373	834.82	1000G	2208.6	A3M4
5374	991.16	1000G	2510.19	A3M4
5375	875.22	1000G	2286.52	A3M4
5376	2701.2		7005.31	
5377	228.9	1000G	718.4	A3M4M
5378	48.62	1000G	320.51	A3M4M
5379	38.15	1000G	283.72	A3M4M
5380	103.97	1000G	442.68	A3M4M
5381	33.66	1000G	267.95	A3M4M
5382	109.21	1000G	454.24	A3M4M
5383	51.61	1000G	327.11	A3M4M
5384	32.16	1000G	262.69	A3M4M
5385	38.15	1000G	283.72	A3M4M
5386	31.41	1000G	260.06	A3M4M
5387	30.67	1000G	257.44	A3M4M
5388	29.92	1000G	274.79	A3M4M
5389	776.43		4153.31	
5390	23.93	1000G	233.78	A3M4M
5391	33.66	1000G	267.95	A3M4M
5392	54.6	1000G	308.47	A3M4M
5393	30.67	1000G	267.4	A3M4M
5394	22.44	1000G	237.37	A3M4M
5395	29.92	1000G	264.67	A3M4M
5396	27.67	1000G	256.48	A3M4M
5397	27.67	1000G	256.48	A3M4M
5398	32.91	1000G	275.59	A3M4M
5399	24.68	1000G	245.56	A3M4M

	A	B	C	D	E
5400	2600	2603	26CC	3	11
5401	2600	2603	26CC	3	12
5402					
5403	2600	2603	26CC	3	1
5404	2600	2603	26CC	3	2
5405	2600	2603	26CC	3	3
5406	2600	2603	26CC	3	4
5407	2600	2603	26CC	3	5
5408	2600	2603	26CC	3	6
5409	2600	2603	26CC	3	7
5410	2600	2603	26CC	3	8
5411	2600	2603	26CC	3	9
5412	2600	2603	26CC	3	10
5413	2600	2603	26CC	3	11
5414	2600	2603	26CC	3	12
5415					
5416	2600	2603	26CC	3	1
5417	2600	2603	26CC	3	2
5418	2600	2603	26CC	3	3
5419	2600	2603	26CC	3	4
5420	2600	2603	26CC	3	5
5421	2600	2603	26CC	3	6
5422	2600	2603	26CC	3	7
5423	2600	2603	26CC	3	8
5424	2600	2603	26CC	3	9
5425	2600	2603	26CC	3	10
5426	2600	2603	26CC	3	11
5427	2600	2603	26CC	3	12
5428					
5429	2600	2603	26CC	3	1
5430	2600	2603	26CC	3	2
5431					
5432	2600	2603	26CC	3	1
5433	2600	2603	26CC	3	2
5434	2600	2603	26CC	3	3
5435	2600	2603	26CC	3	4
5436	2600	2603	26CC	3	5
5437	2600	2603	26CC	3	6
5438	2600	2603	26CC	3	7
5439	2600	2603	26CC	3	8
5440	2600	2603	26CC	3	9
5441	2600	2603	26CC	3	10
5442	2600	2603	26CC	3	11
5443	2600	2603	26CC	3	12
5444					
5445	2600	2603	26CC	3	1
5446	2600	2603	26CC	3	2
5447	2600	2603	26CC	3	3
5448	2600	2603	26CC	3	4
5449	2600	2603	26CC	3	5

	F	G	H	I
5400	2005	112440	260078914	FIBRON
5401	2005	112440	260078914	FIBRON
5402	**2005 Total**			
5403	2006	112440	260078914	FIBRON
5404	2006	112440	260078914	FIBRON
5405	2006	112440	260078914	FIBRON
5406	2006	112440	260078914	FIBRON
5407	2006	112440	260078914	FIBRON
5408	2006	112440	260078914	FIBRON
5409	2006	112440	260078914	FIBRON
5410	2006	112440	260078914	FIBRON
5411	2006	112440	260078914	FIBRON
5412	2006	112440	260078914	FIBRON
5413	2006	112440	260078914	FIBRON
5414	2006	112440	260078914	FIBRON
5415	**2006 Total**			
5416	2007	112440	260078914	FIBRON
5417	2007	112440	260078914	FIBRON
5418	2007	112440	260078914	FIBRON
5419	2007	112440	260078914	FIBRON
5420	2007	112440	260078914	FIBRON
5421	2007	112440	260078914	FIBRON
5422	2007	112440	260078914	FIBRON
5423	2007	112440	260078914	FIBRON
5424	2007	112440	260078914	FIBRON
5425	2007	112440	260078914	FIBRON
5426	2007	112440	260078914	FIBRON
5427	2007	112440	260078914	FIBRON
5428	**2007 Total**			
5429	2008	112440	260078914	FIBRON
5430	2008	112440	260078914	FIBRON
5431	**2008 Total**			
5432	2004	112729	260079110	R L Stowe Mills Inc
5433	2004	112729	260079110	R L Stowe Mills Inc
5434	2004	112729	260079110	R L Stowe Mills Inc
5435	2004	112729	260079110	R L Stowe Mills Inc
5436	2004	112729	260079110	R L Stowe Mills Inc
5437	2004	112729	260079110	R L Stowe Mills Inc
5438	2004	112729	260079110	R L Stowe Mills Inc
5439	2004	112729	260079110	R L Stowe Mills Inc
5440	2004	112729	260079110	R L Stowe Mills Inc
5441	2004	112729	260079110	R L Stowe Mills Inc
5442	2004	112729	260079110	R L Stowe Mills Inc
5443	2004	112729	260079110	R L Stowe Mills Inc
5444	**2004 Total**			
5445	2005	112729	260079110	R L Stowe Mills Inc
5446	2005	112729	260079110	R L Stowe Mills Inc
5447	2005	112729	260079110	R L Stowe Mills Inc
5448	2005	112729	260079110	R L Stowe Mills Inc
5449	2005	112729	260079110	R L Stowe Mills Inc

	J	K	L	M
5400	4019 Industry Dr	Chattanooga	TN	374163812
5401	4019 Industry Dr	Chattanooga	TN	374163812
5402				
5403	4019 Industry Dr	Chattanooga	TN	374163812
5404	4019 Industry Dr	Chattanooga	TN	374163812
5405	4019 Industry Dr	Chattanooga	TN	374163812
5406	4019 Industry Dr	Chattanooga	TN	374163812
5407	4019 Industry Dr	Chattanooga	TN	374163812
5408	4019 Industry Dr	Chattanooga	TN	374163812
5409	4019 Industry Dr	Chattanooga	TN	374163812
5410	4019 Industry Dr	Chattanooga	TN	374163812
5411	4019 Industry Dr	Chattanooga	TN	374163812
5412	4019 Industry Dr	Chattanooga	TN	374163812
5413	4019 Industry Dr	Chattanooga	TN	374163812
5414	4019 Industry Dr	Chattanooga	TN	374163812
5415				
5416	4019 Industry Dr	Chattanooga	TN	374163812
5417	4019 Industry Dr	Chattanooga	TN	374163812
5418	4019 Industry Dr	Chattanooga	TN	374163812
5419	4019 Industry Dr	Chattanooga	TN	374163812
5420	4019 Industry Dr	Chattanooga	TN	374163812
5421	4019 Industry Dr	Chattanooga	TN	374163812
5422	4019 Industry Dr	Chattanooga	TN	374163812
5423	4019 Industry Dr	Chattanooga	TN	374163812
5424	4019 Industry Dr	Chattanooga	TN	374163812
5425	4019 Industry Dr	Chattanooga	TN	374163812
5426	4019 Industry Dr	Chattanooga	TN	374163812
5427	4019 Industry Dr	Chattanooga	TN	374163812
5428				
5429	4019 Industry Dr	Chattanooga	TN	374163812
5430	4019 Industry Dr	Chattanooga	TN	374163812
5431				
5432	10 Mercer St	Lupton City	TN	37351
5433	10 Mercer St	Lupton City	TN	37351
5434	10 Mercer St	Lupton City	TN	37351
5435	10 Mercer St	Lupton City	TN	37351
5436	10 Mercer St	Lupton City	TN	37351
5437	10 Mercer St	Lupton City	TN	37351
5438	10 Mercer St	Lupton City	TN	37351
5439	10 Mercer St	Lupton City	TN	37351
5440	10 Mercer St	Lupton City	TN	37351
5441	10 Mercer St	Lupton City	TN	37351
5442	10 Mercer St	Lupton City	TN	37351
5443	10 Mercer St	Lupton City	TN	37351
5444				
5445	10 Mercer St	Lupton City	TN	37351
5446	10 Mercer St	Lupton City	TN	37351
5447	10 Mercer St	Lupton City	TN	37351
5448	10 Mercer St	Lupton City	TN	37351
5449	10 Mercer St	Lupton City	TN	37351

	N	O	P	Q
5400	66.57	1000G	374.08	A3M4M
5401	56.85	1000G	351.79	A3M4M
5402	431.57		3339.62	
5403	31.41	1000G	270.13	A3M4M
5404	23.93	1000G	242.83	A3M4M
5405	28.42	1000G	259.21	A3M4M
5406	20.94	1000G	231.91	A3M4M
5407	49.37	1000G	334.64	A3M4M
5408	23.18	1000G	240.1	A3M4M
5409	23.93	1000G	242.83	A3M4M
5410	23.93	1000G	242.83	A3M4M
5411	17.95	1000G	220.99	A3M4M
5412	22.44	1000G	237.37	A3M4M
5413	21.69	1000G	234.64	A3M4M
5414	16.45	1000G	215.53	A3M4M
5415	303.64		2973.01	
5416	17.95	1000G	220.99	A3M4M
5417	24.68	1000G	245.56	A3M4M
5418	29.17	1000G	261.94	A3M4M
5419	63.58	1000G	367.22	A3M4M
5420	29.92	1000G	264.67	A3M4M
5421	27.67	1000G	278.65	A3M4M
5422	16.45	1000G	242.63	A3M4M
5423	20.19	1000G	258	A3M4M
5424	27.67	1000G	288.73	A3M4M
5425	26.92	1000G	285.66	A3M4M
5426	26.18	1000G	282.58	A3M4M
5427	38.15	1000G	331.75	A3M4M
5428	348.53		3328.38	
5429	26.92	1000G	285.66	A3M4M
5430	32.91	1000G	310.24	A3M4M
5431	59.83		595.9	
5432	85.27	1000G	266.79	A3M4
5433	80.04	1000G	255.23	A3M4
5434	84.52	1000G	265.14	A3M4
5435	83.03	1000G	261.84	A3M4
5436	97.99	1000G	294.86	A3M4
5437	111.45	1000G	324.57	A3M4
5438	125.67	1000G	355.94	A3M4
5439	134.64	1000G	375.76	A3M4
5440	116.69	1000G	336.13	A3M4
5441	101.73	1000G	303.11	A3M4
5442	81.53	1000G	258.53	A3M4
5443	85.27	1000G	266.79	A3M4
5444	1187.83		3564.69	
5445	95	1000G	288.25	A3M4
5446	96.49	1000G	278.46	A3M4
5447	117.44	1000G	337.78	A3M4
5448	115.2	1000G	342.3	A3M4
5449	108.46	1000G	330.3	A3M4

	A	B	C	D	E
5450	2600	2603	26CC	3	6
5451	2600	2603	26CC	3	7
5452	2600	2603	26CC	3	8
5453	2600	2603	26CC	3	9
5454	2600	2603	26CC	3	10
5455	2600	2603	26CC	3	11
5456	2600	2603	26CC	3	12
5457					
5458	2600	2603	26CC	3	1
5459	2600	2603	26CC	3	2
5460	2600	2603	26CC	3	3
5461	2600	2603	26CC	3	3
5462	2600	2603	26CC	3	5
5463	2600	2603	26CC	3	6
5464	2600	2603	26CC	3	7
5465	2600	2603	26CC	3	8
5466	2600	2603	26CC	3	8
5467	2600	2603	26CC	3	10
5468	2600	2603	26CC	3	10
5469	2600	2603	26CC	3	12
5470					
5471	2600	2603	26CC	3	1
5472	2600	2603	26CC	3	1
5473	2600	2603	26CC	3	2
5474	2600	2603	26CC	3	3
5475	2600	2603	26CC	3	4
5476	2600	2603	26CC	3	5
5477	2600	2603	26CC	3	6
5478	2600	2603	26CC	3	7
5479	2600	2603	26CC	3	8
5480	2600	2603	26CC	3	9
5481	2600	2603	26CC	3	10
5482	2600	2603	26CC	3	11
5483	2600	2603	26CC	3	12
5484					
5485	2600	2603	26CC	3	1
5486	2600	2603	26CC	3	2
5487	2600	2603	26CC	3	3
5488					
5489	2600	2603	26CC	3	1
5490	2600	2603	26CC	3	2
5491	2600	2603	26CC	3	3
5492	2600	2603	26CC	3	4
5493	2600	2603	26CC	3	5
5494	2600	2603	26CC	3	6
5495	2600	2603	26CC	3	7
5496	2600	2603	26CC	3	8
5497	2600	2603	26CC	3	9
5498	2600	2603	26CC	3	10
5499	2600	2603	26CC	3	11

	F	G	H	I
5450	2005	112729	260079110	R L Stowe Mills Inc
5451	2005	112729	260079110	R L Stowe Mills Inc
5452	2005	112729	260079110	R L Stowe Mills Inc
5453	2005	112729	260079110	R L Stowe Mills Inc
5454	2005	112729	260079110	R L Stowe Mills Inc
5455	2005	112729	260079110	R L Stowe Mills Inc
5456	2005	112729	260079110	R L Stowe Mills Inc
5457	**2005 Total**			
5458	2006	112729	260079110	R L Stowe Mills Inc
5459	2006	112729	260079110	R L Stowe Mills Inc
5460	2006	112729	260079110	R L Stowe Mills Inc
5461	2006	112729	260079110	R L Stowe Mills Inc
5462	2006	112729	260079110	R L Stowe Mills Inc
5463	2006	112729	260079110	R L Stowe Mills Inc
5464	2006	112729	260079110	R L Stowe Mills Inc
5465	2006	112729	260079110	R L Stowe Mills Inc
5466	2006	112729	260079110	R L Stowe Mills Inc
5467	2006	112729	260079110	R L Stowe Mills Inc
5468	2006	112729	260079110	R L Stowe Mills Inc
5469	2006	112729	260079110	R L Stowe Mills Inc
5470	**2006 Total**			
5471	2007	112729	260079110	R L Stowe Mills Inc
5472	2007	112729	260079110	R L Stowe Mills Inc
5473	2007	112729	260079110	R L Stowe Mills Inc
5474	2007	112729	260079110	R L Stowe Mills Inc
5475	2007	112729	260079110	R L Stowe Mills Inc
5476	2007	112729	260079110	R L Stowe Mills Inc
5477	2007	112729	260079110	R L Stowe Mills Inc
5478	2007	112729	260079110	R L Stowe Mills Inc
5479	2007	112729	260079110	R L Stowe Mills Inc
5480	2007	112729	260079110	R L Stowe Mills Inc
5481	2007	112729	260079110	R L Stowe Mills Inc
5482	2007	112729	260079110	R L Stowe Mills Inc
5483	2007	112729	260079110	R L Stowe Mills Inc
5484	**2007 Total**			
5485	2008	112729	260079110	R L Stowe Mills Inc
5486	2008	112729	260079110	R L Stowe Mills Inc
5487	2008	112729	260079110	R L Stowe Mills Inc
5488	**2008 Total**			
5489	2004	113306	260079468	Alco Chemical Corporation
5490	2004	113306	260079468	Alco Chemical Corporation
5491	2004	113306	260079468	Alco Chemical Corporation
5492	2004	113306	260079468	Alco Chemical Corporation
5493	2004	113306	260079468	Alco Chemical Corporation
5494	2004	113306	260079468	Alco Chemical Corporation
5495	2004	113306	260079468	Alco Chemical Corporation
5496	2004	113306	260079468	Alco Chemical Corporation
5497	2004	113306	260079468	Alco Chemical Corporation
5498	2004	113306	260079468	Alco Chemical Corporation
5499	2004	113306	260079468	Alco Chemical Corporation

	J	K	L	M
5450	10 Mercer St	Lupton City	TN	37351
5451	10 Mercer St	Lupton City	TN	37351
5452	10 Mercer St	Lupton City	TN	37351
5453	10 Mercer St	Lupton City	TN	37351
5454	10 Mercer St	Lupton City	TN	37351
5455	10 Mercer St	Lupton City	TN	37351
5456	10 Mercer St	Lupton City	TN	37351
5457				
5458	10 Mercer St	Lupton City	TN	37351
5459	10 Mercer St	Lupton City	TN	37351
5460	10 Mercer St	Lupton City	TN	37351
5461	10 Mercer St	Lupton City	TN	37351
5462	10 Mercer St	Lupton City	TN	37351
5463	10 Mercer St	Lupton City	TN	37351
5464	10 Mercer St	Lupton City	TN	37351
5465	10 Mercer St	Lupton City	TN	37351
5466	10 Mercer St	Lupton City	TN	37351
5467	10 Mercer St	Lupton City	TN	37351
5468	10 Mercer St	Lupton City	TN	37351
5469	10 Mercer St	Lupton City	TN	37351
5470				
5471	10 Mercer St	Lupton City	TN	37351
5472	10 Mercer St	Lupton City	TN	37351
5473	10 Mercer St	Lupton City	TN	37351
5474	10 Mercer St	Lupton City	TN	37351
5475	10 Mercer St	Lupton City	TN	37351
5476	10 Mercer St	Lupton City	TN	37351
5477	10 Mercer St	Lupton City	TN	37351
5478	10 Mercer St	Lupton City	TN	37351
5479	10 Mercer St	Lupton City	TN	37351
5480	10 Mercer St	Lupton City	TN	37351
5481	10 Mercer St	Lupton City	TN	37351
5482	10 Mercer St	Lupton City	TN	37351
5483	10 Mercer St	Lupton City	TN	37351
5484				
5485	10 Mercer St	Lupton City	TN	37351
5486	10 Mercer St	Lupton City	TN	37351
5487	10 Mercer St	Lupton City	TN	37351
5488				
5489	909 Mueller Ave	Chattanooga	TN	374061334
5490	909 Mueller Ave	Chattanooga	TN	374061334
5491	909 Mueller Ave	Chattanooga	TN	374061334
5492	909 Mueller Ave	Chattanooga	TN	374061334
5493	909 Mueller Ave	Chattanooga	TN	374061334
5494	909 Mueller Ave	Chattanooga	TN	374061334
5495	909 Mueller Ave	Chattanooga	TN	374061334
5496	909 Mueller Ave	Chattanooga	TN	374061334
5497	909 Mueller Ave	Chattanooga	TN	374061334
5498	909 Mueller Ave	Chattanooga	TN	374061334
5499	909 Mueller Ave	Chattanooga	TN	374061334

	N	O	P	Q
5450	136.89	1000G	395.47	A3M4
5451	109.21	1000G	332.02	A3M4
5452	126.42	1000G	371.46	A3M4
5453	136.14	1000G	393.76	A3M4
5454	137.64	1000G	397.19	A3M4
5455	134.64	1000G	390.33	A3M4
5456	188.5	1000G	513.81	A3M4
5457	1502.03		4371.13	
5458	105.47	1000G	323.44	A3M4
5459	190.74	1000G	518.95	A3M4
5460	109.21	1000G	332.02	A3M4
5461	145.12	1000G	414.34	A3M4
5462	151.1	1000G	428.06	A3M4
5463	128.66	1000G	376.61	A3M4
5464	222.17	1000G	590.98	A3M4
5465	163.82	1000G	457.21	A3M4
5466	234.14	1000G	618.42	A3M4
5467	232.64	1000G	614.99	A3M4
5468	234.88	1000G	620.14	A3M4
5469	347.84	1000G	879.1	A3M4
5470	2265.79		6174.26	
5471	236.38	1000G	623.57	A3M4
5472	279.77	1000G	723.04	A3M4
5473	337.37	1000G	855.09	A3M4
5474	304.45	1000G	779.63	A3M4
5475	269.29	1000G	699.03	A3M4
5476	268.55	1000G	706.38	A3M4
5477	276.77	1000G	806.33	A3M4
5478	312.68	1000G	899.01	A3M4
5479	271.54	1000G	792.81	A3M4
5480	326.15	1000G	933.77	A3M4
5481	230.4	1000G	686.6	A3M4
5482	212.44	1000G	640.26	A3M4
5483	216.93	1000G	651.85	A3M4
5484	3542.72		9797.37	
5485	232.64	1000G	692.4	A3M4
5486	124.17	1000G	412.4	A3M4
5487	80.04	1000G	298.47	A3M4
5488	436.85		1403.27	
5489	1185.66	1000G	2377.59	A3MSM
5490	1307.59	1000G	2578.73	A3MSM
5491	1250.74	1000G	2484.95	A3MSM
5492	1404.09	1000G	2737.92	A3MSM
5493	1059.98	1000G	2170.28	A3MSM
5494	1111.6	1000G	2255.42	A3MSM
5495	1076.44	1000G	2197.43	A3MSM
5496	1197.63	1000G	2397.33	A3MSM
5497	1314.32	1000G	2589.84	A3MSM
5498	1088.41	1000G	2217.17	A3MSM
5499	1220.82	1000G	2435.59	A3MSM

	A	B	C	D	E
5500	2600	2603	26CC	3	12
5501					
5502	2600	2603	26CC	3	1
5503	2600	2603	26CC	3	2
5504	2600	2603	26CC	3	3
5505	2600	2603	26CC	3	4
5506	2600	2603	26CC	3	5
5507	2600	2603	26CC	3	6
5508	2600	2603	26CC	3	7
5509	2600	2603	26CC	3	8
5510	2600	2603	26CC	3	9
5511	2600	2603	26CC	3	10
5512	2600	2603	26CC	3	11
5513	2600	2603	26CC	3	12
5514					
5515	2600	2603	26CC	3	1
5516	2600	2603	26CC	3	2
5517	2600	2603	26CC	3	3
5518	2600	2603	26CC	3	4
5519	2600	2603	26CC	3	5
5520	2600	2603	26CC	3	6
5521	2600	2603	26CC	3	7
5522	2600	2603	26CC	3	8
5523	2600	2603	26CC	3	9
5524	2600	2603	26CC	3	10
5525	2600	2603	26CC	3	11
5526	2600	2603	26CC	3	12
5527					
5528	2600	2603	26CC	3	1
5529	2600	2603	26CC	3	2
5530	2600	2603	26CC	3	3
5531	2600	2603	26CC	3	4
5532	2600	2603	26CC	3	5
5533	2600	2603	26CC	3	6
5534	2600	2603	26CC	3	7
5535	2600	2603	26CC	3	8
5536	2600	2603	26CC	3	9
5537	2600	2603	26CC	3	10
5538	2600	2603	26CC	3	11
5539	2600	2603	26CC	3	12
5540					
5541	2600	2603	26CC	3	1
5542	2600	2603	26CC	3	2
5543	2600	2603	26CC	3	3
5544					
5545	2600	2603	26CC	3	1
5546	2600	2603	26CC	3	2
5547	2600	2603	26CC	3	3
5548	2600	2603	26CC	3	4
5549	2600	2603	26CC	3	5

	F	G	H	I
5500	2004	113306	260079468	Alco Chemical Corporation
5501	**2004 Total**			
5502	2005	113306	260079468	Alco Chemical Corporation
5503	2005	113306	260079468	Alco Chemical Corporation
5504	2005	113306	260079468	Alco Chemical Corporation
5505	2005	113306	260079468	Alco Chemical Corporation
5506	2005	113306	260079468	Alco Chemical Corporation
5507	2005	113306	260079468	Alco Chemical Corporation
5508	2005	113306	260079468	Alco Chemical Corporation
5509	2005	113306	260079468	Alco Chemical Corporation
5510	2005	113306	260079468	Alco Chemical Corporation
5511	2005	113306	260079468	Alco Chemical Corporation
5512	2005	113306	260079468	Alco Chemical Corporation
5513	2005	113306	260079468	Alco Chemical Corporation
5514	**2005 Total**			
5515	2006	113306	260079468	Alco Chemical Corporation
5516	2006	113306	260079468	Alco Chemical Corporation
5517	2006	113306	260079468	Alco Chemical Corporation
5518	2006	113306	260079468	Alco Chemical Corporation
5519	2006	113306	260079468	Alco Chemical Corporation
5520	2006	113306	260079468	Alco Chemical Corporation
5521	2006	113306	260079468	Alco Chemical Corporation
5522	2006	113306	260079468	Alco Chemical Corporation
5523	2006	113306	260079468	Alco Chemical Corporation
5524	2006	113306	260079468	Alco Chemical Corporation
5525	2006	113306	260079468	Alco Chemical Corporation
5526	2006	113306	260079468	Alco Chemical Corporation
5527	**2006 Total**			
5528	2007	113306	260079468	Alco Chemical Corporation
5529	2007	113306	260079468	Alco Chemical Corporation
5530	2007	113306	260079468	Alco Chemical Corporation
5531	2007	113306	260079468	Alco Chemical Corporation
5532	2007	113306	260079468	Alco Chemical Corporation
5533	2007	113306	260079468	Alco Chemical Corporation
5534	2007	113306	260079468	Alco Chemical Corporation
5535	2007	113306	260079468	Alco Chemical Corporation
5536	2007	113306	260079468	Alco Chemical Corporation
5537	2007	113306	260079468	Alco Chemical Corporation
5538	2007	113306	260079468	Alco Chemical Corporation
5539	2007	113306	260079468	Alco Chemical Corporation
5540	**2007 Total**			
5541	2008	113306	260079468	Alco Chemical Corporation
5542	2008	113306	260079468	Alco Chemical Corporation
5543	2008	113306	260079468	Alco Chemical Corporation
5544	**2008 Total**			
5545	2004	113405	260079542	Metals Usa Chattanooga
5546	2004	113405	260079542	Metals Usa Chattanooga
5547	2004	113405	260079542	Metals Usa Chattanooga
5548	2004	113405	260079542	Metals Usa Chattanooga
5549	2004	113405	260079542	Metals Usa Chattanooga

	J	K	L	M
5500	909 Mueller Ave	Chattanooga	TN	374061334
5501				
5502	909 Mueller Ave	Chattanooga	TN	374061334
5503	909 Mueller Ave	Chattanooga	TN	374061334
5504	909 Mueller Ave	Chattanooga	TN	374061334
5505	909 Mueller Ave	Chattanooga	TN	374061334
5506	909 Mueller Ave	Chattanooga	TN	374061334
5507	909 Mueller Ave	Chattanooga	TN	374061334
5508	909 Mueller Ave	Chattanooga	TN	374061334
5509	909 Mueller Ave	Chattanooga	TN	374061334
5510	909 Mueller Ave	Chattanooga	TN	374061334
5511	909 Mueller Ave	Chattanooga	TN	374061334
5512	909 Mueller Ave	Chattanooga	TN	374061334
5513	909 Mueller Ave	Chattanooga	TN	374061334
5514				
5515	909 Mueller Ave	Chattanooga	TN	374061334
5516	909 Mueller Ave	Chattanooga	TN	374061334
5517	909 Mueller Ave	Chattanooga	TN	374061334
5518	909 Mueller Ave	Chattanooga	TN	374061334
5519	909 Mueller Ave	Chattanooga	TN	374061334
5520	909 Mueller Ave	Chattanooga	TN	374061334
5521	909 Mueller Ave	Chattanooga	TN	374061334
5522	909 Mueller Ave	Chattanooga	TN	374061334
5523	909 Mueller Ave	Chattanooga	TN	374061334
5524	909 Mueller Ave	Chattanooga	TN	374061334
5525	909 Mueller Ave	Chattanooga	TN	374061334
5526	909 Mueller Ave	Chattanooga	TN	374061334
5527				
5528	909 Mueller Ave	Chattanooga	TN	374061334
5529	909 Mueller Ave	Chattanooga	TN	374061334
5530	909 Mueller Ave	Chattanooga	TN	374061334
5531	909 Mueller Ave	Chattanooga	TN	374061334
5532	909 Mueller Ave	Chattanooga	TN	374061334
5533	909 Mueller Ave	Chattanooga	TN	374061334
5534	909 Mueller Ave	Chattanooga	TN	374061334
5535	909 Mueller Ave	Chattanooga	TN	374061334
5536	909 Mueller Ave	Chattanooga	TN	374061334
5537	909 Mueller Ave	Chattanooga	TN	374061334
5538	909 Mueller Ave	Chattanooga	TN	374061334
5539	909 Mueller Ave	Chattanooga	TN	374061334
5540				
5541	909 Mueller Ave	Chattanooga	TN	374061334
5542	909 Mueller Ave	Chattanooga	TN	374061334
5543	909 Mueller Ave	Chattanooga	TN	374061334
5544				
5545	401 River Terminal Rd	Chattanooga	TN	374061722
5546	401 River Terminal Rd	Chattanooga	TN	374061722
5547	401 River Terminal Rd	Chattanooga	TN	374061722
5548	401 River Terminal Rd	Chattanooga	TN	374061722
5549	401 River Terminal Rd	Chattanooga	TN	374061722

	N	O	P	Q
5500	1351.72	1000G	2651.54	A3MSM
5501	14569		29093.79	
5502	1626.26	1000G	3174.7	A3MSM
5503	1166.21	1000G	2261.18	A3MSM
5504	1283.65	1000G	2539.24	A3MSM
5505	1496.85	1000G	2989.63	A3MSM
5506	1005.38	1000G	2160.96	A3MSM
5507	1071.21	1000G	2273.77	A3MSM
5508	944.78	1000G	2057.12	A3MSM
5509	946.28	1000G	2059.68	A3MSM
5510	1025.57	1000G	2195.57	A3MSM
5511	1232.78	1000G	2550.69	A3MSM
5512	1319.56	1000G	2699.4	A3MSM
5513	1086.91	1000G	2300.7	A3MSM
5514	14205.44		29262.64	
5515	1372.67	1000G	2790.42	A3MSM
5516	1359.21	1000G	2767.34	A3MSM
5517	1279.16	1000G	2630.17	A3MSM
5518	1147.51	1000G	2404.54	A3MSM
5519	1225.3	1000G	2537.87	A3MSM
5520	1281.41	1000G	2634.02	A3MSM
5521	1300.11	1000G	2666.07	A3MSM
5522	1163.22	1000G	2431.46	A3MSM
5523	1264.95	1000G	2605.81	A3MSM
5524	1196.88	1000G	2489.15	A3MSM
5525	1228.3	1000G	2542.99	A3MSM
5526	1426.53	1000G	2882.72	A3MSM
5527	15245.25		31382.56	
5528	1193.14	1000G	2482.74	A3MSM
5529	1247	1000G	2575.04	A3MSM
5530	1502.83	1000G	3013.49	A3MSM
5531	1351.72	1000G	2754.52	A3MSM
5532	1386.14	1000G	2813.5	A3MSM
5533	1098.14	1000G	2426.86	A3MSM
5534	1219.32	1000G	2845.35	A3MSM
5535	1138.53	1000G	2689.51	A3MSM
5536	1193.14	1000G	2794.85	A3MSM
5537	1354.72	1000G	3106.53	A3MSM
5538	1252.23	1000G	2908.84	A3MSM
5539	1389.13	1000G	3172.91	A3MSM
5540	15326.04		33584.14	
5541	1491.61	1000G	3370.6	A3MSM
5542	1368.18	1000G	3132.51	A3MSM
5543	1350.23	1000G	3097.88	A3MSM
5544	4210.02		9600.99	
5545	7.48	1000G	25.35	A3M4
5546	8.22	1000G	27.98	A3M4
5547	7.48	1000G	25.35	A3M4
5548	8.22	1000G	27.98	A3M4
5549	8.97	1000G	30.6	A3M4

	A	B	C	D	E
5550	2600	2603	26CC	3	6
5551	2600	2603	26CC	3	7
5552	2600	2603	26CC	3	8
5553	2600	2603	26CC	3	9
5554	2600	2603	26CC	3	10
5555	2600	2603	26CC	3	11
5556	2600	2603	26CC	3	12
5557					
5558	2600	2603	26CC	3	1
5559	2600	2603	26CC	3	2
5560	2600	2603	26CC	3	3
5561	2600	2603	26CC	3	4
5562	2600	2603	26CC	3	5
5563	2600	2603	26CC	3	6
5564	2600	2603	26CC	3	7
5565	2600	2603	26CC	3	8
5566	2600	2603	26CC	3	9
5567	2600	2603	26CC	3	10
5568	2600	2603	26CC	3	11
5569	2600	2603	26CC	3	12
5570					
5571	2600	2603	26CC	3	1
5572	2600	2603	26CC	3	2
5573	2600	2603	26CC	3	3
5574	2600	2603	26CC	3	4
5575	2600	2603	26CC	3	5
5576	2600	2603	26CC	3	6
5577	2600	2603	26CC	3	7
5578	2600	2603	26CC	3	8
5579	2600	2603	26CC	3	9
5580	2600	2603	26CC	3	10
5581	2600	2603	26CC	3	11
5582	2600	2603	26CC	3	12
5583					
5584	2600	2603	26CC	3	1
5585	2600	2603	26CC	3	2
5586	2600	2603	26CC	3	3
5587	2600	2603	26CC	3	4
5588	2600	2603	26CC	3	5
5589	2600	2603	26CC	3	6
5590	2600	2603	26CC	3	7
5591	2600	2603	26CC	3	8
5592	2600	2603	26CC	3	9
5593	2600	2603	26CC	3	10
5594	2600	2603	26CC	3	11
5595	2600	2603	26CC	3	12
5596					
5597	2600	2603	26CC	3	1
5598	2600	2603	26CC	3	2
5599	2600	2603	26CC	3	3

	F	G	H	I
5550	2004	113405	260079542	Metals Usa Chattanooga
5551	2004	113405	260079542	Metals Usa Chattanooga
5552	2004	113405	260079542	Metals Usa Chattanooga
5553	2004	113405	260079542	Metals Usa Chattanooga
5554	2004	113405	260079542	Metals Usa Chattanooga
5555	2004	113405	260079542	Metals Usa Chattanooga
5556	2004	113405	260079542	Metals Usa Chattanooga
5557	**2004 Total**			
5558	2005	113405	260079542	Metals Usa Chattanooga
5559	2005	113405	260079542	Metals Usa Chattanooga
5560	2005	113405	260079542	Metals Usa Chattanooga
5561	2005	113405	260079542	Metals Usa Chattanooga
5562	2005	113405	260079542	Metals Usa Chattanooga
5563	2005	113405	260079542	Metals Usa Chattanooga
5564	2005	113405	260079542	Metals Usa Chattanooga
5565	2005	113405	260079542	Metals Usa Chattanooga
5566	2005	113405	260079542	Metals Usa Chattanooga
5567	2005	113405	260079542	Metals Usa Chattanooga
5568	2005	113405	260079542	Metals Usa Chattanooga
5569	2005	113405	260079542	Metals Usa Chattanooga
5570	**2005 Total**			
5571	2006	113405	260079542	Metals Usa Chattanooga
5572	2006	113405	260079542	Metals Usa Chattanooga
5573	2006	113405	260079542	Metals Usa Chattanooga
5574	2006	113405	260079542	Metals Usa Chattanooga
5575	2006	113405	260079542	Metals Usa Chattanooga
5576	2006	113405	260079542	Metals Usa Chattanooga
5577	2006	113405	260079542	Metals Usa Chattanooga
5578	2006	113405	260079542	Metals Usa Chattanooga
5579	2006	113405	260079542	Metals Usa Chattanooga
5580	2006	113405	260079542	Metals Usa Chattanooga
5581	2006	113405	260079542	Metals Usa Chattanooga
5582	2006	113405	260079542	Metals Usa Chattanooga
5583	**2006 Total**			
5584	2007	113405	260079542	Metals Usa Chattanooga
5585	2007	113405	260079542	Metals Usa Chattanooga
5586	2007	113405	260079542	Metals Usa Chattanooga
5587	2007	113405	260079542	Metals Usa Chattanooga
5588	2007	113405	260079542	Metals Usa Chattanooga
5589	2007	113405	260079542	Metals Usa Chattanooga
5590	2007	113405	260079542	Metals Usa Chattanooga
5591	2007	113405	260079542	Metals Usa Chattanooga
5592	2007	113405	260079542	Metals Usa Chattanooga
5593	2007	113405	260079542	Metals Usa Chattanooga
5594	2007	113405	260079542	Metals Usa Chattanooga
5595	2007	113405	260079542	Metals Usa Chattanooga
5596	**2007 Total**			
5597	2008	113405	260079542	Metals Usa Chattanooga
5598	2008	113405	260079542	Metals Usa Chattanooga
5599	2008	113405	260079542	Metals Usa Chattanooga

	J	K	L	M
5550	401 River Terminal Rd	Chattanooga	TN	374061722
5551	401 River Terminal Rd	Chattanooga	TN	374061722
5552	401 River Terminal Rd	Chattanooga	TN	374061722
5553	401 River Terminal Rd	Chattanooga	TN	374061722
5554	401 River Terminal Rd	Chattanooga	TN	374061722
5555	401 River Terminal Rd	Chattanooga	TN	374061722
5556	401 River Terminal Rd	Chattanooga	TN	374061722
5557				
5558	401 River Terminal Rd	Chattanooga	TN	374061722
5559	401 River Terminal Rd	Chattanooga	TN	374061722
5560	401 River Terminal Rd	Chattanooga	TN	374061722
5561	401 River Terminal Rd	Chattanooga	TN	374061722
5562	401 River Terminal Rd	Chattanooga	TN	374061722
5563	401 River Terminal Rd	Chattanooga	TN	374061722
5564	401 River Terminal Rd	Chattanooga	TN	374061722
5565	401 River Terminal Rd	Chattanooga	TN	374061722
5566	401 River Terminal Rd	Chattanooga	TN	374061722
5567	401 River Terminal Rd	Chattanooga	TN	374061722
5568	401 River Terminal Rd	Chattanooga	TN	374061722
5569	401 River Terminal Rd	Chattanooga	TN	374061722
5570				
5571	401 River Terminal Rd	Chattanooga	TN	374061722
5572	401 River Terminal Rd	Chattanooga	TN	374061722
5573	401 River Terminal Rd	Chattanooga	TN	374061722
5574	401 River Terminal Rd	Chattanooga	TN	374061722
5575	401 River Terminal Rd	Chattanooga	TN	374061722
5576	401 River Terminal Rd	Chattanooga	TN	374061722
5577	401 River Terminal Rd	Chattanooga	TN	374061722
5578	401 River Terminal Rd	Chattanooga	TN	374061722
5579	401 River Terminal Rd	Chattanooga	TN	374061722
5580	401 River Terminal Rd	Chattanooga	TN	374061722
5581	401 River Terminal Rd	Chattanooga	TN	374061722
5582	401 River Terminal Rd	Chattanooga	TN	374061722
5583				
5584	401 River Terminal Rd	Chattanooga	TN	374061722
5585	401 River Terminal Rd	Chattanooga	TN	374061722
5586	401 River Terminal Rd	Chattanooga	TN	374061722
5587	401 River Terminal Rd	Chattanooga	TN	374061722
5588	401 River Terminal Rd	Chattanooga	TN	374061722
5589	401 River Terminal Rd	Chattanooga	TN	374061722
5590	401 River Terminal Rd	Chattanooga	TN	374061722
5591	401 River Terminal Rd	Chattanooga	TN	374061722
5592	401 River Terminal Rd	Chattanooga	TN	374061722
5593	401 River Terminal Rd	Chattanooga	TN	374061722
5594	401 River Terminal Rd	Chattanooga	TN	374061722
5595	401 River Terminal Rd	Chattanooga	TN	374061722
5596				
5597	401 River Terminal Rd	Chattanooga	TN	374061722
5598	401 River Terminal Rd	Chattanooga	TN	374061722
5599	401 River Terminal Rd	Chattanooga	TN	374061722

	N	O	P	Q
5550	10.47	1000G	35.86	A3M4
5551	8.22	1000G	27.98	A3M4
5552	8.97	1000G	30.6	A3M4
5553	8.97	1000G	30.6	A3M4
5554	8.22	1000G	27.98	A3M4
5555	8.97	1000G	30.6	A3M4
5556	7.48	1000G	25.35	A3M4
5557	101.67		346.23	
5558	7.48	1000G	25.35	A3M4
5559	8.22	1000G	27.98	A3M4
5560	6.73	1000G	22.72	A3M4
5561	7.48	1000G	26.22	A3M4
5562	5.98	1000G	20.87	A3M4
5563	7.48	1000G	26.33	A3M4
5564	7.48	1000G	26.33	A3M4
5565	6.73	1000G	23.6	A3M4
5566	5.23	1000G	18.14	A3M4
5567	8.22	1000G	29.06	A3M4
5568	4.48	1000G	15.41	A3M4
5569	5.98	1000G	20.87	A3M4
5570	81.49		282.88	
5571	4.48	1000G	15.41	A3M4
5572	5.98	1000G	20.87	A3M4
5573	5.98	1000G	20.87	A3M4
5574	5.98	1000G	20.87	A3M4
5575	5.98	1000G	20.87	A3M4
5576	5.23	1000G	18.14	A3M4
5577	5.98	1000G	20.87	A3M4
5578	7.48	1000G	26.33	A3M4
5579	6.73	1000G	23.6	A3M4
5580	6.73	1000G	23.6	A3M4
5581	6.73	1000G	23.6	A3M4
5582	5.98	1000G	20.87	A3M4
5583	73.26		255.9	
5584	3.74	1000G	12.68	A3M4
5585	3.74	1000G	12.68	A3M4
5586	2.24	1000G	9.78	A3M4
5587	0	1000G	9.26	A3M4
5588	0	1000G	9.26	A3M4
5589	0	1000G	9.68	A3M4
5590	0	1000G	10.42	A3M4
5591	0	1000G	10.42	A3M4
5592	0	1000G	10.42	A3M4
5593	0	1000G	10.42	A3M4
5594	0	1000G	10.42	A3M4
5595	0	1000G	10.42	A3M4
5596	9.72		125.86	
5597	0	1000G	10.42	A3M4
5598	0	1000G	10.42	A3M4
5599	0.74	1000G	10.61	A3M4

	A	B	C	D	E
5600					
5601	2600	2603	26CC	3	1
5602	2600	2603	26CC	3	2
5603	2600	2603	26CC	3	3
5604	2600	2603	26CC	3	4
5605	2600	2603	26CC	3	5
5606	2600	2603	26CC	3	6
5607	2600	2603	26CC	3	7
5608	2600	2603	26CC	3	8
5609	2600	2603	26CC	3	9
5610	2600	2603	26CC	3	10
5611	2600	2603	26CC	3	11
5612	2600	2603	26CC	3	12
5613					
5614	2600	2603	26CC	3	1
5615	2600	2603	26CC	3	2
5616	2600	2603	26CC	3	3
5617	2600	2603	26CC	3	4
5618	2600	2603	26CC	3	5
5619	2600	2603	26CC	3	6
5620	2600	2603	26CC	3	7
5621	2600	2603	26CC	3	8
5622	2600	2603	26CC	3	9
5623	2600	2603	26CC	3	10
5624	2600	2603	26CC	3	11
5625	2600	2603	26CC	3	12
5626					
5627	2600	2603	26CC	3	1
5628	2600	2603	26CC	3	2
5629	2600	2603	26CC	3	3
5630	2600	2603	26CC	3	4
5631	2600	2603	26CC	3	5
5632	2600	2603	26CC	3	6
5633	2600	2603	26CC	3	7
5634	2600	2603	26CC	3	8
5635	2600	2603	26CC	3	9
5636	2600	2603	26CC	3	10
5637	2600	2603	26CC	3	11
5638	2600	2603	26CC	3	12
5639					
5640	2600	2603	26CC	3	1
5641	2600	2603	26CC	3	2
5642	2600	2603	26CC	3	3
5643	2600	2603	26CC	3	4
5644	2600	2603	26CC	3	5
5645	2600	2603	26CC	3	6
5646	2600	2603	26CC	3	7
5647	2600	2603	26CC	3	8
5648	2600	2603	26CC	3	8
5649	2600	2603	26CC	3	10

	F	G	H	I
5600	**2008 Total**			
5601	2004	113823	260079832	D M Steward Mfg Co
5602	2004	113823	260079832	D M Steward Mfg Co
5603	2004	113823	260079832	D M Steward Mfg Co
5604	2004	113823	260079832	D M Steward Mfg Co
5605	2004	113823	260079832	D M Steward Mfg Co
5606	2004	113823	260079832	D M Steward Mfg Co
5607	2004	113823	260079832	D M Steward Mfg Co
5608	2004	113823	260079832	D M Steward Mfg Co
5609	2004	113823	260079832	D M Steward Mfg Co
5610	2004	113823	260079832	D M Steward Mfg Co
5611	2004	113823	260079832	D M Steward Mfg Co
5612	2004	113823	260079832	D M Steward Mfg Co
5613	**2004 Total**			
5614	2005	113823	260079832	D M Steward Mfg Co
5615	2005	113823	260079832	D M Steward Mfg Co
5616	2005	113823	260079832	D M Steward Mfg Co
5617	2005	113823	260079832	D M Steward Mfg Co
5618	2005	113823	260079832	D M Steward Mfg Co
5619	2005	113823	260079832	D M Steward Mfg Co
5620	2005	113823	260079832	D M Steward Mfg Co
5621	2005	113823	260079832	D M Steward Mfg Co
5622	2005	113823	260079832	D M Steward Mfg Co
5623	2005	113823	260079832	D M Steward Mfg Co
5624	2005	113823	260079832	D M Steward Mfg Co
5625	2005	113823	260079832	D M Steward Mfg Co
5626	**2005 Total**			
5627	2006	113823	260079832	D M Steward Mfg Co
5628	2006	113823	260079832	D M Steward Mfg Co
5629	2006	113823	260079832	D M Steward Mfg Co
5630	2006	113823	260079832	D M Steward Mfg Co
5631	2006	113823	260079832	D M Steward Mfg Co
5632	2006	113823	260079832	D M Steward Mfg Co
5633	2006	113823	260079832	D M Steward Mfg Co
5634	2006	113823	260079832	D M Steward Mfg Co
5635	2006	113823	260079832	D M Steward Mfg Co
5636	2006	113823	260079832	D M Steward Mfg Co
5637	2006	113823	260079832	D M Steward Mfg Co
5638	2006	113823	260079832	D M Steward Mfg Co
5639	**2006 Total**			
5640	2007	113823	260079832	D M Steward Mfg Co
5641	2007	113823	260079832	D M Steward Mfg Co
5642	2007	113823	260079832	D M Steward Mfg Co
5643	2007	113823	260079832	D M Steward Mfg Co
5644	2007	113823	260079832	D M Steward Mfg Co
5645	2007	113823	260079832	D M Steward Mfg Co
5646	2007	113823	260079832	D M Steward Mfg Co
5647	2007	113823	260079832	D M Steward Mfg Co
5648	2007	113823	260079832	D M Steward Mfg Co
5649	2007	113823	260079832	D M Steward Mfg Co

	J	K	L	M
5600				
5601	1200 E 36th St	Chattanooga	TN	374072489
5602	1200 E 36th St	Chattanooga	TN	374072489
5603	1200 E 36th St	Chattanooga	TN	374072489
5604	1200 E 36th St	Chattanooga	TN	374072489
5605	1200 E 36th St	Chattanooga	TN	374072489
5606	1200 E 36th St	Chattanooga	TN	374072489
5607	1200 E 36th St	Chattanooga	TN	374072489
5608	1200 E 36th St	Chattanooga	TN	374072489
5609	1200 E 36th St	Chattanooga	TN	374072489
5610	1200 E 36th St	Chattanooga	TN	374072489
5611	1200 E 36th St	Chattanooga	TN	374072489
5612	1200 E 36th St	Chattanooga	TN	374072489
5613				
5614	1200 E 36th St	Chattanooga	TN	374072489
5615	1200 E 36th St	Chattanooga	TN	374072489
5616	1200 E 36th St	Chattanooga	TN	374072489
5617	1200 E 36th St	Chattanooga	TN	374072489
5618	1200 E 36th St	Chattanooga	TN	374072489
5619	1200 E 36th St	Chattanooga	TN	374072489
5620	1200 E 36th St	Chattanooga	TN	374072489
5621	1200 E 36th St	Chattanooga	TN	374072489
5622	1200 E 36th St	Chattanooga	TN	374072489
5623	1200 E 36th St	Chattanooga	TN	374072489
5624	1200 E 36th St	Chattanooga	TN	374072489
5625	1200 E 36th St	Chattanooga	TN	374072489
5626				
5627	1200 E 36th St	Chattanooga	TN	374072489
5628	1200 E 36th St	Chattanooga	TN	374072489
5629	1200 E 36th St	Chattanooga	TN	374072489
5630	1200 E 36th St	Chattanooga	TN	374072489
5631	1200 E 36th St	Chattanooga	TN	374072489
5632	1200 E 36th St	Chattanooga	TN	374072489
5633	1200 E 36th St	Chattanooga	TN	374072489
5634	1200 E 36th St	Chattanooga	TN	374072489
5635	1200 E 36th St	Chattanooga	TN	374072489
5636	1200 E 36th St	Chattanooga	TN	374072489
5637	1200 E 36th St	Chattanooga	TN	374072489
5638	1200 E 36th St	Chattanooga	TN	374072489
5639				
5640	1200 E 36th St	Chattanooga	TN	374072489
5641	1200 E 36th St	Chattanooga	TN	374072489
5642	1200 E 36th St	Chattanooga	TN	374072489
5643	1200 E 36th St	Chattanooga	TN	374072489
5644	1200 E 36th St	Chattanooga	TN	374072489
5645	1200 E 36th St	Chattanooga	TN	374072489
5646	1200 E 36th St	Chattanooga	TN	374072489
5647	1200 E 36th St	Chattanooga	TN	374072489
5648	1200 E 36th St	Chattanooga	TN	374072489
5649	1200 E 36th St	Chattanooga	TN	374072489

	N	O	P	Q
5600	0.74		31.45	
5601	20.19	1000G	110.97	A3M4
5602	20.94	1000G	113.6	A3M4
5603	17.95	1000G	103.09	A3M4
5604	29.92	1000G	145.14	A3M4
5605	23.93	1000G	124.11	A3M4
5606	23.93	1000G	124.11	A3M4
5607	24.68	1000G	126.74	A3M4
5608	30.67	1000G	147.77	A3M4
5609	33.66	1000G	158.28	A3M4
5610	50.11	1000G	214.14	A3M4
5611	41.89	1000G	187.19	A3M4
5612	12.71	1000G	84.69	A3M4
5613	330.58		1639.83	
5614	13.46	1000G	87.32	A3M4
5615	29.17	1000G	142.51	A3M4
5616	17.2	1000G	100.46	A3M4
5617	26.18	1000G	135.96	A3M4
5618	19.44	1000G	112.54	A3M4
5619	19.44	1000G	112.54	A3M4
5620	31.41	1000G	156.22	A3M4
5621	24.68	1000G	131.65	A3M4
5622	17.95	1000G	107.08	A3M4
5623	15.7	1000G	98.89	A3M4
5624	14.96	1000G	96.16	A3M4
5625	14.96	1000G	96.16	A3M4
5626	244.55		1377.49	
5627	14.21	1000G	93.43	A3M4
5628	13.46	1000G	90.7	A3M4
5629	14.96	1000G	96.16	A3M4
5630	20.94	1000G	118	A3M4
5631	17.95	1000G	107.08	A3M4
5632	32.91	1000G	161.68	A3M4
5633	28.42	1000G	145.3	A3M4
5634	16.45	1000G	101.62	A3M4
5635	34.41	1000G	167.14	A3M4
5636	17.95	1000G	107.08	A3M4
5637	15.7	1000G	98.89	A3M4
5638	13.45	1000G	90.7	A3M4
5639	240.81		1377.78	
5640	10.47	1000G	79.78	A3M4
5641	15.7	1000G	98.89	A3M4
5642	17.95	1000G	107.08	A3M4
5643	17.95	1000G	107.08	A3M4
5644	11.96	1000G	85.24	A3M4
5645	17.2	1000G	107.63	A3M4
5646	16.45	1000G	114.39	A3M4
5647	20.19	1000G	129.76	A3M4
5648	32.91	1000G	182	A3M4
5649	10.47	1000G	89.81	A3M4

	A	B	C	D	E
5650	2600	2603	26CC	3	10
5651	2600	2603	26CC	3	11
5652					
5653	2600	2603	26CC	3	1
5654	2600	2603	26CC	3	1
5655	2600	2603	26CC	3	2
5656					
5657	2600	2603	26CC	3	1
5658	2600	2603	26CC	3	2
5659	2600	2603	26CC	3	3
5660	2600	2603	26CC	3	4
5661	2600	2603	26CC	3	5
5662	2600	2603	26CC	3	6
5663	2600	2603	26CC	3	7
5664	2600	2603	26CC	3	8
5665	2600	2603	26CC	3	9
5666	2600	2603	26CC	3	10
5667	2600	2603	26CC	3	11
5668	2600	2603	26CC	3	12
5669					
5670	2600	2603	26CC	3	1
5671	2600	2603	26CC	3	2
5672	2600	2603	26CC	3	3
5673	2600	2603	26CC	3	4
5674	2600	2603	26CC	3	5
5675	2600	2603	26CC	3	6
5676	2600	2603	26CC	3	7
5677	2600	2603	26CC	3	8
5678	2600	2603	26CC	3	9
5679	2600	2603	26CC	3	10
5680	2600	2603	26CC	3	11
5681	2600	2603	26CC	3	12
5682					
5683	2600	2603	26CC	3	1
5684	2600	2603	26CC	3	2
5685	2600	2603	26CC	3	3
5686	2600	2603	26CC	3	3
5687	2600	2603	26CC	3	5
5688	2600	2603	26CC	3	6
5689	2600	2603	26CC	3	7
5690	2600	2603	26CC	3	8
5691	2600	2603	26CC	3	8
5692	2600	2603	26CC	3	10
5693	2600	2603	26CC	3	10
5694	2600	2603	26CC	3	12
5695					
5696	2600	2603	26CC	3	1
5697	2600	2603	26CC	3	1
5698	2600	2603	26CC	3	2
5699	2600	2603	26CC	3	3

	F	G	H	I
5650	2007	113823	260079832	D M Steward Mfg Co
5651	2007	113823	260079832	D M Steward Mfg Co
5652	**2007 Total**			
5653	2008	113823	260079832	D M Steward Mfg Co
5654	2008	113823	260079832	D M Steward Mfg Co
5655	2008	113823	260079832	D M Steward Mfg Co
5656	**2008 Total**			
5657	2004	114635	260080709	Komatsu American Mfg
5658	2004	114635	260080709	Komatsu American Mfg
5659	2004	114635	260080709	Komatsu American Mfg
5660	2004	114635	260080709	Komatsu American Mfg
5661	2004	114635	260080709	Komatsu American Mfg
5662	2004	114635	260080709	Komatsu American Mfg
5663	2004	114635	260080709	Komatsu American Mfg
5664	2004	114635	260080709	Komatsu American Mfg
5665	2004	114635	260080709	Komatsu American Mfg
5666	2004	114635	260080709	Komatsu American Mfg
5667	2004	114635	260080709	Komatsu American Mfg
5668	2004	114635	260080709	Komatsu American Mfg
5669	**2004 Total**			
5670	2005	114635	260080709	Komatsu American Mfg
5671	2005	114635	260080709	Komatsu American Mfg
5672	2005	114635	260080709	Komatsu American Mfg
5673	2005	114635	260080709	Komatsu American Mfg
5674	2005	114635	260080709	Komatsu American Mfg
5675	2005	114635	260080709	Komatsu American Mfg
5676	2005	114635	260080709	Komatsu American Mfg
5677	2005	114635	260080709	Komatsu American Mfg
5678	2005	114635	260080709	Komatsu American Mfg
5679	2005	114635	260080709	Komatsu American Mfg
5680	2005	114635	260080709	Komatsu American Mfg
5681	2005	114635	260080709	Komatsu American Mfg
5682	**2005 Total**			
5683	2006	114635	260080709	Komatsu American Mfg
5684	2006	114635	260080709	Komatsu American Mfg
5685	2006	114635	260080709	Komatsu American Mfg
5686	2006	114635	260080709	Komatsu American Mfg
5687	2006	114635	260080709	Komatsu American Mfg
5688	2006	114635	260080709	Komatsu American Mfg
5689	2006	114635	260080709	Komatsu American Mfg
5690	2006	114635	260080709	Komatsu American Mfg
5691	2006	114635	260080709	Komatsu American Mfg
5692	2006	114635	260080709	Komatsu American Mfg
5693	2006	114635	260080709	Komatsu American Mfg
5694	2006	114635	260080709	Komatsu American Mfg
5695	**2006 Total**			
5696	2007	114635	260080709	Komatsu American Mfg
5697	2007	114635	260080709	Komatsu American Mfg
5698	2007	114635	260080709	Komatsu American Mfg
5699	2007	114635	260080709	Komatsu American Mfg

	J	K	L	M
5650	1200 E 36th St	Chattanooga	TN	374072489
5651	1200 E 36th St	Chattanooga	TN	374072489
5652				
5653	1200 E 36th St	Chattanooga	TN	374072489
5654	1200 E 36th St	Chattanooga	TN	374072489
5655	1200 E 36th St	Chattanooga	TN	374072489
5656				
5657	Runyan Dr	Chattanooga	TN	37405
5658	Runyan Dr	Chattanooga	TN	37405
5659	Runyan Dr	Chattanooga	TN	37405
5660	Runyan Dr	Chattanooga	TN	37405
5661	Runyan Dr	Chattanooga	TN	37405
5662	Runyan Dr	Chattanooga	TN	37405
5663	Runyan Dr	Chattanooga	TN	37405
5664	Runyan Dr	Chattanooga	TN	37405
5665	Runyan Dr	Chattanooga	TN	37405
5666	Runyan Dr	Chattanooga	TN	37405
5667	Runyan Dr	Chattanooga	TN	37405
5668	Runyan Dr	Chattanooga	TN	37405
5669				
5670	Runyan Dr	Chattanooga	TN	37405
5671	Runyan Dr	Chattanooga	TN	37405
5672	Runyan Dr	Chattanooga	TN	37405
5673	Runyan Dr	Chattanooga	TN	37405
5674	Runyan Dr	Chattanooga	TN	37405
5675	Runyan Dr	Chattanooga	TN	37405
5676	Runyan Dr	Chattanooga	TN	37405
5677	Runyan Dr	Chattanooga	TN	37405
5678	Runyan Dr	Chattanooga	TN	37405
5679	Runyan Dr	Chattanooga	TN	37405
5680	Runyan Dr	Chattanooga	TN	37405
5681	Runyan Dr	Chattanooga	TN	37405
5682				
5683	Runyan Dr	Chattanooga	TN	37405
5684	Runyan Dr	Chattanooga	TN	37405
5685	Runyan Dr	Chattanooga	TN	37405
5686	Runyan Dr	Chattanooga	TN	37405
5687	Runyan Dr	Chattanooga	TN	37405
5688	Runyan Dr	Chattanooga	TN	37405
5689	Runyan Dr	Chattanooga	TN	37405
5690	Runyan Dr	Chattanooga	TN	37405
5691	Runyan Dr	Chattanooga	TN	37405
5692	Runyan Dr	Chattanooga	TN	37405
5693	Runyan Dr	Chattanooga	TN	37405
5694	Runyan Dr	Chattanooga	TN	37405
5695				
5696	Runyan Dr	Chattanooga	TN	37405
5697	Runyan Dr	Chattanooga	TN	37405
5698	Runyan Dr	Chattanooga	TN	37405
5699	Runyan Dr	Chattanooga	TN	37405

	N	O	P	Q
5650	16.45	1000G	114.39	A3M4
5651	36.65	1000G	197.37	A3M4
5652	224.35		1413.42	
5653	15.7	1000G	111.32	A3M4
5654	15.7	1000G	111.32	A3M4
5655	23.18	1000G	142.05	A3M4
5656	54.58		364.69	
5657	55.35	1000G	255.6	A3M4
5658	35.9	1000G	196.06	A3M4
5659	36.65	1000G	198.69	A3M4
5660	56.1	1000G	257.25	A3M4
5661	63.58	1000G	273.76	A3M4
5662	80.04	1000G	310.08	A3M4
5663	56.1	1000G	257.25	A3M4
5664	114.45	1000G	386.03	A3M4
5665	42.63	1000G	219.71	A3M4
5666	31.41	1000G	180.29	A3M4
5667	32.91	1000G	185.55	A3M4
5668	44.88	1000G	227.6	A3M4
5669	650		2947.87	
5670	-7.48	1000G	43.63	A3M4
5671	35.15	1000G	193.43	A3M4
5672	36.65	1000G	198.69	A3M4
5673	29.17	1000G	177.37	A3M4
5674	24.68	1000G	162.71	A3M4
5675	16.45	1000G	132.68	A3M4
5676	18.7	1000G	140.87	A3M4
5677	10.47	1000G	110.84	A3M4
5678	83.78	1000G	330.68	A3M4
5679	37.4	1000G	209.12	A3M4
5680	106.22	1000G	382.13	A3M4
5681	33.66	1000G	195.47	A3M4
5682	424.85		2277.62	
5683	30.67	1000G	184.55	A3M4
5684	24.68	1000G	162.71	A3M4
5685	27.67	1000G	173.63	A3M4
5686	36.65	1000G	206.39	A3M4
5687	22.44	1000G	154.52	A3M4
5688	24.68	1000G	162.71	A3M4
5689	21.69	1000G	151.79	A3M4
5690	21.69	1000G	151.79	A3M4
5691	26.92	1000G	170.9	A3M4
5692	43.38	1000G	230.96	A3M4
5693	127.91	1000G	431.86	A3M4
5694	112.95	1000G	397.56	A3M4
5695	521.33		2579.37	
5696	83.03	1000G	328.96	A3M4
5697	377.76	1000G	1002.51	A3M4
5698	100.23	1000G	368.41	A3M4
5699	114.45	1000G	400.99	A3M4

	A	B	C	D	E
5700	2600	2603	26CC	3	4
5701	2600	2603	26CC	3	5
5702	2600	2603	26CC	3	6
5703	2600	2603	26CC	3	7
5704	2600	2603	26CC	3	8
5705	2600	2603	26CC	3	9
5706	2600	2603	26CC	3	10
5707	2600	2603	26CC	3	11
5708	2600	2603	26CC	3	12
5709					
5710	2600	2603	26CC	3	1
5711	2600	2603	26CC	3	2
5712	2600	2603	26CC	3	3
5713					
5714	2600	2603	26CC	3	1
5715	2600	2603	26CC	3	2
5716	2600	2603	26CC	3	3
5717	2600	2603	26CC	3	4
5718	2600	2603	26CC	3	5
5719	2600	2603	26CC	3	6
5720	2600	2603	26CC	3	7
5721	2600	2603	26CC	3	8
5722	2600	2603	26CC	3	9
5723	2600	2603	26CC	3	10
5724	2600	2603	26CC	3	11
5725	2600	2603	26CC	3	12
5726					
5727	2600	2603	26CC	3	1
5728	2600	2603	26CC	3	2
5729	2600	2603	26CC	3	3
5730	2600	2603	26CC	3	4
5731	2600	2603	26CC	3	5
5732	2600	2603	26CC	3	6
5733	2600	2603	26CC	3	7
5734	2600	2603	26CC	3	8
5735	2600	2603	26CC	3	9
5736	2600	2603	26CC	3	9
5737	2600	2603	26CC	3	9
5738	2600	2603	26CC	3	10
5739	2600	2603	26CC	3	11
5740	2600	2603	26CC	3	11
5741	2600	2603	26CC	3	11
5742	2600	2603	26CC	3	12
5743					
5744	2600	2603	26CC	3	1
5745	2600	2603	26CC	3	2
5746	2600	2603	26CC	3	3
5747	2600	2603	26CC	3	4
5748	2600	2603	26CC	3	5
5749	2600	2603	26CC	3	6

	F	G	H	I
5700	2007	114635	260080709	Komatsu American Mfg
5701	2007	114635	260080709	Komatsu American Mfg
5702	2007	114635	260080709	Komatsu American Mfg
5703	2007	114635	260080709	Komatsu American Mfg
5704	2007	114635	260080709	Komatsu American Mfg
5705	2007	114635	260080709	Komatsu American Mfg
5706	2007	114635	260080709	Komatsu American Mfg
5707	2007	114635	260080709	Komatsu American Mfg
5708	2007	114635	260080709	Komatsu American Mfg
5709	**2007 Total**			
5710	2008	114635	260080709	Komatsu American Mfg
5711	2008	114635	260080709	Komatsu American Mfg
5712	2008	114635	260080709	Komatsu American Mfg
5713	**2008 Total**			
5714	2004	114637	260080711	Executive Flight Inc
5715	2004	114637	260080711	Executive Flight Inc
5716	2004	114637	260080711	Executive Flight Inc
5717	2004	114637	260080711	Executive Flight Inc
5718	2004	114637	260080711	Executive Flight Inc
5719	2004	114637	260080711	Executive Flight Inc
5720	2004	114637	260080711	Executive Flight Inc
5721	2004	114637	260080711	Executive Flight Inc
5722	2004	114637	260080711	Executive Flight Inc
5723	2004	114637	260080711	Executive Flight Inc
5724	2004	114637	260080711	Executive Flight Inc
5725	2004	114637	260080711	Executive Flight Inc
5726	**2004 Total**			
5727	2005	114637	260080711	Executive Flight Inc
5728	2005	114637	260080711	Executive Flight Inc
5729	2005	114637	260080711	Executive Flight Inc
5730	2005	114637	260080711	Executive Flight Inc
5731	2005	114637	260080711	Executive Flight Inc
5732	2005	114637	260080711	Executive Flight Inc
5733	2005	114637	260080711	Executive Flight Inc
5734	2005	114637	260080711	Executive Flight Inc
5735	2005	114637	260080711	Executive Flight Inc
5736	2005	114637	260080711	Executive Flight Inc
5737	2005	114637	260080711	Executive Flight Inc
5738	2005	114637	260080711	Executive Flight Inc
5739	2005	114637	260080711	Executive Flight Inc
5740	2005	114637	260080711	Executive Flight Inc
5741	2005	114637	260080711	Executive Flight Inc
5742	2005	114637	260080711	Executive Flight Inc
5743	**2005 Total**			
5744	2006	114637	260080711	Executive Flight Inc
5745	2006	114637	260080711	Executive Flight Inc
5746	2006	114637	260080711	Executive Flight Inc
5747	2006	114637	260080711	Executive Flight Inc
5748	2006	114637	260080711	Executive Flight Inc
5749	2006	114637	260080711	Executive Flight Inc

	J	K	L	M
5700	Runyan Dr	Chattanooga	TN	37405
5701	Runyan Dr	Chattanooga	TN	37405
5702	Runyan Dr	Chattanooga	TN	37405
5703	Runyan Dr	Chattanooga	TN	37405
5704	Runyan Dr	Chattanooga	TN	37405
5705	Runyan Dr	Chattanooga	TN	37405
5706	Runyan Dr	Chattanooga	TN	37405
5707	Runyan Dr	Chattanooga	TN	37405
5708	Runyan Dr	Chattanooga	TN	37405
5709				
5710	Runyan Dr	Chattanooga	TN	37405
5711	Runyan Dr	Chattanooga	TN	37405
5712	Runyan Dr	Chattanooga	TN	37405
5713				
5714	351 Nowlin Ln	Chattanooga	TN	374213573
5715	351 Nowlin Ln	Chattanooga	TN	374213573
5716	351 Nowlin Ln	Chattanooga	TN	374213573
5717	351 Nowlin Ln	Chattanooga	TN	374213573
5718	351 Nowlin Ln	Chattanooga	TN	374213573
5719	351 Nowlin Ln	Chattanooga	TN	374213573
5720	351 Nowlin Ln	Chattanooga	TN	374213573
5721	351 Nowlin Ln	Chattanooga	TN	374213573
5722	351 Nowlin Ln	Chattanooga	TN	374213573
5723	351 Nowlin Ln	Chattanooga	TN	374213573
5724	351 Nowlin Ln	Chattanooga	TN	374213573
5725	351 Nowlin Ln	Chattanooga	TN	374213573
5726				
5727	351 Nowlin Ln	Chattanooga	TN	374213573
5728	351 Nowlin Ln	Chattanooga	TN	374213573
5729	351 Nowlin Ln	Chattanooga	TN	374213573
5730	351 Nowlin Ln	Chattanooga	TN	374213573
5731	351 Nowlin Ln	Chattanooga	TN	374213573
5732	351 Nowlin Ln	Chattanooga	TN	374213573
5733	351 Nowlin Ln	Chattanooga	TN	374213573
5734	351 Nowlin Ln	Chattanooga	TN	374213573
5735	351 Nowlin Ln	Chattanooga	TN	374213573
5736	351 Nowlin Ln	Chattanooga	TN	374213573
5737	351 Nowlin Ln	Chattanooga	TN	374213573
5738	351 Nowlin Ln	Chattanooga	TN	374213573
5739	351 Nowlin Ln	Chattanooga	TN	374213573
5740	351 Nowlin Ln	Chattanooga	TN	374213573
5741	351 Nowlin Ln	Chattanooga	TN	374213573
5742	351 Nowlin Ln	Chattanooga	TN	374213573
5743				
5744	351 Nowlin Ln	Chattanooga	TN	374213573
5745	351 Nowlin Ln	Chattanooga	TN	374213573
5746	351 Nowlin Ln	Chattanooga	TN	374213573
5747	351 Nowlin Ln	Chattanooga	TN	374213573
5748	351 Nowlin Ln	Chattanooga	TN	374213573
5749	351 Nowlin Ln	Chattanooga	TN	374213573

	N	O	P	Q
5700	108.46	1000G	387.27	A3M4
5701	123.42	1000G	427.06	A3M4
5702	137.64	1000G	511.29	A3M4
5703	137.64	1000G	511.29	A3M4
5704	132.4	1000G	497.77	A3M4
5705	323.15	1000G	990.18	A3M4
5706	208.7	1000G	694.73	A3M4
5707	205.71	1000G	687.01	A3M4
5708	215.43	1000G	712.11	A3M4
5709	2268.02		7519.58	
5710	109.96	1000G	439.84	A3M4
5711	124.17	1000G	476.53	A3M4
5712	39.64	1000G	244.63	A3M4
5713	273.77		1161	
5714	18.7	1000G	80.77	A3M4
5715	12.71	1000G	59.74	A3M4
5716	11.96	1000G	57.12	A3M4
5717	21.69	1000G	91.28	A3M4
5718	15.7	1000G	70.26	A3M4
5719	17.2	1000G	75.51	A3M4
5720	17.2	1000G	75.51	A3M4
5721	13.46	1000G	62.37	A3M4
5722	19.44	1000G	83.4	A3M4
5723	14.21	1000G	65	A3M4
5724	17.2	1000G	75.51	A3M4
5725	16.45	1000G	72.88	A3M4
5726	195.92		869.35	
5727	14.21	1000G	65	A3M4
5728	13.46	1000G	62.37	A3M4
5729	28.42	1000G	115.89	A3M4
5730	22.44	1000G	97.55	A3M4
5731	25.43	1000G	108.47	A3M4
5732	17.2	1000G	78.44	A3M4
5733	35.9	1000G	146.69	A3M4
5734	13.46	1000G	64.79	A3M4
5735	-22.44	1000G	-100.14	A3M4
5736	22.44	1000G	97.55	A3M4
5737	22.44	1000G	100.14	A3M4
5738	14.96	1000G	70.25	A3M4
5739	-14.96	1000G	-70.25	A3M4
5740	14.96	1000G	70.25	A3M4
5741	609.66	1000G	1342.96	A3M4
5742	430.87	1000G	1036.56	A3M4
5743	1248.45		3286.52	
5744	380.75	1000G	950.67	A3M4
5745	79.29	1000G	263.42	A3M4
5746	0	1000G	20.7	A3M4
5747	1.49	1000G	26.22	A3M4
5748	0.74	1000G	26.05	A3M4
5749	0.74	1000G	26.05	A3M4

	A	B	C	D	E
5750	2600	2603	26CC	3	7
5751	2600	2603	26CC	3	8
5752	2600	2603	26CC	3	9
5753	2600	2603	26CC	3	10
5754	2600	2603	26CC	3	11
5755	2600	2603	26CC	3	12
5756					
5757	2600	2603	26CC	3	1
5758	2600	2603	26CC	3	2
5759	2600	2603	26CC	3	3
5760	2600	2603	26CC	3	4
5761	2600	2603	26CC	3	5
5762	2600	2603	26CC	3	6
5763	2600	2603	26CC	3	7
5764	2600	2603	26CC	3	8
5765	2600	2603	26CC	3	9
5766	2600	2603	26CC	3	10
5767	2600	2603	26CC	3	11
5768	2600	2603	26CC	3	12
5769					
5770	2600	2603	26CC	3	1
5771	2600	2603	26CC	3	2
5772	2600	2603	26CC	3	3
5773					
5774	2600	2603	26CC	3	1
5775	2600	2603	26CC	3	2
5776	2600	2603	26CC	3	3
5777	2600	2603	26CC	3	4
5778	2600	2603	26CC	3	5
5779	2600	2603	26CC	3	6
5780	2600	2603	26CC	3	7
5781	2600	2603	26CC	3	8
5782	2600	2603	26CC	3	9
5783	2600	2603	26CC	3	10
5784	2600	2603	26CC	3	11
5785	2600	2603	26CC	3	12
5786					
5787	2600	2603	26CC	3	1
5788	2600	2603	26CC	3	2
5789	2600	2603	26CC	3	3
5790	2600	2603	26CC	3	4
5791	2600	2603	26CC	3	5
5792	2600	2603	26CC	3	6
5793	2600	2603	26CC	3	7
5794	2600	2603	26CC	3	8
5795	2600	2603	26CC	3	9
5796	2600	2603	26CC	3	10
5797	2600	2603	26CC	3	11
5798	2600	2603	26CC	3	12
5799					

	F	G	H	I
5750	2006	114637	260080711	Executive Flight Inc
5751	2006	114637	260080711	Executive Flight Inc
5752	2006	114637	260080711	Executive Flight Inc
5753	2006	114637	260080711	Executive Flight Inc
5754	2006	114637	260080711	Executive Flight Inc
5755	2006	114637	260080711	Executive Flight Inc
5756	**2006 Total**			
5757	2007	114637	260080711	Executive Flight Inc
5758	2007	114637	260080711	Executive Flight Inc
5759	2007	114637	260080711	Executive Flight Inc
5760	2007	114637	260080711	Executive Flight Inc
5761	2007	114637	260080711	Executive Flight Inc
5762	2007	114637	260080711	Executive Flight Inc
5763	2007	114637	260080711	Executive Flight Inc
5764	2007	114637	260080711	Executive Flight Inc
5765	2007	114637	260080711	Executive Flight Inc
5766	2007	114637	260080711	Executive Flight Inc
5767	2007	114637	260080711	Executive Flight Inc
5768	2007	114637	260080711	Executive Flight Inc
5769	**2007 Total**			
5770	2008	114637	260080711	Executive Flight Inc
5771	2008	114637	260080711	Executive Flight Inc
5772	2008	114637	260080711	Executive Flight Inc
5773	**2008 Total**			
5774	2004	115309	260081136	Chattem Inc.
5775	2004	115309	260081136	Chattem Inc.
5776	2004	115309	260081136	Chattem Inc.
5777	2004	115309	260081136	Chattem Inc.
5778	2004	115309	260081136	Chattem Inc.
5779	2004	115309	260081136	Chattem Inc.
5780	2004	115309	260081136	Chattem Inc.
5781	2004	115309	260081136	Chattem Inc.
5782	2004	115309	260081136	Chattem Inc.
5783	2004	115309	260081136	Chattem Inc.
5784	2004	115309	260081136	Chattem Inc.
5785	2004	115309	260081136	Chattem Inc.
5786	**2004 Total**			
5787	2005	115309	260081136	Chattem Inc.
5788	2005	115309	260081136	Chattem Inc.
5789	2005	115309	260081136	Chattem Inc.
5790	2005	115309	260081136	Chattem Inc.
5791	2005	115309	260081136	Chattem Inc.
5792	2005	115309	260081136	Chattem Inc.
5793	2005	115309	260081136	Chattem Inc.
5794	2005	115309	260081136	Chattem Inc.
5795	2005	115309	260081136	Chattem Inc.
5796	2005	115309	260081136	Chattem Inc.
5797	2005	115309	260081136	Chattem Inc.
5798	2005	115309	260081136	Chattem Inc.
5799	**2005 Total**			

	J	K	L	M
5750	351 Nowlin Ln	Chattanooga	TN	374213573
5751	351 Nowlin Ln	Chattanooga	TN	374213573
5752	351 Nowlin Ln	Chattanooga	TN	374213573
5753	351 Nowlin Ln	Chattanooga	TN	374213573
5754	351 Nowlin Ln	Chattanooga	TN	374213573
5755	351 Nowlin Ln	Chattanooga	TN	374213573
5756				
5757	351 Nowlin Ln	Chattanooga	TN	374213573
5758	351 Nowlin Ln	Chattanooga	TN	374213573
5759	351 Nowlin Ln	Chattanooga	TN	374213573
5760	351 Nowlin Ln	Chattanooga	TN	374213573
5761	351 Nowlin Ln	Chattanooga	TN	374213573
5762	351 Nowlin Ln	Chattanooga	TN	374213573
5763	351 Nowlin Ln	Chattanooga	TN	374213573
5764	351 Nowlin Ln	Chattanooga	TN	374213573
5765	351 Nowlin Ln	Chattanooga	TN	374213573
5766	351 Nowlin Ln	Chattanooga	TN	374213573
5767	351 Nowlin Ln	Chattanooga	TN	374213573
5768	351 Nowlin Ln	Chattanooga	TN	374213573
5769				
5770	351 Nowlin Ln	Chattanooga	TN	374213573
5771	351 Nowlin Ln	Chattanooga	TN	374213573
5772	351 Nowlin Ln	Chattanooga	TN	374213573
5773				
5774	1715 W 38TH ST	CHATTANOOGA	TN	374091248
5775	1715 W 38TH ST	CHATTANOOGA	TN	374091248
5776	1715 W 38TH ST	CHATTANOOGA	TN	374091248
5777	1715 W 38TH ST	CHATTANOOGA	TN	374091248
5778	1715 W 38TH ST	CHATTANOOGA	TN	374091248
5779	1715 W 38TH ST	CHATTANOOGA	TN	374091248
5780	1715 W 38TH ST	CHATTANOOGA	TN	374091248
5781	1715 W 38TH ST	CHATTANOOGA	TN	374091248
5782	1715 W 38TH ST	CHATTANOOGA	TN	374091248
5783	1715 W 38TH ST	CHATTANOOGA	TN	374091248
5784	1715 W 38TH ST	CHATTANOOGA	TN	374091248
5785	1715 W 38TH ST	CHATTANOOGA	TN	374091248
5786				
5787	1715 W 38TH ST	CHATTANOOGA	TN	374091248
5788	1715 W 38TH ST	CHATTANOOGA	TN	374091248
5789	1715 W 38TH ST	CHATTANOOGA	TN	374091248
5790	1715 W 38TH ST	CHATTANOOGA	TN	374091248
5791	1715 W 38TH ST	CHATTANOOGA	TN	374091248
5792	1715 W 38TH ST	CHATTANOOGA	TN	374091248
5793	1715 W 38TH ST	CHATTANOOGA	TN	374091248
5794	1715 W 38TH ST	CHATTANOOGA	TN	374091248
5795	1715 W 38TH ST	CHATTANOOGA	TN	374091248
5796	1715 W 38TH ST	CHATTANOOGA	TN	374091248
5797	1715 W 38TH ST	CHATTANOOGA	TN	374091248
5798	1715 W 38TH ST	CHATTANOOGA	TN	374091248
5799				

	N	O	P	Q
5750	1.49	1000G	26.22	A3M4
5751	0.74	1000G	26.05	A3M4
5752	0.74	1000G	26.05	A3M4
5753	0.74	1000G	26.05	A3M4
5754	0	1000G	25.88	A3M4
5755	0.74	1000G	26.05	A3M4
5756	467.46		1469.41	
5757	0.74	1000G	26.05	A3M4
5758	0.74	1000G	26.05	A3M4
5759	1.49	1000G	26.22	A3M4
5760	1.49	1000G	26.22	A3M4
5761	0.74	1000G	26.05	A3M4
5762	0.74	1000G	28.21	A3M4
5763	1.49	1000G	29.53	A3M4
5764	1.49	1000G	34.39	A3M4
5765	1.49	1000G	25.64	A3M4
5766	2.24	1000G	29.72	A3M4
5767	-0.74	1000G	32.84	A3M4
5768	0	1000G	24.28	A3M4
5769	11.91		335.2	
5770	0.74	1000G	29.33	A3M4
5771	1.49	1000G	29.53	A3M4
5772	0.74	1000G	29.33	A3M4
5773	2.97		88.19	
5774	270.79	1000G	780.96	A3M4M
5775	285	1000G	812.33	A3M4M
5776	296.22	1000G	837.09	A3M4M
5777	293.98	1000G	832.14	A3M4M
5778	276.03	1000G	792.51	A3M4M
5779	258.07	1000G	752.89	A3M4M
5780	198.23	1000G	620.81	A3M4M
5781	237.88	1000G	708.31	A3M4M
5782	228.9	1000G	688.5	A3M4M
5783	293.98	1000G	832.14	A3M4M
5784	300.71	1000G	847	A3M4M
5785	344.85	1000G	944.41	A3M4M
5786	3284.64		9449.09	
5787	288.74	1000G	820.58	A3M4M
5788	338.86	1000G	931.2	A3M4M
5789	332.88	1000G	937.04	A3M4M
5790	356.82	1000G	1008.44	A3M4M
5791	448.08	1000G	1174.81	A3M4M
5792	344.85	1000G	981	A3M4M
5793	256.58	1000G	778.63	A3M4M
5794	393.47	1000G	1081.22	A3M4M
5795	380.01	1000G	1058.15	A3M4M
5796	300.71	1000G	879.82	A3M4M
5797	351.58	1000G	996.44	A3M4M
5798	300.71	1000G	879.82	A3M4M
5799	4093.29		11527.15	

	A	B	C	D	E
5800	2600	2603	26CC	3	1
5801	2600	2603	26CC	3	2
5802	2600	2603	26CC	3	3
5803	2600	2603	26CC	3	4
5804	2600	2603	26CC	3	5
5805	2600	2603	26CC	3	6
5806	2600	2603	26CC	3	7
5807	2600	2603	26CC	3	8
5808	2600	2603	26CC	3	9
5809	2600	2603	26CC	3	10
5810	2600	2603	26CC	3	11
5811	2600	2603	26CC	3	12
5812					
5813	2600	2603	26CC	3	1
5814	2600	2603	26CC	3	2
5815	2600	2603	26CC	3	3
5816	2600	2603	26CC	3	4
5817	2600	2603	26CC	3	5
5818	2600	2603	26CC	3	6
5819	2600	2603	26CC	3	7
5820	2600	2603	26CC	3	8
5821	2600	2603	26CC	3	9
5822	2600	2603	26CC	3	10
5823	2600	2603	26CC	3	11
5824	2600	2603	26CC	3	12
5825					
5826	2600	2603	26CC	3	1
5827	2600	2603	26CC	3	2
5828	2600	2603	26CC	3	3
5829					
5830	2600	2603	26CC	3	1
5831	2600	2603	26CC	3	2
5832	2600	2603	26CC	3	3
5833	2600	2603	26CC	3	4
5834	2600	2603	26CC	3	5
5835	2600	2603	26CC	3	6
5836	2600	2603	26CC	3	7
5837	2600	2603	26CC	3	8
5838	2600	2603	26CC	3	9
5839	2600	2603	26CC	3	9
5840	2600	2603	26CC	3	10
5841	2600	2603	26CC	3	11
5842	2600	2603	26CC	3	12
5843					
5844	2600	2603	26CC	3	1
5845	2600	2603	26CC	3	2
5846	2600	2603	26CC	3	3
5847	2600	2603	26CC	3	4
5848	2600	2603	26CC	3	5
5849	2600	2603	26CC	3	6

	F	G	H	I
5800	2006	115309	260081136	Chattem Inc.
5801	2006	115309	260081136	Chattem Inc.
5802	2006	115309	260081136	Chattem Inc.
5803	2006	115309	260081136	Chattem Inc.
5804	2006	115309	260081136	Chattem Inc.
5805	2006	115309	260081136	Chattem Inc.
5806	2006	115309	260081136	Chattem Inc.
5807	2006	115309	260081136	Chattem Inc.
5808	2006	115309	260081136	Chattem Inc.
5809	2006	115309	260081136	Chattem Inc.
5810	2006	115309	260081136	Chattem Inc.
5811	2006	115309	260081136	Chattem Inc.
5812	**2006 Total**			
5813	2007	115309	260081136	Chattem Inc.
5814	2007	115309	260081136	Chattem Inc.
5815	2007	115309	260081136	Chattem Inc.
5816	2007	115309	260081136	Chattem Inc.
5817	2007	115309	260081136	Chattem Inc.
5818	2007	115309	260081136	Chattem Inc.
5819	2007	115309	260081136	Chattem Inc.
5820	2007	115309	260081136	Chattem Inc.
5821	2007	115309	260081136	Chattem Inc.
5822	2007	115309	260081136	Chattem Inc.
5823	2007	115309	260081136	Chattem Inc.
5824	2007	115309	260081136	Chattem Inc.
5825	**2007 Total**			
5826	2008	115309	260081136	Chattem Inc.
5827	2008	115309	260081136	Chattem Inc.
5828	2008	115309	260081136	Chattem Inc.
5829	**2008 Total**			
5830	2004	115676	260081421	JONES PRINTING
5831	2004	115676	260081421	JONES PRINTING
5832	2004	115676	260081421	JONES PRINTING
5833	2004	115676	260081421	JONES PRINTING
5834	2004	115676	260081421	JONES PRINTING
5835	2004	115676	260081421	JONES PRINTING
5836	2004	115676	260081421	JONES PRINTING
5837	2004	115676	260081421	JONES PRINTING
5838	2004	115676	260081421	JONES PRINTING
5839	2004	115676	260081421	JONES PRINTING
5840	2004	115676	260081421	JONES PRINTING
5841	2004	115676	260081421	JONES PRINTING
5842	2004	115676	260081421	JONES PRINTING
5843	**2004 Total**			
5844	2005	115676	260081421	JONES PRINTING
5845	2005	115676	260081421	JONES PRINTING
5846	2005	115676	260081421	JONES PRINTING
5847	2005	115676	260081421	JONES PRINTING
5848	2005	115676	260081421	JONES PRINTING
5849	2005	115676	260081421	JONES PRINTING

	J	K	L	M
5800	1715 W 38TH ST	CHATTANOOGA	TN	374091248
5801	1715 W 38TH ST	CHATTANOOGA	TN	374091248
5802	1715 W 38TH ST	CHATTANOOGA	TN	374091248
5803	1715 W 38TH ST	CHATTANOOGA	TN	374091248
5804	1715 W 38TH ST	CHATTANOOGA	TN	374091248
5805	1715 W 38TH ST	CHATTANOOGA	TN	374091248
5806	1715 W 38TH ST	CHATTANOOGA	TN	374091248
5807	1715 W 38TH ST	CHATTANOOGA	TN	374091248
5808	1715 W 38TH ST	CHATTANOOGA	TN	374091248
5809	1715 W 38TH ST	CHATTANOOGA	TN	374091248
5810	1715 W 38TH ST	CHATTANOOGA	TN	374091248
5811	1715 W 38TH ST	CHATTANOOGA	TN	374091248
5812				
5813	1715 W 38TH ST	CHATTANOOGA	TN	374091248
5814	1715 W 38TH ST	CHATTANOOGA	TN	374091248
5815	1715 W 38TH ST	CHATTANOOGA	TN	374091248
5816	1715 W 38TH ST	CHATTANOOGA	TN	374091248
5817	1715 W 38TH ST	CHATTANOOGA	TN	374091248
5818	1715 W 38TH ST	CHATTANOOGA	TN	374091248
5819	1715 W 38TH ST	CHATTANOOGA	TN	374091248
5820	1715 W 38TH ST	CHATTANOOGA	TN	374091248
5821	1715 W 38TH ST	CHATTANOOGA	TN	374091248
5822	1715 W 38TH ST	CHATTANOOGA	TN	374091248
5823	1715 W 38TH ST	CHATTANOOGA	TN	374091248
5824	1715 W 38TH ST	CHATTANOOGA	TN	374091248
5825				
5826	1715 W 38TH ST	CHATTANOOGA	TN	374091248
5827	1715 W 38TH ST	CHATTANOOGA	TN	374091248
5828	1715 W 38TH ST	CHATTANOOGA	TN	374091248
5829				
5830	2205 DODSON AVE	CHATTANOOGA	TN	374062411
5831	2205 DODSON AVE	CHATTANOOGA	TN	374062411
5832	2205 DODSON AVE	CHATTANOOGA	TN	374062411
5833	2205 DODSON AVE	CHATTANOOGA	TN	374062411
5834	2205 DODSON AVE	CHATTANOOGA	TN	374062411
5835	2205 DODSON AVE	CHATTANOOGA	TN	374062411
5836	2205 DODSON AVE	CHATTANOOGA	TN	374062411
5837	2205 DODSON AVE	CHATTANOOGA	TN	374062411
5838	2205 DODSON AVE	CHATTANOOGA	TN	374062411
5839	2205 DODSON AVE	CHATTANOOGA	TN	374062411
5840	2205 DODSON AVE	CHATTANOOGA	TN	374062411
5841	2205 DODSON AVE	CHATTANOOGA	TN	374062411
5842	2205 DODSON AVE	CHATTANOOGA	TN	374062411
5843				
5844	2205 DODSON AVE	CHATTANOOGA	TN	374062411
5845	2205 DODSON AVE	CHATTANOOGA	TN	374062411
5846	2205 DODSON AVE	CHATTANOOGA	TN	374062411
5847	2205 DODSON AVE	CHATTANOOGA	TN	374062411
5848	2205 DODSON AVE	CHATTANOOGA	TN	374062411
5849	2205 DODSON AVE	CHATTANOOGA	TN	374062411

	N	O	P	Q
5800	338.11	1000G	965.57	A3M4M
5801	363.55	1000G	1023.88	A3M4M
5802	371.03	1000G	1041.03	A3M4M
5803	260.32	1000G	787.21	A3M4M
5804	273.78	1000G	818.08	A3M4M
5805	254.33	1000G	773.49	A3M4M
5806	183.27	1000G	610.56	A3M4M
5807	285	1000G	843.8	A3M4M
5808	229.65	1000G	716.89	A3M4M
5809	228.15	1000G	713.46	A3M4M
5810	285.75	1000G	845.52	A3M4M
5811	325.4	1000G	936.41	A3M4M
5812	3398.34		10075.9	
5813	299.96	1000G	878.1	A3M4M
5814	346.34	1000G	984.43	A3M4M
5815	368.04	1000G	1034.17	A3M4M
5816	388.23	1000G	1072.25	A3M4M
5817	385.99	1000G	1068.4	A3M4M
5818	411.42	1000G	1238.82	A3M4M
5819	308.19	1000G	1009.86	A3M4M
5820	442.84	1000G	1312.55	A3M4M
5821	462.29	1000G	1350.06	A3M4M
5822	474.26	1000G	1373.15	A3M4M
5823	568.51	1000G	1554.97	A3M4M
5824	644.07	1000G	1700.71	A3M4M
5825	5100.14		14577.47	
5826	623.87	1000G	1661.75	A3M4M
5827	748.05	1000G	1901.29	A3M4M
5828	742.81	1000G	1903.63	A3M4M
5829	2114.73		5466.67	
5830	17.95	1000G	78.14	A3M4
5831	14.96	1000G	67.63	A3M4
5832	24.68	1000G	101.79	A3M4
5833	11.96	1000G	57.12	A3M4
5834	20.19	1000G	86.02	A3M4
5835	17.95	1000G	78.14	A3M4
5836	14.21	1000G	65	A3M4
5837	38.15	1000G	149.1	A3M4
5838	-0.74	1000G	-2.63	CROE3
5839	19.44	1000G	83.4	A3M4
5840	11.96	1000G	57.12	A3M4
5841	18.7	1000G	80.77	A3M4
5842	17.95	1000G	78.14	A3M4
5843	227.36		979.74	
5844	18.7	1000G	80.77	A3M4
5845	17.2	1000G	75.51	A3M4
5846	19.44	1000G	83.4	A3M4
5847	21.69	1000G	94.39	A3M4
5848	18.7	1000G	83.9	A3M4
5849	19.44	1000G	86.63	A3M4

	A	B	C	D	E
5850	2600	2603	26CC	3	7
5851	2600	2603	26CC	3	8
5852	2600	2603	26CC	3	9
5853	2600	2603	26CC	3	10
5854	2600	2603	26CC	3	11
5855	2600	2603	26CC	3	12
5856					
5857	2600	2603	26CC	3	1
5858	2600	2603	26CC	3	2
5859	2600	2603	26CC	3	3
5860	2600	2603	26CC	3	4
5861	2600	2603	26CC	3	5
5862	2600	2603	26CC	3	6
5863	2600	2603	26CC	3	7
5864	2600	2603	26CC	3	8
5865	2600	2603	26CC	3	9
5866	2600	2603	26CC	3	10
5867	2600	2603	26CC	3	11
5868	2600	2603	26CC	3	12
5869					
5870	2600	2603	26CC	3	1
5871	2600	2603	26CC	3	2
5872	2600	2603	26CC	3	3
5873	2600	2603	26CC	3	4
5874	2600	2603	26CC	3	5
5875	2600	2603	26CC	3	6
5876	2600	2603	26CC	3	7
5877	2600	2603	26CC	3	8
5878	2600	2603	26CC	3	9
5879	2600	2603	26CC	3	10
5880	2600	2603	26CC	3	11
5881	2600	2603	26CC	3	12
5882					
5883	2600	2603	26CC	3	1
5884	2600	2603	26CC	3	2
5885	2600	2603	26CC	3	3
5886					
5887	2600	2603	26CC	3	1
5888	2600	2603	26CC	3	2
5889	2600	2603	26CC	3	3
5890	2600	2603	26CC	3	4
5891	2600	2603	26CC	3	5
5892	2600	2603	26CC	3	6
5893	2600	2603	26CC	3	7
5894	2600	2603	26CC	3	8
5895	2600	2603	26CC	3	9
5896	2600	2603	26CC	3	10
5897	2600	2603	26CC	3	11
5898	2600	2603	26CC	3	12
5899					

	F	G	H	I
5850	2005	115676	260081421	JONES PRINTING
5851	2005	115676	260081421	JONES PRINTING
5852	2005	115676	260081421	JONES PRINTING
5853	2005	115676	260081421	JONES PRINTING
5854	2005	115676	260081421	JONES PRINTING
5855	2005	115676	260081421	JONES PRINTING
5856	**2005 Total**			
5857	2006	115676	260081421	JONES PRINTING
5858	2006	115676	260081421	JONES PRINTING
5859	2006	115676	260081421	JONES PRINTING
5860	2006	115676	260081421	JONES PRINTING
5861	2006	115676	260081421	JONES PRINTING
5862	2006	115676	260081421	JONES PRINTING
5863	2006	115676	260081421	JONES PRINTING
5864	2006	115676	260081421	JONES PRINTING
5865	2006	115676	260081421	JONES PRINTING
5866	2006	115676	260081421	JONES PRINTING
5867	2006	115676	260081421	JONES PRINTING
5868	2006	115676	260081421	JONES PRINTING
5869	**2006 Total**			
5870	2007	115676	260081421	JONES PRINTING
5871	2007	115676	260081421	JONES PRINTING
5872	2007	115676	260081421	JONES PRINTING
5873	2007	115676	260081421	JONES PRINTING
5874	2007	115676	260081421	JONES PRINTING
5875	2007	115676	260081421	JONES PRINTING
5876	2007	115676	260081421	JONES PRINTING
5877	2007	115676	260081421	JONES PRINTING
5878	2007	115676	260081421	JONES PRINTING
5879	2007	115676	260081421	JONES PRINTING
5880	2007	115676	260081421	JONES PRINTING
5881	2007	115676	260081421	JONES PRINTING
5882	**2007 Total**			
5883	2008	115676	260081421	JONES PRINTING
5884	2008	115676	260081421	JONES PRINTING
5885	2008	115676	260081421	JONES PRINTING
5886	**2008 Total**			
5887	2004	115854	260081567	Lucey Boiler Co
5888	2004	115854	260081567	Lucey Boiler Co
5889	2004	115854	260081567	Lucey Boiler Co
5890	2004	115854	260081567	Lucey Boiler Co
5891	2004	115854	260081567	Lucey Boiler Co
5892	2004	115854	260081567	Lucey Boiler Co
5893	2004	115854	260081567	Lucey Boiler Co
5894	2004	115854	260081567	Lucey Boiler Co
5895	2004	115854	260081567	Lucey Boiler Co
5896	2004	115854	260081567	Lucey Boiler Co
5897	2004	115854	260081567	Lucey Boiler Co
5898	2004	115854	260081567	Lucey Boiler Co
5899	**2004 Total**			

	J	K	L	M
5850	2205 DODSON AVE	CHATTANOOGA	TN	374062411
5851	2205 DODSON AVE	CHATTANOOGA	TN	374062411
5852	2205 DODSON AVE	CHATTANOOGA	TN	374062411
5853	2205 DODSON AVE	CHATTANOOGA	TN	374062411
5854	2205 DODSON AVE	CHATTANOOGA	TN	374062411
5855	2205 DODSON AVE	CHATTANOOGA	TN	374062411
5856				
5857	2205 DODSON AVE	CHATTANOOGA	TN	374062411
5858	2205 DODSON AVE	CHATTANOOGA	TN	374062411
5859	2205 DODSON AVE	CHATTANOOGA	TN	374062411
5860	2205 DODSON AVE	CHATTANOOGA	TN	374062411
5861	2205 DODSON AVE	CHATTANOOGA	TN	374062411
5862	2205 DODSON AVE	CHATTANOOGA	TN	374062411
5863	2205 DODSON AVE	CHATTANOOGA	TN	374062411
5864	2205 DODSON AVE	CHATTANOOGA	TN	374062411
5865	2205 DODSON AVE	CHATTANOOGA	TN	374062411
5866	2205 DODSON AVE	CHATTANOOGA	TN	374062411
5867	2205 DODSON AVE	CHATTANOOGA	TN	374062411
5868	2205 DODSON AVE	CHATTANOOGA	TN	374062411
5869				
5870	2205 DODSON AVE	CHATTANOOGA	TN	374062411
5871	2205 DODSON AVE	CHATTANOOGA	TN	374062411
5872	2205 DODSON AVE	CHATTANOOGA	TN	374062411
5873	2205 DODSON AVE	CHATTANOOGA	TN	374062411
5874	2205 DODSON AVE	CHATTANOOGA	TN	374062411
5875	2205 DODSON AVE	CHATTANOOGA	TN	374062411
5876	2205 DODSON AVE	CHATTANOOGA	TN	374062411
5877	2205 DODSON AVE	CHATTANOOGA	TN	374062411
5878	2205 DODSON AVE	CHATTANOOGA	TN	374062411
5879	2205 DODSON AVE	CHATTANOOGA	TN	374062411
5880	2205 DODSON AVE	CHATTANOOGA	TN	374062411
5881	2205 DODSON AVE	CHATTANOOGA	TN	374062411
5882				
5883	2205 DODSON AVE	CHATTANOOGA	TN	374062411
5884	2205 DODSON AVE	CHATTANOOGA	TN	374062411
5885	2205 DODSON AVE	CHATTANOOGA	TN	374062411
5886				
5887	901 S Holtzclaw Ave APT# B	Chattanooga	TN	374044104
5888	901 S Holtzclaw Ave APT# B	Chattanooga	TN	374044104
5889	901 S Holtzclaw Ave APT# B	Chattanooga	TN	374044104
5890	901 S Holtzclaw Ave APT# B	Chattanooga	TN	374044104
5891	901 S Holtzclaw Ave APT# B	Chattanooga	TN	374044104
5892	901 S Holtzclaw Ave APT# B	Chattanooga	TN	374044104
5893	901 S Holtzclaw Ave APT# B	Chattanooga	TN	374044104
5894	901 S Holtzclaw Ave APT# B	Chattanooga	TN	374044104
5895	901 S Holtzclaw Ave APT# B	Chattanooga	TN	374044104
5896	901 S Holtzclaw Ave APT# B	Chattanooga	TN	374044104
5897	901 S Holtzclaw Ave APT# B	Chattanooga	TN	374044104
5898	901 S Holtzclaw Ave APT# B	Chattanooga	TN	374044104
5899				

	N	O	P	Q
5850	18.7	1000G	83.9	A3M4
5851	40.39	1000G	163.07	A3M4
5852	4.48	1000G	32.03	A3M4
5853	11.96	1000G	59.33	A3M4
5854	27.67	1000G	116.66	A3M4
5855	20.94	1000G	92.09	A3M4
5856	239.31		1051.68	
5857	20.19	1000G	89.36	A3M4
5858	23.18	1000G	100.28	A3M4
5859	23.93	1000G	103.01	A3M4
5860	23.93	1000G	103.01	A3M4
5861	22.44	1000G	97.55	A3M4
5862	20.94	1000G	92.09	A3M4
5863	20.19	1000G	89.36	A3M4
5864	21.69	1000G	94.82	A3M4
5865	21.69	1000G	94.82	A3M4
5866	25.43	1000G	108.47	A3M4
5867	23.93	1000G	103.01	A3M4
5868	21.69	1000G	94.82	A3M4
5869	269.23		1170.6	
5870	20.19	1000G	89.36	A3M4
5871	23.93	1000G	103.01	A3M4
5872	23.18	1000G	100.28	A3M4
5873	17.2	1000G	78.44	A3M4
5874	5.23	1000G	34.76	A3M4
5875	4.48	1000G	33.51	A3M4
5876	5.23	1000G	39.14	A3M4
5877	5.98	1000G	42.21	A3M4
5878	6.73	1000G	45.29	A3M4
5879	7.48	1000G	48.36	A3M4
5880	8.22	1000G	51.43	A3M4
5881	6.73	1000G	45.29	A3M4
5882	134.58		711.08	
5883	6.73	1000G	45.29	A3M4
5884	6.73	1000G	45.29	A3M4
5885	6.73	1000G	45.29	A3M4
5886	20.19		135.87	
5887	0	1000G	8.92	A3M4
5888	0	1000G	8.92	A3M4
5889	0	1000G	8.92	A3M4
5890	0	1000G	8.92	A3M4
5891	0	1000G	8.92	A3M4
5892	0	1000G	8.92	A3M4
5893	0	1000G	8.92	A3M4
5894	0	1000G	8.92	A3M4
5895	0	1000G	8.92	A3M4
5896	9.72	1000G	33.23	A3M4
5897	-9.72	1000G	-15.39	A3M4
5898	0	1000G	8.92	A3M4
5899	0		107.04	

	A	B	C	D	E
5900	2600	2603	26CC	3	1
5901	2600	2603	26CC	3	2
5902	2600	2603	26CC	3	3
5903	2600	2603	26CC	3	4
5904	2600	2603	26CC	3	5
5905	2600	2603	26CC	3	6
5906	2600	2603	26CC	3	7
5907	2600	2603	26CC	3	8
5908	2600	2603	26CC	3	9
5909	2600	2603	26CC	3	10
5910	2600	2603	26CC	3	11
5911	2600	2603	26CC	3	12
5912					
5913	2600	2603	26CC	3	1
5914	2600	2603	26CC	3	2
5915	2600	2603	26CC	3	3
5916	2600	2603	26CC	3	4
5917	2600	2603	26CC	3	5
5918	2600	2603	26CC	3	6
5919	2600	2603	26CC	3	7
5920	2600	2603	26CC	3	8
5921	2600	2603	26CC	3	9
5922	2600	2603	26CC	3	10
5923	2600	2603	26CC	3	11
5924	2600	2603	26CC	3	12
5925					
5926	2600	2603	26CC	3	1
5927	2600	2603	26CC	3	2
5928	2600	2603	26CC	3	3
5929	2600	2603	26CC	3	4
5930	2600	2603	26CC	3	5
5931	2600	2603	26CC	3	6
5932	2600	2603	26CC	3	7
5933	2600	2603	26CC	3	8
5934	2600	2603	26CC	3	8
5935	2600	2603	26CC	3	10
5936	2600	2603	26CC	3	10
5937	2600	2603	26CC	3	12
5938					
5939	2600	2603	26CC	3	1
5940	2600	2603	26CC	3	1
5941	2600	2603	26CC	3	2
5942					
5943	2600	2603	26CC	3	1
5944	2600	2603	26CC	3	2
5945	2600	2603	26CC	3	3
5946	2600	2603	26CC	3	4
5947	2600	2603	26CC	3	5
5948	2600	2603	26CC	3	6
5949	2600	2603	26CC	3	7

	F	G	H	I
5900	2005	115854	260081567	Lucey Boiler Co
5901	2005	115854	260081567	Lucey Boiler Co
5902	2005	115854	260081567	Lucey Boiler Co
5903	2005	115854	260081567	Lucey Boiler Co
5904	2005	115854	260081567	Lucey Boiler Co
5905	2005	115854	260081567	Lucey Boiler Co
5906	2005	115854	260081567	Lucey Boiler Co
5907	2005	115854	260081567	Lucey Boiler Co
5908	2005	115854	260081567	Lucey Boiler Co
5909	2005	115854	260081567	Lucey Boiler Co
5910	2005	115854	260081567	Lucey Boiler Co
5911	2005	115854	260081567	Lucey Boiler Co
5912	**2005 Total**			
5913	2006	115854	260081567	Lucey Boiler Co
5914	2006	115854	260081567	Lucey Boiler Co
5915	2006	115854	260081567	Lucey Boiler Co
5916	2006	115854	260081567	Lucey Boiler Co
5917	2006	115854	260081567	Lucey Boiler Co
5918	2006	115854	260081567	Lucey Boiler Co
5919	2006	115854	260081567	Lucey Boiler Co
5920	2006	115854	260081567	Lucey Boiler Co
5921	2006	115854	260081567	Lucey Boiler Co
5922	2006	115854	260081567	Lucey Boiler Co
5923	2006	115854	260081567	Lucey Boiler Co
5924	2006	115854	260081567	Lucey Boiler Co
5925	**2006 Total**			
5926	2007	115854	260081567	Lucey Boiler Co
5927	2007	115854	260081567	Lucey Boiler Co
5928	2007	115854	260081567	Lucey Boiler Co
5929	2007	115854	260081567	Lucey Boiler Co
5930	2007	115854	260081567	Lucey Boiler Co
5931	2007	115854	260081567	Lucey Boiler Co
5932	2007	115854	260081567	Lucey Boiler Co
5933	2007	115854	260081567	Lucey Boiler Co
5934	2007	115854	260081567	Lucey Boiler Co
5935	2007	115854	260081567	Lucey Boiler Co
5936	2007	115854	260081567	Lucey Boiler Co
5937	2007	115854	260081567	Lucey Boiler Co
5938	**2007 Total**			
5939	2008	115854	260081567	Lucey Boiler Co
5940	2008	115854	260081567	Lucey Boiler Co
5941	2008	115854	260081567	Lucey Boiler Co
5942	**2008 Total**			
5943	2004	115883	260081594	Chattem Chemicals Inc
5944	2004	115883	260081594	Chattem Chemicals Inc
5945	2004	115883	260081594	Chattem Chemicals Inc
5946	2004	115883	260081594	Chattem Chemicals Inc
5947	2004	115883	260081594	Chattem Chemicals Inc
5948	2004	115883	260081594	Chattem Chemicals Inc
5949	2004	115883	260081594	Chattem Chemicals Inc

	J	K	L	M
5900	901 S Holtzclaw Ave APT# B	Chattanooga	TN	374044104
5901	901 S Holtzclaw Ave APT# B	Chattanooga	TN	374044104
5902	901 S Holtzclaw Ave APT# B	Chattanooga	TN	374044104
5903	901 S Holtzclaw Ave APT# B	Chattanooga	TN	374044104
5904	901 S Holtzclaw Ave APT# B	Chattanooga	TN	374044104
5905	901 S Holtzclaw Ave APT# B	Chattanooga	TN	374044104
5906	901 S Holtzclaw Ave APT# B	Chattanooga	TN	374044104
5907	901 S Holtzclaw Ave APT# B	Chattanooga	TN	374044104
5908	901 S Holtzclaw Ave APT# B	Chattanooga	TN	374044104
5909	901 S Holtzclaw Ave APT# B	Chattanooga	TN	374044104
5910	901 S Holtzclaw Ave APT# B	Chattanooga	TN	374044104
5911	901 S Holtzclaw Ave APT# B	Chattanooga	TN	374044104
5912				
5913	901 S Holtzclaw Ave APT# B	Chattanooga	TN	374044104
5914	901 S Holtzclaw Ave APT# B	Chattanooga	TN	374044104
5915	901 S Holtzclaw Ave APT# B	Chattanooga	TN	374044104
5916	901 S Holtzclaw Ave APT# B	Chattanooga	TN	374044104
5917	901 S Holtzclaw Ave APT# B	Chattanooga	TN	374044104
5918	901 S Holtzclaw Ave APT# B	Chattanooga	TN	374044104
5919	901 S Holtzclaw Ave APT# B	Chattanooga	TN	374044104
5920	901 S Holtzclaw Ave APT# B	Chattanooga	TN	374044104
5921	901 S Holtzclaw Ave APT# B	Chattanooga	TN	374044104
5922	901 S Holtzclaw Ave APT# B	Chattanooga	TN	374044104
5923	901 S Holtzclaw Ave APT# B	Chattanooga	TN	374044104
5924	901 S Holtzclaw Ave APT# B	Chattanooga	TN	374044104
5925				
5926	901 S Holtzclaw Ave APT# B	Chattanooga	TN	374044104
5927	901 S Holtzclaw Ave APT# B	Chattanooga	TN	374044104
5928	901 S Holtzclaw Ave APT# B	Chattanooga	TN	374044104
5929	901 S Holtzclaw Ave APT# B	Chattanooga	TN	374044104
5930	901 S Holtzclaw Ave APT# B	Chattanooga	TN	374044104
5931	901 S Holtzclaw Ave APT# B	Chattanooga	TN	374044104
5932	901 S Holtzclaw Ave APT# B	Chattanooga	TN	374044104
5933	901 S Holtzclaw Ave APT# B	Chattanooga	TN	374044104
5934	901 S Holtzclaw Ave APT# B	Chattanooga	TN	374044104
5935	901 S Holtzclaw Ave APT# B	Chattanooga	TN	374044104
5936	901 S Holtzclaw Ave APT# B	Chattanooga	TN	374044104
5937	901 S Holtzclaw Ave APT# B	Chattanooga	TN	374044104
5938				
5939	901 S Holtzclaw Ave APT# B	Chattanooga	TN	374044104
5940	901 S Holtzclaw Ave APT# B	Chattanooga	TN	374044104
5941	901 S Holtzclaw Ave APT# B	Chattanooga	TN	374044104
5942				
5943	1713 W 38th St	Chattanooga	TN	374091248
5944	1713 W 38th St	Chattanooga	TN	374091248
5945	1713 W 38th St	Chattanooga	TN	374091248
5946	1713 W 38th St	Chattanooga	TN	374091248
5947	1713 W 38th St	Chattanooga	TN	374091248
5948	1713 W 38th St	Chattanooga	TN	374091248
5949	1713 W 38th St	Chattanooga	TN	374091248

	N	O	P	Q
5900	2.24	1000G	9.42	A3M4
5901	0	1000G	8.92	A3M4
5902	2.99	1000G	9.58	A3M4
5903	0	1000G	9.2	A3M4
5904	0	1000G	9.26	A3M4
5905	0	1000G	9.26	A3M4
5906	0	1000G	10.49	A3M4
5907	0	1000G	9.26	A3M4
5908	0	1000G	9.26	A3M4
5909	8.22	1000G	29.06	A3M4
5910	-8.22	1000G	-10.54	A3M4
5911	0	1000G	9.26	A3M4
5912	5.23		112.43	
5913	0	1000G	9.26	A3M4
5914	0	1000G	9.26	A3M4
5915	0	1000G	9.26	A3M4
5916	0	1000G	9.26	A3M4
5917	0	1000G	9.26	A3M4
5918	0	1000G	9.26	A3M4
5919	0	1000G	9.26	A3M4
5920	0	1000G	9.26	A3M4
5921	0	1000G	9.26	A3M4
5922	0	1000G	9.26	A3M4
5923	0	1000G	9.26	A3M4
5924	1.49	1000G	9.6	A3M4
5925	1.49		111.46	
5926	0	1000G	9.26	A3M4
5927	1.49	1000G	9.6	A3M4
5928	0.74	1000G	9.43	A3M4
5929	0	1000G	9.26	A3M4
5930	0	1000G	9.26	A3M4
5931	0.74	1000G	9.79	A3M4
5932	0	1000G	10.42	A3M4
5933	0	1000G	10.42	A3M4
5934	0	1000G	10.42	A3M4
5935	0	1000G	10.42	A3M4
5936	0	1000G	10.42	A3M4
5937	0	1000G	10.42	A3M4
5938	2.97		119.12	
5939	0	1000G	10.42	A3M4
5940	0	1000G	10.42	A3M4
5941	0	1000G	10.42	A3M4
5942	0		31.26	
5943	1811.03	1000G	3329.44	A3M4
5944	2302.5	1000G	4140.18	A3M4
5945	608.91	1000G	1346.41	A3M4
5946	0	1000G	79.77	A3M4
5947	1404.09	1000G	2658.15	A3M4
5948	2546.36	1000G	4542.47	A3M4
5949	3090.2	1000G	5439.58	A3M4

	A	B	C	D	E
5950	2600	2603	26CC	3	8
5951	2600	2603	26CC	3	9
5952	2600	2603	26CC	3	10
5953	2600	2603	26CC	3	11
5954	2600	2603	26CC	3	12
5955					
5956	2600	2603	26CC	3	1
5957	2600	2603	26CC	3	2
5958	2600	2603	26CC	3	3
5959	2600	2603	26CC	3	4
5960	2600	2603	26CC	3	5
5961	2600	2603	26CC	3	6
5962	2600	2603	26CC	3	7
5963	2600	2603	26CC	3	8
5964	2600	2603	26CC	3	9
5965	2600	2603	26CC	3	10
5966	2600	2603	26CC	3	11
5967	2600	2603	26CC	3	12
5968					
5969	2600	2603	26CC	3	1
5970	2600	2603	26CC	3	2
5971	2600	2603	26CC	3	3
5972	2600	2603	26CC	3	4
5973	2600	2603	26CC	3	5
5974	2600	2603	26CC	3	6
5975	2600	2603	26CC	3	7
5976	2600	2603	26CC	3	8
5977	2600	2603	26CC	3	9
5978	2600	2603	26CC	3	10
5979	2600	2603	26CC	3	11
5980	2600	2603	26CC	3	12
5981					
5982	2600	2603	26CC	3	1
5983	2600	2603	26CC	3	2
5984	2600	2603	26CC	3	3
5985	2600	2603	26CC	3	4
5986	2600	2603	26CC	3	5
5987	2600	2603	26CC	3	6
5988	2600	2603	26CC	3	7
5989	2600	2603	26CC	3	8
5990	2600	2603	26CC	3	9
5991	2600	2603	26CC	3	10
5992	2600	2603	26CC	3	11
5993	2600	2603	26CC	3	12
5994					
5995	2600	2603	26CC	3	1
5996	2600	2603	26CC	3	2
5997	2600	2603	26CC	3	3
5998					
5999	2600	2603	26CC	3	1

	F	G	H	I
5950	2004	115883	260081594	Chattem Chemicals Inc
5951	2004	115883	260081594	Chattem Chemicals Inc
5952	2004	115883	260081594	Chattem Chemicals Inc
5953	2004	115883	260081594	Chattem Chemicals Inc
5954	2004	115883	260081594	Chattem Chemicals Inc
5955	**2004 Total**			
5956	2005	115883	260081594	Chattem Chemicals Inc
5957	2005	115883	260081594	Chattem Chemicals Inc
5958	2005	115883	260081594	Chattem Chemicals Inc
5959	2005	115883	260081594	Chattem Chemicals Inc
5960	2005	115883	260081594	Chattem Chemicals Inc
5961	2005	115883	260081594	Chattem Chemicals Inc
5962	2005	115883	260081594	Chattem Chemicals Inc
5963	2005	115883	260081594	Chattem Chemicals Inc
5964	2005	115883	260081594	Chattem Chemicals Inc
5965	2005	115883	260081594	Chattem Chemicals Inc
5966	2005	115883	260081594	Chattem Chemicals Inc
5967	2005	115883	260081594	Chattem Chemicals Inc
5968	**2005 Total**			
5969	2006	115883	260081594	Chattem Chemicals Inc
5970	2006	115883	260081594	Chattem Chemicals Inc
5971	2006	115883	260081594	Chattem Chemicals Inc
5972	2006	115883	260081594	Chattem Chemicals Inc
5973	2006	115883	260081594	Chattem Chemicals Inc
5974	2006	115883	260081594	Chattem Chemicals Inc
5975	2006	115883	260081594	Chattem Chemicals Inc
5976	2006	115883	260081594	Chattem Chemicals Inc
5977	2006	115883	260081594	Chattem Chemicals Inc
5978	2006	115883	260081594	Chattem Chemicals Inc
5979	2006	115883	260081594	Chattem Chemicals Inc
5980	2006	115883	260081594	Chattem Chemicals Inc
5981	**2006 Total**			
5982	2007	115883	260081594	Chattem Chemicals Inc
5983	2007	115883	260081594	Chattem Chemicals Inc
5984	2007	115883	260081594	Chattem Chemicals Inc
5985	2007	115883	260081594	Chattem Chemicals Inc
5986	2007	115883	260081594	Chattem Chemicals Inc
5987	2007	115883	260081594	Chattem Chemicals Inc
5988	2007	115883	260081594	Chattem Chemicals Inc
5989	2007	115883	260081594	Chattem Chemicals Inc
5990	2007	115883	260081594	Chattem Chemicals Inc
5991	2007	115883	260081594	Chattem Chemicals Inc
5992	2007	115883	260081594	Chattem Chemicals Inc
5993	2007	115883	260081594	Chattem Chemicals Inc
5994	**2007 Total**			
5995	2008	115883	260081594	Chattem Chemicals Inc
5996	2008	115883	260081594	Chattem Chemicals Inc
5997	2008	115883	260081594	Chattem Chemicals Inc
5998	**2008 Total**			
5999	2004	116321	260081915	Cargill Inc Corn Mill

	J	K	L	M
5950	1713 W 38th St	Chattanooga	TN	374091248
5951	1713 W 38th St	Chattanooga	TN	374091248
5952	1713 W 38th St	Chattanooga	TN	374091248
5953	1713 W 38th St	Chattanooga	TN	374091248
5954	1713 W 38th St	Chattanooga	TN	374091248
5955				
5956	1713 W 38th St	Chattanooga	TN	374091248
5957	1713 W 38th St	Chattanooga	TN	374091248
5958	1713 W 38th St	Chattanooga	TN	374091248
5959	1713 W 38th St	Chattanooga	TN	374091248
5960	1713 W 38th St	Chattanooga	TN	374091248
5961	1713 W 38th St	Chattanooga	TN	374091248
5962	1713 W 38th St	Chattanooga	TN	374091248
5963	1713 W 38th St	Chattanooga	TN	374091248
5964	1713 W 38th St	Chattanooga	TN	374091248
5965	1713 W 38th St	Chattanooga	TN	374091248
5966	1713 W 38th St	Chattanooga	TN	374091248
5967	1713 W 38th St	Chattanooga	TN	374091248
5968				
5969	1713 W 38th St	Chattanooga	TN	374091248
5970	1713 W 38th St	Chattanooga	TN	374091248
5971	1713 W 38th St	Chattanooga	TN	374091248
5972	1713 W 38th St	Chattanooga	TN	374091248
5973	1713 W 38th St	Chattanooga	TN	374091248
5974	1713 W 38th St	Chattanooga	TN	374091248
5975	1713 W 38th St	Chattanooga	TN	374091248
5976	1713 W 38th St	Chattanooga	TN	374091248
5977	1713 W 38th St	Chattanooga	TN	374091248
5978	1713 W 38th St	Chattanooga	TN	374091248
5979	1713 W 38th St	Chattanooga	TN	374091248
5980	1713 W 38th St	Chattanooga	TN	374091248
5981				
5982	1713 W 38th St	Chattanooga	TN	374091248
5983	1713 W 38th St	Chattanooga	TN	374091248
5984	1713 W 38th St	Chattanooga	TN	374091248
5985	1713 W 38th St	Chattanooga	TN	374091248
5986	1713 W 38th St	Chattanooga	TN	374091248
5987	1713 W 38th St	Chattanooga	TN	374091248
5988	1713 W 38th St	Chattanooga	TN	374091248
5989	1713 W 38th St	Chattanooga	TN	374091248
5990	1713 W 38th St	Chattanooga	TN	374091248
5991	1713 W 38th St	Chattanooga	TN	374091248
5992	1713 W 38th St	Chattanooga	TN	374091248
5993	1713 W 38th St	Chattanooga	TN	374091248
5994				
5995	1713 W 38th St	Chattanooga	TN	374091248
5996	1713 W 38th St	Chattanooga	TN	374091248
5997	1713 W 38th St	Chattanooga	TN	374091248
5998				
5999	1 Riverside Ln #C	Chattanooga	TN	374061725

	N	O	P	Q
5950	2685.5	1000G	4771.99	A3M4
5951	1987.57	1000G	3620.67	A3M4
5952	1866.38	1000G	3420.76	A3M4
5953	2161.87	1000G	3908.19	A3M4
5954	1818.51	1000G	3341.78	A3M4
5955	22282.92		40599.39	
5956	2712.43	1000G	4816.41	A3M4
5957	2500.73	1000G	4467.19	A3M4
5958	2217.97	1000G	4084.04	A3M4
5959	2633.89	1000G	4869.02	A3M4
5960	3162.01	1000G	5774.11	A3M4
5961	2989.96	1000G	5479.25	A3M4
5962	3024.37	1000G	5538.23	A3M4
5963	2823.89	1000G	5194.65	A3M4
5964	2737.87	1000G	5047.22	A3M4
5965	2735.62	1000G	5043.37	A3M4
5966	2490.26	1000G	4622.88	A3M4
5967	2772.28	1000G	5106.19	A3M4
5968	32801.28		60042.56	
5969	3394.65	1000G	6172.82	A3M4
5970	2476.05	1000G	4598.52	A3M4
5971	2336.16	1000G	4358.79	A3M4
5972	1760.16	1000G	3371.65	A3M4
5973	2280.06	1000G	4262.64	A3M4
5974	2612.94	1000G	4833.13	A3M4
5975	2583.76	1000G	4783.13	A3M4
5976	2627.9	1000G	4858.77	A3M4
5977	2336.16	1000G	4358.79	A3M4
5978	2583.77	1000G	4783.13	A3M4
5979	3093.94	1000G	5657.45	A3M4
5980	2703.45	1000G	4988.25	A3M4
5981	30789		57027.07	
5982	2914.41	1000G	5349.77	A3M4
5983	2990.71	1000G	5480.54	A3M4
5984	2253.13	1000G	4216.48	A3M4
5985	2778.26	1000G	5116.45	A3M4
5986	2948.82	1000G	5408.74	A3M4
5987	3501.63	1000G	7079.81	A3M4
5988	3192.68	1000G	6558.71	A3M4
5989	1775.12	1000G	3824.23	A3M4
5990	2624.16	1000G	5462.03	A3M4
5991	2786.49	1000G	5775.17	A3M4
5992	1829.73	1000G	3929.57	A3M4
5993	1969.62	1000G	4199.41	A3M4
5994	31564.76		62400.91	
5995	1600.83	1000G	3488.01	A3M4
5996	2386.28	1000G	5003.16	A3M4
5997	2550.85	1000G	5320.62	A3M4
5998	6537.96		13811.79	
5999	267.05	1000G	722.83	A3M4

	A	B	C	D	E
6000	2600	2603	26CC	3	2
6001	2600	2603	26CC	3	3
6002	2600	2603	26CC	3	4
6003	2600	2603	26CC	3	5
6004	2600	2603	26CC	3	6
6005	2600	2603	26CC	3	7
6006	2600	2603	26CC	3	8
6007	2600	2603	26CC	3	9
6008	2600	2603	26CC	3	10
6009	2600	2603	26CC	3	11
6010	2600	2603	26CC	3	12
6011					
6012	2600	2603	26CC	3	1
6013	2600	2603	26CC	3	2
6014	2600	2603	26CC	3	3
6015	2600	2603	26CC	3	4
6016	2600	2603	26CC	3	5
6017	2600	2603	26CC	3	6
6018	2600	2603	26CC	3	7
6019	2600	2603	26CC	3	8
6020	2600	2603	26CC	3	9
6021	2600	2603	26CC	3	10
6022	2600	2603	26CC	3	11
6023	2600	2603	26CC	3	12
6024					
6025	2600	2603	26CC	3	1
6026	2600	2603	26CC	3	2
6027	2600	2603	26CC	3	3
6028	2600	2603	26CC	3	4
6029	2600	2603	26CC	3	5
6030	2600	2603	26CC	3	6
6031	2600	2603	26CC	3	7
6032	2600	2603	26CC	3	8
6033	2600	2603	26CC	3	9
6034	2600	2603	26CC	3	10
6035	2600	2603	26CC	3	11
6036	2600	2603	26CC	3	12
6037					
6038	2600	2603	26CC	3	1
6039	2600	2603	26CC	3	2
6040	2600	2603	26CC	3	3
6041	2600	2603	26CC	3	4
6042	2600	2603	26CC	3	5
6043	2600	2603	26CC	3	6
6044	2600	2603	26CC	3	7
6045	2600	2603	26CC	3	8
6046	2600	2603	26CC	3	9
6047	2600	2603	26CC	3	10
6048	2600	2603	26CC	3	11
6049	2600	2603	26CC	3	12

	F	G	H	I
6000	2004	116321	260081915	Cargill Inc Corn Mill
6001	2004	116321	260081915	Cargill Inc Corn Mill
6002	2004	116321	260081915	Cargill Inc Corn Mill
6003	2004	116321	260081915	Cargill Inc Corn Mill
6004	2004	116321	260081915	Cargill Inc Corn Mill
6005	2004	116321	260081915	Cargill Inc Corn Mill
6006	2004	116321	260081915	Cargill Inc Corn Mill
6007	2004	116321	260081915	Cargill Inc Corn Mill
6008	2004	116321	260081915	Cargill Inc Corn Mill
6009	2004	116321	260081915	Cargill Inc Corn Mill
6010	2004	116321	260081915	Cargill Inc Corn Mill
6011	**2004 Total**			
6012	2005	116321	260081915	Cargill Inc Corn Mill
6013	2005	116321	260081915	Cargill Inc Corn Mill
6014	2005	116321	260081915	Cargill Inc Corn Mill
6015	2005	116321	260081915	Cargill Inc Corn Mill
6016	2005	116321	260081915	Cargill Inc Corn Mill
6017	2005	116321	260081915	Cargill Inc Corn Mill
6018	2005	116321	260081915	Cargill Inc Corn Mill
6019	2005	116321	260081915	Cargill Inc Corn Mill
6020	2005	116321	260081915	Cargill Inc Corn Mill
6021	2005	116321	260081915	Cargill Inc Corn Mill
6022	2005	116321	260081915	Cargill Inc Corn Mill
6023	2005	116321	260081915	Cargill Inc Corn Mill
6024	**2005 Total**			
6025	2006	116321	260081915	Cargill Inc Corn Mill
6026	2006	116321	260081915	Cargill Inc Corn Mill
6027	2006	116321	260081915	Cargill Inc Corn Mill
6028	2006	116321	260081915	Cargill Inc Corn Mill
6029	2006	116321	260081915	Cargill Inc Corn Mill
6030	2006	116321	260081915	Cargill Inc Corn Mill
6031	2006	116321	260081915	Cargill Inc Corn Mill
6032	2006	116321	260081915	Cargill Inc Corn Mill
6033	2006	116321	260081915	Cargill Inc Corn Mill
6034	2006	116321	260081915	Cargill Inc Corn Mill
6035	2006	116321	260081915	Cargill Inc Corn Mill
6036	2006	116321	260081915	Cargill Inc Corn Mill
6037	**2006 Total**			
6038	2007	116321	260081915	Cargill Inc Corn Mill
6039	2007	116321	260081915	Cargill Inc Corn Mill
6040	2007	116321	260081915	Cargill Inc Corn Mill
6041	2007	116321	260081915	Cargill Inc Corn Mill
6042	2007	116321	260081915	Cargill Inc Corn Mill
6043	2007	116321	260081915	Cargill Inc Corn Mill
6044	2007	116321	260081915	Cargill Inc Corn Mill
6045	2007	116321	260081915	Cargill Inc Corn Mill
6046	2007	116321	260081915	Cargill Inc Corn Mill
6047	2007	116321	260081915	Cargill Inc Corn Mill
6048	2007	116321	260081915	Cargill Inc Corn Mill
6049	2007	116321	260081915	Cargill Inc Corn Mill

	J	K	L	M
6000	1 Riverside Ln #C	Chattanooga	TN	374061725
6001	1 Riverside Ln #C	Chattanooga	TN	374061725
6002	1 Riverside Ln #C	Chattanooga	TN	374061725
6003	1 Riverside Ln #C	Chattanooga	TN	374061725
6004	1 Riverside Ln #C	Chattanooga	TN	374061725
6005	1 Riverside Ln #C	Chattanooga	TN	374061725
6006	1 Riverside Ln #C	Chattanooga	TN	374061725
6007	1 Riverside Ln #C	Chattanooga	TN	374061725
6008	1 Riverside Ln #C	Chattanooga	TN	374061725
6009	1 Riverside Ln #C	Chattanooga	TN	374061725
6010	1 Riverside Ln #C	Chattanooga	TN	374061725
6011				
6012	1 Riverside Ln #C	Chattanooga	TN	374061725
6013	1 Riverside Ln #C	Chattanooga	TN	374061725
6014	1 Riverside Ln #C	Chattanooga	TN	374061725
6015	1 Riverside Ln #C	Chattanooga	TN	374061725
6016	1 Riverside Ln #C	Chattanooga	TN	374061725
6017	1 Riverside Ln #C	Chattanooga	TN	374061725
6018	1 Riverside Ln #C	Chattanooga	TN	374061725
6019	1 Riverside Ln #C	Chattanooga	TN	374061725
6020	1 Riverside Ln #C	Chattanooga	TN	374061725
6021	1 Riverside Ln #C	Chattanooga	TN	374061725
6022	1 Riverside Ln #C	Chattanooga	TN	374061725
6023	1 Riverside Ln #C	Chattanooga	TN	374061725
6024				
6025	1 Riverside Ln #C	Chattanooga	TN	374061725
6026	1 Riverside Ln #C	Chattanooga	TN	374061725
6027	1 Riverside Ln #C	Chattanooga	TN	374061725
6028	1 Riverside Ln #C	Chattanooga	TN	374061725
6029	1 Riverside Ln #C	Chattanooga	TN	374061725
6030	1 Riverside Ln #C	Chattanooga	TN	374061725
6031	1 Riverside Ln #C	Chattanooga	TN	374061725
6032	1 Riverside Ln #C	Chattanooga	TN	374061725
6033	1 Riverside Ln #C	Chattanooga	TN	374061725
6034	1 Riverside Ln #C	Chattanooga	TN	374061725
6035	1 Riverside Ln #C	Chattanooga	TN	374061725
6036	1 Riverside Ln #C	Chattanooga	TN	374061725
6037				
6038	1 Riverside Ln #C	Chattanooga	TN	374061725
6039	1 Riverside Ln #C	Chattanooga	TN	374061725
6040	1 Riverside Ln #C	Chattanooga	TN	374061725
6041	1 Riverside Ln #C	Chattanooga	TN	374061725
6042	1 Riverside Ln #C	Chattanooga	TN	374061725
6043	1 Riverside Ln #C	Chattanooga	TN	374061725
6044	1 Riverside Ln #C	Chattanooga	TN	374061725
6045	1 Riverside Ln #C	Chattanooga	TN	374061725
6046	1 Riverside Ln #C	Chattanooga	TN	374061725
6047	1 Riverside Ln #C	Chattanooga	TN	374061725
6048	1 Riverside Ln #C	Chattanooga	TN	374061725
6049	1 Riverside Ln #C	Chattanooga	TN	374061725

	N	O	P	Q
6000	297.72	1000G	790.52	A3M4
6001	315.67	1000G	830.15	A3M4
6002	314.92	1000G	828.5	A3M4
6003	370.28	1000G	950.67	A3M4
6004	212.44	1000G	602.31	A3M4
6005	259.57	1000G	706.32	A3M4
6006	252.84	1000G	691.46	A3M4
6007	282.76	1000G	757.5	A3M4
6008	289.49	1000G	772.36	A3M4
6009	329.89	1000G	861.52	A3M4
6010	263.31	1000G	714.58	A3M4
6011	3455.94		9228.72	
6012	267.05	1000G	722.83	A3M4
6013	604.42	1000G	1339	A3M4
6014	293.98	1000G	782.27	A3M4
6015	361.3	1000G	962.57	A3M4
6016	357.56	1000G	958.37	A3M4
6017	308.94	1000G	846.89	A3M4
6018	270.79	1000G	759.43	A3M4
6019	277.52	1000G	774.86	A3M4
6020	404.69	1000G	1048.66	A3M4
6021	289.49	1000G	802.3	A3M4
6022	415.91	1000G	1067.89	A3M4
6023	246.85	1000G	704.55	A3M4
6024	4098.5		10769.62	
6025	583.48	1000G	1355.06	A3M4
6026	192.99	1000G	581.07	A3M4
6027	211.69	1000G	623.94	A3M4
6028	320.9	1000G	874.33	A3M4
6029	159.33	1000G	526.98	A3M4
6030	252.09	1000G	716.55	A3M4
6031	392.72	1000G	1028.15	A3M4
6032	253.58	1000G	719.98	A3M4
6033	194.49	1000G	584.5	A3M4
6034	344.1	1000G	927.5	A3M4
6035	175.79	1000G	541.62	A3M4
6036	196.73	1000G	589.64	A3M4
6037	3277.89		9069.32	
6038	121.18	1000G	416.43	A3M4
6039	236.38	1000G	680.54	A3M4
6040	213.19	1000G	627.37	A3M4
6041	240.12	1000G	689.11	A3M4
6042	216.18	1000G	634.23	A3M4
6043	157.83	1000G	523.56	A3M4
6044	166.06	1000G	584.67	A3M4
6045	180.28	1000G	621.36	A3M4
6046	173.54	1000G	603.98	A3M4
6047	163.07	1000G	576.94	A3M4
6048	207.95	1000G	692.8	A3M4
6049	221.42	1000G	727.56	A3M4

	A	B	C	D	E
6050					
6051	2600	2603	26CC	3	1
6052	2600	2603	26CC	3	2
6053	2600	2603	26CC	3	3
6054					
6055	2600	2603	26CC	3	1
6056	2600	2603	26CC	3	2
6057	2600	2603	26CC	3	3
6058	2600	2603	26CC	3	4
6059	2600	2603	26CC	3	5
6060	2600	2603	26CC	3	6
6061	2600	2603	26CC	3	7
6062	2600	2603	26CC	3	8
6063	2600	2603	26CC	3	9
6064	2600	2603	26CC	3	10
6065	2600	2603	26CC	3	12
6066	2600	2603	26CC	3	12
6067					
6068	2600	2603	26CC	3	1
6069	2600	2603	26CC	3	2
6070	2600	2603	26CC	3	3
6071	2600	2603	26CC	3	4
6072	2600	2603	26CC	3	5
6073	2600	2603	26CC	3	6
6074	2600	2603	26CC	3	7
6075	2600	2603	26CC	3	8
6076	2600	2603	26CC	3	9
6077	2600	2603	26CC	3	10
6078	2600	2603	26CC	3	11
6079	2600	2603	26CC	3	12
6080					
6081	2600	2603	26CC	3	1
6082	2600	2603	26CC	3	2
6083	2600	2603	26CC	3	3
6084	2600	2603	26CC	3	4
6085	2600	2603	26CC	3	5
6086	2600	2603	26CC	3	6
6087	2600	2603	26CC	3	7
6088	2600	2603	26CC	3	8
6089	2600	2603	26CC	3	9
6090	2600	2603	26CC	3	10
6091	2600	2603	26CC	3	11
6092	2600	2603	26CC	3	12
6093					
6094	2600	2603	26CC	3	1
6095	2600	2603	26CC	3	2
6096	2600	2603	26CC	3	3
6097	2600	2603	26CC	3	4
6098	2600	2603	26CC	3	5
6099	2600	2603	26CC	3	6

	F	G	H	I
6050	**2007 Total**			
6051	2008	116321	260081915	Cargill Inc Corn Mill
6052	2008	116321	260081915	Cargill Inc Corn Mill
6053	2008	116321	260081915	Cargill Inc Corn Mill
6054	**2008 Total**			
6055	2004	116584	260082116	Southern Cellulose
6056	2004	116584	260082116	Southern Cellulose
6057	2004	116584	260082116	Southern Cellulose
6058	2004	116584	260082116	Southern Cellulose
6059	2004	116584	260082116	Southern Cellulose
6060	2004	116584	260082116	Southern Cellulose
6061	2004	116584	260082116	Southern Cellulose
6062	2004	116584	260082116	Southern Cellulose
6063	2004	116584	260082116	Southern Cellulose
6064	2004	116584	260082116	Southern Cellulose
6065	2004	116584	260082116	Southern Cellulose
6066	2004	116584	260082116	Southern Cellulose
6067	**2004 Total**			
6068	2005	116584	260082116	Southern Cellulose
6069	2005	116584	260082116	Southern Cellulose
6070	2005	116584	260082116	Southern Cellulose
6071	2005	116584	260082116	Southern Cellulose
6072	2005	116584	260082116	Southern Cellulose
6073	2005	116584	260082116	Southern Cellulose
6074	2005	116584	260082116	Southern Cellulose
6075	2005	116584	260082116	Southern Cellulose
6076	2005	116584	260082116	Southern Cellulose
6077	2005	116584	260082116	Southern Cellulose
6078	2005	116584	260082116	Southern Cellulose
6079	2005	116584	260082116	Southern Cellulose
6080	**2005 Total**			
6081	2006	116584	260082116	Southern Cellulose
6082	2006	116584	260082116	Southern Cellulose
6083	2006	116584	260082116	Southern Cellulose
6084	2006	116584	260082116	Southern Cellulose
6085	2006	116584	260082116	Southern Cellulose
6086	2006	116584	260082116	Southern Cellulose
6087	2006	116584	260082116	Southern Cellulose
6088	2006	116584	260082116	Southern Cellulose
6089	2006	116584	260082116	Southern Cellulose
6090	2006	116584	260082116	Southern Cellulose
6091	2006	116584	260082116	Southern Cellulose
6092	2006	116584	260082116	Southern Cellulose
6093	**2006 Total**			
6094	2007	116584	260082116	Southern Cellulose
6095	2007	116584	260082116	Southern Cellulose
6096	2007	116584	260082116	Southern Cellulose
6097	2007	116584	260082116	Southern Cellulose
6098	2007	116584	260082116	Southern Cellulose
6099	2007	116584	260082116	Southern Cellulose

	J	K	L	M
6050				
6051	1 Riverside Ln #C	Chattanooga	TN	374061725
6052	1 Riverside Ln #C	Chattanooga	TN	374061725
6053	1 Riverside Ln #C	Chattanooga	TN	374061725
6054				
6055	4201 Dorris St	Chattanooga	TN	374101750
6056	4201 Dorris St	Chattanooga	TN	374101750
6057	4201 Dorris St	Chattanooga	TN	374101750
6058	4201 Dorris St	Chattanooga	TN	374101750
6059	4201 Dorris St	Chattanooga	TN	374101750
6060	4201 Dorris St	Chattanooga	TN	374101750
6061	4201 Dorris St	Chattanooga	TN	374101750
6062	4201 Dorris St	Chattanooga	TN	374101750
6063	4201 Dorris St	Chattanooga	TN	374101750
6064	4201 Dorris St	Chattanooga	TN	374101750
6065	4201 Dorris St	Chattanooga	TN	374101750
6066	4201 Dorris St	Chattanooga	TN	374101750
6067				
6068	4201 Dorris St	Chattanooga	TN	374101750
6069	4201 Dorris St	Chattanooga	TN	374101750
6070	4201 Dorris St	Chattanooga	TN	374101750
6071	4201 Dorris St	Chattanooga	TN	374101750
6072	4201 Dorris St	Chattanooga	TN	374101750
6073	4201 Dorris St	Chattanooga	TN	374101750
6074	4201 Dorris St	Chattanooga	TN	374101750
6075	4201 Dorris St	Chattanooga	TN	374101750
6076	4201 Dorris St	Chattanooga	TN	374101750
6077	4201 Dorris St	Chattanooga	TN	374101750
6078	4201 Dorris St	Chattanooga	TN	374101750
6079	4201 Dorris St	Chattanooga	TN	374101750
6080				
6081	4201 Dorris St	Chattanooga	TN	374101750
6082	4201 Dorris St	Chattanooga	TN	374101750
6083	4201 Dorris St	Chattanooga	TN	374101750
6084	4201 Dorris St	Chattanooga	TN	374101750
6085	4201 Dorris St	Chattanooga	TN	374101750
6086	4201 Dorris St	Chattanooga	TN	374101750
6087	4201 Dorris St	Chattanooga	TN	374101750
6088	4201 Dorris St	Chattanooga	TN	374101750
6089	4201 Dorris St	Chattanooga	TN	374101750
6090	4201 Dorris St	Chattanooga	TN	374101750
6091	4201 Dorris St	Chattanooga	TN	374101750
6092	4201 Dorris St	Chattanooga	TN	374101750
6093				
6094	4201 Dorris St	Chattanooga	TN	374101750
6095	4201 Dorris St	Chattanooga	TN	374101750
6096	4201 Dorris St	Chattanooga	TN	374101750
6097	4201 Dorris St	Chattanooga	TN	374101750
6098	4201 Dorris St	Chattanooga	TN	374101750
6099	4201 Dorris St	Chattanooga	TN	374101750

	N	O	P	Q
6050	2297.2		7378.55	
6051	246.85	1000G	793.22	A3M4
6052	290.24	1000G	905.21	A3M4
6053	222.17	1000G	729.49	A3M4
6054	759.26		2427.92	
6055	640.33	1000G	1478	A3MSM
6056	460.05	1000G	1180.61	A3MSM
6057	882.7	1000G	1877.82	A3MSM
6058	1019.59	1000G	2103.64	A3MSM
6059	1211.09	1000G	2419.55	A3MSM
6060	1468.42	1000G	2844.04	A3MSM
6061	1321.8	1000G	2602.18	A3MSM
6062	1178.92	1000G	2366.48	A3MSM
6063	937.3	1000G	1967.9	A3MSM
6064	1081.68	1000G	2206.06	A3MSM
6065	463.04	1000G	1059.04	A3MSM
6066	1045.02	1000G	2243.98	A3MSM
6067	11709.94		24349.3	
6068	741.31	1000G	1644.59	A3MSM
6069	644.82	1000G	1485.41	A3MSM
6070	524.38	1000G	1314.46	A3MSM
6071	1045.02	1000G	2228.9	A3MSM
6072	956.75	1000G	2077.63	A3MSM
6073	1008.37	1000G	2166.09	A3MSM
6074	1111.6	1000G	2343	A3MSM
6075	902.89	1000G	1985.32	A3MSM
6076	1040.54	1000G	2221.21	A3MSM
6077	840.81	1000G	1878.92	A3MSM
6078	583.48	1000G	1437.91	A3MSM
6079	444.34	1000G	1199.46	A3MSM
6080	9844.31		21982.9	
6081	586.47	1000G	1443.04	A3MSM
6082	539.34	1000G	1362.27	A3MSM
6083	653.04	1000G	1557.14	A3MSM
6084	934.31	1000G	2039.17	A3MSM
6085	846.04	1000G	1887.89	A3MSM
6086	1023.33	1000G	2191.73	A3MSM
6087	1252.98	1000G	2585.3	A3MSM
6088	1305.35	1000G	2675.04	A3MSM
6089	1204.36	1000G	2501.97	A3MSM
6090	950.02	1000G	2066.09	A3MSM
6091	742.06	1000G	1709.69	A3MSM
6092	572.25	1000G	1418.68	A3MSM
6093	10609.55		23438.01	
6094	714.38	1000G	1749.85	A3MSM
6095	506.43	1000G	1247.47	A3MSM
6096	586.47	1000G	1443.04	A3MSM
6097	829.58	1000G	1859.69	A3MSM
6098	961.24	1000G	2085.32	A3MSM
6099	1220.82	1000G	2818.43	A3MSM

	A	B	C	D	E
6100	2600	2603	26CC	3	7
6101	2600	2603	26CC	3	8
6102	2600	2603	26CC	3	9
6103	2600	2603	26CC	3	10
6104	2600	2603	26CC	3	11
6105	2600	2603	26CC	3	12
6106					
6107	2600	2603	26CC	3	1
6108	2600	2603	26CC	3	2
6109	2600	2603	26CC	3	3
6110					
6111	2600	2603	26CC	3	1
6112	2600	2603	26CC	3	2
6113	2600	2603	26CC	3	3
6114	2600	2603	26CC	3	4
6115	2600	2603	26CC	3	5
6116	2600	2603	26CC	3	6
6117	2600	2603	26CC	3	7
6118	2600	2603	26CC	3	8
6119	2600	2603	26CC	3	9
6120	2600	2603	26CC	3	10
6121	2600	2603	26CC	3	11
6122	2600	2603	26CC	3	12
6123					
6124	2600	2603	26CC	3	1
6125	2600	2603	26CC	3	2
6126	2600	2603	26CC	3	3
6127	2600	2603	26CC	3	4
6128	2600	2603	26CC	3	5
6129	2600	2603	26CC	3	6
6130	2600	2603	26CC	3	7
6131	2600	2603	26CC	3	8
6132	2600	2603	26CC	3	9
6133	2600	2603	26CC	3	10
6134	2600	2603	26CC	3	11
6135	2600	2603	26CC	3	12
6136					
6137	2600	2603	26CC	3	1
6138	2600	2603	26CC	3	2
6139	2600	2603	26CC	3	3
6140	2600	2603	26CC	3	4
6141	2600	2603	26CC	3	5
6142	2600	2603	26CC	3	6
6143	2600	2603	26CC	3	7
6144	2600	2603	26CC	3	8
6145	2600	2603	26CC	3	9
6146	2600	2603	26CC	3	10
6147	2600	2603	26CC	3	11
6148	2600	2603	26CC	3	12
6149					

	F	G	H	I
6100	2007	116584	260082116	Southern Cellulose
6101	2007	116584	260082116	Southern Cellulose
6102	2007	116584	260082116	Southern Cellulose
6103	2007	116584	260082116	Southern Cellulose
6104	2007	116584	260082116	Southern Cellulose
6105	2007	116584	260082116	Southern Cellulose
6106	**2007 Total**			
6107	2008	116584	260082116	Southern Cellulose
6108	2008	116584	260082116	Southern Cellulose
6109	2008	116584	260082116	Southern Cellulose
6110	**2008 Total**			
6111	2004	117218	260082543	American Manufacturing
6112	2004	117218	260082543	American Manufacturing
6113	2004	117218	260082543	American Manufacturing
6114	2004	117218	260082543	American Manufacturing
6115	2004	117218	260082543	American Manufacturing
6116	2004	117218	260082543	American Manufacturing
6117	2004	117218	260082543	American Manufacturing
6118	2004	117218	260082543	American Manufacturing
6119	2004	117218	260082543	American Manufacturing
6120	2004	117218	260082543	American Manufacturing
6121	2004	117218	260082543	American Manufacturing
6122	2004	117218	260082543	American Manufacturing
6123	**2004 Total**			
6124	2005	117218	260082543	American Manufacturing
6125	2005	117218	260082543	American Manufacturing
6126	2005	117218	260082543	American Manufacturing
6127	2005	117218	260082543	American Manufacturing
6128	2005	117218	260082543	American Manufacturing
6129	2005	117218	260082543	American Manufacturing
6130	2005	117218	260082543	American Manufacturing
6131	2005	117218	260082543	American Manufacturing
6132	2005	117218	260082543	American Manufacturing
6133	2005	117218	260082543	American Manufacturing
6134	2005	117218	260082543	American Manufacturing
6135	2005	117218	260082543	American Manufacturing
6136	**2005 Total**			
6137	2006	117218	260082543	American Manufacturing
6138	2006	117218	260082543	American Manufacturing
6139	2006	117218	260082543	American Manufacturing
6140	2006	117218	260082543	American Manufacturing
6141	2006	117218	260082543	American Manufacturing
6142	2006	117218	260082543	American Manufacturing
6143	2006	117218	260082543	American Manufacturing
6144	2006	117218	260082543	American Manufacturing
6145	2006	117218	260082543	American Manufacturing
6146	2006	117218	260082543	American Manufacturing
6147	2006	117218	260082543	American Manufacturing
6148	2006	117218	260082543	American Manufacturing
6149	**2006 Total**			

	J	K	L	M
6100	4201 Dorris St	Chattanooga	TN	374101750
6101	4201 Dorris St	Chattanooga	TN	374101750
6102	4201 Dorris St	Chattanooga	TN	374101750
6103	4201 Dorris St	Chattanooga	TN	374101750
6104	4201 Dorris St	Chattanooga	TN	374101750
6105	4201 Dorris St	Chattanooga	TN	374101750
6106				
6107	4201 Dorris St	Chattanooga	TN	374101750
6108	4201 Dorris St	Chattanooga	TN	374101750
6109	4201 Dorris St	Chattanooga	TN	374101750
6110				
6111	3600 N Hawthorne St	Chattanooga	TN	374061305
6112	3600 N Hawthorne St	Chattanooga	TN	374061305
6113	3600 N Hawthorne St	Chattanooga	TN	374061305
6114	3600 N Hawthorne St	Chattanooga	TN	374061305
6115	3600 N Hawthorne St	Chattanooga	TN	374061305
6116	3600 N Hawthorne St	Chattanooga	TN	374061305
6117	3600 N Hawthorne St	Chattanooga	TN	374061305
6118	3600 N Hawthorne St	Chattanooga	TN	374061305
6119	3600 N Hawthorne St	Chattanooga	TN	374061305
6120	3600 N Hawthorne St	Chattanooga	TN	374061305
6121	3600 N Hawthorne St	Chattanooga	TN	374061305
6122	3600 N Hawthorne St	Chattanooga	TN	374061305
6123				
6124	3600 N Hawthorne St	Chattanooga	TN	374061305
6125	3600 N Hawthorne St	Chattanooga	TN	374061305
6126	3600 N Hawthorne St	Chattanooga	TN	374061305
6127	3600 N Hawthorne St	Chattanooga	TN	374061305
6128	3600 N Hawthorne St	Chattanooga	TN	374061305
6129	3600 N Hawthorne St	Chattanooga	TN	374061305
6130	3600 N Hawthorne St	Chattanooga	TN	374061305
6131	3600 N Hawthorne St	Chattanooga	TN	374061305
6132	3600 N Hawthorne St	Chattanooga	TN	374061305
6133	3600 N Hawthorne St	Chattanooga	TN	374061305
6134	3600 N Hawthorne St	Chattanooga	TN	374061305
6135	3600 N Hawthorne St	Chattanooga	TN	374061305
6136				
6137	3600 N Hawthorne St	Chattanooga	TN	374061305
6138	3600 N Hawthorne St	Chattanooga	TN	374061305
6139	3600 N Hawthorne St	Chattanooga	TN	374061305
6140	3600 N Hawthorne St	Chattanooga	TN	374061305
6141	3600 N Hawthorne St	Chattanooga	TN	374061305
6142	3600 N Hawthorne St	Chattanooga	TN	374061305
6143	3600 N Hawthorne St	Chattanooga	TN	374061305
6144	3600 N Hawthorne St	Chattanooga	TN	374061305
6145	3600 N Hawthorne St	Chattanooga	TN	374061305
6146	3600 N Hawthorne St	Chattanooga	TN	374061305
6147	3600 N Hawthorne St	Chattanooga	TN	374061305
6148	3600 N Hawthorne St	Chattanooga	TN	374061305
6149				

	N	O	P	Q
6100	1410.07	1000G	3213.32	A3MSM
6101	1388.38	1000G	3171.47	A3MSM
6102	1517.04	1000G	3419.66	A3MSM
6103	1353.22	1000G	3103.65	A3MSM
6104	930.57	1000G	2288.35	A3MSM
6105	847.54	1000G	2128.18	A3MSM
6106	12265.74		28528.43	
6107	715.13	1000G	1872.77	A3MSM
6108	628.35	1000G	1705.38	A3MSM
6109	754.03	1000G	1947.8	A3MSM
6110	2097.51		5525.95	
6111	5.23	1000G	58.41	A3M4
6112	3.74	1000G	53.16	A3M4
6113	3.74	1000G	53.16	A3M4
6114	5.23	1000G	58.41	A3M4
6115	6.73	1000G	63.67	A3M4
6116	6.73	1000G	63.67	A3M4
6117	5.23	1000G	58.41	A3M4
6118	5.23	1000G	58.41	A3M4
6119	5.23	1000G	58.41	A3M4
6120	5.23	1000G	58.41	A3M4
6121	5.23	1000G	58.41	A3M4
6122	5.23	1000G	58.41	A3M4
6123	62.78		700.94	
6124	5.98	1000G	61.04	A3M4
6125	5.23	1000G	58.41	A3M4
6126	5.23	1000G	58.41	A3M4
6127	5.23	1000G	60.39	A3M4
6128	5.98	1000G	63.4	A3M4
6129	5.23	1000G	60.67	A3M4
6130	5.23	1000G	60.67	A3M4
6131	5.23	1000G	60.67	A3M4
6132	4.48	1000G	57.94	A3M4
6133	5.23	1000G	60.67	A3M4
6134	5.23	1000G	60.67	A3M4
6135	6.73	1000G	66.13	A3M4
6136	65.01		729.07	
6137	5.23	1000G	60.67	A3M4
6138	4.48	1000G	57.94	A3M4
6139	5.98	1000G	63.4	A3M4
6140	5.23	1000G	60.67	A3M4
6141	5.98	1000G	63.4	A3M4
6142	5.98	1000G	63.4	A3M4
6143	5.23	1000G	60.67	A3M4
6144	5.98	1000G	63.4	A3M4
6145	6.72	1000G	66.13	A3M4
6146	9.72	1000G	77.05	A3M4
6147	11.22	1000G	82.51	A3M4
6148	6.73	1000G	66.13	A3M4
6149	78.48		785.37	

	A	B	C	D	E
6150	2600	2603	26CC	3	1
6151	2600	2603	26CC	3	2
6152	2600	2603	26CC	3	3
6153	2600	2603	26CC	3	4
6154	2600	2603	26CC	3	5
6155	2600	2603	26CC	3	6
6156	2600	2603	26CC	3	7
6157	2600	2603	26CC	3	8
6158	2600	2603	26CC	3	9
6159	2600	2603	26CC	3	10
6160	2600	2603	26CC	3	11
6161	2600	2603	26CC	3	12
6162					
6163	2600	2603	26CC	3	1
6164	2600	2603	26CC	3	2
6165	2600	2603	26CC	3	3
6166					
6167	2600	2603	26CC	3	1
6168	2600	2603	26CC	3	2
6169	2600	2603	26CC	3	3
6170	2600	2603	26CC	3	4
6171	2600	2603	26CC	3	5
6172	2600	2603	26CC	3	6
6173	2600	2603	26CC	3	7
6174	2600	2603	26CC	3	8
6175	2600	2603	26CC	3	9
6176	2600	2603	26CC	3	10
6177	2600	2603	26CC	3	11
6178	2600	2603	26CC	3	12
6179					
6180	2600	2603	26CC	3	1
6181	2600	2603	26CC	3	2
6182	2600	2603	26CC	3	3
6183	2600	2603	26CC	3	4
6184	2600	2603	26CC	3	5
6185	2600	2603	26CC	3	6
6186	2600	2603	26CC	3	7
6187	2600	2603	26CC	3	8
6188	2600	2603	26CC	3	9
6189	2600	2603	26CC	3	10
6190	2600	2603	26CC	3	11
6191	2600	2603	26CC	3	12
6192					
6193	2600	2603	26CC	3	1
6194	2600	2603	26CC	3	2
6195	2600	2603	26CC	3	3
6196	2600	2603	26CC	3	4
6197	2600	2603	26CC	3	5
6198	2600	2603	26CC	3	6
6199	2600	2603	26CC	3	7

	F	G	H	I
6150	2007	117218	260082543	American Manufacturing
6151	2007	117218	260082543	American Manufacturing
6152	2007	117218	260082543	American Manufacturing
6153	2007	117218	260082543	American Manufacturing
6154	2007	117218	260082543	American Manufacturing
6155	2007	117218	260082543	American Manufacturing
6156	2007	117218	260082543	American Manufacturing
6157	2007	117218	260082543	American Manufacturing
6158	2007	117218	260082543	American Manufacturing
6159	2007	117218	260082543	American Manufacturing
6160	2007	117218	260082543	American Manufacturing
6161	2007	117218	260082543	American Manufacturing
6162	**2007 Total**			
6163	2008	117218	260082543	American Manufacturing
6164	2008	117218	260082543	American Manufacturing
6165	2008	117218	260082543	American Manufacturing
6166	**2008 Total**			
6167	2004	117379	260082641	Rossville Chromatex
6168	2004	117379	260082641	Rossville Chromatex
6169	2004	117379	260082641	Rossville Chromatex
6170	2004	117379	260082641	Rossville Chromatex
6171	2004	117379	260082641	Rossville Chromatex
6172	2004	117379	260082641	Rossville Chromatex
6173	2004	117379	260082641	Rossville Chromatex
6174	2004	117379	260082641	Rossville Chromatex
6175	2004	117379	260082641	Rossville Chromatex
6176	2004	117379	260082641	Rossville Chromatex
6177	2004	117379	260082641	Rossville Chromatex
6178	2004	117379	260082641	Rossville Chromatex
6179	**2004 Total**			
6180	2005	117379	260082641	Rossville Chromatex
6181	2005	117379	260082641	Rossville Chromatex
6182	2005	117379	260082641	Rossville Chromatex
6183	2005	117379	260082641	Rossville Chromatex
6184	2005	117379	260082641	Rossville Chromatex
6185	2005	117379	260082641	Rossville Chromatex
6186	2005	117379	260082641	Rossville Chromatex
6187	2005	117379	260082641	Rossville Chromatex
6188	2005	117379	260082641	Rossville Chromatex
6189	2005	117379	260082641	Rossville Chromatex
6190	2005	117379	260082641	Rossville Chromatex
6191	2005	117379	260082641	Rossville Chromatex
6192	**2005 Total**			
6193	2006	117379	260082641	Rossville Chromatex
6194	2006	117379	260082641	Rossville Chromatex
6195	2006	117379	260082641	Rossville Chromatex
6196	2006	117379	260082641	Rossville Chromatex
6197	2006	117379	260082641	Rossville Chromatex
6198	2006	117379	260082641	Rossville Chromatex
6199	2006	117379	260082641	Rossville Chromatex

	J	K	L	M
6150	3600 N Hawthorne St	Chattanooga	TN	374061305
6151	3600 N Hawthorne St	Chattanooga	TN	374061305
6152	3600 N Hawthorne St	Chattanooga	TN	374061305
6153	3600 N Hawthorne St	Chattanooga	TN	374061305
6154	3600 N Hawthorne St	Chattanooga	TN	374061305
6155	3600 N Hawthorne St	Chattanooga	TN	374061305
6156	3600 N Hawthorne St	Chattanooga	TN	374061305
6157	3600 N Hawthorne St	Chattanooga	TN	374061305
6158	3600 N Hawthorne St	Chattanooga	TN	374061305
6159	3600 N Hawthorne St	Chattanooga	TN	374061305
6160	3600 N Hawthorne St	Chattanooga	TN	374061305
6161	3600 N Hawthorne St	Chattanooga	TN	374061305
6162				
6163	3600 N Hawthorne St	Chattanooga	TN	374061305
6164	3600 N Hawthorne St	Chattanooga	TN	374061305
6165	3600 N Hawthorne St	Chattanooga	TN	374061305
6166				
6167	1400 E 42nd St	Chattanooga	TN	374072905
6168	1400 E 42nd St	Chattanooga	TN	374072905
6169	1400 E 42nd St	Chattanooga	TN	374072905
6170	1400 E 42nd St	Chattanooga	TN	374072905
6171	1400 E 42nd St	Chattanooga	TN	374072905
6172	1400 E 42nd St	Chattanooga	TN	374072905
6173	1400 E 42nd St	Chattanooga	TN	374072905
6174	1400 E 42nd St	Chattanooga	TN	374072905
6175	1400 E 42nd St	Chattanooga	TN	374072905
6176	1400 E 42nd St	Chattanooga	TN	374072905
6177	1400 E 42nd St	Chattanooga	TN	374072905
6178	1400 E 42nd St	Chattanooga	TN	374072905
6179				
6180	1400 E 42nd St	Chattanooga	TN	374072905
6181	1400 E 42nd St	Chattanooga	TN	374072905
6182	1400 E 42nd St	Chattanooga	TN	374072905
6183	1400 E 42nd St	Chattanooga	TN	374072905
6184	1400 E 42nd St	Chattanooga	TN	374072905
6185	1400 E 42nd St	Chattanooga	TN	374072905
6186	1400 E 42nd St	Chattanooga	TN	374072905
6187	1400 E 42nd St	Chattanooga	TN	374072905
6188	1400 E 42nd St	Chattanooga	TN	374072905
6189	1400 E 42nd St	Chattanooga	TN	374072905
6190	1400 E 42nd St	Chattanooga	TN	374072905
6191	1400 E 42nd St	Chattanooga	TN	374072905
6192				
6193	1400 E 42nd St	Chattanooga	TN	374072905
6194	1400 E 42nd St	Chattanooga	TN	374072905
6195	1400 E 42nd St	Chattanooga	TN	374072905
6196	1400 E 42nd St	Chattanooga	TN	374072905
6197	1400 E 42nd St	Chattanooga	TN	374072905
6198	1400 E 42nd St	Chattanooga	TN	374072905
6199	1400 E 42nd St	Chattanooga	TN	374072905

	N	O	P	Q
6150	5.98	1000G	63.4	A3M4
6151	2.99	1000G	52.48	A3M4
6152	4.48	1000G	57.94	A3M4
6153	2.99	1000G	52.48	A3M4
6154	5.23	1000G	60.67	A3M4
6155	4.48	1000G	60.62	A3M4
6156	5.23	1000G	68.3	A3M4
6157	5.23	1000G	68.3	A3M4
6158	5.23	1000G	68.3	A3M4
6159	3.74	1000G	62.15	A3M4
6160	5.98	1000G	71.37	A3M4
6161	5.23	1000G	68.3	A3M4
6162	56.79		754.31	
6163	4.48	1000G	65.23	A3M4
6164	2.99	1000G	59.08	A3M4
6165	2.24	1000G	58.88	A3M4
6166	9.71		183.19	
6167	9.72	1000G	49.23	A3M4
6168	8.97	1000G	46.6	A3M4
6169	8.22	1000G	43.98	A3M4
6170	8.22	1000G	43.98	A3M4
6171	11.22	1000G	54.49	A3M4
6172	28.42	1000G	114.93	A3M4
6173	10.47	1000G	51.86	A3M4
6174	14.96	1000G	67.63	A3M4
6175	44.88	1000G	175.26	A3M4
6176	0	1000G	24.92	A3M4
6177	26.18	1000G	107.05	A3M4
6178	14.96	1000G	67.63	A3M4
6179	186.22		847.56	
6180	190	1000G	497.93	A3M4
6181	8.97	1000G	46.6	A3M4
6182	26.92	1000G	109.68	A3M4
6183	8.22	1000G	45.3	A3M4
6184	1.49	1000G	26.22	A3M4
6185	29.17	1000G	122.12	A3M4
6186	-5.98	1000G	-6.19	A3M4
6187	2.99	1000G	26.57	A3M4
6188	8.22	1000G	45.68	A3M4
6189	11.22	1000G	56.6	A3M4
6190	11.96	1000G	59.33	A3M4
6191	15.7	1000G	72.98	A3M4
6192	308.88		1102.82	
6193	8.97	1000G	48.41	A3M4
6194	8.97	1000G	48.41	A3M4
6195	11.22	1000G	56.6	A3M4
6196	8.22	1000G	45.68	A3M4
6197	7.48	1000G	42.95	A3M4
6198	6.73	1000G	40.22	A3M4
6199	6.73	1000G	40.22	A3M4

	A	B	C	D	E
6200	2600	2603	26CC	3	8
6201	2600	2603	26CC	3	9
6202	2600	2603	26CC	3	10
6203	2600	2603	26CC	3	11
6204	2600	2603	26CC	3	12
6205					
6206	2600	2603	26CC	3	1
6207	2600	2603	26CC	3	2
6208	2600	2603	26CC	3	3
6209	2600	2603	26CC	3	4
6210	2600	2603	26CC	3	5
6211	2600	2603	26CC	3	6
6212	2600	2603	26CC	3	7
6213	2600	2603	26CC	3	8
6214	2600	2603	26CC	3	8
6215	2600	2603	26CC	3	10
6216	2600	2603	26CC	3	10
6217	2600	2603	26CC	3	11
6218					
6219	2600	2603	26CC	3	1
6220	2600	2603	26CC	3	1
6221	2600	2603	26CC	3	2
6222	2600	2603	26CC	3	3
6223					
6224	2600	2603	26CC	3	1
6225	2600	2603	26CC	3	2
6226	2600	2603	26CC	3	3
6227	2600	2603	26CC	3	4
6228	2600	2603	26CC	3	5
6229	2600	2603	26CC	3	6
6230	2600	2603	26CC	3	7
6231	2600	2603	26CC	3	8
6232	2600	2603	26CC	3	9
6233	2600	2603	26CC	3	10
6234	2600	2603	26CC	3	11
6235	2600	2603	26CC	3	12
6236					
6237	2600	2603	26CC	3	1
6238	2600	2603	26CC	3	2
6239	2600	2603	26CC	3	3
6240	2600	2603	26CC	3	4
6241	2600	2603	26CC	3	5
6242	2600	2603	26CC	3	6
6243	2600	2603	26CC	3	7
6244	2600	2603	26CC	3	8
6245	2600	2603	26CC	3	9
6246	2600	2603	26CC	3	10
6247	2600	2603	26CC	3	11
6248	2600	2603	26CC	3	12
6249					

	F	G	H	I
6200	2006	117379	260082641	Rossville Chromatex
6201	2006	117379	260082641	Rossville Chromatex
6202	2006	117379	260082641	Rossville Chromatex
6203	2006	117379	260082641	Rossville Chromatex
6204	2006	117379	260082641	Rossville Chromatex
6205	**2006 Total**			
6206	2007	117379	260082641	Rossville Chromatex
6207	2007	117379	260082641	Rossville Chromatex
6208	2007	117379	260082641	Rossville Chromatex
6209	2007	117379	260082641	Rossville Chromatex
6210	2007	117379	260082641	Rossville Chromatex
6211	2007	117379	260082641	Rossville Chromatex
6212	2007	117379	260082641	Rossville Chromatex
6213	2007	117379	260082641	Rossville Chromatex
6214	2007	117379	260082641	Rossville Chromatex
6215	2007	117379	260082641	Rossville Chromatex
6216	2007	117379	260082641	Rossville Chromatex
6217	2007	117379	260082641	Rossville Chromatex
6218	**2007 Total**			
6219	2008	117379	260082641	Rossville Chromatex
6220	2008	117379	260082641	Rossville Chromatex
6221	2008	117379	260082641	Rossville Chromatex
6222	2008	117379	260082641	Rossville Chromatex
6223	**2008 Total**			
6224	2004	117493	260082741	Tiftonia Tn Loding LLC
6225	2004	117493	260082741	Tiftonia Tn Loding LLC
6226	2004	117493	260082741	Tiftonia Tn Loding LLC
6227	2004	117493	260082741	Tiftonia Tn Loding LLC
6228	2004	117493	260082741	Tiftonia Tn Loding LLC
6229	2004	117493	260082741	Tiftonia Tn Loding LLC
6230	2004	117493	260082741	Tiftonia Tn Loding LLC
6231	2004	117493	260082741	Tiftonia Tn Loding LLC
6232	2004	117493	260082741	Tiftonia Tn Loding LLC
6233	2004	117493	260082741	Tiftonia Tn Loding LLC
6234	2004	117493	260082741	Tiftonia Tn Loding LLC
6235	2004	117493	260082741	Tiftonia Tn Loding LLC
6236	**2004 Total**			
6237	2005	117493	260082741	Tiftonia Tn Loding LLC
6238	2005	117493	260082741	Tiftonia Tn Loding LLC
6239	2005	117493	260082741	Tiftonia Tn Loding LLC
6240	2005	117493	260082741	Tiftonia Tn Loding LLC
6241	2005	117493	260082741	Tiftonia Tn Loding LLC
6242	2005	117493	260082741	Tiftonia Tn Loding LLC
6243	2005	117493	260082741	Tiftonia Tn Loding LLC
6244	2005	117493	260082741	Tiftonia Tn Loding LLC
6245	2005	117493	260082741	Tiftonia Tn Loding LLC
6246	2005	117493	260082741	Tiftonia Tn Loding LLC
6247	2005	117493	260082741	Tiftonia Tn Loding LLC
6248	2005	117493	260082741	Tiftonia Tn Loding LLC
6249	**2005 Total**			

	J	K	L	M
6200	1400 E 42nd St	Chattanooga	TN	374072905
6201	1400 E 42nd St	Chattanooga	TN	374072905
6202	1400 E 42nd St	Chattanooga	TN	374072905
6203	1400 E 42nd St	Chattanooga	TN	374072905
6204	1400 E 42nd St	Chattanooga	TN	374072905
6205				
6206	1400 E 42nd St	Chattanooga	TN	374072905
6207	1400 E 42nd St	Chattanooga	TN	374072905
6208	1400 E 42nd St	Chattanooga	TN	374072905
6209	1400 E 42nd St	Chattanooga	TN	374072905
6210	1400 E 42nd St	Chattanooga	TN	374072905
6211	1400 E 42nd St	Chattanooga	TN	374072905
6212	1400 E 42nd St	Chattanooga	TN	374072905
6213	1400 E 42nd St	Chattanooga	TN	374072905
6214	1400 E 42nd St	Chattanooga	TN	374072905
6215	1400 E 42nd St	Chattanooga	TN	374072905
6216	1400 E 42nd St	Chattanooga	TN	374072905
6217	1400 E 42nd St	Chattanooga	TN	374072905
6218				
6219	1400 E 42nd St	Chattanooga	TN	374072905
6220	1400 E 42nd St	Chattanooga	TN	374072905
6221	1400 E 42nd St	Chattanooga	TN	374072905
6222	1400 E 42nd St	Chattanooga	TN	374072905
6223				
6224	3725 Modern Ind Pky	Chattanooga	TN	374192383
6225	3725 Modern Ind Pky	Chattanooga	TN	374192383
6226	3725 Modern Ind Pky	Chattanooga	TN	374192383
6227	3725 Modern Ind Pky	Chattanooga	TN	374192383
6228	3725 Modern Ind Pky	Chattanooga	TN	374192383
6229	3725 Modern Ind Pky	Chattanooga	TN	374192383
6230	3725 Modern Ind Pky	Chattanooga	TN	374192383
6231	3725 Modern Ind Pky	Chattanooga	TN	374192383
6232	3725 Modern Ind Pky	Chattanooga	TN	374192383
6233	3725 Modern Ind Pky	Chattanooga	TN	374192383
6234	3725 Modern Ind Pky	Chattanooga	TN	374192383
6235	3725 Modern Ind Pky	Chattanooga	TN	374192383
6236				
6237	3725 Modern Ind Pky	Chattanooga	TN	374192383
6238	3725 Modern Ind Pky	Chattanooga	TN	374192383
6239	3725 Modern Ind Pky	Chattanooga	TN	374192383
6240	3725 Modern Ind Pky	Chattanooga	TN	374192383
6241	3725 Modern Ind Pky	Chattanooga	TN	374192383
6242	3725 Modern Ind Pky	Chattanooga	TN	374192383
6243	3725 Modern Ind Pky	Chattanooga	TN	374192383
6244	3725 Modern Ind Pky	Chattanooga	TN	374192383
6245	3725 Modern Ind Pky	Chattanooga	TN	374192383
6246	3725 Modern Ind Pky	Chattanooga	TN	374192383
6247	3725 Modern Ind Pky	Chattanooga	TN	374192383
6248	3725 Modern Ind Pky	Chattanooga	TN	374192383
6249				

	N	O	P	Q
6200	7.48	1000G	42.95	A3M4
6201	8.97	1000G	48.41	A3M4
6202	11.96	1000G	59.33	A3M4
6203	11.22	1000G	56.6	A3M4
6204	8.22	1000G	45.68	A3M4
6205	106.17		575.46	
6206	6.73	1000G	40.22	A3M4
6207	7.48	1000G	42.95	A3M4
6208	5.98	1000G	37.49	A3M4
6209	5.23	1000G	34.76	A3M4
6210	5.23	1000G	34.76	A3M4
6211	5.23	1000G	35.85	A3M4
6212	6.73	1000G	45.29	A3M4
6213	23.18	1000G	112.89	A3M4
6214	164.57	1000G	516.68	A3M4
6215	3.74	1000G	32.99	A3M4
6216	42.63	1000G	192.79	A3M4
6217	5.23	1000G	39.14	A3M4
6218	281.96		1165.81	
6219	4.48	1000G	36.07	A3M4
6220	5.23	1000G	39.14	A3M4
6221	4.48	1000G	36.07	A3M4
6222	5.23	1000G	39.14	A3M4
6223	19.42		150.42	
6224	166.81	1000G	501.6	A3M4
6225	160.83	1000G	488.39	A3M4
6226	201.22	1000G	577.54	A3M4
6227	258.82	1000G	704.67	A3M4
6228	181.77	1000G	534.62	A3M4
6229	245.36	1000G	674.95	A3M4
6230	302.96	1000G	802.08	A3M4
6231	241.62	1000G	666.7	A3M4
6232	209.45	1000G	595.71	A3M4
6233	220.67	1000G	620.47	A3M4
6234	181.77	1000G	534.62	A3M4
6235	200.47	1000G	575.89	A3M4
6236	2571.75		7277.24	
6237	187.76	1000G	547.83	A3M4
6238	167.56	1000G	503.25	A3M4
6239	192.24	1000G	570.08	A3M4
6240	273.78	1000G	766.29	A3M4
6241	219.17	1000G	641.09	A3M4
6242	251.34	1000G	714.84	A3M4
6243	317.17	1000G	865.76	A3M4
6244	278.27	1000G	776.58	A3M4
6245	273.78	1000G	766.29	A3M4
6246	259.57	1000G	733.7	A3M4
6247	280.51	1000G	781.72	A3M4
6248	205.71	1000G	610.22	A3M4
6249	2906.86		8277.65	

	A	B	C	D	E
6250	2600	2603	26CC	3	1
6251	2600	2603	26CC	3	2
6252	2600	2603	26CC	3	3
6253	2600	2603	26CC	3	4
6254	2600	2603	26CC	3	5
6255	2600	2603	26CC	3	6
6256	2600	2603	26CC	3	7
6257	2600	2603	26CC	3	8
6258	2600	2603	26CC	3	9
6259	2600	2603	26CC	3	10
6260	2600	2603	26CC	3	11
6261	2600	2603	26CC	3	12
6262					
6263	2600	2603	26CC	3	1
6264	2600	2603	26CC	3	2
6265	2600	2603	26CC	3	3
6266	2600	2603	26CC	3	4
6267	2600	2603	26CC	3	5
6268	2600	2603	26CC	3	6
6269	2600	2603	26CC	3	7
6270	2600	2603	26CC	3	8
6271	2600	2603	26CC	3	9
6272	2600	2603	26CC	3	10
6273	2600	2603	26CC	3	11
6274	2600	2603	26CC	3	12
6275					
6276	2600	2603	26CC	3	1
6277	2600	2603	26CC	3	2
6278	2600	2603	26CC	3	3
6279					
6280	2600	2603	26CC	3	1
6281	2600	2603	26CC	3	1
6282	2600	2603	26CC	3	3
6283	2600	2603	26CC	3	3
6284	2600	2603	26CC	3	4
6285	2600	2603	26CC	3	6
6286	2600	2603	26CC	3	6
6287	2600	2603	26CC	3	8
6288	2600	2603	26CC	3	9
6289	2600	2603	26CC	3	10
6290	2600	2603	26CC	3	11
6291	2600	2603	26CC	3	12
6292					
6293	2600	2603	26CC	3	1
6294	2600	2603	26CC	3	1
6295	2600	2603	26CC	3	3
6296	2600	2603	26CC	3	3
6297	2600	2603	26CC	3	5
6298	2600	2603	26CC	3	6
6299	2600	2603	26CC	3	6

	F	G	H	I
6250	2006	117493	260082741	Tiftonia Tn Loding LLC
6251	2006	117493	260082741	Tiftonia Tn Loding LLC
6252	2006	117493	260082741	Tiftonia Tn Loding LLC
6253	2006	117493	260082741	Tiftonia Tn Loding LLC
6254	2006	117493	260082741	Tiftonia Tn Loding LLC
6255	2006	117493	260082741	Tiftonia Tn Loding LLC
6256	2006	117493	260082741	Tiftonia Tn Loding LLC
6257	2006	117493	260082741	Tiftonia Tn Loding LLC
6258	2006	117493	260082741	Tiftonia Tn Loding LLC
6259	2006	117493	260082741	Tiftonia Tn Loding LLC
6260	2006	117493	260082741	Tiftonia Tn Loding LLC
6261	2006	117493	260082741	Tiftonia Tn Loding LLC
6262	**2006 Total**			
6263	2007	117493	260082741	Tiftonia Tn Loding LLC
6264	2007	117493	260082741	Tiftonia Tn Loding LLC
6265	2007	117493	260082741	Tiftonia Tn Loding LLC
6266	2007	117493	260082741	Tiftonia Tn Loding LLC
6267	2007	117493	260082741	Tiftonia Tn Loding LLC
6268	2007	117493	260082741	Tiftonia Tn Loding LLC
6269	2007	117493	260082741	Tiftonia Tn Loding LLC
6270	2007	117493	260082741	Tiftonia Tn Loding LLC
6271	2007	117493	260082741	Tiftonia Tn Loding LLC
6272	2007	117493	260082741	Tiftonia Tn Loding LLC
6273	2007	117493	260082741	Tiftonia Tn Loding LLC
6274	2007	117493	260082741	Tiftonia Tn Loding LLC
6275	**2007 Total**			
6276	2008	117493	260082741	Tiftonia Tn Loding LLC
6277	2008	117493	260082741	Tiftonia Tn Loding LLC
6278	2008	117493	260082741	Tiftonia Tn Loding LLC
6279	**2008 Total**			
6280	2004	120249	260083919	Signal Mountain Cement
6281	2004	120249	260083919	Signal Mountain Cement
6282	2004	120249	260083919	Signal Mountain Cement
6283	2004	120249	260083919	Signal Mountain Cement
6284	2004	120249	260083919	Signal Mountain Cement
6285	2004	120249	260083919	Signal Mountain Cement
6286	2004	120249	260083919	Signal Mountain Cement
6287	2004	120249	260083919	Signal Mountain Cement
6288	2004	120249	260083919	Signal Mountain Cement
6289	2004	120249	260083919	Signal Mountain Cement
6290	2004	120249	260083919	Signal Mountain Cement
6291	2004	120249	260083919	Signal Mountain Cement
6292	**2004 Total**			
6293	2005	120249	260083919	Signal Mountain Cement
6294	2005	120249	260083919	Signal Mountain Cement
6295	2005	120249	260083919	Signal Mountain Cement
6296	2005	120249	260083919	Signal Mountain Cement
6297	2005	120249	260083919	Signal Mountain Cement
6298	2005	120249	260083919	Signal Mountain Cement
6299	2005	120249	260083919	Signal Mountain Cement

	J	K	L	M
6250	3725 Modern Ind Pky	Chattanooga	TN	374192383
6251	3725 Modern Ind Pky	Chattanooga	TN	374192383
6252	3725 Modern Ind Pky	Chattanooga	TN	374192383
6253	3725 Modern Ind Pky	Chattanooga	TN	374192383
6254	3725 Modern Ind Pky	Chattanooga	TN	374192383
6255	3725 Modern Ind Pky	Chattanooga	TN	374192383
6256	3725 Modern Ind Pky	Chattanooga	TN	374192383
6257	3725 Modern Ind Pky	Chattanooga	TN	374192383
6258	3725 Modern Ind Pky	Chattanooga	TN	374192383
6259	3725 Modern Ind Pky	Chattanooga	TN	374192383
6260	3725 Modern Ind Pky	Chattanooga	TN	374192383
6261	3725 Modern Ind Pky	Chattanooga	TN	374192383
6262				
6263	3725 Modern Ind Pky	Chattanooga	TN	374192383
6264	3725 Modern Ind Pky	Chattanooga	TN	374192383
6265	3725 Modern Ind Pky	Chattanooga	TN	374192383
6266	3725 Modern Ind Pky	Chattanooga	TN	374192383
6267	3725 Modern Ind Pky	Chattanooga	TN	374192383
6268	3725 Modern Ind Pky	Chattanooga	TN	374192383
6269	3725 Modern Ind Pky	Chattanooga	TN	374192383
6270	3725 Modern Ind Pky	Chattanooga	TN	374192383
6271	3725 Modern Ind Pky	Chattanooga	TN	374192383
6272	3725 Modern Ind Pky	Chattanooga	TN	374192383
6273	3725 Modern Ind Pky	Chattanooga	TN	374192383
6274	3725 Modern Ind Pky	Chattanooga	TN	374192383
6275				
6276	3725 Modern Ind Pky	Chattanooga	TN	374192383
6277	3725 Modern Ind Pky	Chattanooga	TN	374192383
6278	3725 Modern Ind Pky	Chattanooga	TN	374192383
6279				
6280	1203 Suck Creek Rd	Chattanooga	TN	374059713
6281	1203 Suck Creek Rd	Chattanooga	TN	374059713
6282	1203 Suck Creek Rd	Chattanooga	TN	374059713
6283	1203 Suck Creek Rd	Chattanooga	TN	374059713
6284	1203 Suck Creek Rd	Chattanooga	TN	374059713
6285	1203 Suck Creek Rd	Chattanooga	TN	374059713
6286	1203 Suck Creek Rd	Chattanooga	TN	374059713
6287	1203 Suck Creek Rd	Chattanooga	TN	374059713
6288	1203 Suck Creek Rd	Chattanooga	TN	374059713
6289	1203 Suck Creek Rd	Chattanooga	TN	374059713
6290	1203 Suck Creek Rd	Chattanooga	TN	374059713
6291	1203 Suck Creek Rd	Chattanooga	TN	374059713
6292				
6293	1203 Suck Creek Rd	Chattanooga	TN	374059713
6294	1203 Suck Creek Rd	Chattanooga	TN	374059713
6295	1203 Suck Creek Rd	Chattanooga	TN	374059713
6296	1203 Suck Creek Rd	Chattanooga	TN	374059713
6297	1203 Suck Creek Rd	Chattanooga	TN	374059713
6298	1203 Suck Creek Rd	Chattanooga	TN	374059713
6299	1203 Suck Creek Rd	Chattanooga	TN	374059713

	N	O	P	Q
6250	237.13	1000G	682.25	A3M4
6251	198.98	1000G	594.79	A3M4
6252	225.91	1000G	656.53	A3M4
6253	277.52	1000G	774.86	A3M4
6254	213.94	1000G	629.09	A3M4
6255	286.5	1000G	795.44	A3M4
6256	314.92	1000G	860.61	A3M4
6257	264.06	1000G	743.99	A3M4
6258	236.38	1000G	680.54	A3M4
6259	255.08	1000G	723.41	A3M4
6260	232.64	1000G	671.96	A3M4
6261	196.73	1000G	589.64	A3M4
6262	2939.79		8403.11	
6263	230.39	1000G	666.82	A3M4
6264	169.8	1000G	527.9	A3M4
6265	217.68	1000G	637.66	A3M4
6266	256.58	1000G	726.84	A3M4
6267	229.65	1000G	665.1	A3M4
6268	253.58	1000G	810.59	A3M4
6269	302.21	1000G	936.11	A3M4
6270	315.67	1000G	970.87	A3M4
6271	230.4	1000G	750.73	A3M4
6272	244.61	1000G	787.42	A3M4
6273	228.15	1000G	744.94	A3M4
6274	190.75	1000G	648.39	A3M4
6275	2869.47		8873.37	
6276	169.8	1000G	594.32	A3M4
6277	185.51	1000G	634.87	A3M4
6278	172.05	1000G	600.12	A3M4
6279	527.36		1829.31	
6280	0	1000G	24.92	A3M4
6281	0	1000G	24.92	A3M4
6282	0	1000G	24.92	A3M4
6283	2.99	1000G	25.58	A3M4
6284	44.13	1000G	170.12	A3M4
6285	37.4	1000G	146.47	A3M4
6286	45.63	1000G	175.38	A3M4
6287	41.89	1000G	162.24	A3M4
6288	53.85	1000G	197.45	A3M4
6289	0	1000G	24.92	A3M4
6290	88.27	1000G	273.39	A3M4
6291	17.2	1000G	75.51	A3M4
6292	331.36		1325.82	
6293	0	1000G	24.92	A3M4
6294	10.46	1000G	51.86	A3M4
6295	0	1000G	24.92	A3M4
6296	0	1000G	25.55	A3M4
6297	0	1000G	25.88	A3M4
6298	25.43	1000G	108.47	A3M4
6299	26.18	1000G	111.2	A3M4

	A	B	C	D	E
6300	2600	2603	26CC	3	8
6301	2600	2603	26CC	3	9
6302	2600	2603	26CC	3	10
6303	2600	2603	26CC	3	11
6304	2600	2603	26CC	3	12
6305					
6306	2600	2603	26CC	3	1
6307	2600	2603	26CC	3	1
6308	2600	2603	26CC	3	3
6309	2600	2603	26CC	3	3
6310	2600	2603	26CC	3	5
6311	2600	2603	26CC	3	5
6312	2600	2603	26CC	3	6
6313	2600	2603	26CC	3	8
6314	2600	2603	26CC	3	8
6315	2600	2603	26CC	3	9
6316	2600	2603	26CC	3	10
6317	2600	2603	26CC	3	11
6318	2600	2603	26CC	3	12
6319					
6320	2600	2603	26CC	3	1
6321	2600	2603	26CC	3	2
6322	2600	2603	26CC	3	3
6323	2600	2603	26CC	3	4
6324	2600	2603	26CC	3	5
6325	2600	2603	26CC	3	6
6326	2600	2603	26CC	3	7
6327	2600	2603	26CC	3	8
6328	2600	2603	26CC	3	9
6329	2600	2603	26CC	3	10
6330	2600	2603	26CC	3	11
6331	2600	2603	26CC	3	12
6332					
6333	2600	2603	26CC	3	1
6334	2600	2603	26CC	3	2
6335	2600	2603	26CC	3	3
6336					
6337	2600	2603	26CC	3	1
6338	2600	2603	26CC	3	2
6339	2600	2603	26CC	3	3
6340	2600	2603	26CC	3	4
6341	2600	2603	26CC	3	5
6342	2600	2603	26CC	3	6
6343	2600	2603	26CC	3	7
6344	2600	2603	26CC	3	8
6345	2600	2603	26CC	3	9
6346	2600	2603	26CC	3	10
6347	2600	2603	26CC	3	11
6348	2600	2603	26CC	3	12
6349					

	F	G	H	I
6300	2005	120249	260083919	Signal Mountain Cement
6301	2005	120249	260083919	Signal Mountain Cement
6302	2005	120249	260083919	Signal Mountain Cement
6303	2005	120249	260083919	Signal Mountain Cement
6304	2005	120249	260083919	Signal Mountain Cement
6305	**2005 Total**			
6306	2006	120249	260083919	Signal Mountain Cement
6307	2006	120249	260083919	Signal Mountain Cement
6308	2006	120249	260083919	Signal Mountain Cement
6309	2006	120249	260083919	Signal Mountain Cement
6310	2006	120249	260083919	Signal Mountain Cement
6311	2006	120249	260083919	Signal Mountain Cement
6312	2006	120249	260083919	Signal Mountain Cement
6313	2006	120249	260083919	Signal Mountain Cement
6314	2006	120249	260083919	Signal Mountain Cement
6315	2006	120249	260083919	Signal Mountain Cement
6316	2006	120249	260083919	Signal Mountain Cement
6317	2006	120249	260083919	Signal Mountain Cement
6318	2006	120249	260083919	Signal Mountain Cement
6319	**2006 Total**			
6320	2007	120249	260083919	Signal Mountain Cement
6321	2007	120249	260083919	Signal Mountain Cement
6322	2007	120249	260083919	Signal Mountain Cement
6323	2007	120249	260083919	Signal Mountain Cement
6324	2007	120249	260083919	Signal Mountain Cement
6325	2007	120249	260083919	Signal Mountain Cement
6326	2007	120249	260083919	Signal Mountain Cement
6327	2007	120249	260083919	Signal Mountain Cement
6328	2007	120249	260083919	Signal Mountain Cement
6329	2007	120249	260083919	Signal Mountain Cement
6330	2007	120249	260083919	Signal Mountain Cement
6331	2007	120249	260083919	Signal Mountain Cement
6332	**2007 Total**			
6333	2008	120249	260083919	Signal Mountain Cement
6334	2008	120249	260083919	Signal Mountain Cement
6335	2008	120249	260083919	Signal Mountain Cement
6336	**2008 Total**			
6337	2004	120279	260083931	Koch Food LLC
6338	2004	120279	260083931	Koch Food LLC
6339	2004	120279	260083931	Koch Food LLC
6340	2004	120279	260083931	Koch Food LLC
6341	2004	120279	260083931	Koch Food LLC
6342	2004	120279	260083931	Koch Food LLC
6343	2004	120279	260083931	Koch Food LLC
6344	2004	120279	260083931	Koch Food LLC
6345	2004	120279	260083931	Koch Food LLC
6346	2004	120279	260083931	Koch Food LLC
6347	2004	120279	260083931	Koch Food LLC
6348	2004	120279	260083931	Koch Food LLC
6349	**2004 Total**			

	J	K	L	M
6300	1203 Suck Creek Rd	Chattanooga	TN	374059713
6301	1203 Suck Creek Rd	Chattanooga	TN	374059713
6302	1203 Suck Creek Rd	Chattanooga	TN	374059713
6303	1203 Suck Creek Rd	Chattanooga	TN	374059713
6304	1203 Suck Creek Rd	Chattanooga	TN	374059713
6305				
6306	1203 Suck Creek Rd	Chattanooga	TN	374059713
6307	1203 Suck Creek Rd	Chattanooga	TN	374059713
6308	1203 Suck Creek Rd	Chattanooga	TN	374059713
6309	1203 Suck Creek Rd	Chattanooga	TN	374059713
6310	1203 Suck Creek Rd	Chattanooga	TN	374059713
6311	1203 Suck Creek Rd	Chattanooga	TN	374059713
6312	1203 Suck Creek Rd	Chattanooga	TN	374059713
6313	1203 Suck Creek Rd	Chattanooga	TN	374059713
6314	1203 Suck Creek Rd	Chattanooga	TN	374059713
6315	1203 Suck Creek Rd	Chattanooga	TN	374059713
6316	1203 Suck Creek Rd	Chattanooga	TN	374059713
6317	1203 Suck Creek Rd	Chattanooga	TN	374059713
6318	1203 Suck Creek Rd	Chattanooga	TN	374059713
6319				
6320	1203 Suck Creek Rd	Chattanooga	TN	374059713
6321	1203 Suck Creek Rd	Chattanooga	TN	374059713
6322	1203 Suck Creek Rd	Chattanooga	TN	374059713
6323	1203 Suck Creek Rd	Chattanooga	TN	374059713
6324	1203 Suck Creek Rd	Chattanooga	TN	374059713
6325	1203 Suck Creek Rd	Chattanooga	TN	374059713
6326	1203 Suck Creek Rd	Chattanooga	TN	374059713
6327	1203 Suck Creek Rd	Chattanooga	TN	374059713
6328	1203 Suck Creek Rd	Chattanooga	TN	374059713
6329	1203 Suck Creek Rd	Chattanooga	TN	374059713
6330	1203 Suck Creek Rd	Chattanooga	TN	374059713
6331	1203 Suck Creek Rd	Chattanooga	TN	374059713
6332				
6333	1203 Suck Creek Rd	Chattanooga	TN	374059713
6334	1203 Suck Creek Rd	Chattanooga	TN	374059713
6335	1203 Suck Creek Rd	Chattanooga	TN	374059713
6336				
6337	1835 Kerr St	Chattanooga	TN	374082017
6338	1835 Kerr St	Chattanooga	TN	374082017
6339	1835 Kerr St	Chattanooga	TN	374082017
6340	1835 Kerr St	Chattanooga	TN	374082017
6341	1835 Kerr St	Chattanooga	TN	374082017
6342	1835 Kerr St	Chattanooga	TN	374082017
6343	1835 Kerr St	Chattanooga	TN	374082017
6344	1835 Kerr St	Chattanooga	TN	374082017
6345	1835 Kerr St	Chattanooga	TN	374082017
6346	1835 Kerr St	Chattanooga	TN	374082017
6347	1835 Kerr St	Chattanooga	TN	374082017
6348	1835 Kerr St	Chattanooga	TN	374082017
6349				

	N	O	P	Q
6300	50.11	1000G	196.53	A3M4
6301	43.38	1000G	173.99	A3M4
6302	36.65	1000G	149.42	A3M4
6303	84.52	1000G	275.42	A3M4
6304	-47.13	1000G	-107.62	A3M4
6305	229.6		1060.54	
6306	0	1000G	25.88	A3M4
6307	0	1000G	25.88	A3M4
6308	0	1000G	25.88	A3M4
6309	30.67	1000G	127.58	A3M4
6310	19.44	1000G	86.63	A3M4
6311	82.28	1000G	331.6	A3M4
6312	45.63	1000G	182.18	A3M4
6313	38.89	1000G	157.61	A3M4
6314	40.39	1000G	163.07	A3M4
6315	22.44	1000G	97.55	A3M4
6316	23.18	1000G	100.28	A3M4
6317	25.43	1000G	108.47	A3M4
6318	0	1000G	25.88	A3M4
6319	328.35		1458.49	
6320	0	1000G	25.88	A3M4
6321	0	1000G	25.88	A3M4
6322	2.99	1000G	26.57	A3M4
6323	28.42	1000G	119.39	A3M4
6324	54.6	1000G	208.61	A3M4
6325	38.89	1000G	177.42	A3M4
6326	0	1000G	29.14	A3M4
6327	23.93	1000G	115.96	A3M4
6328	50.86	1000G	223.16	A3M4
6329	54.6	1000G	232.82	A3M4
6330	44.88	1000G	202.01	A3M4
6331	41.89	1000G	189.72	A3M4
6332	341.06		1576.56	
6333	23.93	1000G	115.96	A3M4
6334	0	1000G	29.14	A3M4
6335	0	1000G	29.14	A3M4
6336	23.93		174.24	
6337	22357.03	1000G	24707.48	A3MSM
6338	26101.03	1000G	27510.28	A3MSM
6339	22406.4	1000G	24744.44	A3MSM
6340	26251.38	1000G	27622.84	A3MSM
6341	23120.79	1000G	25279.24	A3MSM
6342	27585.91	1000G	28621.88	A3MSM
6343	23089.37	1000G	25255.72	A3MSM
6344	31983.71	1000G	31914.12	A3MSM
6345	34745.51	1000G	35044.39	A3MSM
6346	25494.36	1000G	25727.65	A3MSM
6347	29453.05	1000G	30019.64	A3MSM
6348	24888.43	1000G	26602.52	A3MSM
6349	317476.97		333050.2	

	A	B	C	D	E
6350	2600	2603	26CC	3	1
6351	2600	2603	26CC	3	2
6352	2600	2603	26CC	3	3
6353	2600	2603	26CC	3	4
6354	2600	2603	26CC	3	5
6355	2600	2603	26CC	3	6
6356	2600	2603	26CC	3	7
6357	2600	2603	26CC	3	8
6358	2600	2603	26CC	3	9
6359	2600	2603	26CC	3	10
6360	2600	2603	26CC	3	11
6361	2600	2603	26CC	3	12
6362					
6363	2600	2603	26CC	3	1
6364	2600	2603	26CC	3	2
6365	2600	2603	26CC	3	3
6366	2600	2603	26CC	3	4
6367	2600	2603	26CC	3	5
6368	2600	2603	26CC	3	6
6369	2600	2603	26CC	3	7
6370	2600	2603	26CC	3	8
6371	2600	2603	26CC	3	9
6372	2600	2603	26CC	3	10
6373	2600	2603	26CC	3	11
6374	2600	2603	26CC	3	12
6375					
6376	2600	2603	26CC	3	1
6377	2600	2603	26CC	3	2
6378	2600	2603	26CC	3	3
6379	2600	2603	26CC	3	4
6380	2600	2603	26CC	3	5
6381	2600	2603	26CC	3	6
6382	2600	2603	26CC	3	7
6383	2600	2603	26CC	3	8
6384	2600	2603	26CC	3	9
6385	2600	2603	26CC	3	10
6386	2600	2603	26CC	3	11
6387	2600	2603	26CC	3	12
6388					
6389	2600	2603	26CC	3	1
6390	2600	2603	26CC	3	2
6391	2600	2603	26CC	3	3
6392	2600	2603	26CC	3	3
6393					
6394	2600	2603	26CC	3	1
6395	2600	2603	26CC	3	1
6396	2600	2603	26CC	3	3
6397	2600	2603	26CC	3	3
6398	2600	2603	26CC	3	4
6399	2600	2603	26CC	3	6

	F	G	H	I
6350	2005	120279	260083931	Koch Food LLC
6351	2005	120279	260083931	Koch Food LLC
6352	2005	120279	260083931	Koch Food LLC
6353	2005	120279	260083931	Koch Food LLC
6354	2005	120279	260083931	Koch Food LLC
6355	2005	120279	260083931	Koch Food LLC
6356	2005	120279	260083931	Koch Food LLC
6357	2005	120279	260083931	Koch Food LLC
6358	2005	120279	260083931	Koch Food LLC
6359	2005	120279	260083931	Koch Food LLC
6360	2005	120279	260083931	Koch Food LLC
6361	2005	120279	260083931	Koch Food LLC
6362	**2005 Total**			
6363	2006	120279	260083931	Koch Food LLC
6364	2006	120279	260083931	Koch Food LLC
6365	2006	120279	260083931	Koch Food LLC
6366	2006	120279	260083931	Koch Food LLC
6367	2006	120279	260083931	Koch Food LLC
6368	2006	120279	260083931	Koch Food LLC
6369	2006	120279	260083931	Koch Food LLC
6370	2006	120279	260083931	Koch Food LLC
6371	2006	120279	260083931	Koch Food LLC
6372	2006	120279	260083931	Koch Food LLC
6373	2006	120279	260083931	Koch Food LLC
6374	2006	120279	260083931	Koch Food LLC
6375	**2006 Total**			
6376	2007	120279	260083931	Koch Food LLC
6377	2007	120279	260083931	Koch Food LLC
6378	2007	120279	260083931	Koch Food LLC
6379	2007	120279	260083931	Koch Food LLC
6380	2007	120279	260083931	Koch Food LLC
6381	2007	120279	260083931	Koch Food LLC
6382	2007	120279	260083931	Koch Food LLC
6383	2007	120279	260083931	Koch Food LLC
6384	2007	120279	260083931	Koch Food LLC
6385	2007	120279	260083931	Koch Food LLC
6386	2007	120279	260083931	Koch Food LLC
6387	2007	120279	260083931	Koch Food LLC
6388	**2007 Total**			
6389	2008	120279	260083931	Koch Food LLC
6390	2008	120279	260083931	Koch Food LLC
6391	2008	120279	260083931	Koch Food LLC
6392	2008	120279	260083931	Koch Food LLC
6393	**2008 Total**			
6394	2004	120908	260084205	Signal Mountain Cement
6395	2004	120908	260084205	Signal Mountain Cement
6396	2004	120908	260084205	Signal Mountain Cement
6397	2004	120908	260084205	Signal Mountain Cement
6398	2004	120908	260084205	Signal Mountain Cement
6399	2004	120908	260084205	Signal Mountain Cement

	J	K	L	M
6350	1835 Kerr St	Chattanooga	TN	374082017
6351	1835 Kerr St	Chattanooga	TN	374082017
6352	1835 Kerr St	Chattanooga	TN	374082017
6353	1835 Kerr St	Chattanooga	TN	374082017
6354	1835 Kerr St	Chattanooga	TN	374082017
6355	1835 Kerr St	Chattanooga	TN	374082017
6356	1835 Kerr St	Chattanooga	TN	374082017
6357	1835 Kerr St	Chattanooga	TN	374082017
6358	1835 Kerr St	Chattanooga	TN	374082017
6359	1835 Kerr St	Chattanooga	TN	374082017
6360	1835 Kerr St	Chattanooga	TN	374082017
6361	1835 Kerr St	Chattanooga	TN	374082017
6362				
6363	1835 Kerr St	Chattanooga	TN	374082017
6364	1835 Kerr St	Chattanooga	TN	374082017
6365	1835 Kerr St	Chattanooga	TN	374082017
6366	1835 Kerr St	Chattanooga	TN	374082017
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6370	1835 Kerr St	Chattanooga	TN	374082017
6371	1835 Kerr St	Chattanooga	TN	374082017
6372	1835 Kerr St	Chattanooga	TN	374082017
6373	1835 Kerr St	Chattanooga	TN	374082017
6374	1835 Kerr St	Chattanooga	TN	374082017
6375				
6376	1835 Kerr St	Chattanooga	TN	374082017
6377	1835 Kerr St	Chattanooga	TN	374082017
6378	1835 Kerr St	Chattanooga	TN	374082017
6379	1835 Kerr St	Chattanooga	TN	374082017
6380	1835 Kerr St	Chattanooga	TN	374082017
6381	1835 Kerr St	Chattanooga	TN	374082017
6382	1835 Kerr St	Chattanooga	TN	374082017
6383	1835 Kerr St	Chattanooga	TN	374082017
6384	1835 Kerr St	Chattanooga	TN	374082017
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6386	1835 Kerr St	Chattanooga	TN	374082017
6387	1835 Kerr St	Chattanooga	TN	374082017
6388				
6389	1835 Kerr St	Chattanooga	TN	374082017
6390	1835 Kerr St	Chattanooga	TN	374082017
6391	1835 Kerr St	Chattanooga	TN	374082017
6392	1835 Kerr St	Chattanooga	TN	374082017
6393				
6394	1203 Suck Creek Rd	Chattanooga	TN	374059713
6395	1203 Suck Creek Rd	Chattanooga	TN	374059713
6396	1203 Suck Creek Rd	Chattanooga	TN	374059713
6397	1203 Suck Creek Rd	Chattanooga	TN	374059713
6398	1203 Suck Creek Rd	Chattanooga	TN	374059713
6399	1203 Suck Creek Rd	Chattanooga	TN	374059713

	N	O	P	Q
6350	25605.81	1000G	27139.56	A3MSM
6351	25813.77	1000G	27295.24	A3MSM
6352	24612.4	1000G	26926.41	A3MSM
6353	33433.43	1000G	34282	A3MSM
6354	33246.42	1000G	34136.5	A3MSM
6355	38779.01	1000G	38440.97	A3MSM
6356	41286.47	1000G	40391.83	A3MSM
6357	37950.17	1000G	37796.11	A3MSM
6358	45325.96	1000G	43534.63	A3MSM
6359	46302.92	1000G	44294.73	A3MSM
6360	40915.45	1000G	40103.16	A3MSM
6361	29566	1000G	31273.06	A3MSM
6362	422837.81		425614.2	
6363	50086.56	1000G	48341.14	A3MSM
6364	37030.81	1000G	37080.84	A3MSM
6365	41654.52	1000G	40678.18	A3MSM
6366	39733.53	1000G	39183.6	A3MSM
6367	38909.92	1000G	38542.82	A3MSM
6368	41616.37	1000G	40648.5	A3MSM
6369	44598.86	1000G	42968.93	A3MSM
6370	43384.76	1000G	42024.34	A3MSM
6371	45492.03	1000G	43663.84	A3MSM
6372	48934.56	1000G	46342.2	A3MSM
6373	40587.8	1000G	39848.25	A3MSM
6374	41302.94	1000G	40404.64	A3MSM
6375	513332.66		499727.28	
6376	37810.28	1000G	37687.28	A3MSM
6377	37006.88	1000G	37062.21	A3MSM
6378	39674.43	1000G	39137.62	A3MSM
6379	41454.79	1000G	40522.78	A3MSM
6380	40965.57	1000G	40142.16	A3MSM
6381	48151.35	1000G	50754.12	A3MSM
6382	51024.62	1000G	53987.25	A3MSM
6383	48512.66	1000G	51787.76	A3MSM
6384	52793.76	1000G	56119.33	A3MSM
6385	41442.08	1000G	46179.7	A3MSM
6386	49176.93	1000G	52952.4	A3MSM
6387	29716.36	1000G	35912.58	A3MSM
6388	517729.71		542245.19	
6389	4145.7	1000G	9285.53	A3MSM
6390	294404.07	1000G	271912.34	A3MSM
6391	95446.18	1000G	97703.3	A3MSM
6392	-294404.07	1000G	-271912.34	A3MSM
6393	99591.88		106988.83	
6394	39.64	1000G	138.35	A3M4
6395	74.05	1000G	226.02	A3M4
6396	2.99	1000G	9.58	A3M4
6397	50.86	1000G	174.84	A3M4
6398	179.53	1000G	458.82	A3M4
6399	77.79	1000G	234.28	A3M4

	A	B	C	D	E
6400	2600	2603	26CC	3	6
6401	2600	2603	26CC	3	8
6402	2600	2603	26CC	3	9
6403	2600	2603	26CC	3	10
6404	2600	2603	26CC	3	11
6405	2600	2603	26CC	3	12
6406					
6407	2600	2603	26CC	3	1
6408	2600	2603	26CC	3	1
6409	2600	2603	26CC	3	3
6410	2600	2603	26CC	3	3
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6412	2600	2603	26CC	3	6
6413	2600	2603	26CC	3	6
6414	2600	2603	26CC	3	8
6415	2600	2603	26CC	3	9
6416	2600	2603	26CC	3	10
6417	2600	2603	26CC	3	11
6418	2600	2603	26CC	3	12
6419					
6420	2600	2603	26CC	3	1
6421	2600	2603	26CC	3	1
6422	2600	2603	26CC	3	3
6423	2600	2603	26CC	3	3
6424	2600	2603	26CC	3	5
6425	2600	2603	26CC	3	5
6426	2600	2603	26CC	3	6
6427	2600	2603	26CC	3	8
6428	2600	2603	26CC	3	8
6429	2600	2603	26CC	3	9
6430	2600	2603	26CC	3	10
6431	2600	2603	26CC	3	11
6432	2600	2603	26CC	3	12
6433					
6434	2600	2603	26CC	3	1
6435	2600	2603	26CC	3	2
6436	2600	2603	26CC	3	3
6437	2600	2603	26CC	3	4
6438	2600	2603	26CC	3	5
6439	2600	2603	26CC	3	6
6440	2600	2603	26CC	3	7
6441	2600	2603	26CC	3	8
6442	2600	2603	26CC	3	9
6443	2600	2603	26CC	3	10
6444	2600	2603	26CC	3	11
6445	2600	2603	26CC	3	12
6446					
6447	2600	2603	26CC	3	1
6448	2600	2603	26CC	3	2
6449	2600	2603	26CC	3	3

	F	G	H	I
6400	2004	120908	260084205	Signal Mountain Cement
6401	2004	120908	260084205	Signal Mountain Cement
6402	2004	120908	260084205	Signal Mountain Cement
6403	2004	120908	260084205	Signal Mountain Cement
6404	2004	120908	260084205	Signal Mountain Cement
6405	2004	120908	260084205	Signal Mountain Cement
6406	**2004 Total**			
6407	2005	120908	260084205	Signal Mountain Cement
6408	2005	120908	260084205	Signal Mountain Cement
6409	2005	120908	260084205	Signal Mountain Cement
6410	2005	120908	260084205	Signal Mountain Cement
6411	2005	120908	260084205	Signal Mountain Cement
6412	2005	120908	260084205	Signal Mountain Cement
6413	2005	120908	260084205	Signal Mountain Cement
6414	2005	120908	260084205	Signal Mountain Cement
6415	2005	120908	260084205	Signal Mountain Cement
6416	2005	120908	260084205	Signal Mountain Cement
6417	2005	120908	260084205	Signal Mountain Cement
6418	2005	120908	260084205	Signal Mountain Cement
6419	**2005 Total**			
6420	2006	120908	260084205	Signal Mountain Cement
6421	2006	120908	260084205	Signal Mountain Cement
6422	2006	120908	260084205	Signal Mountain Cement
6423	2006	120908	260084205	Signal Mountain Cement
6424	2006	120908	260084205	Signal Mountain Cement
6425	2006	120908	260084205	Signal Mountain Cement
6426	2006	120908	260084205	Signal Mountain Cement
6427	2006	120908	260084205	Signal Mountain Cement
6428	2006	120908	260084205	Signal Mountain Cement
6429	2006	120908	260084205	Signal Mountain Cement
6430	2006	120908	260084205	Signal Mountain Cement
6431	2006	120908	260084205	Signal Mountain Cement
6432	2006	120908	260084205	Signal Mountain Cement
6433	**2006 Total**			
6434	2007	120908	260084205	Signal Mountain Cement
6435	2007	120908	260084205	Signal Mountain Cement
6436	2007	120908	260084205	Signal Mountain Cement
6437	2007	120908	260084205	Signal Mountain Cement
6438	2007	120908	260084205	Signal Mountain Cement
6439	2007	120908	260084205	Signal Mountain Cement
6440	2007	120908	260084205	Signal Mountain Cement
6441	2007	120908	260084205	Signal Mountain Cement
6442	2007	120908	260084205	Signal Mountain Cement
6443	2007	120908	260084205	Signal Mountain Cement
6444	2007	120908	260084205	Signal Mountain Cement
6445	2007	120908	260084205	Signal Mountain Cement
6446	**2007 Total**			
6447	2008	120908	260084205	Signal Mountain Cement
6448	2008	120908	260084205	Signal Mountain Cement
6449	2008	120908	260084205	Signal Mountain Cement

	J	K	L	M
6400	1203 Suck Creek Rd	Chattanooga	TN	374059713
6401	1203 Suck Creek Rd	Chattanooga	TN	374059713
6402	1203 Suck Creek Rd	Chattanooga	TN	374059713
6403	1203 Suck Creek Rd	Chattanooga	TN	374059713
6404	1203 Suck Creek Rd	Chattanooga	TN	374059713
6405	1203 Suck Creek Rd	Chattanooga	TN	374059713
6406				
6407	1203 Suck Creek Rd	Chattanooga	TN	374059713
6408	1203 Suck Creek Rd	Chattanooga	TN	374059713
6409	1203 Suck Creek Rd	Chattanooga	TN	374059713
6410	1203 Suck Creek Rd	Chattanooga	TN	374059713
6411	1203 Suck Creek Rd	Chattanooga	TN	374059713
6412	1203 Suck Creek Rd	Chattanooga	TN	374059713
6413	1203 Suck Creek Rd	Chattanooga	TN	374059713
6414	1203 Suck Creek Rd	Chattanooga	TN	374059713
6415	1203 Suck Creek Rd	Chattanooga	TN	374059713
6416	1203 Suck Creek Rd	Chattanooga	TN	374059713
6417	1203 Suck Creek Rd	Chattanooga	TN	374059713
6418	1203 Suck Creek Rd	Chattanooga	TN	374059713
6419				
6420	1203 Suck Creek Rd	Chattanooga	TN	374059713
6421	1203 Suck Creek Rd	Chattanooga	TN	374059713
6422	1203 Suck Creek Rd	Chattanooga	TN	374059713
6423	1203 Suck Creek Rd	Chattanooga	TN	374059713
6424	1203 Suck Creek Rd	Chattanooga	TN	374059713
6425	1203 Suck Creek Rd	Chattanooga	TN	374059713
6426	1203 Suck Creek Rd	Chattanooga	TN	374059713
6427	1203 Suck Creek Rd	Chattanooga	TN	374059713
6428	1203 Suck Creek Rd	Chattanooga	TN	374059713
6429	1203 Suck Creek Rd	Chattanooga	TN	374059713
6430	1203 Suck Creek Rd	Chattanooga	TN	374059713
6431	1203 Suck Creek Rd	Chattanooga	TN	374059713
6432	1203 Suck Creek Rd	Chattanooga	TN	374059713
6433				
6434	1203 Suck Creek Rd	Chattanooga	TN	374059713
6435	1203 Suck Creek Rd	Chattanooga	TN	374059713
6436	1203 Suck Creek Rd	Chattanooga	TN	374059713
6437	1203 Suck Creek Rd	Chattanooga	TN	374059713
6438	1203 Suck Creek Rd	Chattanooga	TN	374059713
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6440	1203 Suck Creek Rd	Chattanooga	TN	374059713
6441	1203 Suck Creek Rd	Chattanooga	TN	374059713
6442	1203 Suck Creek Rd	Chattanooga	TN	374059713
6443	1203 Suck Creek Rd	Chattanooga	TN	374059713
6444	1203 Suck Creek Rd	Chattanooga	TN	374059713
6445	1203 Suck Creek Rd	Chattanooga	TN	374059713
6446				
6447	1203 Suck Creek Rd	Chattanooga	TN	374059713
6448	1203 Suck Creek Rd	Chattanooga	TN	374059713
6449	1203 Suck Creek Rd	Chattanooga	TN	374059713

	N	O	P	Q
6400	78.54	1000G	235.93	A3M4
6401	83.78	1000G	247.49	A3M4
6402	98.74	1000G	280.51	A3M4
6403	78.54	1000G	235.93	A3M4
6404	9.72	1000G	33.23	A3M4
6405	0	1000G	8.92	A3M4
6406	774.18		2283.9	
6407	0	1000G	8.92	A3M4
6408	0	1000G	8.92	A3M4
6409	10.47	1000G	35.86	A3M4
6410	61.34	1000G	202.98	A3M4
6411	50.11	1000G	179.91	A3M4
6412	72.56	1000G	231.36	A3M4
6413	74.8	1000G	236.51	A3M4
6414	83.78	1000G	257.09	A3M4
6415	67.32	1000G	219.36	A3M4
6416	76.3	1000G	239.94	A3M4
6417	8.97	1000G	31.79	A3M4
6418	132.4	1000G	368.56	A3M4
6419	638.05		2021.2	
6420	33.66	1000G	121.88	A3M4
6421	38.89	1000G	140.99	A3M4
6422	31.41	1000G	113.69	A3M4
6423	33.66	1000G	121.88	A3M4
6424	27.67	1000G	100.04	A3M4
6425	65.08	1000G	235.57	A3M4
6426	41.14	1000G	149.18	A3M4
6427	32.16	1000G	116.42	A3M4
6428	33.66	1000G	121.88	A3M4
6429	39.64	1000G	143.72	A3M4
6430	36.65	1000G	132.8	A3M4
6431	44.13	1000G	160.1	A3M4
6432	24.68	1000G	89.12	A3M4
6433	482.43		1747.27	
6434	1.49	1000G	9.6	A3M4
6435	0	1000G	9.26	A3M4
6436	0	1000G	10.49	A3M4
6437	0	1000G	9.26	A3M4
6438	0	1000G	9.34	A3M4
6439	0	1000G	10.42	A3M4
6440	0	1000G	10.42	A3M4
6441	0	1000G	10.42	A3M4
6442	0	1000G	10.42	A3M4
6443	0	1000G	10.42	A3M4
6444	0	1000G	10.42	A3M4
6445	53.85	1000G	212.17	A3M4
6446	55.34		322.64	
6447	14.21	1000G	57.3	A3M4
6448	79.29	1000G	277.82	A3M4
6449	44.88	1000G	183.29	A3M4

	A	B	C	D	E
6450					
6451	2600	2603	26CC	3	1
6452	2600	2603	26CC	3	1
6453	2600	2603	26CC	3	3
6454	2600	2603	26CC	3	3
6455	2600	2603	26CC	3	4
6456	2600	2603	26CC	3	6
6457	2600	2603	26CC	3	6
6458	2600	2603	26CC	3	8
6459	2600	2603	26CC	3	9
6460	2600	2603	26CC	3	10
6461	2600	2603	26CC	3	11
6462	2600	2603	26CC	3	12
6463					
6464	2600	2603	26CC	3	1
6465	2600	2603	26CC	3	1
6466	2600	2603	26CC	3	3
6467	2600	2603	26CC	3	3
6468	2600	2603	26CC	3	5
6469	2600	2603	26CC	3	6
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6473	2600	2603	26CC	3	10
6474	2600	2603	26CC	3	11
6475	2600	2603	26CC	3	12
6476					
6477	2600	2603	26CC	3	1
6478	2600	2603	26CC	3	1
6479	2600	2603	26CC	3	3
6480	2600	2603	26CC	3	3
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6487	2600	2603	26CC	3	10
6488	2600	2603	26CC	3	11
6489	2600	2603	26CC	3	12
6490					
6491	2600	2603	26CC	3	1
6492	2600	2603	26CC	3	2
6493	2600	2603	26CC	3	3
6494	2600	2603	26CC	3	4
6495	2600	2603	26CC	3	5
6496	2600	2603	26CC	3	6
6497	2600	2603	26CC	3	7
6498	2600	2603	26CC	3	8
6499	2600	2603	26CC	3	9

	F	G	H	I
6450	**2008 Total**			
6451	2004	121164	260084378	Southern Champion Tray
6452	2004	121164	260084378	Southern Champion Tray
6453	2004	121164	260084378	Southern Champion Tray
6454	2004	121164	260084378	Southern Champion Tray
6455	2004	121164	260084378	Southern Champion Tray
6456	2004	121164	260084378	Southern Champion Tray
6457	2004	121164	260084378	Southern Champion Tray
6458	2004	121164	260084378	Southern Champion Tray
6459	2004	121164	260084378	Southern Champion Tray
6460	2004	121164	260084378	Southern Champion Tray
6461	2004	121164	260084378	Southern Champion Tray
6462	2004	121164	260084378	Southern Champion Tray
6463	**2004 Total**			
6464	2005	121164	260084378	Southern Champion Tray
6465	2005	121164	260084378	Southern Champion Tray
6466	2005	121164	260084378	Southern Champion Tray
6467	2005	121164	260084378	Southern Champion Tray
6468	2005	121164	260084378	Southern Champion Tray
6469	2005	121164	260084378	Southern Champion Tray
6470	2005	121164	260084378	Southern Champion Tray
6471	2005	121164	260084378	Southern Champion Tray
6472	2005	121164	260084378	Southern Champion Tray
6473	2005	121164	260084378	Southern Champion Tray
6474	2005	121164	260084378	Southern Champion Tray
6475	2005	121164	260084378	Southern Champion Tray
6476	**2005 Total**			
6477	2006	121164	260084378	Southern Champion Tray
6478	2006	121164	260084378	Southern Champion Tray
6479	2006	121164	260084378	Southern Champion Tray
6480	2006	121164	260084378	Southern Champion Tray
6481	2006	121164	260084378	Southern Champion Tray
6482	2006	121164	260084378	Southern Champion Tray
6483	2006	121164	260084378	Southern Champion Tray
6484	2006	121164	260084378	Southern Champion Tray
6485	2006	121164	260084378	Southern Champion Tray
6486	2006	121164	260084378	Southern Champion Tray
6487	2006	121164	260084378	Southern Champion Tray
6488	2006	121164	260084378	Southern Champion Tray
6489	2006	121164	260084378	Southern Champion Tray
6490	**2006 Total**			
6491	2007	121164	260084378	Southern Champion Tray
6492	2007	121164	260084378	Southern Champion Tray
6493	2007	121164	260084378	Southern Champion Tray
6494	2007	121164	260084378	Southern Champion Tray
6495	2007	121164	260084378	Southern Champion Tray
6496	2007	121164	260084378	Southern Champion Tray
6497	2007	121164	260084378	Southern Champion Tray
6498	2007	121164	260084378	Southern Champion Tray
6499	2007	121164	260084378	Southern Champion Tray

	J	K	L	M
6450				
6451	220 Compress St	Chattanooga	TN	374053724
6452	220 Compress St	Chattanooga	TN	374053724
6453	220 Compress St	Chattanooga	TN	374053724
6454	220 Compress St	Chattanooga	TN	374053724
6455	220 Compress St	Chattanooga	TN	374053724
6456	220 Compress St	Chattanooga	TN	374053724
6457	220 Compress St	Chattanooga	TN	374053724
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6459	220 Compress St	Chattanooga	TN	374053724
6460	220 Compress St	Chattanooga	TN	374053724
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6462	220 Compress St	Chattanooga	TN	374053724
6463				
6464	220 Compress St	Chattanooga	TN	374053724
6465	220 Compress St	Chattanooga	TN	374053724
6466	220 Compress St	Chattanooga	TN	374053724
6467	220 Compress St	Chattanooga	TN	374053724
6468	220 Compress St	Chattanooga	TN	374053724
6469	220 Compress St	Chattanooga	TN	374053724
6470	220 Compress St	Chattanooga	TN	374053724
6471	220 Compress St	Chattanooga	TN	374053724
6472	220 Compress St	Chattanooga	TN	374053724
6473	220 Compress St	Chattanooga	TN	374053724
6474	220 Compress St	Chattanooga	TN	374053724
6475	220 Compress St	Chattanooga	TN	374053724
6476				
6477	220 Compress St	Chattanooga	TN	374053724
6478	220 Compress St	Chattanooga	TN	374053724
6479	220 Compress St	Chattanooga	TN	374053724
6480	220 Compress St	Chattanooga	TN	374053724
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6482	220 Compress St	Chattanooga	TN	374053724
6483	220 Compress St	Chattanooga	TN	374053724
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6486	220 Compress St	Chattanooga	TN	374053724
6487	220 Compress St	Chattanooga	TN	374053724
6488	220 Compress St	Chattanooga	TN	374053724
6489	220 Compress St	Chattanooga	TN	374053724
6490				
6491	220 Compress St	Chattanooga	TN	374053724
6492	220 Compress St	Chattanooga	TN	374053724
6493	220 Compress St	Chattanooga	TN	374053724
6494	220 Compress St	Chattanooga	TN	374053724
6495	220 Compress St	Chattanooga	TN	374053724
6496	220 Compress St	Chattanooga	TN	374053724
6497	220 Compress St	Chattanooga	TN	374053724
6498	220 Compress St	Chattanooga	TN	374053724
6499	220 Compress St	Chattanooga	TN	374053724

	N	O	P	Q
6450	138.38		518.41	
6451	662.02	1000G	1434.02	A3M4
6452	694.19	1000G	1487.08	A3M4
6453	722.61	1000G	1533.97	A3M4
6454	732.34	1000G	1550.02	A3M4
6455	783.21	1000G	1633.93	A3M4
6456	757.02	1000G	1590.74	A3M4
6457	848.29	1000G	1741.29	A3M4
6458	830.33	1000G	1711.67	A3M4
6459	873.72	1000G	1783.24	A3M4
6460	838.56	1000G	1725.24	A3M4
6461	801.16	1000G	1663.54	A3M4
6462	874.47	1000G	1784.48	A3M4
6463	9417.92		19639.22	
6464	745.8	1000G	1572.23	A3M4
6465	764.5	1000G	1603.08	A3M4
6466	766	1000G	1605.55	A3M4
6467	846.04	1000G	1781.82	A3M4
6468	785.45	1000G	1701.2	A3M4
6469	545.32	1000G	1289.68	A3M4
6470	644.07	1000G	1458.9	A3M4
6471	638.83	1000G	1449.93	A3M4
6472	654.54	1000G	1476.85	A3M4
6473	623.12	1000G	1423.01	A3M4
6474	497.45	1000G	1207.63	A3M4
6475	553.55	1000G	1303.78	A3M4
6476	8064.67		17873.66	
6477	435.36	1000G	1101.22	A3M4
6478	443.59	1000G	1115.33	A3M4
6479	441.35	1000G	1111.48	A3M4
6480	502.69	1000G	1216.6	A3M4
6481	536.35	1000G	1274.29	A3M4
6482	621.63	1000G	1420.44	A3M4
6483	565.52	1000G	1324.29	A3M4
6484	519.14	1000G	1244.81	A3M4
6485	539.34	1000G	1279.42	A3M4
6486	500.44	1000G	1212.76	A3M4
6487	445.83	1000G	1119.17	A3M4
6488	464.54	1000G	1151.22	A3M4
6489	421.15	1000G	1076.87	A3M4
6490	6436.93		15647.9	
6491	439.85	1000G	1108.92	A3M4
6492	424.89	1000G	1083.28	A3M4
6493	490.72	1000G	1196.09	A3M4
6494	528.87	1000G	1261.47	A3M4
6495	527.37	1000G	1270.23	A3M4
6496	787.69	1000G	1919.47	A3M4
6497	562.53	1000G	1485.13	A3M4
6498	523.63	1000G	1410.09	A3M4
6499	525.88	1000G	1414.42	A3M4

	A	B	C	D	E
6500	2600	2603	26CC	3	10
6501	2600	2603	26CC	3	11
6502	2600	2603	26CC	3	12
6503					
6504	2600	2603	26CC	3	1
6505	2600	2603	26CC	3	2
6506	2600	2603	26CC	3	3
6507					
6508	2600	2603	26CC	3	1
6509	2600	2603	26CC	3	1
6510	2600	2603	26CC	3	3
6511	2600	2603	26CC	3	3
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6514	2600	2603	26CC	3	6
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6517	2600	2603	26CC	3	10
6518	2600	2603	26CC	3	11
6519	2600	2603	26CC	3	12
6520					
6521	2600	2603	26CC	3	1
6522	2600	2603	26CC	3	1
6523	2600	2603	26CC	3	3
6524	2600	2603	26CC	3	3
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6526	2600	2603	26CC	3	6
6527	2600	2603	26CC	3	6
6528	2600	2603	26CC	3	8
6529	2600	2603	26CC	3	9
6530	2600	2603	26CC	3	10
6531	2600	2603	26CC	3	11
6532	2600	2603	26CC	3	12
6533					
6534	2600	2603	26CC	3	1
6535	2600	2603	26CC	3	1
6536	2600	2603	26CC	3	3
6537	2600	2603	26CC	3	3
6538	2600	2603	26CC	3	5
6539	2600	2603	26CC	3	5
6540	2600	2603	26CC	3	6
6541	2600	2603	26CC	3	8
6542	2600	2603	26CC	3	8
6543	2600	2603	26CC	3	9
6544	2600	2603	26CC	3	10
6545	2600	2603	26CC	3	11
6546	2600	2603	26CC	3	12
6547					
6548	2600	2603	26CC	3	1
6549	2600	2603	26CC	3	2

	F	G	H	I
6500	2007	121164	260084378	Southern Champion Tray
6501	2007	121164	260084378	Southern Champion Tray
6502	2007	121164	260084378	Southern Champion Tray
6503	**2007 Total**			
6504	2008	121164	260084378	Southern Champion Tray
6505	2008	121164	260084378	Southern Champion Tray
6506	2008	121164	260084378	Southern Champion Tray
6507	**2008 Total**			
6508	2004	128191	260085156	SIGNAL MTN CEMENT CO
6509	2004	128191	260085156	SIGNAL MTN CEMENT CO
6510	2004	128191	260085156	SIGNAL MTN CEMENT CO
6511	2004	128191	260085156	SIGNAL MTN CEMENT CO
6512	2004	128191	260085156	SIGNAL MTN CEMENT CO
6513	2004	128191	260085156	SIGNAL MTN CEMENT CO
6514	2004	128191	260085156	SIGNAL MTN CEMENT CO
6515	2004	128191	260085156	SIGNAL MTN CEMENT CO
6516	2004	128191	260085156	SIGNAL MTN CEMENT CO
6517	2004	128191	260085156	SIGNAL MTN CEMENT CO
6518	2004	128191	260085156	SIGNAL MTN CEMENT CO
6519	2004	128191	260085156	SIGNAL MTN CEMENT CO
6520	**2004 Total**			
6521	2005	128191	260085156	SIGNAL MTN CEMENT CO
6522	2005	128191	260085156	SIGNAL MTN CEMENT CO
6523	2005	128191	260085156	SIGNAL MTN CEMENT CO
6524	2005	128191	260085156	SIGNAL MTN CEMENT CO
6525	2005	128191	260085156	SIGNAL MTN CEMENT CO
6526	2005	128191	260085156	SIGNAL MTN CEMENT CO
6527	2005	128191	260085156	SIGNAL MTN CEMENT CO
6528	2005	128191	260085156	SIGNAL MTN CEMENT CO
6529	2005	128191	260085156	SIGNAL MTN CEMENT CO
6530	2005	128191	260085156	SIGNAL MTN CEMENT CO
6531	2005	128191	260085156	SIGNAL MTN CEMENT CO
6532	2005	128191	260085156	SIGNAL MTN CEMENT CO
6533	**2005 Total**			
6534	2006	128191	260085156	SIGNAL MTN CEMENT CO
6535	2006	128191	260085156	SIGNAL MTN CEMENT CO
6536	2006	128191	260085156	SIGNAL MTN CEMENT CO
6537	2006	128191	260085156	SIGNAL MTN CEMENT CO
6538	2006	128191	260085156	SIGNAL MTN CEMENT CO
6539	2006	128191	260085156	SIGNAL MTN CEMENT CO
6540	2006	128191	260085156	SIGNAL MTN CEMENT CO
6541	2006	128191	260085156	SIGNAL MTN CEMENT CO
6542	2006	128191	260085156	SIGNAL MTN CEMENT CO
6543	2006	128191	260085156	SIGNAL MTN CEMENT CO
6544	2006	128191	260085156	SIGNAL MTN CEMENT CO
6545	2006	128191	260085156	SIGNAL MTN CEMENT CO
6546	2006	128191	260085156	SIGNAL MTN CEMENT CO
6547	**2006 Total**			
6548	2007	128191	260085156	SIGNAL MTN CEMENT CO
6549	2007	128191	260085156	SIGNAL MTN CEMENT CO

	J	K	L	M
6500	220 Compress St	Chattanooga	TN	374053724
6501	220 Compress St	Chattanooga	TN	374053724
6502	220 Compress St	Chattanooga	TN	374053724
6503				
6504	220 Compress St	Chattanooga	TN	374053724
6505	220 Compress St	Chattanooga	TN	374053724
6506	220 Compress St	Chattanooga	TN	374053724
6507				
6508	1201 Suck Creek Rd	Chattanooga	TN	374059713
6509	1201 Suck Creek Rd	Chattanooga	TN	374059713
6510	1201 Suck Creek Rd	Chattanooga	TN	374059713
6511	1201 Suck Creek Rd	Chattanooga	TN	374059713
6512	1201 Suck Creek Rd	Chattanooga	TN	374059713
6513	1201 Suck Creek Rd	Chattanooga	TN	374059713
6514	1201 Suck Creek Rd	Chattanooga	TN	374059713
6515	1201 Suck Creek Rd	Chattanooga	TN	374059713
6516	1201 Suck Creek Rd	Chattanooga	TN	374059713
6517	1201 Suck Creek Rd	Chattanooga	TN	374059713
6518	1201 Suck Creek Rd	Chattanooga	TN	374059713
6519	1201 Suck Creek Rd	Chattanooga	TN	374059713
6520				
6521	1201 Suck Creek Rd	Chattanooga	TN	374059713
6522	1201 Suck Creek Rd	Chattanooga	TN	374059713
6523	1201 Suck Creek Rd	Chattanooga	TN	374059713
6524	1201 Suck Creek Rd	Chattanooga	TN	374059713
6525	1201 Suck Creek Rd	Chattanooga	TN	374059713
6526	1201 Suck Creek Rd	Chattanooga	TN	374059713
6527	1201 Suck Creek Rd	Chattanooga	TN	374059713
6528	1201 Suck Creek Rd	Chattanooga	TN	374059713
6529	1201 Suck Creek Rd	Chattanooga	TN	374059713
6530	1201 Suck Creek Rd	Chattanooga	TN	374059713
6531	1201 Suck Creek Rd	Chattanooga	TN	374059713
6532	1201 Suck Creek Rd	Chattanooga	TN	374059713
6533				
6534	1201 Suck Creek Rd	Chattanooga	TN	374059713
6535	1201 Suck Creek Rd	Chattanooga	TN	374059713
6536	1201 Suck Creek Rd	Chattanooga	TN	374059713
6537	1201 Suck Creek Rd	Chattanooga	TN	374059713
6538	1201 Suck Creek Rd	Chattanooga	TN	374059713
6539	1201 Suck Creek Rd	Chattanooga	TN	374059713
6540	1201 Suck Creek Rd	Chattanooga	TN	374059713
6541	1201 Suck Creek Rd	Chattanooga	TN	374059713
6542	1201 Suck Creek Rd	Chattanooga	TN	374059713
6543	1201 Suck Creek Rd	Chattanooga	TN	374059713
6544	1201 Suck Creek Rd	Chattanooga	TN	374059713
6545	1201 Suck Creek Rd	Chattanooga	TN	374059713
6546	1201 Suck Creek Rd	Chattanooga	TN	374059713
6547				
6548	1201 Suck Creek Rd	Chattanooga	TN	374059713
6549	1201 Suck Creek Rd	Chattanooga	TN	374059713

	N	O	P	Q
6500	546.07	1000G	1453.38	A3M4
6501	468.28	1000G	1303.31	A3M4
6502	406.19	1000G	1183.54	A3M4
6503	6231.97		16089.33	
6504	359.06	1000G	1082.87	A3M4
6505	329.14	1000G	1005.63	A3M4
6506	353.08	1000G	1067.42	A3M4
6507	1041.28		3155.92	
6508	47.87	1000G	208.21	A3M4
6509	47.87	1000G	208.21	A3M4
6510	54.6	1000G	224.05	A3M4
6511	70.31	1000G	258.72	A3M4
6512	65.82	1000G	248.81	A3M4
6513	90.51	1000G	303.3	A3M4
6514	117.44	1000G	362.73	A3M4
6515	120.43	1000G	369.34	A3M4
6516	118.94	1000G	366.03	A3M4
6517	103.23	1000G	331.36	A3M4
6518	77.04	1000G	273.58	A3M4
6519	64.33	1000G	245.51	A3M4
6520	978.39		3399.85	
6521	50.86	1000G	215.79	A3M4
6522	53.11	1000G	220.75	A3M4
6523	45.63	1000G	200.33	A3M4
6524	58.34	1000G	238.19	A3M4
6525	74.8	1000G	279.04	A3M4
6526	71.06	1000G	270.46	A3M4
6527	102.48	1000G	342.49	A3M4
6528	114.45	1000G	369.93	A3M4
6529	118.19	1000G	378.51	A3M4
6530	107.71	1000G	354.5	A3M4
6531	74.05	1000G	277.32	A3M4
6532	51.61	1000G	225.87	A3M4
6533	922.29		3373.18	
6534	27.67	1000G	142.57	A3M4
6535	36.65	1000G	175.33	A3M4
6536	11.96	1000G	85.24	A3M4
6537	76.3	1000G	282.47	A3M4
6538	26.92	1000G	181.4	A3M4
6539	49.37	1000G	220.73	A3M4
6540	71.81	1000G	272.18	A3M4
6541	79.29	1000G	289.33	A3M4
6542	105.47	1000G	349.35	A3M4
6543	89.76	1000G	313.34	A3M4
6544	39.64	1000G	186.25	A3M4
6545	18.7	1000G	109.81	A3M4
6546	13.46	1000G	90.7	A3M4
6547	647		2698.7	
6548	18.7	1000G	109.81	A3M4
6549	13.46	1000G	90.7	A3M4

	A	B	C	D	E
6550	2600	2603	26CC	3	3
6551	2600	2603	26CC	3	4
6552	2600	2603	26CC	3	5
6553	2600	2603	26CC	3	6
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6556	2600	2603	26CC	3	9
6557	2600	2603	26CC	3	10
6558	2600	2603	26CC	3	11
6559	2600	2603	26CC	3	12
6560					
6561	2600	2603	26CC	3	1
6562	2600	2603	26CC	3	2
6563	2600	2603	26CC	3	3
6564					
6565	2600	2603	26CC	3	1
6566	2600	2603	26CC	3	2
6567	2600	2603	26CC	3	3
6568	2600	2603	26CC	3	4
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6574	2600	2603	26CC	3	10
6575	2600	2603	26CC	3	11
6576	2600	2603	26CC	3	12
6577					
6578	2600	2603	26CC	3	1
6579	2600	2603	26CC	3	2
6580	2600	2603	26CC	3	3
6581	2600	2603	26CC	3	4
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6587	2600	2603	26CC	3	11
6588	2600	2603	26CC	3	11
6589	2600	2603	26CC	3	12
6590					
6591	2600	2603	26CC	3	1
6592	2600	2603	26CC	3	2
6593	2600	2603	26CC	3	3
6594	2600	2603	26CC	3	4
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6597	2600	2603	26CC	3	7
6598	2600	2603	26CC	3	8
6599	2600	2603	26CC	3	9

	F	G	H	I
6550	2007	128191	260085156	SIGNAL MTN CEMENT CO
6551	2007	128191	260085156	SIGNAL MTN CEMENT CO
6552	2007	128191	260085156	SIGNAL MTN CEMENT CO
6553	2007	128191	260085156	SIGNAL MTN CEMENT CO
6554	2007	128191	260085156	SIGNAL MTN CEMENT CO
6555	2007	128191	260085156	SIGNAL MTN CEMENT CO
6556	2007	128191	260085156	SIGNAL MTN CEMENT CO
6557	2007	128191	260085156	SIGNAL MTN CEMENT CO
6558	2007	128191	260085156	SIGNAL MTN CEMENT CO
6559	2007	128191	260085156	SIGNAL MTN CEMENT CO
6560	**2007 Total**			
6561	2008	128191	260085156	SIGNAL MTN CEMENT CO
6562	2008	128191	260085156	SIGNAL MTN CEMENT CO
6563	2008	128191	260085156	SIGNAL MTN CEMENT CO
6564	**2008 Total**			
6565	2004	129119	260070899	CLEAN HARBORS ENVIRONMENTAL, S
6566	2004	129119	260070899	CLEAN HARBORS ENVIRONMENTAL, S
6567	2004	129119	260070899	CLEAN HARBORS ENVIRONMENTAL, S
6568	2004	129119	260070899	CLEAN HARBORS ENVIRONMENTAL, S
6569	2004	129119	260070899	CLEAN HARBORS ENVIRONMENTAL, S
6570	2004	129119	260070899	CLEAN HARBORS ENVIRONMENTAL, S
6571	2004	129119	260070899	CLEAN HARBORS ENVIRONMENTAL, S
6572	2004	129119	260070899	CLEAN HARBORS ENVIRONMENTAL, S
6573	2004	129119	260070899	CLEAN HARBORS ENVIRONMENTAL, S
6574	2004	129119	260070899	CLEAN HARBORS ENVIRONMENTAL, S
6575	2004	129119	260070899	CLEAN HARBORS ENVIRONMENTAL, S
6576	2004	129119	260070899	CLEAN HARBORS ENVIRONMENTAL, S
6577	**2004 Total**			
6578	2005	129119	260070899	CLEAN HARBORS ENVIRONMENTAL, S
6579	2005	129119	260070899	CLEAN HARBORS ENVIRONMENTAL, S
6580	2005	129119	260070899	CLEAN HARBORS ENVIRONMENTAL, S
6581	2005	129119	260070899	CLEAN HARBORS ENVIRONMENTAL, S
6582	2005	129119	260070899	CLEAN HARBORS ENVIRONMENTAL, S
6583	2005	129119	260070899	CLEAN HARBORS ENVIRONMENTAL, S
6584	2005	129119	260070899	CLEAN HARBORS ENVIRONMENTAL, S
6585	2005	129119	260070899	CLEAN HARBORS ENVIRONMENTAL, S
6586	2005	129119	260070899	CLEAN HARBORS ENVIRONMENTAL, S
6587	2005	129119	260070899	CLEAN HARBORS ENVIRONMENTAL, S
6588	2005	129119	260070899	CLEAN HARBORS ENVIRONMENTAL, S
6589	2005	129119	260070899	CLEAN HARBORS ENVIRONMENTAL, S
6590	**2005 Total**			
6591	2006	129119	260070899	CLEAN HARBORS ENVIRONMENTAL, S
6592	2006	129119	260070899	CLEAN HARBORS ENVIRONMENTAL, S
6593	2006	129119	260070899	CLEAN HARBORS ENVIRONMENTAL, S
6594	2006	129119	260070899	CLEAN HARBORS ENVIRONMENTAL, S
6595	2006	129119	260070899	CLEAN HARBORS ENVIRONMENTAL, S
6596	2006	129119	260070899	CLEAN HARBORS ENVIRONMENTAL, S
6597	2006	129119	260070899	CLEAN HARBORS ENVIRONMENTAL, S
6598	2006	129119	260070899	CLEAN HARBORS ENVIRONMENTAL, S
6599	2006	129119	260070899	CLEAN HARBORS ENVIRONMENTAL, S

	J	K	L	M
6550	1201 Suck Creek Rd	Chattanooga	TN	374059713
6551	1201 Suck Creek Rd	Chattanooga	TN	374059713
6552	1201 Suck Creek Rd	Chattanooga	TN	374059713
6553	1201 Suck Creek Rd	Chattanooga	TN	374059713
6554	1201 Suck Creek Rd	Chattanooga	TN	374059713
6555	1201 Suck Creek Rd	Chattanooga	TN	374059713
6556	1201 Suck Creek Rd	Chattanooga	TN	374059713
6557	1201 Suck Creek Rd	Chattanooga	TN	374059713
6558	1201 Suck Creek Rd	Chattanooga	TN	374059713
6559	1201 Suck Creek Rd	Chattanooga	TN	374059713
6560				
6561	1201 Suck Creek Rd	Chattanooga	TN	374059713
6562	1201 Suck Creek Rd	Chattanooga	TN	374059713
6563	1201 Suck Creek Rd	Chattanooga	TN	374059713
6564				
6565	318 WAUHATCHIE Pike	Chattanooga	TN	374192329
6566	318 WAUHATCHIE Pike	Chattanooga	TN	374192329
6567	318 WAUHATCHIE Pike	Chattanooga	TN	374192329
6568	318 WAUHATCHIE Pike	Chattanooga	TN	374192329
6569	318 WAUHATCHIE Pike	Chattanooga	TN	374192329
6570	318 WAUHATCHIE Pike	Chattanooga	TN	374192329
6571	318 WAUHATCHIE Pike	Chattanooga	TN	374192329
6572	318 WAUHATCHIE Pike	Chattanooga	TN	374192329
6573	318 WAUHATCHIE Pike	Chattanooga	TN	374192329
6574	318 WAUHATCHIE Pike	Chattanooga	TN	374192329
6575	318 WAUHATCHIE Pike	Chattanooga	TN	374192329
6576	318 WAUHATCHIE Pike	Chattanooga	TN	374192329
6577				
6578	318 WAUHATCHIE Pike	Chattanooga	TN	374192329
6579	318 WAUHATCHIE Pike	Chattanooga	TN	374192329
6580	318 WAUHATCHIE Pike	Chattanooga	TN	374192329
6581	318 WAUHATCHIE Pike	Chattanooga	TN	374192329
6582	318 WAUHATCHIE Pike	Chattanooga	TN	374192329
6583	318 WAUHATCHIE Pike	Chattanooga	TN	374192329
6584	318 WAUHATCHIE Pike	Chattanooga	TN	374192329
6585	318 WAUHATCHIE Pike	Chattanooga	TN	374192329
6586	318 WAUHATCHIE Pike	Chattanooga	TN	374192329
6587	318 WAUHATCHIE Pike	Chattanooga	TN	374192329
6588	318 WAUHATCHIE Pike	Chattanooga	TN	374192329
6589	318 WAUHATCHIE Pike	Chattanooga	TN	374192329
6590				
6591	318 WAUHATCHIE Pike	Chattanooga	TN	374192329
6592	318 WAUHATCHIE Pike	Chattanooga	TN	374192329
6593	318 WAUHATCHIE Pike	Chattanooga	TN	374192329
6594	318 WAUHATCHIE Pike	Chattanooga	TN	374192329
6595	318 WAUHATCHIE Pike	Chattanooga	TN	374192329
6596	318 WAUHATCHIE Pike	Chattanooga	TN	374192329
6597	318 WAUHATCHIE Pike	Chattanooga	TN	374192329
6598	318 WAUHATCHIE Pike	Chattanooga	TN	374192329
6599	318 WAUHATCHIE Pike	Chattanooga	TN	374192329

	N	O	P	Q
6550	20.94	1000G	118	A3M4
6551	38.15	1000G	180.79	A3M4
6552	54.6	1000G	234.74	A3M4
6553	82.28	1000G	333.43	A3M4
6554	95.75	1000G	368.18	A3M4
6555	92.01	1000G	358.53	A3M4
6556	89.01	1000G	350.8	A3M4
6557	74.8	1000G	314.12	A3M4
6558	24.68	1000G	148.2	A3M4
6559	16.45	1000G	114.39	A3M4
6560	620.83		2721.69	
6561	12.71	1000G	99.03	A3M4
6562	15.7	1000G	111.32	A3M4
6563	14.21	1000G	105.18	A3M4
6564	42.62		315.53	
6565	1519.29	1000G	2927.95	A3M4M
6566	1989.07	1000G	3702.91	A3M4M
6567	1688.35	1000G	3206.84	A3M4M
6568	1789.34	1000G	3373.43	A3M4M
6569	1318.06	1000G	2596.01	A3M4M
6570	1507.32	1000G	2908.21	A3M4M
6571	1038.29	1000G	2134.49	A3M4M
6572	697.18	1000G	1571.79	A3M4M
6573	639.58	1000G	1476.77	A3M4M
6574	643.32	1000G	1482.94	A3M4M
6575	789.19	1000G	1723.57	A3M4M
6576	419.65	1000G	1113.97	A3M4M
6577	14038.64		28218.88	
6578	0	1000G	159.54	A3M4M
6579	0	1000G	159.54	A3M4M
6580	0	1000G	163.06	A3M4M
6581	0	1000G	165.7	A3M4M
6582	0	1000G	165.7	A3M4M
6583	0	1000G	165.7	A3M4M
6584	0	1000G	165.7	A3M4M
6585	0	1000G	209.88	A3M4M
6586	0	1000G	165.7	A3M4M
6587	0	1000G	165.7	A3M4M
6588	0	1000G	165.7	A3M4M
6589	0	1000G	165.7	A3M4M
6590	0		2017.62	
6591	993.41	1000G	2140.45	A3M4M
6592	1033.8	1000G	2209.67	A3M4M
6593	789.19	1000G	1790.46	A3M4M
6594	1000.14	1000G	2151.98	A3M4M
6595	801.16	1000G	1810.97	A3M4M
6596	728.6	1000G	1686.62	A3M4M
6597	882.7	1000G	1950.71	A3M4M
6598	926.08	1000G	2025.07	A3M4M
6599	881.95	1000G	1949.43	A3M4M

	A	B	C	D	E
6600	2600	2603	26CC	3	10
6601	2600	2603	26CC	3	11
6602	2600	2603	26CC	3	12
6603					
6604	2600	2603	26CC	3	1
6605	2600	2603	26CC	3	2
6606	2600	2603	26CC	3	3
6607	2600	2603	26CC	3	4
6608	2600	2603	26CC	3	5
6609	2600	2603	26CC	3	6
6610	2600	2603	26CC	3	7
6611	2600	2603	26CC	3	8
6612	2600	2603	26CC	3	9
6613	2600	2603	26CC	3	10
6614	2600	2603	26CC	3	11
6615	2600	2603	26CC	3	12
6616					
6617	2600	2603	26CC	3	1
6618	2600	2603	26CC	3	2
6619	2600	2603	26CC	3	3
6620					
6621	2600	2603	26CC	3	1
6622	2600	2603	26CC	3	2
6623	2600	2603	26CC	3	3
6624	2600	2603	26CC	3	1
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6627	2600	2603	26CC	3	4
6628	2600	2603	26CC	3	5
6629	2600	2603	26CC	3	6
6630	2600	2603	26CC	3	7
6631	2600	2603	26CC	3	8
6632	2600	2603	26CC	3	9
6633	2600	2603	26CC	3	10
6634	2600	2603	26CC	3	11
6635	2600	2603	26CC	3	12
6636					
6637	2600	2603	26CC	3	1
6638	2600	2603	26CC	3	2
6639	2600	2603	26CC	3	3
6640	2600	2603	26CC	3	4
6641	2600	2603	26CC	3	5
6642	2600	2603	26CC	3	6
6643	2600	2603	26CC	3	7
6644	2600	2603	26CC	3	8
6645	2600	2603	26CC	3	9
6646	2600	2603	26CC	3	10
6647	2600	2603	26CC	3	11
6648	2600	2603	26CC	3	12
6649					

	F	G	H	I
6600	2006	129119	260070899	CLEAN HARBORS ENVIRONMENTAL, S
6601	2006	129119	260070899	CLEAN HARBORS ENVIRONMENTAL, S
6602	2006	129119	260070899	CLEAN HARBORS ENVIRONMENTAL, S
6603	**2006 Total**			
6604	2007	129119	260070899	CLEAN HARBORS ENVIRONMENTAL, S
6605	2007	129119	260070899	CLEAN HARBORS ENVIRONMENTAL, S
6606	2007	129119	260070899	CLEAN HARBORS ENVIRONMENTAL, S
6607	2007	129119	260070899	CLEAN HARBORS ENVIRONMENTAL, S
6608	2007	129119	260070899	CLEAN HARBORS ENVIRONMENTAL, S
6609	2007	129119	260070899	CLEAN HARBORS ENVIRONMENTAL, S
6610	2007	129119	260070899	CLEAN HARBORS ENVIRONMENTAL, S
6611	2007	129119	260070899	CLEAN HARBORS ENVIRONMENTAL, S
6612	2007	129119	260070899	CLEAN HARBORS ENVIRONMENTAL, S
6613	2007	129119	260070899	CLEAN HARBORS ENVIRONMENTAL, S
6614	2007	129119	260070899	CLEAN HARBORS ENVIRONMENTAL, S
6615	2007	129119	260070899	CLEAN HARBORS ENVIRONMENTAL, S
6616	**2007 Total**			
6617	2008	129119	260070899	CLEAN HARBORS ENVIRONMENTAL, S
6618	2008	129119	260070899	CLEAN HARBORS ENVIRONMENTAL, S
6619	2008	129119	260070899	CLEAN HARBORS ENVIRONMENTAL, S
6620	**2008 Total**			
6621	2004	129819	260033477	RIGHT 2 PRIVACY RECYCLING
6622	2004	129819	260033477	RIGHT 2 PRIVACY RECYCLING
6623	2004	129819	260033477	RIGHT 2 PRIVACY RECYCLING
6624	2004	130156	260073101	Southern Foundry Supply
6625	2004	130156	260073101	Southern Foundry Supply
6626	2004	130156	260073101	Southern Foundry Supply
6627	2004	130156	260073101	Southern Foundry Supply
6628	2004	130156	260073101	Southern Foundry Supply
6629	2004	130156	260073101	Southern Foundry Supply
6630	2004	130156	260073101	Southern Foundry Supply
6631	2004	130156	260073101	Southern Foundry Supply
6632	2004	130156	260073101	Southern Foundry Supply
6633	2004	130156	260073101	Southern Foundry Supply
6634	2004	130156	260073101	Southern Foundry Supply
6635	2004	130156	260073101	Southern Foundry Supply
6636	**2004 Total**			
6637	2005	130156	260073101	Southern Foundry Supply
6638	2005	130156	260073101	Southern Foundry Supply
6639	2005	130156	260073101	Southern Foundry Supply
6640	2005	130156	260073101	Southern Foundry Supply
6641	2005	130156	260073101	Southern Foundry Supply
6642	2005	130156	260073101	Southern Foundry Supply
6643	2005	130156	260073101	Southern Foundry Supply
6644	2005	130156	260073101	Southern Foundry Supply
6645	2005	130156	260073101	Southern Foundry Supply
6646	2005	130156	260073101	Southern Foundry Supply
6647	2005	130156	260073101	Southern Foundry Supply
6648	2005	130156	260073101	Southern Foundry Supply
6649	**2005 Total**			

	J	K	L	M
6600	318 WAUHATCHIE Pike	Chattanooga	TN	374192329
6601	318 WAUHATCHIE Pike	Chattanooga	TN	374192329
6602	318 WAUHATCHIE Pike	Chattanooga	TN	374192329
6603				
6604	318 WAUHATCHIE Pike	Chattanooga	TN	374192329
6605	318 WAUHATCHIE Pike	Chattanooga	TN	374192329
6606	318 WAUHATCHIE Pike	Chattanooga	TN	374192329
6607	318 WAUHATCHIE Pike	Chattanooga	TN	374192329
6608	318 WAUHATCHIE Pike	Chattanooga	TN	374192329
6609	318 WAUHATCHIE Pike	Chattanooga	TN	374192329
6610	318 WAUHATCHIE Pike	Chattanooga	TN	374192329
6611	318 WAUHATCHIE Pike	Chattanooga	TN	374192329
6612	318 WAUHATCHIE Pike	Chattanooga	TN	374192329
6613	318 WAUHATCHIE Pike	Chattanooga	TN	374192329
6614	318 WAUHATCHIE Pike	Chattanooga	TN	374192329
6615	318 WAUHATCHIE Pike	Chattanooga	TN	374192329
6616				
6617	318 WAUHATCHIE Pike	Chattanooga	TN	374192329
6618	318 WAUHATCHIE Pike	Chattanooga	TN	374192329
6619	318 WAUHATCHIE Pike	Chattanooga	TN	374192329
6620				
6621	3115 FREEMAN AVE	CHATTANOOGA	TN	374063068
6622	3115 FREEMAN AVE	CHATTANOOGA	TN	374063068
6623	3115 FREEMAN AVE	CHATTANOOGA	TN	374063068
6624	515 W 19th St	Chattanooga	TN	374081006
6625	515 W 19th St	Chattanooga	TN	374081006
6626	515 W 19th St	Chattanooga	TN	374081006
6627	515 W 19th St	Chattanooga	TN	374081006
6628	515 W 19th St	Chattanooga	TN	374081006
6629	515 W 19th St	Chattanooga	TN	374081006
6630	515 W 19th St	Chattanooga	TN	374081006
6631	515 W 19th St	Chattanooga	TN	374081006
6632	515 W 19th St	Chattanooga	TN	374081006
6633	515 W 19th St	Chattanooga	TN	374081006
6634	515 W 19th St	Chattanooga	TN	374081006
6635	515 W 19th St	Chattanooga	TN	374081006
6636				
6637	515 W 19th St	Chattanooga	TN	374081006
6638	515 W 19th St	Chattanooga	TN	374081006
6639	515 W 19th St	Chattanooga	TN	374081006
6640	515 W 19th St	Chattanooga	TN	374081006
6641	515 W 19th St	Chattanooga	TN	374081006
6642	515 W 19th St	Chattanooga	TN	374081006
6643	515 W 19th St	Chattanooga	TN	374081006
6644	515 W 19th St	Chattanooga	TN	374081006
6645	515 W 19th St	Chattanooga	TN	374081006
6646	515 W 19th St	Chattanooga	TN	374081006
6647	515 W 19th St	Chattanooga	TN	374081006
6648	515 W 19th St	Chattanooga	TN	374081006
6649				

	N	O	P	Q
6600	1040.54	1000G	2221.21	A3M4M
6601	1038.29	1000G	2217.37	A3M4M
6602	593.95	1000G	1455.86	A3M4M
6603	10709.81		23609.8	
6604	946.28	1000G	2059.68	A3M4M
6605	825.84	1000G	1853.28	A3M4M
6606	778.72	1000G	1772.51	A3M4M
6607	836.32	1000G	1871.23	A3M4M
6608	979.2	1000G	2116.09	A3M4M
6609	948.52	1000G	2322.98	A3M4M
6610	784.7	1000G	2006.97	A3M4M
6611	664.27	1000G	1774.64	A3M4M
6612	728.6	1000G	1898.74	A3M4M
6613	881.95	1000G	2194.56	A3M4M
6614	935.06	1000G	2297.01	A3M4M
6615	580.48	1000G	1613.03	A3M4M
6616	9889.94		23780.72	
6617	799.66	1000G	2035.83	A3M4M
6618	621.63	1000G	1692.39	A3M4M
6619	460.05	1000G	1380.71	A3M4M
6620	1881.34		5108.93	
6621	8.22	1000G	27.98	A3M4
6622	5.23	1000G	17.46	A3M4
6623	5.23	1000G	17.46	A3M4
6624	8.97	1000G	101.45	A3M4
6625	1.49	1000G	80.1	A3M4
6626	0.74	1000G	79.94	A3M4
6627	0.74	1000G	79.94	A3M4
6628	0	1000G	79.77	A3M4
6629	0.74	1000G	79.94	A3M4
6630	0	1000G	79.77	A3M4
6631	0.74	1000G	79.94	A3M4
6632	0.74	1000G	79.94	A3M4
6633	0	1000G	79.77	A3M4
6634	3.74	1000G	83.06	A3M4
6635	0.74	1000G	79.94	A3M4
6636	37.32		1046.46	
6637	7.48	1000G	96.2	A3M4
6638	10.47	1000G	106.71	A3M4
6639	24.68	1000G	159.89	A3M4
6640	46.37	1000G	241.88	A3M4
6641	19.44	1000G	143.6	A3M4
6642	13.46	1000G	121.76	A3M4
6643	14.21	1000G	124.49	A3M4
6644	8.97	1000G	105.38	A3M4
6645	19.44	1000G	143.6	A3M4
6646	19.44	1000G	143.6	A3M4
6647	8.22	1000G	102.65	A3M4
6648	3.74	1000G	86.27	A3M4
6649	195.92		1576.03	

	A	B	C	D	E
6650	2600	2603	26CC	3	1
6651	2600	2603	26CC	3	2
6652	2600	2603	26CC	3	3
6653	2600	2603	26CC	3	4
6654	2600	2603	26CC	3	5
6655	2600	2603	26CC	3	6
6656	2600	2603	26CC	3	7
6657	2600	2603	26CC	3	8
6658	2600	2603	26CC	3	9
6659	2600	2603	26CC	3	10
6660					
6661	2600	2603	26CC	3	1
6662	2600	2603	26CC	3	2
6663	2600	2603	26CC	3	3
6664	2600	2603	26CC	3	4
6665	2600	2603	26CC	3	5
6666	2600	2603	26CC	3	6
6667	2600	2603	26CC	3	7
6668	2600	2603	26CC	3	8
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6670	2600	2603	26CC	3	10
6671	2600	2603	26CC	3	11
6672	2600	2603	26CC	3	12
6673					
6674	2600	2603	26CC	3	1
6675	2600	2603	26CC	3	2
6676	2600	2603	26CC	3	3
6677	2600	2603	26CC	3	4
6678	2600	2603	26CC	3	5
6679	2600	2603	26CC	3	6
6680	2600	2603	26CC	3	7
6681	2600	2603	26CC	3	8
6682	2600	2603	26CC	3	9
6683	2600	2603	26CC	3	10
6684	2600	2603	26CC	3	11
6685	2600	2603	26CC	3	12
6686					
6687	2600	2603	26CC	3	1
6688	2600	2603	26CC	3	2
6689	2600	2603	26CC	3	3
6690	2600	2603	26CC	3	4
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6694	2600	2603	26CC	3	8
6695	2600	2603	26CC	3	9
6696	2600	2603	26CC	3	10
6697	2600	2603	26CC	3	11
6698	2600	2603	26CC	3	12
6699					

	F	G	H	I
6650	2006	130156	260073101	Southern Foundry Supply
6651	2006	130156	260073101	Southern Foundry Supply
6652	2006	130156	260073101	Southern Foundry Supply
6653	2006	130156	260073101	Southern Foundry Supply
6654	2006	130156	260073101	Southern Foundry Supply
6655	2006	130156	260073101	Southern Foundry Supply
6656	2006	130156	260073101	Southern Foundry Supply
6657	2006	130156	260073101	Southern Foundry Supply
6658	2006	130156	260073101	Southern Foundry Supply
6659	2006	130156	260073101	Southern Foundry Supply
6660	**2006 Total**			
6661	2004	130177	260073102	Southern Foundry Supply
6662	2004	130177	260073102	Southern Foundry Supply
6663	2004	130177	260073102	Southern Foundry Supply
6664	2004	130177	260073102	Southern Foundry Supply
6665	2004	130177	260073102	Southern Foundry Supply
6666	2004	130177	260073102	Southern Foundry Supply
6667	2004	130177	260073102	Southern Foundry Supply
6668	2004	130177	260073102	Southern Foundry Supply
6669	2004	130177	260073102	Southern Foundry Supply
6670	2004	130177	260073102	Southern Foundry Supply
6671	2004	130177	260073102	Southern Foundry Supply
6672	2004	130177	260073102	Southern Foundry Supply
6673	**2004 Total**			
6674	2005	130177	260073102	Southern Foundry Supply
6675	2005	130177	260073102	Southern Foundry Supply
6676	2005	130177	260073102	Southern Foundry Supply
6677	2005	130177	260073102	Southern Foundry Supply
6678	2005	130177	260073102	Southern Foundry Supply
6679	2005	130177	260073102	Southern Foundry Supply
6680	2005	130177	260073102	Southern Foundry Supply
6681	2005	130177	260073102	Southern Foundry Supply
6682	2005	130177	260073102	Southern Foundry Supply
6683	2005	130177	260073102	Southern Foundry Supply
6684	2005	130177	260073102	Southern Foundry Supply
6685	2005	130177	260073102	Southern Foundry Supply
6686	**2005 Total**			
6687	2006	130177	260073102	Southern Foundry Supply
6688	2006	130177	260073102	Southern Foundry Supply
6689	2006	130177	260073102	Southern Foundry Supply
6690	2006	130177	260073102	Southern Foundry Supply
6691	2006	130177	260073102	Southern Foundry Supply
6692	2006	130177	260073102	Southern Foundry Supply
6693	2006	130177	260073102	Southern Foundry Supply
6694	2006	130177	260073102	Southern Foundry Supply
6695	2006	130177	260073102	Southern Foundry Supply
6696	2006	130177	260073102	Southern Foundry Supply
6697	2006	130177	260073102	Southern Foundry Supply
6698	2006	130177	260073102	Southern Foundry Supply
6699	**2006 Total**			

	J	K	L	M
6650	515 W 19th St	Chattanooga	TN	374081006
6651	515 W 19th St	Chattanooga	TN	374081006
6652	515 W 19th St	Chattanooga	TN	374081006
6653	515 W 19th St	Chattanooga	TN	374081006
6654	515 W 19th St	Chattanooga	TN	374081006
6655	515 W 19th St	Chattanooga	TN	374081006
6656	515 W 19th St	Chattanooga	TN	374081006
6657	515 W 19th St	Chattanooga	TN	374081006
6658	515 W 19th St	Chattanooga	TN	374081006
6659	515 W 19th St	Chattanooga	TN	374081006
6660				
6661	515 W 19th St	Chattanooga	TN	374081006
6662	515 W 19th St	Chattanooga	TN	374081006
6663	515 W 19th St	Chattanooga	TN	374081006
6664	515 W 19th St	Chattanooga	TN	374081006
6665	515 W 19th St	Chattanooga	TN	374081006
6666	515 W 19th St	Chattanooga	TN	374081006
6667	515 W 19th St	Chattanooga	TN	374081006
6668	515 W 19th St	Chattanooga	TN	374081006
6669	515 W 19th St	Chattanooga	TN	374081006
6670	515 W 19th St	Chattanooga	TN	374081006
6671	515 W 19th St	Chattanooga	TN	374081006
6672	515 W 19th St	Chattanooga	TN	374081006
6673				
6674	515 W 19th St	Chattanooga	TN	374081006
6675	515 W 19th St	Chattanooga	TN	374081006
6676	515 W 19th St	Chattanooga	TN	374081006
6677	515 W 19th St	Chattanooga	TN	374081006
6678	515 W 19th St	Chattanooga	TN	374081006
6679	515 W 19th St	Chattanooga	TN	374081006
6680	515 W 19th St	Chattanooga	TN	374081006
6681	515 W 19th St	Chattanooga	TN	374081006
6682	515 W 19th St	Chattanooga	TN	374081006
6683	515 W 19th St	Chattanooga	TN	374081006
6684	515 W 19th St	Chattanooga	TN	374081006
6685	515 W 19th St	Chattanooga	TN	374081006
6686				
6687	515 W 19th St	Chattanooga	TN	374081006
6688	515 W 19th St	Chattanooga	TN	374081006
6689	515 W 19th St	Chattanooga	TN	374081006
6690	515 W 19th St	Chattanooga	TN	374081006
6691	515 W 19th St	Chattanooga	TN	374081006
6692	515 W 19th St	Chattanooga	TN	374081006
6693	515 W 19th St	Chattanooga	TN	374081006
6694	515 W 19th St	Chattanooga	TN	374081006
6695	515 W 19th St	Chattanooga	TN	374081006
6696	515 W 19th St	Chattanooga	TN	374081006
6697	515 W 19th St	Chattanooga	TN	374081006
6698	515 W 19th St	Chattanooga	TN	374081006
6699				

	N	O	P	Q
6650	6.73	1000G	97.19	A3M4
6651	12.71	1000G	119.03	A3M4
6652	4.48	1000G	89	A3M4
6653	10.47	1000G	110.84	A3M4
6654	2.24	1000G	83.37	A3M4
6655	2.99	1000G	83.54	A3M4
6656	2.23	1000G	83.37	A3M4
6657	2.99	1000G	83.54	A3M4
6658	2.99	1000G	83.54	A3M4
6659	1.49	1000G	36.94	A3M4
6660	49.32		870.36	
6661	161.57	1000G	490.04	A3M4
6662	190	1000G	552.78	A3M4
6663	220.67	1000G	620.47	A3M4
6664	219.17	1000G	617.17	A3M4
6665	197.48	1000G	569.29	A3M4
6666	215.43	1000G	608.91	A3M4
6667	206.46	1000G	589.1	A3M4
6668	284.25	1000G	760.81	A3M4
6669	243.86	1000G	671.65	A3M4
6670	289.49	1000G	772.36	A3M4
6671	190	1000G	552.78	A3M4
6672	169.8	1000G	508.2	A3M4
6673	2588.18		7313.56	
6674	259.57	1000G	706.32	A3M4
6675	265.55	1000G	719.53	A3M4
6676	237.13	1000G	670.44	A3M4
6677	344.1	1000G	927.5	A3M4
6678	311.18	1000G	852.04	A3M4
6679	210.2	1000G	620.51	A3M4
6680	195.24	1000G	586.21	A3M4
6681	243.86	1000G	697.69	A3M4
6682	305.95	1000G	840.03	A3M4
6683	313.43	1000G	857.18	A3M4
6684	222.17	1000G	647.95	A3M4
6685	255.83	1000G	725.13	A3M4
6686	3164.21		8850.53	
6687	261.07	1000G	737.13	A3M4
6688	267.05	1000G	750.85	A3M4
6689	1091.4	1000G	2225.54	A3M4
6690	445.09	1000G	1117.89	A3M4
6691	267.05	1000G	750.85	A3M4
6692	341.85	1000G	922.35	A3M4
6693	318.66	1000G	869.19	A3M4
6694	383	1000G	1011.48	A3M4
6695	353.82	1000G	949.79	A3M4
6696	347.09	1000G	934.36	A3M4
6697	291.74	1000G	807.45	A3M4
6698	244.61	1000G	699.4	A3M4
6699	4612.43		11776.28	

	A	B	C	D	E
6700	2600	2603	26CC	3	1
6701	2600	2603	26CC	3	2
6702	2600	2603	26CC	3	3
6703	2600	2603	26CC	3	4
6704	2600	2603	26CC	3	5
6705	2600	2603	26CC	3	6
6706	2600	2603	26CC	3	7
6707	2600	2603	26CC	3	8
6708	2600	2603	26CC	3	9
6709	2600	2603	26CC	3	10
6710	2600	2603	26CC	3	11
6711	2600	2603	26CC	3	12
6712					
6713	2600	2603	26CC	3	1
6714	2600	2603	26CC	3	2
6715	2600	2603	26CC	3	3
6716					
6717	2600	2603	26CC	3	1
6718	2600	2603	26CC	3	2
6719	2600	2603	26CC	3	3
6720	2600	2603	26CC	3	4
6721	2600	2603	26CC	3	5
6722	2600	2603	26CC	3	6
6723	2600	2603	26CC	3	7
6724	2600	2603	26CC	3	8
6725	2600	2603	26CC	3	9
6726	2600	2603	26CC	3	10
6727	2600	2603	26CC	3	11
6728	2600	2603	26CC	3	12
6729					
6730	2600	2603	26CC	3	1
6731	2600	2603	26CC	3	2
6732	2600	2603	26CC	3	3
6733	2600	2603	26CC	3	4
6734	2600	2603	26CC	3	5
6735	2600	2603	26CC	3	6
6736	2600	2603	26CC	3	7
6737	2600	2603	26CC	3	8
6738	2600	2603	26CC	3	9
6739	2600	2603	26CC	3	10
6740	2600	2603	26CC	3	11
6741	2600	2603	26CC	3	12
6742					
6743	2600	2603	26CC	3	1
6744	2600	2603	26CC	3	2
6745	2600	2603	26CC	3	3
6746	2600	2603	26CC	3	4
6747	2600	2603	26CC	3	5
6748	2600	2603	26CC	3	6
6749	2600	2603	26CC	3	7

	F	G	H	I
6700	2007	130177	260073102	Southern Foundry Supply
6701	2007	130177	260073102	Southern Foundry Supply
6702	2007	130177	260073102	Southern Foundry Supply
6703	2007	130177	260073102	Southern Foundry Supply
6704	2007	130177	260073102	Southern Foundry Supply
6705	2007	130177	260073102	Southern Foundry Supply
6706	2007	130177	260073102	Southern Foundry Supply
6707	2007	130177	260073102	Southern Foundry Supply
6708	2007	130177	260073102	Southern Foundry Supply
6709	2007	130177	260073102	Southern Foundry Supply
6710	2007	130177	260073102	Southern Foundry Supply
6711	2007	130177	260073102	Southern Foundry Supply
6712	**2007 Total**			
6713	2008	130177	260073102	Southern Foundry Supply
6714	2008	130177	260073102	Southern Foundry Supply
6715	2008	130177	260073102	Southern Foundry Supply
6716	**2008 Total**			
6717	2004	130184	260011212	Southern Foundry Supply
6718	2004	130184	260011212	Southern Foundry Supply
6719	2004	130184	260011212	Southern Foundry Supply
6720	2004	130184	260011212	Southern Foundry Supply
6721	2004	130184	260011212	Southern Foundry Supply
6722	2004	130184	260011212	Southern Foundry Supply
6723	2004	130184	260011212	Southern Foundry Supply
6724	2004	130184	260011212	Southern Foundry Supply
6725	2004	130184	260011212	Southern Foundry Supply
6726	2004	130184	260011212	Southern Foundry Supply
6727	2004	130184	260011212	Southern Foundry Supply
6728	2004	130184	260011212	Southern Foundry Supply
6729	**2004 Total**			
6730	2005	130184	260011212	Southern Foundry Supply
6731	2005	130184	260011212	Southern Foundry Supply
6732	2005	130184	260011212	Southern Foundry Supply
6733	2005	130184	260011212	Southern Foundry Supply
6734	2005	130184	260011212	Southern Foundry Supply
6735	2005	130184	260011212	Southern Foundry Supply
6736	2005	130184	260011212	Southern Foundry Supply
6737	2005	130184	260011212	Southern Foundry Supply
6738	2005	130184	260011212	Southern Foundry Supply
6739	2005	130184	260011212	Southern Foundry Supply
6740	2005	130184	260011212	Southern Foundry Supply
6741	2005	130184	260011212	Southern Foundry Supply
6742	**2005 Total**			
6743	2006	130184	260011212	Southern Foundry Supply
6744	2006	130184	260011212	Southern Foundry Supply
6745	2006	130184	260011212	Southern Foundry Supply
6746	2006	130184	260011212	Southern Foundry Supply
6747	2006	130184	260011212	Southern Foundry Supply
6748	2006	130184	260011212	Southern Foundry Supply
6749	2006	130184	260011212	Southern Foundry Supply

	J	K	L	M
6700	515 W 19th St	Chattanooga	TN	374081006
6701	515 W 19th St	Chattanooga	TN	374081006
6702	515 W 19th St	Chattanooga	TN	374081006
6703	515 W 19th St	Chattanooga	TN	374081006
6704	515 W 19th St	Chattanooga	TN	374081006
6705	515 W 19th St	Chattanooga	TN	374081006
6706	515 W 19th St	Chattanooga	TN	374081006
6707	515 W 19th St	Chattanooga	TN	374081006
6708	515 W 19th St	Chattanooga	TN	374081006
6709	515 W 19th St	Chattanooga	TN	374081006
6710	515 W 19th St	Chattanooga	TN	374081006
6711	515 W 19th St	Chattanooga	TN	374081006
6712				
6713	515 W 19th St	Chattanooga	TN	374081006
6714	515 W 19th St	Chattanooga	TN	374081006
6715	515 W 19th St	Chattanooga	TN	374081006
6716				
6717	1847 Grove St	Chattanooga	TN	37408
6718	1847 Grove St	Chattanooga	TN	37408
6719	1847 Grove St	Chattanooga	TN	37408
6720	1847 Grove St	Chattanooga	TN	37408
6721	1847 Grove St	Chattanooga	TN	37408
6722	1847 Grove St	Chattanooga	TN	37408
6723	1847 Grove St	Chattanooga	TN	37408
6724	1847 Grove St	Chattanooga	TN	37408
6725	1847 Grove St	Chattanooga	TN	37408
6726	1847 Grove St	Chattanooga	TN	37408
6727	1847 Grove St	Chattanooga	TN	37408
6728	1847 Grove St	Chattanooga	TN	37408
6729				
6730	1847 Grove St	Chattanooga	TN	37408
6731	1847 Grove St	Chattanooga	TN	37408
6732	1847 Grove St	Chattanooga	TN	37408
6733	1847 Grove St	Chattanooga	TN	37408
6734	1847 Grove St	Chattanooga	TN	37408
6735	1847 Grove St	Chattanooga	TN	37408
6736	1847 Grove St	Chattanooga	TN	37408
6737	1847 Grove St	Chattanooga	TN	37408
6738	1847 Grove St	Chattanooga	TN	37408
6739	1847 Grove St	Chattanooga	TN	37408
6740	1847 Grove St	Chattanooga	TN	37408
6741	1847 Grove St	Chattanooga	TN	37408
6742				
6743	1847 Grove St	Chattanooga	TN	37408
6744	1847 Grove St	Chattanooga	TN	37408
6745	1847 Grove St	Chattanooga	TN	37408
6746	1847 Grove St	Chattanooga	TN	37408
6747	1847 Grove St	Chattanooga	TN	37408
6748	1847 Grove St	Chattanooga	TN	37408
6749	1847 Grove St	Chattanooga	TN	37408

	N	O	P	Q
6700	358.31	1000G	960.08	A3M4
6701	287.25	1000G	797.16	A3M4
6702	769.74	1000G	1674.28	A3M4
6703	509.42	1000G	1228.14	A3M4
6704	347.84	1000G	936.07	A3M4
6705	398.71	1000G	1156.86	A3M4
6706	329.14	1000G	1005.63	A3M4
6707	346.34	1000G	1050.04	A3M4
6708	485.48	1000G	1336.5	A3M4
6709	359.81	1000G	1084.8	A3M4
6710	420.4	1000G	1210.96	A3M4
6711	371.03	1000G	1113.76	A3M4
6712	4983.47		13554.28	
6713	344.1	1000G	1044.25	A3M4
6714	457.8	1000G	1283.11	A3M4
6715	431.62	1000G	1232.6	A3M4
6716	1233.52		3559.96	
6717	12.71	1000G	59.74	A3M4
6718	11.96	1000G	57.12	A3M4
6719	14.21	1000G	65	A3M4
6720	14.21	1000G	65	A3M4
6721	15.7	1000G	70.26	A3M4
6722	14.96	1000G	67.63	A3M4
6723	22.44	1000G	93.91	A3M4
6724	20.19	1000G	86.02	A3M4
6725	12.71	1000G	59.74	A3M4
6726	11.22	1000G	54.49	A3M4
6727	13.46	1000G	62.37	A3M4
6728	18.7	1000G	80.77	A3M4
6729	182.47		822.05	
6730	25.43	1000G	104.42	A3M4
6731	22.44	1000G	93.91	A3M4
6732	15.7	1000G	71.71	A3M4
6733	9.72	1000G	51.14	A3M4
6734	11.96	1000G	59.33	A3M4
6735	8.22	1000G	45.68	A3M4
6736	8.97	1000G	48.41	A3M4
6737	8.97	1000G	48.41	A3M4
6738	9.72	1000G	51.14	A3M4
6739	9.72	1000G	51.14	A3M4
6740	10.47	1000G	53.87	A3M4
6741	11.96	1000G	59.33	A3M4
6742	153.28		738.49	
6743	11.96	1000G	59.33	A3M4
6744	13.46	1000G	64.79	A3M4
6745	16.45	1000G	75.71	A3M4
6746	17.2	1000G	78.44	A3M4
6747	18.7	1000G	83.9	A3M4
6748	17.2	1000G	78.44	A3M4
6749	17.2	1000G	78.44	A3M4

	A	B	C	D	E
6750	2600	2603	26CC	3	8
6751	2600	2603	26CC	3	9
6752	2600	2603	26CC	3	10
6753	2600	2603	26CC	3	11
6754	2600	2603	26CC	3	12
6755					
6756	2600	2603	26CC	3	1
6757	2600	2603	26CC	3	2
6758	2600	2603	26CC	3	3
6759	2600	2603	26CC	3	4
6760	2600	2603	26CC	3	5
6761	2600	2603	26CC	3	6
6762	2600	2603	26CC	3	7
6763	2600	2603	26CC	3	8
6764	2600	2603	26CC	3	9
6765	2600	2603	26CC	3	10
6766	2600	2603	26CC	3	11
6767	2600	2603	26CC	3	12
6768					
6769	2600	2603	26CC	3	1
6770	2600	2603	26CC	3	2
6771	2600	2603	26CC	3	3
6772					
6773	2600	2603	26CC	3	4
6774	2600	2603	26CC	3	5
6775	2600	2603	26CC	3	6
6776	2600	2603	26CC	3	7
6777	2600	2603	26CC	3	8
6778	2600	2603	26CC	3	9
6779	2600	2603	26CC	3	10
6780	2600	2603	26CC	3	11
6781	2600	2603	26CC	3	12
6782					
6783	2600	2603	26CC	3	1
6784	2600	2603	26CC	3	2
6785	2600	2603	26CC	3	3
6786	2600	2603	26CC	3	4
6787	2600	2603	26CC	3	5
6788	2600	2603	26CC	3	6
6789	2600	2603	26CC	3	7
6790	2600	2603	26CC	3	8
6791	2600	2603	26CC	3	9
6792	2600	2603	26CC	3	10
6793	2600	2603	26CC	3	11
6794	2600	2603	26CC	3	12
6795					
6796	2600	2603	26CC	3	1
6797	2600	2603	26CC	3	2
6798	2600	2603	26CC	3	3
6799	2600	2603	26CC	3	4

	F	G	H	I
6750	2006	130184	260011212	Southern Foundry Supply
6751	2006	130184	260011212	Southern Foundry Supply
6752	2006	130184	260011212	Southern Foundry Supply
6753	2006	130184	260011212	Southern Foundry Supply
6754	2006	130184	260011212	Southern Foundry Supply
6755	**2006 Total**			
6756	2007	130184	260011212	Southern Foundry Supply
6757	2007	130184	260011212	Southern Foundry Supply
6758	2007	130184	260011212	Southern Foundry Supply
6759	2007	130184	260011212	Southern Foundry Supply
6760	2007	130184	260011212	Southern Foundry Supply
6761	2007	130184	260011212	Southern Foundry Supply
6762	2007	130184	260011212	Southern Foundry Supply
6763	2007	130184	260011212	Southern Foundry Supply
6764	2007	130184	260011212	Southern Foundry Supply
6765	2007	130184	260011212	Southern Foundry Supply
6766	2007	130184	260011212	Southern Foundry Supply
6767	2007	130184	260011212	Southern Foundry Supply
6768	**2007 Total**			
6769	2008	130184	260011212	Southern Foundry Supply
6770	2008	130184	260011212	Southern Foundry Supply
6771	2008	130184	260011212	Southern Foundry Supply
6772	**2008 Total**			
6773	2004	131246	260011425	PILGRIM'S PRIDE #79532
6774	2004	131246	260011425	PILGRIM'S PRIDE #79532
6775	2004	131246	260011425	PILGRIM'S PRIDE #79532
6776	2004	131246	260011425	PILGRIM'S PRIDE #79532
6777	2004	131246	260011425	PILGRIM'S PRIDE #79532
6778	2004	131246	260011425	PILGRIM'S PRIDE #79532
6779	2004	131246	260011425	PILGRIM'S PRIDE #79532
6780	2004	131246	260011425	PILGRIM'S PRIDE #79532
6781	2004	131246	260011425	PILGRIM'S PRIDE #79532
6782	**2004 Total**			
6783	2005	131246	260011425	PILGRIM'S PRIDE #79532
6784	2005	131246	260011425	PILGRIM'S PRIDE #79532
6785	2005	131246	260011425	PILGRIM'S PRIDE #79532
6786	2005	131246	260011425	PILGRIM'S PRIDE #79532
6787	2005	131246	260011425	PILGRIM'S PRIDE #79532
6788	2005	131246	260011425	PILGRIM'S PRIDE #79532
6789	2005	131246	260011425	PILGRIM'S PRIDE #79532
6790	2005	131246	260011425	PILGRIM'S PRIDE #79532
6791	2005	131246	260011425	PILGRIM'S PRIDE #79532
6792	2005	131246	260011425	PILGRIM'S PRIDE #79532
6793	2005	131246	260011425	PILGRIM'S PRIDE #79532
6794	2005	131246	260011425	PILGRIM'S PRIDE #79532
6795	**2005 Total**			
6796	2006	131246	260011425	PILGRIM'S PRIDE #79532
6797	2006	131246	260011425	PILGRIM'S PRIDE #79532
6798	2006	131246	260011425	PILGRIM'S PRIDE #79532
6799	2006	131246	260011425	PILGRIM'S PRIDE #79532

	J	K	L	M
6750	1847 Grove St	Chattanooga	TN	37408
6751	1847 Grove St	Chattanooga	TN	37408
6752	1847 Grove St	Chattanooga	TN	37408
6753	1847 Grove St	Chattanooga	TN	37408
6754	1847 Grove St	Chattanooga	TN	37408
6755				
6756	1847 Grove St	Chattanooga	TN	37408
6757	1847 Grove St	Chattanooga	TN	37408
6758	1847 Grove St	Chattanooga	TN	37408
6759	1847 Grove St	Chattanooga	TN	37408
6760	1847 Grove St	Chattanooga	TN	37408
6761	1847 Grove St	Chattanooga	TN	37408
6762	1847 Grove St	Chattanooga	TN	37408
6763	1847 Grove St	Chattanooga	TN	37408
6764	1847 Grove St	Chattanooga	TN	37408
6765	1847 Grove St	Chattanooga	TN	37408
6766	1847 Grove St	Chattanooga	TN	37408
6767	1847 Grove St	Chattanooga	TN	37408
6768				
6769	1847 Grove St	Chattanooga	TN	37408
6770	1847 Grove St	Chattanooga	TN	37408
6771	1847 Grove St	Chattanooga	TN	37408
6772				
6773	1505 Broad St	Chattanooga	TN	374081110
6774	1505 Broad St	Chattanooga	TN	374081110
6775	1505 Broad St	Chattanooga	TN	374081110
6776	1505 Broad St	Chattanooga	TN	374081110
6777	1505 Broad St	Chattanooga	TN	374081110
6778	1505 Broad St	Chattanooga	TN	374081110
6779	1505 Broad St	Chattanooga	TN	374081110
6780	1505 Broad St	Chattanooga	TN	374081110
6781	1505 Broad St	Chattanooga	TN	374081110
6782				
6783	1505 Broad St	Chattanooga	TN	374081110
6784	1505 Broad St	Chattanooga	TN	374081110
6785	1505 Broad St	Chattanooga	TN	374081110
6786	1505 Broad St	Chattanooga	TN	374081110
6787	1505 Broad St	Chattanooga	TN	374081110
6788	1505 Broad St	Chattanooga	TN	374081110
6789	1505 Broad St	Chattanooga	TN	374081110
6790	1505 Broad St	Chattanooga	TN	374081110
6791	1505 Broad St	Chattanooga	TN	374081110
6792	1505 Broad St	Chattanooga	TN	374081110
6793	1505 Broad St	Chattanooga	TN	374081110
6794	1505 Broad St	Chattanooga	TN	374081110
6795				
6796	1505 Broad St	Chattanooga	TN	374081110
6797	1505 Broad St	Chattanooga	TN	374081110
6798	1505 Broad St	Chattanooga	TN	374081110
6799	1505 Broad St	Chattanooga	TN	374081110

	N	O	P	Q
6750	18.7	1000G	83.9	A3M4
6751	10.47	1000G	53.87	A3M4
6752	8.97	1000G	48.41	A3M4
6753	12.71	1000G	62.06	A3M4
6754	10.47	1000G	53.87	A3M4
6755	173.49		821.16	
6756	9.72	1000G	51.14	A3M4
6757	12.71	1000G	62.06	A3M4
6758	12.71	1000G	62.06	A3M4
6759	11.22	1000G	56.6	A3M4
6760	11.22	1000G	56.6	A3M4
6761	11.96	1000G	66.07	A3M4
6762	8.97	1000G	54.5	A3M4
6763	8.97	1000G	54.5	A3M4
6764	10.47	1000G	60.65	A3M4
6765	11.22	1000G	63.72	A3M4
6766	10.47	1000G	60.65	A3M4
6767	20.19	1000G	100.6	A3M4
6768	139.83		749.15	
6769	26.18	1000G	125.18	A3M4
6770	13.46	1000G	72.94	A3M4
6771	9.72	1000G	57.58	A3M4
6772	49.36		255.7	
6773	17.95	1000G	132.99	A3M4
6774	17.2	1000G	130.36	A3M4
6775	29.17	1000G	172.41	A3M4
6776	16.45	1000G	127.73	A3M4
6777	17.2	1000G	130.36	A3M4
6778	15.7	1000G	125.11	A3M4
6779	11.22	1000G	109.34	A3M4
6780	17.2	1000G	130.36	A3M4
6781	11.96	1000G	111.97	A3M4
6782	154.05		1170.63	
6783	13.46	1000G	117.22	A3M4
6784	11.22	1000G	109.34	A3M4
6785	11.96	1000G	114.14	A3M4
6786	18.7	1000G	140.87	A3M4
6787	40.39	1000G	220.04	A3M4
6788	17.95	1000G	138.14	A3M4
6789	17.2	1000G	135.41	A3M4
6790	24.68	1000G	162.71	A3M4
6791	17.2	1000G	145.1	A3M4
6792	20.19	1000G	146.33	A3M4
6793	10.47	1000G	110.84	A3M4
6794	15.7	1000G	129.95	A3M4
6795	219.12		1670.09	
6796	16.45	1000G	132.68	A3M4
6797	17.2	1000G	135.41	A3M4
6798	17.95	1000G	138.14	A3M4
6799	17.2	1000G	135.41	A3M4

	A	B	C	D	E
6800	2600	2603	26CC	3	5
6801	2600	2603	26CC	3	6
6802	2600	2603	26CC	3	7
6803	2600	2603	26CC	3	8
6804	2600	2603	26CC	3	9
6805	2600	2603	26CC	3	10
6806	2600	2603	26CC	3	11
6807	2600	2603	26CC	3	12
6808					
6809	2600	2603	26CC	3	1
6810	2600	2603	26CC	3	2
6811	2600	2603	26CC	3	3
6812	2600	2603	26CC	3	4
6813	2600	2603	26CC	3	5
6814	2600	2603	26CC	3	6
6815	2600	2603	26CC	3	7
6816	2600	2603	26CC	3	8
6817	2600	2603	26CC	3	9
6818	2600	2603	26CC	3	10
6819	2600	2603	26CC	3	11
6820	2600	2603	26CC	3	12
6821					
6822	2600	2603	26CC	3	1
6823	2600	2603	26CC	3	2
6824	2600	2603	26CC	3	3
6825					
6826	2600	2603	26CC	3	1
6827	2600	2603	26CC	3	2
6828	2600	2603	26CC	3	3
6829	2600	2603	26CC	3	4
6830	2600	2603	26CC	3	5
6831	2600	2603	26CC	3	6
6832	2600	2603	26CC	3	7
6833	2600	2603	26CC	3	8
6834	2600	2603	26CC	3	9
6835	2600	2603	26CC	3	10
6836	2600	2603	26CC	3	11
6837	2600	2603	26CC	3	12
6838					
6839	2600	2603	26CC	3	1
6840	2600	2603	26CC	3	2
6841	2600	2603	26CC	3	3
6842	2600	2603	26CC	3	4
6843	2600	2603	26CC	3	5
6844	2600	2603	26CC	3	5
6845	2600	2603	26CC	3	6
6846	2600	2603	26CC	3	7
6847	2600	2603	26CC	3	8
6848	2600	2603	26CC	3	9
6849	2600	2603	26CC	3	10

	F	G	H	I
6800	2006	131246	260011425	PILGRIM'S PRIDE #79532
6801	2006	131246	260011425	PILGRIM'S PRIDE #79532
6802	2006	131246	260011425	PILGRIM'S PRIDE #79532
6803	2006	131246	260011425	PILGRIM'S PRIDE #79532
6804	2006	131246	260011425	PILGRIM'S PRIDE #79532
6805	2006	131246	260011425	PILGRIM'S PRIDE #79532
6806	2006	131246	260011425	PILGRIM'S PRIDE #79532
6807	2006	131246	260011425	PILGRIM'S PRIDE #79532
6808	**2006 Total**			
6809	2007	131246	260011425	PILGRIM'S PRIDE #79532
6810	2007	131246	260011425	PILGRIM'S PRIDE #79532
6811	2007	131246	260011425	PILGRIM'S PRIDE #79532
6812	2007	131246	260011425	PILGRIM'S PRIDE #79532
6813	2007	131246	260011425	PILGRIM'S PRIDE #79532
6814	2007	131246	260011425	PILGRIM'S PRIDE #79532
6815	2007	131246	260011425	PILGRIM'S PRIDE #79532
6816	2007	131246	260011425	PILGRIM'S PRIDE #79532
6817	2007	131246	260011425	PILGRIM'S PRIDE #79532
6818	2007	131246	260011425	PILGRIM'S PRIDE #79532
6819	2007	131246	260011425	PILGRIM'S PRIDE #79532
6820	2007	131246	260011425	PILGRIM'S PRIDE #79532
6821	**2007 Total**			
6822	2008	131246	260011425	PILGRIM'S PRIDE #79532
6823	2008	131246	260011425	PILGRIM'S PRIDE #79532
6824	2008	131246	260011425	PILGRIM'S PRIDE #79532
6825	**2008 Total**			
6826	2004	131250	260025803	Pilgrim's Pride
6827	2004	131250	260025803	Pilgrim's Pride
6828	2004	131250	260025803	Pilgrim's Pride
6829	2004	131250	260025803	Pilgrim's Pride
6830	2004	131250	260025803	Pilgrim's Pride
6831	2004	131250	260025803	Pilgrim's Pride
6832	2004	131250	260025803	Pilgrim's Pride
6833	2004	131250	260025803	Pilgrim's Pride
6834	2004	131250	260025803	Pilgrim's Pride
6835	2004	131250	260025803	Pilgrim's Pride
6836	2004	131250	260025803	Pilgrim's Pride
6837	2004	131250	260025803	Pilgrim's Pride
6838	**2004 Total**			
6839	2005	131250	260025803	Pilgrim's Pride
6840	2005	131250	260025803	Pilgrim's Pride
6841	2005	131250	260025803	Pilgrim's Pride
6842	2005	131250	260025803	Pilgrim's Pride
6843	2005	131250	260025803	Pilgrim's Pride
6844	2005	131250	260025803	Pilgrim's Pride
6845	2005	131250	260025803	Pilgrim's Pride
6846	2005	131250	260025803	Pilgrim's Pride
6847	2005	131250	260025803	Pilgrim's Pride
6848	2005	131250	260025803	Pilgrim's Pride
6849	2005	131250	260025803	Pilgrim's Pride

	J	K	L	M
6800	1505 Broad St	Chattanooga	TN	374081110
6801	1505 Broad St	Chattanooga	TN	374081110
6802	1505 Broad St	Chattanooga	TN	374081110
6803	1505 Broad St	Chattanooga	TN	374081110
6804	1505 Broad St	Chattanooga	TN	374081110
6805	1505 Broad St	Chattanooga	TN	374081110
6806	1505 Broad St	Chattanooga	TN	374081110
6807	1505 Broad St	Chattanooga	TN	374081110
6808				
6809	1505 Broad St	Chattanooga	TN	374081110
6810	1505 Broad St	Chattanooga	TN	374081110
6811	1505 Broad St	Chattanooga	TN	374081110
6812	1505 Broad St	Chattanooga	TN	374081110
6813	1505 Broad St	Chattanooga	TN	374081110
6814	1505 Broad St	Chattanooga	TN	374081110
6815	1505 Broad St	Chattanooga	TN	374081110
6816	1505 Broad St	Chattanooga	TN	374081110
6817	1505 Broad St	Chattanooga	TN	374081110
6818	1505 Broad St	Chattanooga	TN	374081110
6819	1505 Broad St	Chattanooga	TN	374081110
6820	1505 Broad St	Chattanooga	TN	374081110
6821				
6822	1505 Broad St	Chattanooga	TN	374081110
6823	1505 Broad St	Chattanooga	TN	374081110
6824	1505 Broad St	Chattanooga	TN	374081110
6825				
6826	1300 Market St	Chattanooga	TN	374024401
6827	1300 Market St	Chattanooga	TN	374024401
6828	1300 Market St	Chattanooga	TN	374024401
6829	1300 Market St	Chattanooga	TN	374024401
6830	1300 Market St	Chattanooga	TN	374024401
6831	1300 Market St	Chattanooga	TN	374024401
6832	1300 Market St	Chattanooga	TN	374024401
6833	1300 Market St	Chattanooga	TN	374024401
6834	1300 Market St	Chattanooga	TN	374024401
6835	1300 Market St	Chattanooga	TN	374024401
6836	1300 Market St	Chattanooga	TN	374024401
6837	1300 Market St	Chattanooga	TN	374024401
6838				
6839	1300 Market St	Chattanooga	TN	374024401
6840	1300 Market St	Chattanooga	TN	374024401
6841	1300 Market St	Chattanooga	TN	374024401
6842	1300 Market St	Chattanooga	TN	374024401
6843	1300 Market St	Chattanooga	TN	374024401
6844	1300 Market St	Chattanooga	TN	374024401
6845	1300 Market St	Chattanooga	TN	374024401
6846	1300 Market St	Chattanooga	TN	374024401
6847	1300 Market St	Chattanooga	TN	374024401
6848	1300 Market St	Chattanooga	TN	374024401
6849	1300 Market St	Chattanooga	TN	374024401

	N	O	P	Q
6800	14.21	1000G	124.49	A3M4
6801	19.44	1000G	143.6	A3M4
6802	26.92	1000G	170.9	A3M4
6803	29.17	1000G	179.09	A3M4
6804	14.96	1000G	127.22	A3M4
6805	26.17	1000G	168.17	A3M4
6806	39.64	1000G	217.31	A3M4
6807	35.9	1000G	203.66	A3M4
6808	275.21		1876.08	
6809	16.45	1000G	132.68	A3M4
6810	10.47	1000G	110.84	A3M4
6811	10.47	1000G	110.84	A3M4
6812	21.69	1000G	151.79	A3M4
6813	21.69	1000G	151.79	A3M4
6814	25.43	1000G	183.65	A3M4
6815	27.67	1000G	195.46	A3M4
6816	22.44	1000G	173.95	A3M4
6817	32.91	1000G	216.97	A3M4
6818	29.17	1000G	201.61	A3M4
6819	11.96	1000G	130.93	A3M4
6820	9.72	1000G	121.71	A3M4
6821	240.07		1882.22	
6822	8.22	1000G	115.56	A3M4
6823	7.48	1000G	112.49	A3M4
6824	5.23	1000G	103.27	A3M4
6825	20.93		331.32	
6826	1154.24	1000G	2245.99	A3M4
6827	1483.38	1000G	2788.95	A3M4
6828	1458.7	1000G	2748.23	A3M4
6829	1537.99	1000G	2879.03	A3M4
6830	1300.11	1000G	2486.62	A3M4
6831	1899.3	1000G	3475.06	A3M4
6832	1600.08	1000G	2981.46	A3M4
6833	1306.84	1000G	2497.73	A3M4
6834	1627.76	1000G	3027.11	A3M4
6835	1255.97	1000G	2413.82	A3M4
6836	1218.57	1000G	2352.12	A3M4
6837	1303.85	1000G	2492.79	A3M4
6838	17146.79		32388.91	
6839	1280.66	1000G	2454.54	A3M4
6840	1192.39	1000G	2308.93	A3M4
6841	1177.43	1000G	2331.77	A3M4
6842	112.2	1000G	395.85	A3M4
6843	1031.56	1000G	2040.12	A3M4
6844	1641.97	1000G	2772.8	A3M4
6845	1300.11	1000G	2583.22	A3M4
6846	1164.7	1000G	2351.17	A3M4
6847	1796.82	1000G	3434.46	A3M4
6848	1700.32	1000G	3269.09	A3M4
6849	1751.93	1000G	3357.54	A3M4

	A	B	C	D	E
6850	2600	2603	26CC	3	11
6851	2600	2603	26CC	3	12
6852					
6853	2600	2603	26CC	3	1
6854	2600	2603	26CC	3	2
6855	2600	2603	26CC	3	3
6856	2600	2603	26CC	3	4
6857	2600	2603	26CC	3	5
6858	2600	2603	26CC	3	6
6859	2600	2603	26CC	3	7
6860	2600	2603	26CC	3	8
6861	2600	2603	26CC	3	9
6862	2600	2603	26CC	3	10
6863	2600	2603	26CC	3	11
6864	2600	2603	26CC	3	12
6865					
6866	2600	2603	26CC	3	1
6867	2600	2603	26CC	3	2
6868	2600	2603	26CC	3	3
6869	2600	2603	26CC	3	4
6870	2600	2603	26CC	3	5
6871	2600	2603	26CC	3	6
6872	2600	2603	26CC	3	7
6873	2600	2603	26CC	3	8
6874	2600	2603	26CC	3	9
6875	2600	2603	26CC	3	10
6876	2600	2603	26CC	3	11
6877	2600	2603	26CC	3	12
6878					
6879	2600	2603	26CC	3	1
6880	2600	2603	26CC	3	2
6881	2600	2603	26CC	3	3
6882					
6883	2600	2607	26HC	3	5
6884	2600	2607	26HC	3	6
6885	2600	2607	26HC	3	7
6886	2600	2607	26HC	3	7
6887	2600	2607	26HC	3	8
6888	2600	2607	26HC	3	9
6889	2600	2607	26HC	3	10
6890	2600	2607	26HC	3	11
6891	2600	2607	26HC	3	12
6892					
6893	2600	2607	26HC	3	1
6894	2600	2607	26HC	3	2
6895	2600	2607	26HC	3	3
6896					
6897	2600	2603	26CC	3	1
6898	2600	2603	26CC	3	2
6899	2600	2603	26CC	3	3

	F	G	H	I
6850	2005	131250	260025803	Pilgrim's Pride
6851	2005	131250	260025803	Pilgrim's Pride
6852	**2005 Total**			
6853	2006	131250	260025803	Pilgrim's Pride
6854	2006	131250	260025803	Pilgrim's Pride
6855	2006	131250	260025803	Pilgrim's Pride
6856	2006	131250	260025803	Pilgrim's Pride
6857	2006	131250	260025803	Pilgrim's Pride
6858	2006	131250	260025803	Pilgrim's Pride
6859	2006	131250	260025803	Pilgrim's Pride
6860	2006	131250	260025803	Pilgrim's Pride
6861	2006	131250	260025803	Pilgrim's Pride
6862	2006	131250	260025803	Pilgrim's Pride
6863	2006	131250	260025803	Pilgrim's Pride
6864	2006	131250	260025803	Pilgrim's Pride
6865	**2006 Total**			
6866	2007	131250	260025803	Pilgrim's Pride
6867	2007	131250	260025803	Pilgrim's Pride
6868	2007	131250	260025803	Pilgrim's Pride
6869	2007	131250	260025803	Pilgrim's Pride
6870	2007	131250	260025803	Pilgrim's Pride
6871	2007	131250	260025803	Pilgrim's Pride
6872	2007	131250	260025803	Pilgrim's Pride
6873	2007	131250	260025803	Pilgrim's Pride
6874	2007	131250	260025803	Pilgrim's Pride
6875	2007	131250	260025803	Pilgrim's Pride
6876	2007	131250	260025803	Pilgrim's Pride
6877	2007	131250	260025803	Pilgrim's Pride
6878	**2007 Total**			
6879	2008	131250	260025803	Pilgrim's Pride
6880	2008	131250	260025803	Pilgrim's Pride
6881	2008	131250	260025803	Pilgrim's Pride
6882	**2008 Total**			
6883	2007	131251	260070932	Pilgrim's Pride
6884	2007	131251	260070932	Pilgrim's Pride
6885	2007	131251	260070932	Pilgrim's Pride
6886	2007	131251	260070932	Pilgrim's Pride
6887	2007	131251	260070932	Pilgrim's Pride
6888	2007	131251	260070932	Pilgrim's Pride
6889	2007	131251	260070932	Pilgrim's Pride
6890	2007	131251	260070932	Pilgrim's Pride
6891	2007	131251	260070932	Pilgrim's Pride
6892	**2007 Total**			
6893	2008	131251	260070932	Pilgrim's Pride
6894	2008	131251	260070932	Pilgrim's Pride
6895	2008	131251	260070932	Pilgrim's Pride
6896	**2008 Total**			
6897	2004	131252	260025804	Pilgrim's Pride
6898	2004	131252	260025804	Pilgrim's Pride
6899	2004	131252	260025804	Pilgrim's Pride

	J	K	L	M
6850	1300 Market St	Chattanooga	TN	374024401
6851	1300 Market St	Chattanooga	TN	374024401
6852				
6853	1300 Market St	Chattanooga	TN	374024401
6854	1300 Market St	Chattanooga	TN	374024401
6855	1300 Market St	Chattanooga	TN	374024401
6856	1300 Market St	Chattanooga	TN	374024401
6857	1300 Market St	Chattanooga	TN	374024401
6858	1300 Market St	Chattanooga	TN	374024401
6859	1300 Market St	Chattanooga	TN	374024401
6860	1300 Market St	Chattanooga	TN	374024401
6861	1300 Market St	Chattanooga	TN	374024401
6862	1300 Market St	Chattanooga	TN	374024401
6863	1300 Market St	Chattanooga	TN	374024401
6864	1300 Market St	Chattanooga	TN	374024401
6865				
6866	1300 Market St	Chattanooga	TN	374024401
6867	1300 Market St	Chattanooga	TN	374024401
6868	1300 Market St	Chattanooga	TN	374024401
6869	1300 Market St	Chattanooga	TN	374024401
6870	1300 Market St	Chattanooga	TN	374024401
6871	1300 Market St	Chattanooga	TN	374024401
6872	1300 Market St	Chattanooga	TN	374024401
6873	1300 Market St	Chattanooga	TN	374024401
6874	1300 Market St	Chattanooga	TN	374024401
6875	1300 Market St	Chattanooga	TN	374024401
6876	1300 Market St	Chattanooga	TN	374024401
6877	1300 Market St	Chattanooga	TN	374024401
6878				
6879	1300 Market St	Chattanooga	TN	374024401
6880	1300 Market St	Chattanooga	TN	374024401
6881	1300 Market St	Chattanooga	TN	374024401
6882				
6883	950 WAUHATCHIE Pike	Chattanooga	TN	374192432
6884	950 WAUHATCHIE Pike	Chattanooga	TN	374192432
6885	950 WAUHATCHIE Pike	Chattanooga	TN	374192432
6886	950 WAUHATCHIE Pike	Chattanooga	TN	374192432
6887	950 WAUHATCHIE Pike	Chattanooga	TN	374192432
6888	950 WAUHATCHIE Pike	Chattanooga	TN	374192432
6889	950 WAUHATCHIE Pike	Chattanooga	TN	374192432
6890	950 WAUHATCHIE Pike	Chattanooga	TN	374192432
6891	950 WAUHATCHIE Pike	Chattanooga	TN	374192432
6892				
6893	950 WAUHATCHIE Pike	Chattanooga	TN	374192432
6894	950 WAUHATCHIE Pike	Chattanooga	TN	374192432
6895	950 WAUHATCHIE Pike	Chattanooga	TN	374192432
6896				
6897	1300 Market St	Chattanooga	TN	374024401
6898	1300 Market St	Chattanooga	TN	374024401
6899	1300 Market St	Chattanooga	TN	374024401

	N	O	P	Q
6850	1766.89	1000G	3383.18	A3M4
6851	1669.65	1000G	3216.52	A3M4
6852	17586.63		33899.19	
6853	1673.39	1000G	3222.93	A3M4
6854	1647.95	1000G	3179.35	A3M4
6855	1937.45	1000G	3675.48	A3M4
6856	2016.74	1000G	3811.37	A3M4
6857	1647.21	1000G	3178.06	A3M4
6858	1788.59	1000G	3420.36	A3M4
6859	1968.87	1000G	3729.32	A3M4
6860	2200.76	1000G	4126.74	A3M4
6861	2381.79	1000G	4436.99	A3M4
6862	2202.26	1000G	4129.31	A3M4
6863	2401.99	1000G	4471.6	A3M4
6864	1896.31	1000G	3604.97	A3M4
6865	23763.31		44986.48	
6866	2105.76	1000G	3963.93	A3M4
6867	2094.54	1000G	3944.7	A3M4
6868	2103.52	1000G	3960.08	A3M4
6869	2258.36	1000G	4225.46	A3M4
6870	2187.3	1000G	4103.67	A3M4
6871	2295.02	1000G	4776.61	A3M4
6872	2067.61	1000G	4388.44	A3M4
6873	2149.15	1000G	4545.73	A3M4
6874	2301	1000G	4838.66	A3M4
6875	2226.2	1000G	4694.36	A3M4
6876	2072.85	1000G	4398.54	A3M4
6877	2102.77	1000G	4456.26	A3M4
6878	25964.08		52296.44	
6879	2132.69	1000G	4513.98	A3M4
6880	2119.23	1000G	4488.01	A3M4
6881	2253.88	1000G	4747.75	A3M4
6882	6505.8		13749.74	
6883	439.1	1000G	1107.63	A3M4
6884	0	1000G	93.27	A3M4
6885	537.84	1000G	1437.51	A3M4
6886	900.64	1000G	1980.02	CRSM3
6887	510.91	1000G	1385.56	A3M4
6888	629.85	1000G	1615	A3M4
6889	653.04	1000G	1659.73	A3M4
6890	672.49	1000G	1697.25	A3M4
6891	724.11	1000G	1796.81	A3M4
6892	5067.98		12772.78	
6893	754.03	1000G	1854.53	A3M4
6894	786.95	1000G	1918.03	A3M4
6895	655.29	1000G	1664.06	A3M4
6896	2196.27		5436.62	
6897	1120.58	1000G	2190.46	A3M4
6898	1456.45	1000G	2744.53	A3M4
6899	1431.77	1000G	2703.81	A3M4

	A	B	C	D	E
6900	2600	2603	26CC	3	4
6901	2600	2603	26CC	3	5
6902	2600	2603	26CC	3	6
6903	2600	2603	26CC	3	7
6904	2600	2603	26CC	3	8
6905	2600	2603	26CC	3	9
6906	2600	2603	26CC	3	10
6907	2600	2603	26CC	3	11
6908	2600	2603	26CC	3	12
6909					
6910	2600	2603	26CC	3	1
6911	2600	2603	26CC	3	2
6912	2600	2603	26CC	3	3
6913	2600	2603	26CC	3	4
6914	2600	2603	26CC	3	5
6915	2600	2603	26CC	3	6
6916	2600	2603	26CC	3	7
6917	2600	2603	26CC	3	8
6918	2600	2603	26CC	3	9
6919	2600	2603	26CC	3	10
6920	2600	2603	26CC	3	11
6921	2600	2603	26CC	3	12
6922					
6923	2600	2603	26CC	3	1
6924	2600	2603	26CC	3	2
6925	2600	2603	26CC	3	3
6926	2600	2603	26CC	3	4
6927	2600	2603	26CC	3	5
6928	2600	2603	26CC	3	6
6929	2600	2603	26CC	3	7
6930	2600	2603	26CC	3	8
6931	2600	2603	26CC	3	9
6932	2600	2603	26CC	3	10
6933	2600	2603	26CC	3	11
6934	2600	2603	26CC	3	12
6935					
6936	2600	2603	26CC	3	1
6937	2600	2603	26CC	3	2
6938	2600	2603	26CC	3	3
6939	2600	2603	26CC	3	4
6940	2600	2603	26CC	3	5
6941	2600	2603	26CC	3	6
6942	2600	2603	26CC	3	7
6943	2600	2603	26CC	3	8
6944	2600	2603	26CC	3	9
6945	2600	2603	26CC	3	10
6946	2600	2603	26CC	3	11
6947	2600	2603	26CC	3	12
6948					
6949	2600	2603	26CC	3	1

	F	G	H	I
6900	2004	131252	260025804	Pilgrim's Pride
6901	2004	131252	260025804	Pilgrim's Pride
6902	2004	131252	260025804	Pilgrim's Pride
6903	2004	131252	260025804	Pilgrim's Pride
6904	2004	131252	260025804	Pilgrim's Pride
6905	2004	131252	260025804	Pilgrim's Pride
6906	2004	131252	260025804	Pilgrim's Pride
6907	2004	131252	260025804	Pilgrim's Pride
6908	2004	131252	260025804	Pilgrim's Pride
6909	**2004 Total**			
6910	2005	131252	260025804	Pilgrim's Pride
6911	2005	131252	260025804	Pilgrim's Pride
6912	2005	131252	260025804	Pilgrim's Pride
6913	2005	131252	260025804	Pilgrim's Pride
6914	2005	131252	260025804	Pilgrim's Pride
6915	2005	131252	260025804	Pilgrim's Pride
6916	2005	131252	260025804	Pilgrim's Pride
6917	2005	131252	260025804	Pilgrim's Pride
6918	2005	131252	260025804	Pilgrim's Pride
6919	2005	131252	260025804	Pilgrim's Pride
6920	2005	131252	260025804	Pilgrim's Pride
6921	2005	131252	260025804	Pilgrim's Pride
6922	**2005 Total**			
6923	2006	131252	260025804	Pilgrim's Pride
6924	2006	131252	260025804	Pilgrim's Pride
6925	2006	131252	260025804	Pilgrim's Pride
6926	2006	131252	260025804	Pilgrim's Pride
6927	2006	131252	260025804	Pilgrim's Pride
6928	2006	131252	260025804	Pilgrim's Pride
6929	2006	131252	260025804	Pilgrim's Pride
6930	2006	131252	260025804	Pilgrim's Pride
6931	2006	131252	260025804	Pilgrim's Pride
6932	2006	131252	260025804	Pilgrim's Pride
6933	2006	131252	260025804	Pilgrim's Pride
6934	2006	131252	260025804	Pilgrim's Pride
6935	**2006 Total**			
6936	2007	131252	260025804	Pilgrim's Pride
6937	2007	131252	260025804	Pilgrim's Pride
6938	2007	131252	260025804	Pilgrim's Pride
6939	2007	131252	260025804	Pilgrim's Pride
6940	2007	131252	260025804	Pilgrim's Pride
6941	2007	131252	260025804	Pilgrim's Pride
6942	2007	131252	260025804	Pilgrim's Pride
6943	2007	131252	260025804	Pilgrim's Pride
6944	2007	131252	260025804	Pilgrim's Pride
6945	2007	131252	260025804	Pilgrim's Pride
6946	2007	131252	260025804	Pilgrim's Pride
6947	2007	131252	260025804	Pilgrim's Pride
6948	**2007 Total**			
6949	2008	131252	260025804	Pilgrim's Pride

	J	K	L	M
6900	1300 Market St	Chattanooga	TN	374024401
6901	1300 Market St	Chattanooga	TN	374024401
6902	1300 Market St	Chattanooga	TN	374024401
6903	1300 Market St	Chattanooga	TN	374024401
6904	1300 Market St	Chattanooga	TN	374024401
6905	1300 Market St	Chattanooga	TN	374024401
6906	1300 Market St	Chattanooga	TN	374024401
6907	1300 Market St	Chattanooga	TN	374024401
6908	1300 Market St	Chattanooga	TN	374024401
6909				
6910	1300 Market St	Chattanooga	TN	374024401
6911	1300 Market St	Chattanooga	TN	374024401
6912	1300 Market St	Chattanooga	TN	374024401
6913	1300 Market St	Chattanooga	TN	374024401
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6915	1300 Market St	Chattanooga	TN	374024401
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6917	1300 Market St	Chattanooga	TN	374024401
6918	1300 Market St	Chattanooga	TN	374024401
6919	1300 Market St	Chattanooga	TN	374024401
6920	1300 Market St	Chattanooga	TN	374024401
6921	1300 Market St	Chattanooga	TN	374024401
6922				
6923	1300 Market St	Chattanooga	TN	374024401
6924	1300 Market St	Chattanooga	TN	374024401
6925	1300 Market St	Chattanooga	TN	374024401
6926	1300 Market St	Chattanooga	TN	374024401
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6928	1300 Market St	Chattanooga	TN	374024401
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6931	1300 Market St	Chattanooga	TN	374024401
6932	1300 Market St	Chattanooga	TN	374024401
6933	1300 Market St	Chattanooga	TN	374024401
6934	1300 Market St	Chattanooga	TN	374024401
6935				
6936	1300 Market St	Chattanooga	TN	374024401
6937	1300 Market St	Chattanooga	TN	374024401
6938	1300 Market St	Chattanooga	TN	374024401
6939	1300 Market St	Chattanooga	TN	374024401
6940	1300 Market St	Chattanooga	TN	374024401
6941	1300 Market St	Chattanooga	TN	374024401
6942	1300 Market St	Chattanooga	TN	374024401
6943	1300 Market St	Chattanooga	TN	374024401
6944	1300 Market St	Chattanooga	TN	374024401
6945	1300 Market St	Chattanooga	TN	374024401
6946	1300 Market St	Chattanooga	TN	374024401
6947	1300 Market St	Chattanooga	TN	374024401
6948				
6949	1300 Market St	Chattanooga	TN	374024401

	N	O	P	Q
6900	1509.56	1000G	2832.14	A3M4
6901	1267.2	1000G	2432.33	A3M4
6902	1864.89	1000G	3418.29	A3M4
6903	1558.94	1000G	2913.59	A3M4
6904	1270.19	1000G	2437.26	A3M4
6905	1610.55	1000G	2998.73	A3M4
6906	1207.35	1000G	2333.61	A3M4
6907	1186.41	1000G	2299.05	A3M4
6908	1276.17	1000G	2447.13	A3M4
6909	16760.06		31750.93	
6910	1247.75	1000G	2400.24	A3M4
6911	1160.22	1000G	2255.86	A3M4
6912	1152.74	1000G	2290.21	A3M4
6913	1284.4	1000G	2556.29	A3M4
6914	1424.29	1000G	2796.03	A3M4
6915	1398.85	1000G	2752.44	A3M4
6916	1877.6	1000G	3572.92	A3M4
6917	1789.34	1000G	3421.64	A3M4
6918	1689.1	1000G	3249.86	A3M4
6919	1747.44	1000G	3349.85	A3M4
6920	1756.42	1000G	3365.24	A3M4
6921	1658.43	1000G	3197.29	A3M4
6922	18186.58		35207.87	
6923	1659.92	1000G	3199.86	A3M4
6924	1640.47	1000G	3166.53	A3M4
6925	1932.96	1000G	3667.79	A3M4
6926	2010.76	1000G	3801.12	A3M4
6927	1638.23	1000G	3162.68	A3M4
6928	1779.61	1000G	3404.98	A3M4
6929	1962.14	1000G	3717.79	A3M4
6930	2204.5	1000G	4133.15	A3M4
6931	2390.77	1000G	4452.37	A3M4
6932	2208.99	1000G	4140.85	A3M4
6933	2407.97	1000G	4481.86	A3M4
6934	1899.3	1000G	3610.1	A3M4
6935	23735.62		44939.08	
6936	2106.51	1000G	3965.21	A3M4
6937	2096.78	1000G	3948.55	A3M4
6938	2105.76	1000G	3963.93	A3M4
6939	2263.6	1000G	4234.43	A3M4
6940	2192.54	1000G	4112.64	A3M4
6941	2300.25	1000G	4786.59	A3M4
6942	2070.6	1000G	4394.21	A3M4
6943	2153.64	1000G	4554.39	A3M4
6944	2304.74	1000G	4845.87	A3M4
6945	2229.19	1000G	4700.13	A3M4
6946	2075.09	1000G	4402.87	A3M4
6947	2105.76	1000G	4462.04	A3M4
6948	26004.46		52370.86	
6949	2133.44	1000G	4515.43	A3M4

	A	B	C	D	E
6950	2600	2603	26CC	3	2
6951	2600	2603	26CC	3	3
6952					
6953	2600	2603	26CC	3	4
6954	2600	2603	26CC	3	5
6955	2600	2603	26CC	3	6
6956	2600	2603	26CC	3	7
6957	2600	2603	26CC	3	8
6958	2600	2603	26CC	3	9
6959	2600	2603	26CC	3	10
6960	2600	2603	26CC	3	11
6961	2600	2603	26CC	3	12
6962					
6963	2600	2603	26CC	3	1
6964	2600	2603	26CC	3	2
6965	2600	2603	26CC	3	3
6966	2600	2603	26CC	3	4
6967	2600	2603	26CC	3	5
6968	2600	2603	26CC	3	6
6969	2600	2603	26CC	3	7
6970	2600	2603	26CC	3	8
6971	2600	2603	26CC	3	9
6972	2600	2603	26CC	3	10
6973	2600	2603	26CC	3	11
6974	2600	2603	26CC	3	12
6975					
6976	2600	2603	26CC	3	1
6977	2600	2603	26CC	3	2
6978	2600	2603	26CC	3	3
6979	2600	2603	26CC	3	4
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6983	2600	2603	26CC	3	8
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6985	2600	2603	26CC	3	10
6986	2600	2603	26CC	3	11
6987	2600	2603	26CC	3	12
6988					
6989	2600	2603	26CC	3	1
6990	2600	2603	26CC	3	2
6991	2600	2603	26CC	3	3
6992	2600	2603	26CC	3	4
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6997	2600	2603	26CC	3	9
6998	2600	2603	26CC	3	10
6999	2600	2603	26CC	3	11

	F	G	H	I
6950	2008	131252	260025804	Pilgrim's Pride
6951	2008	131252	260025804	Pilgrim's Pride
6952	**2008 Total**			
6953	2004	131255	260026351	Pilgrim's Pride
6954	2004	131255	260026351	Pilgrim's Pride
6955	2004	131255	260026351	Pilgrim's Pride
6956	2004	131255	260026351	Pilgrim's Pride
6957	2004	131255	260026351	Pilgrim's Pride
6958	2004	131255	260026351	Pilgrim's Pride
6959	2004	131255	260026351	Pilgrim's Pride
6960	2004	131255	260026351	Pilgrim's Pride
6961	2004	131255	260026351	Pilgrim's Pride
6962	**2004 Total**			
6963	2005	131255	260026351	Pilgrim's Pride
6964	2005	131255	260026351	Pilgrim's Pride
6965	2005	131255	260026351	Pilgrim's Pride
6966	2005	131255	260026351	Pilgrim's Pride
6967	2005	131255	260026351	Pilgrim's Pride
6968	2005	131255	260026351	Pilgrim's Pride
6969	2005	131255	260026351	Pilgrim's Pride
6970	2005	131255	260026351	Pilgrim's Pride
6971	2005	131255	260026351	Pilgrim's Pride
6972	2005	131255	260026351	Pilgrim's Pride
6973	2005	131255	260026351	Pilgrim's Pride
6974	2005	131255	260026351	Pilgrim's Pride
6975	**2005 Total**			
6976	2006	131255	260026351	Pilgrim's Pride
6977	2006	131255	260026351	Pilgrim's Pride
6978	2006	131255	260026351	Pilgrim's Pride
6979	2006	131255	260026351	Pilgrim's Pride
6980	2006	131255	260026351	Pilgrim's Pride
6981	2006	131255	260026351	Pilgrim's Pride
6982	2006	131255	260026351	Pilgrim's Pride
6983	2006	131255	260026351	Pilgrim's Pride
6984	2006	131255	260026351	Pilgrim's Pride
6985	2006	131255	260026351	Pilgrim's Pride
6986	2006	131255	260026351	Pilgrim's Pride
6987	2006	131255	260026351	Pilgrim's Pride
6988	**2006 Total**			
6989	2007	131255	260026351	Pilgrim's Pride
6990	2007	131255	260026351	Pilgrim's Pride
6991	2007	131255	260026351	Pilgrim's Pride
6992	2007	131255	260026351	Pilgrim's Pride
6993	2007	131255	260026351	Pilgrim's Pride
6994	2007	131255	260026351	Pilgrim's Pride
6995	2007	131255	260026351	Pilgrim's Pride
6996	2007	131255	260026351	Pilgrim's Pride
6997	2007	131255	260026351	Pilgrim's Pride
6998	2007	131255	260026351	Pilgrim's Pride
6999	2007	131255	260026351	Pilgrim's Pride

	J	K	L	M
6950	1300 Market St	Chattanooga	TN	374024401
6951	1300 Market St	Chattanooga	TN	374024401
6952				
6953	1300 Market St	Chattanooga	TN	374024401
6954	1300 Market St	Chattanooga	TN	374024401
6955	1300 Market St	Chattanooga	TN	374024401
6956	1300 Market St	Chattanooga	TN	374024401
6957	1300 Market St	Chattanooga	TN	374024401
6958	1300 Market St	Chattanooga	TN	374024401
6959	1300 Market St	Chattanooga	TN	374024401
6960	1300 Market St	Chattanooga	TN	374024401
6961	1300 Market St	Chattanooga	TN	374024401
6962				
6963	1300 Market St	Chattanooga	TN	374024401
6964	1300 Market St	Chattanooga	TN	374024401
6965	1300 Market St	Chattanooga	TN	374024401
6966	1300 Market St	Chattanooga	TN	374024401
6967	1300 Market St	Chattanooga	TN	374024401
6968	1300 Market St	Chattanooga	TN	374024401
6969	1300 Market St	Chattanooga	TN	374024401
6970	1300 Market St	Chattanooga	TN	374024401
6971	1300 Market St	Chattanooga	TN	374024401
6972	1300 Market St	Chattanooga	TN	374024401
6973	1300 Market St	Chattanooga	TN	374024401
6974	1300 Market St	Chattanooga	TN	374024401
6975				
6976	1300 Market St	Chattanooga	TN	374024401
6977	1300 Market St	Chattanooga	TN	374024401
6978	1300 Market St	Chattanooga	TN	374024401
6979	1300 Market St	Chattanooga	TN	374024401
6980	1300 Market St	Chattanooga	TN	374024401
6981	1300 Market St	Chattanooga	TN	374024401
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6986	1300 Market St	Chattanooga	TN	374024401
6987	1300 Market St	Chattanooga	TN	374024401
6988				
6989	1300 Market St	Chattanooga	TN	374024401
6990	1300 Market St	Chattanooga	TN	374024401
6991	1300 Market St	Chattanooga	TN	374024401
6992	1300 Market St	Chattanooga	TN	374024401
6993	1300 Market St	Chattanooga	TN	374024401
6994	1300 Market St	Chattanooga	TN	374024401
6995	1300 Market St	Chattanooga	TN	374024401
6996	1300 Market St	Chattanooga	TN	374024401
6997	1300 Market St	Chattanooga	TN	374024401
6998	1300 Market St	Chattanooga	TN	374024401
6999	1300 Market St	Chattanooga	TN	374024401

	N	O	P	Q
6950	2122.97	1000G	4495.22	A3M4
6951	2256.87	1000G	4753.52	A3M4
6952	6513.28		13764.17	
6953	449.57	1000G	1028.71	A3M4
6954	472.76	1000G	1066.97	A3M4
6955	451.07	1000G	1031.18	A3M4
6956	498.2	1000G	1108.92	A3M4
6957	453.31	1000G	1034.88	A3M4
6958	458.55	1000G	1043.52	A3M4
6959	466.03	1000G	1055.86	A3M4
6960	434.61	1000G	1004.03	A3M4
6961	427.13	1000G	991.69	A3M4
6962	4111.23		9365.76	
6963	490.72	1000G	1096.58	A3M4
6964	443.59	1000G	1018.84	A3M4
6965	414.42	1000G	990.88	A3M4
6966	443.59	1000G	1058.36	A3M4
6967	475.76	1000G	1113.48	A3M4
6968	459.3	1000G	1085.28	A3M4
6969	492.21	1000G	1141.69	A3M4
6970	434.61	1000G	1042.97	A3M4
6971	491.47	1000G	1140.4	A3M4
6972	421.9	1000G	1021.18	A3M4
6973	436.86	1000G	1046.82	A3M4
6974	430.12	1000G	1035.28	A3M4
6975	5434.55		12791.76	
6976	481.74	1000G	1123.74	A3M4
6977	430.12	1000G	1035.28	A3M4
6978	437.61	1000G	1048.1	A3M4
6979	466.03	1000G	1096.82	A3M4
6980	413.67	1000G	1007.08	A3M4
6981	436.86	1000G	1046.82	A3M4
6982	469.77	1000G	1103.23	A3M4
6983	424.14	1000G	1025.02	A3M4
6984	445.83	1000G	1062.2	A3M4
6985	439.1	1000G	1050.66	A3M4
6986	465.28	1000G	1095.53	A3M4
6987	407.68	1000G	996.82	A3M4
6988	5317.83		12691.3	
6989	448.83	1000G	1067.33	A3M4
6990	452.57	1000G	1073.74	A3M4
6991	425.64	1000G	1027.59	A3M4
6992	453.31	1000G	1075.02	A3M4
6993	428.63	1000G	1032.72	A3M4
6994	472.76	1000G	1234.76	A3M4
6995	443.59	1000G	1191.56	A3M4
6996	427.13	1000G	1159.81	A3M4
6997	473.51	1000G	1249.28	A3M4
6998	428.63	1000G	1162.7	A3M4
6999	442.09	1000G	1188.67	A3M4

	A	B	C	D	E
7000	2600	2603	26CC	3	12
7001					
7002	2600	2603	26CC	3	1
7003	2600	2603	26CC	3	2
7004	2600	2603	26CC	3	3
7005					
7006	2600	2603	26CC	3	1
7007	2600	2603	26CC	3	2
7008	2600	2603	26CC	3	3
7009	2600	2603	26CC	3	4
7010	2600	2603	26CC	3	5
7011	2600	2603	26CC	3	6
7012	2600	2603	26CC	3	7
7013	2600	2603	26CC	3	8
7014	2600	2603	26CC	3	10
7015	2600	2603	26CC	3	10
7016	2600	2603	26CC	3	11
7017	2600	2603	26CC	3	12
7018					
7019	2600	2603	26CC	3	1
7020	2600	2603	26CC	3	2
7021	2600	2603	26CC	3	3
7022	2600	2603	26CC	3	4
7023	2600	2603	26CC	3	5
7024	2600	2603	26CC	3	6
7025	2600	2603	26CC	3	7
7026	2600	2603	26CC	3	8
7027	2600	2603	26CC	3	9
7028	2600	2603	26CC	3	10
7029	2600	2603	26CC	3	11
7030	2600	2603	26CC	3	12
7031					
7032	2600	2603	26CC	3	1
7033	2600	2603	26CC	3	2
7034	2600	2603	26CC	3	3
7035	2600	2603	26CC	3	4
7036	2600	2603	26CC	3	5
7037	2600	2603	26CC	3	6
7038	2600	2603	26CC	3	7
7039	2600	2603	26CC	3	8
7040	2600	2603	26CC	3	9
7041	2600	2603	26CC	3	10
7042	2600	2603	26CC	3	11
7043	2600	2603	26CC	3	12
7044					
7045	2600	2603	26CC	3	1
7046	2600	2603	26CC	3	2
7047	2600	2603	26CC	3	3
7048	2600	2603	26CC	3	4
7049	2600	2603	26CC	3	5

	F	G	H	I
7000	2007	131255	260026351	Pilgrim's Pride
7001	**2007 Total**			
7002	2008	131255	260026351	Pilgrim's Pride
7003	2008	131255	260026351	Pilgrim's Pride
7004	2008	131255	260026351	Pilgrim's Pride
7005	**2008 Total**			
7006	2004	131257	260084407	Pilgrim's Pride
7007	2004	131257	260084407	Pilgrim's Pride
7008	2004	131257	260084407	Pilgrim's Pride
7009	2004	131257	260084407	Pilgrim's Pride
7010	2004	131257	260084407	Pilgrim's Pride
7011	2004	131257	260084407	Pilgrim's Pride
7012	2004	131257	260084407	Pilgrim's Pride
7013	2004	131257	260084407	Pilgrim's Pride
7014	2004	131257	260084407	Pilgrim's Pride
7015	2004	131257	260084407	Pilgrim's Pride
7016	2004	131257	260084407	Pilgrim's Pride
7017	2004	131257	260084407	Pilgrim's Pride
7018	**2004 Total**			
7019	2005	131257	260084407	Pilgrim's Pride
7020	2005	131257	260084407	Pilgrim's Pride
7021	2005	131257	260084407	Pilgrim's Pride
7022	2005	131257	260084407	Pilgrim's Pride
7023	2005	131257	260084407	Pilgrim's Pride
7024	2005	131257	260084407	Pilgrim's Pride
7025	2005	131257	260084407	Pilgrim's Pride
7026	2005	131257	260084407	Pilgrim's Pride
7027	2005	131257	260084407	Pilgrim's Pride
7028	2005	131257	260084407	Pilgrim's Pride
7029	2005	131257	260084407	Pilgrim's Pride
7030	2005	131257	260084407	Pilgrim's Pride
7031	**2005 Total**			
7032	2006	131257	260084407	Pilgrim's Pride
7033	2006	131257	260084407	Pilgrim's Pride
7034	2006	131257	260084407	Pilgrim's Pride
7035	2006	131257	260084407	Pilgrim's Pride
7036	2006	131257	260084407	Pilgrim's Pride
7037	2006	131257	260084407	Pilgrim's Pride
7038	2006	131257	260084407	Pilgrim's Pride
7039	2006	131257	260084407	Pilgrim's Pride
7040	2006	131257	260084407	Pilgrim's Pride
7041	2006	131257	260084407	Pilgrim's Pride
7042	2006	131257	260084407	Pilgrim's Pride
7043	2006	131257	260084407	Pilgrim's Pride
7044	**2006 Total**			
7045	2007	131257	260084407	Pilgrim's Pride
7046	2007	131257	260084407	Pilgrim's Pride
7047	2007	131257	260084407	Pilgrim's Pride
7048	2007	131257	260084407	Pilgrim's Pride
7049	2007	131257	260084407	Pilgrim's Pride

	J	K	L	M
7000	1300 Market St	Chattanooga	TN	374024401
7001				
7002	1300 Market St	Chattanooga	TN	374024401
7003	1300 Market St	Chattanooga	TN	374024401
7004	1300 Market St	Chattanooga	TN	374024401
7005				
7006	1300 MARKET ST	CHATTANOOGA	TN	374024401
7007	1300 MARKET ST	CHATTANOOGA	TN	374024401
7008	1300 MARKET ST	CHATTANOOGA	TN	374024401
7009	1300 MARKET ST	CHATTANOOGA	TN	374024401
7010	1300 MARKET ST	CHATTANOOGA	TN	374024401
7011	1300 MARKET ST	CHATTANOOGA	TN	374024401
7012	1300 MARKET ST	CHATTANOOGA	TN	374024401
7013	1300 MARKET ST	CHATTANOOGA	TN	374024401
7014	1300 MARKET ST	CHATTANOOGA	TN	374024401
7015	1300 MARKET ST	CHATTANOOGA	TN	374024401
7016	1300 MARKET ST	CHATTANOOGA	TN	374024401
7017	1300 MARKET ST	CHATTANOOGA	TN	374024401
7018				
7019	1300 MARKET ST	CHATTANOOGA	TN	374024401
7020	1300 MARKET ST	CHATTANOOGA	TN	374024401
7021	1300 MARKET ST	CHATTANOOGA	TN	374024401
7022	1300 MARKET ST	CHATTANOOGA	TN	374024401
7023	1300 MARKET ST	CHATTANOOGA	TN	374024401
7024	1300 MARKET ST	CHATTANOOGA	TN	374024401
7025	1300 MARKET ST	CHATTANOOGA	TN	374024401
7026	1300 MARKET ST	CHATTANOOGA	TN	374024401
7027	1300 MARKET ST	CHATTANOOGA	TN	374024401
7028	1300 MARKET ST	CHATTANOOGA	TN	374024401
7029	1300 MARKET ST	CHATTANOOGA	TN	374024401
7030	1300 MARKET ST	CHATTANOOGA	TN	374024401
7031				
7032	1300 MARKET ST	CHATTANOOGA	TN	374024401
7033	1300 MARKET ST	CHATTANOOGA	TN	374024401
7034	1300 MARKET ST	CHATTANOOGA	TN	374024401
7035	1300 MARKET ST	CHATTANOOGA	TN	374024401
7036	1300 MARKET ST	CHATTANOOGA	TN	374024401
7037	1300 MARKET ST	CHATTANOOGA	TN	374024401
7038	1300 MARKET ST	CHATTANOOGA	TN	374024401
7039	1300 MARKET ST	CHATTANOOGA	TN	374024401
7040	1300 MARKET ST	CHATTANOOGA	TN	374024401
7041	1300 MARKET ST	CHATTANOOGA	TN	374024401
7042	1300 MARKET ST	CHATTANOOGA	TN	374024401
7043	1300 MARKET ST	CHATTANOOGA	TN	374024401
7044				
7045	1300 MARKET ST	CHATTANOOGA	TN	374024401
7046	1300 MARKET ST	CHATTANOOGA	TN	374024401
7047	1300 MARKET ST	CHATTANOOGA	TN	374024401
7048	1300 MARKET ST	CHATTANOOGA	TN	374024401
7049	1300 MARKET ST	CHATTANOOGA	TN	374024401

	N	O	P	Q
7000	458.55	1000G	1220.42	A3M4
7001	5355.24		13683.6	
7002	474.26	1000G	1250.72	A3M4
7003	410.67	1000G	1128.07	A3M4
7004	466.03	1000G	1234.85	A3M4
7005	1350.96		3613.64	
7006	7617.41	1000G	11484.45	A3MSM
7007	7300.98	1000G	11085.14	A3MSM
7008	7954.03	1000G	11909.25	A3MSM
7009	7149.13	1000G	10893.51	A3MSM
7010	7971.24	1000G	11930.96	A3MSM
7011	8576.41	1000G	12694.66	A3MSM
7012	9770.3	1000G	14201.28	A3MSM
7013	9423.21	1000G	13763.27	A3MSM
7014	7465.55	1000G	10980.85	A3MSM
7015	10834.78	1000G	15918.93	A3MSM
7016	7723.63	1000G	11618.5	A3MSM
7017	6848.41	1000G	10514.02	A3MSM
7018	98635.08		146994.82	
7019	6830.46	1000G	10491.36	A3MSM
7020	7283.03	1000G	11062.48	A3MSM
7021	6319.54	1000G	10050.38	A3MSM
7022	7442.36	1000G	11697.97	A3MSM
7023	7829.86	1000G	12205.61	A3MSM
7024	7885.21	1000G	12278.13	A3MSM
7025	8070.73	1000G	12521.17	A3MSM
7026	7698.2	1000G	12033.13	A3MSM
7027	8721.53	1000G	13373.77	A3MSM
7028	7482.76	1000G	11750.89	A3MSM
7029	8037.07	1000G	12477.07	A3MSM
7030	7482.76	1000G	11750.89	A3MSM
7031	91083.51		141692.85	
7032	8091.67	1000G	12548.61	A3MSM
7033	8230.06	1000G	12729.91	A3MSM
7034	8238.29	1000G	12740.69	A3MSM
7035	8531.53	1000G	13124.85	A3MSM
7036	7696.7	1000G	12031.17	A3MSM
7037	8170.96	1000G	12652.49	A3MSM
7038	10153.3	1000G	15249.49	A3MSM
7039	9547.38	1000G	14455.69	A3MSM
7040	10371.74	1000G	15535.65	A3MSM
7041	10716.59	1000G	15987.43	A3MSM
7042	12398.21	1000G	17564.02	A3MSM
7043	7537.37	1000G	11822.43	A3MSM
7044	109683.8		166442.43	
7045	9630.42	1000G	14564.47	A3MSM
7046	10370.99	1000G	15534.67	A3MSM
7047	10660.48	1000G	15913.93	A3MSM
7048	10446.54	1000G	15633.65	A3MSM
7049	9065.64	1000G	13824.57	A3MSM

	A	B	C	D	E
7050	2600	2603	26CC	3	6
7051	2600	2603	26CC	3	7
7052	2600	2603	26CC	3	8
7053	2600	2603	26CC	3	9
7054	2600	2603	26CC	3	10
7055	2600	2603	26CC	3	11
7056	2600	2603	26CC	3	12
7057					
7058	2600	2603	26CC	3	1
7059	2600	2603	26CC	3	2
7060	2600	2603	26CC	3	3
7061					
7062	2600	2603	26CC	3	7
7063	2600	2603	26CC	3	8
7064	2600	2603	26CC	3	9
7065	2600	2603	26CC	3	10
7066	2600	2603	26CC	3	11
7067	2600	2603	26CC	3	12
7068					
7069	2600	2603	26CC	3	1
7070	2600	2603	26CC	3	2
7071	2600	2603	26CC	3	3
7072	2600	2603	26CC	3	4
7073	2600	2603	26CC	3	5
7074	2600	2603	26CC	3	6
7075	2600	2603	26CC	3	7
7076	2600	2603	26CC	3	8
7077	2600	2603	26CC	3	9
7078	2600	2603	26CC	3	10
7079	2600	2603	26CC	3	11
7080	2600	2603	26CC	3	12
7081					
7082	2600	2603	26CC	3	1
7083	2600	2603	26CC	3	2
7084	2600	2603	26CC	3	3
7085					
7086	2600	2603	26CC	3	1
7087	2600	2603	26CC	3	2
7088	2600	2603	26CC	3	3
7089	2600	2603	26CC	3	4
7090	2600	2603	26CC	3	5
7091	2600	2603	26CC	3	6
7092	2600	2603	26CC	3	7
7093	2600	2603	26CC	3	8
7094	2600	2603	26CC	3	9
7095	2600	2603	26CC	3	10
7096	2600	2603	26CC	3	11
7097	2600	2603	26CC	3	12
7098					
7099	2600	2603	26CC	3	1

	F	G	H	I
7050	2007	131257	260084407	Pilgrim's Pride
7051	2007	131257	260084407	Pilgrim's Pride
7052	2007	131257	260084407	Pilgrim's Pride
7053	2007	131257	260084407	Pilgrim's Pride
7054	2007	131257	260084407	Pilgrim's Pride
7055	2007	131257	260084407	Pilgrim's Pride
7056	2007	131257	260084407	Pilgrim's Pride
7057	**2007 Total**			
7058	2008	131257	260084407	Pilgrim's Pride
7059	2008	131257	260084407	Pilgrim's Pride
7060	2008	131257	260084407	Pilgrim's Pride
7061	**2008 Total**			
7062	2006	131258	260073106	PILGRIM'S PRIDE #79530
7063	2006	131258	260073106	PILGRIM'S PRIDE #79530
7064	2006	131258	260073106	PILGRIM'S PRIDE #79530
7065	2006	131258	260073106	PILGRIM'S PRIDE #79530
7066	2006	131258	260073106	PILGRIM'S PRIDE #79530
7067	2006	131258	260073106	PILGRIM'S PRIDE #79530
7068	**2006 Total**			
7069	2007	131258	260073106	PILGRIM'S PRIDE #79530
7070	2007	131258	260073106	PILGRIM'S PRIDE #79530
7071	2007	131258	260073106	PILGRIM'S PRIDE #79530
7072	2007	131258	260073106	PILGRIM'S PRIDE #79530
7073	2007	131258	260073106	PILGRIM'S PRIDE #79530
7074	2007	131258	260073106	PILGRIM'S PRIDE #79530
7075	2007	131258	260073106	PILGRIM'S PRIDE #79530
7076	2007	131258	260073106	PILGRIM'S PRIDE #79530
7077	2007	131258	260073106	PILGRIM'S PRIDE #79530
7078	2007	131258	260073106	PILGRIM'S PRIDE #79530
7079	2007	131258	260073106	PILGRIM'S PRIDE #79530
7080	2007	131258	260073106	PILGRIM'S PRIDE #79530
7081	**2007 Total**			
7082	2008	131258	260073106	PILGRIM'S PRIDE #79530
7083	2008	131258	260073106	PILGRIM'S PRIDE #79530
7084	2008	131258	260073106	PILGRIM'S PRIDE #79530
7085	**2008 Total**			
7086	2004	131379	260077132	Pilgrim's Pride
7087	2004	131379	260077132	Pilgrim's Pride
7088	2004	131379	260077132	Pilgrim's Pride
7089	2004	131379	260077132	Pilgrim's Pride
7090	2004	131379	260077132	Pilgrim's Pride
7091	2004	131379	260077132	Pilgrim's Pride
7092	2004	131379	260077132	Pilgrim's Pride
7093	2004	131379	260077132	Pilgrim's Pride
7094	2004	131379	260077132	Pilgrim's Pride
7095	2004	131379	260077132	Pilgrim's Pride
7096	2004	131379	260077132	Pilgrim's Pride
7097	2004	131379	260077132	Pilgrim's Pride
7098	**2004 Total**			
7099	2005	131379	260077132	Pilgrim's Pride

	J	K	L	M
7050	1300 MARKET ST	CHATTANOOGA	TN	374024401
7051	1300 MARKET ST	CHATTANOOGA	TN	374024401
7052	1300 MARKET ST	CHATTANOOGA	TN	374024401
7053	1300 MARKET ST	CHATTANOOGA	TN	374024401
7054	1300 MARKET ST	CHATTANOOGA	TN	374024401
7055	1300 MARKET ST	CHATTANOOGA	TN	374024401
7056	1300 MARKET ST	CHATTANOOGA	TN	374024401
7057				
7058	1300 MARKET ST	CHATTANOOGA	TN	374024401
7059	1300 MARKET ST	CHATTANOOGA	TN	374024401
7060	1300 MARKET ST	CHATTANOOGA	TN	374024401
7061				
7062	409 E 17th St	Chattanooga	TN	374081904
7063	409 E 17th St	Chattanooga	TN	374081904
7064	409 E 17th St	Chattanooga	TN	374081904
7065	409 E 17th St	Chattanooga	TN	374081904
7066	409 E 17th St	Chattanooga	TN	374081904
7067	409 E 17th St	Chattanooga	TN	374081904
7068				
7069	409 E 17th St	Chattanooga	TN	374081904
7070	409 E 17th St	Chattanooga	TN	374081904
7071	409 E 17th St	Chattanooga	TN	374081904
7072	409 E 17th St	Chattanooga	TN	374081904
7073	409 E 17th St	Chattanooga	TN	374081904
7074	409 E 17th St	Chattanooga	TN	374081904
7075	409 E 17th St	Chattanooga	TN	374081904
7076	409 E 17th St	Chattanooga	TN	374081904
7077	409 E 17th St	Chattanooga	TN	374081904
7078	409 E 17th St	Chattanooga	TN	374081904
7079	409 E 17th St	Chattanooga	TN	374081904
7080	409 E 17th St	Chattanooga	TN	374081904
7081				
7082	409 E 17th St	Chattanooga	TN	374081904
7083	409 E 17th St	Chattanooga	TN	374081904
7084	409 E 17th St	Chattanooga	TN	374081904
7085				
7086	1300 Market St SPKLR	Chattanooga	TN	37402
7087	1300 Market St SPKLR	Chattanooga	TN	37402
7088	1300 Market St SPKLR	Chattanooga	TN	37402
7089	1300 Market St SPKLR	Chattanooga	TN	37402
7090	1300 Market St SPKLR	Chattanooga	TN	37402
7091	1300 Market St SPKLR	Chattanooga	TN	37402
7092	1300 Market St SPKLR	Chattanooga	TN	37402
7093	1300 Market St SPKLR	Chattanooga	TN	37402
7094	1300 Market St SPKLR	Chattanooga	TN	37402
7095	1300 Market St SPKLR	Chattanooga	TN	37402
7096	1300 Market St SPKLR	Chattanooga	TN	37402
7097	1300 Market St SPKLR	Chattanooga	TN	37402
7098				
7099	1300 Market St SPKLR	Chattanooga	TN	37402

	N	O	P	Q
7050	11220.78	1000G	18542.31	A3MSM
7051	10619.34	1000G	17851.45	A3MSM
7052	9965.54	1000G	16887.43	A3MSM
7053	10118.15	1000G	17112.44	A3MSM
7054	7750.56	1000G	13621.44	A3MSM
7055	11338.22	1000G	18841.1	A3MSM
7056	11305.3	1000G	18812.28	A3MSM
7057	122491.96		197139.74	
7058	11416.02	1000G	18909.22	A3MSM
7059	11649.41	1000G	19113.58	A3MSM
7060	10977.66	1000G	18379.79	A3MSM
7061	34043.09		56402.59	
7062	19640.85	1000G	23633.93	A3M4
7063	17570.98	1000G	22023.54	A3M4
7064	18155.22	1000G	22478.08	A3M4
7065	19034.18	1000G	23161.93	A3M4
7066	17396.69	1000G	21887.93	A3M4
7067	13764.15	1000G	19061.74	A3M4
7068	105562.07		132247.15	
7069	16797.5	1000G	21421.75	A3M4
7070	17308.42	1000G	21819.26	A3M4
7071	14644.61	1000G	19746.75	A3M4
7072	14094.79	1000G	19318.98	A3M4
7073	13978.09	1000G	19228.19	A3M4
7074	15584.91	1000G	22727.92	A3M4
7075	15400.89	1000G	22888.11	A3M4
7076	14435.9	1000G	22043.16	A3M4
7077	14100.78	1000G	21749.72	A3M4
7078	16845.37	1000G	24152.92	A3M4
7079	18508.3	1000G	25608.98	A3M4
7080	20275.2	1000G	27156.09	A3M4
7081	191974.76		267861.83	
7082	18667.63	1000G	25748.5	A3M4
7083	17769.22	1000G	24961.84	A3M4
7084	17355.55	1000G	24599.63	A3M4
7085	53792.4		75309.97	
7086	0	1000G	8.92	A3M4
7087	0	1000G	8.92	A3M4
7088	0	1000G	8.92	A3M4
7089	63.58	1000G	202.91	A3M4
7090	80.78	1000G	240.88	A3M4
7091	46.37	1000G	162	A3M4
7092	17.95	1000G	62.14	A3M4
7093	33.66	1000G	117.33	A3M4
7094	8.22	1000G	27.98	A3M4
7095	7.48	1000G	25.35	A3M4
7096	268.55	1000G	655.28	A3M4
7097	-283.51	1000G	-672.76	A3M4
7098	243.08		847.87	
7099	0	1000G	8.92	A3M4

	A	B	C	D	E
7100	2600	2603	26CC	3	2
7101	2600	2603	26CC	3	3
7102	2600	2603	26CC	3	4
7103	2600	2603	26CC	3	5
7104	2600	2603	26CC	3	6
7105	2600	2603	26CC	3	7
7106	2600	2603	26CC	3	8
7107	2600	2603	26CC	3	9
7108	2600	2603	26CC	3	10
7109	2600	2603	26CC	3	11
7110	2600	2603	26CC	3	12
7111					
7112	2600	2603	26CC	3	1
7113	2600	2603	26CC	3	2
7114	2600	2603	26CC	3	3
7115	2600	2603	26CC	3	4
7116	2600	2603	26CC	3	5
7117	2600	2603	26CC	3	6
7118	2600	2603	26CC	3	7
7119	2600	2603	26CC	3	8
7120	2600	2603	26CC	3	9
7121	2600	2603	26CC	3	10
7122	2600	2603	26CC	3	11
7123	2600	2603	26CC	3	12
7124					
7125	2600	2603	26CC	3	1
7126	2600	2603	26CC	3	2
7127	2600	2603	26CC	3	3
7128	2600	2603	26CC	3	4
7129	2600	2603	26CC	3	5
7130	2600	2603	26CC	3	6
7131	2600	2603	26CC	3	7
7132	2600	2603	26CC	3	8
7133	2600	2603	26CC	3	9
7134	2600	2603	26CC	3	10
7135	2600	2603	26CC	3	11
7136	2600	2603	26CC	3	12
7137					
7138	2600	2603	26CC	3	1
7139	2600	2603	26CC	3	2
7140	2600	2603	26CC	3	3
7141					
7142	2600	2603	26CC	3	2
7143	2600	2603	26CC	3	3
7144	2600	2603	26CC	3	4
7145	2600	2603	26CC	3	5
7146	2600	2603	26CC	3	6
7147	2600	2603	26CC	3	7
7148	2600	2603	26CC	3	8
7149	2600	2603	26CC	3	9

	F	G	H	I
7100	2005	131379	260077132	Pilgrim's Pride
7101	2005	131379	260077132	Pilgrim's Pride
7102	2005	131379	260077132	Pilgrim's Pride
7103	2005	131379	260077132	Pilgrim's Pride
7104	2005	131379	260077132	Pilgrim's Pride
7105	2005	131379	260077132	Pilgrim's Pride
7106	2005	131379	260077132	Pilgrim's Pride
7107	2005	131379	260077132	Pilgrim's Pride
7108	2005	131379	260077132	Pilgrim's Pride
7109	2005	131379	260077132	Pilgrim's Pride
7110	2005	131379	260077132	Pilgrim's Pride
7111	**2005 Total**			
7112	2006	131379	260077132	Pilgrim's Pride
7113	2006	131379	260077132	Pilgrim's Pride
7114	2006	131379	260077132	Pilgrim's Pride
7115	2006	131379	260077132	Pilgrim's Pride
7116	2006	131379	260077132	Pilgrim's Pride
7117	2006	131379	260077132	Pilgrim's Pride
7118	2006	131379	260077132	Pilgrim's Pride
7119	2006	131379	260077132	Pilgrim's Pride
7120	2006	131379	260077132	Pilgrim's Pride
7121	2006	131379	260077132	Pilgrim's Pride
7122	2006	131379	260077132	Pilgrim's Pride
7123	2006	131379	260077132	Pilgrim's Pride
7124	**2006 Total**			
7125	2007	131379	260077132	Pilgrim's Pride
7126	2007	131379	260077132	Pilgrim's Pride
7127	2007	131379	260077132	Pilgrim's Pride
7128	2007	131379	260077132	Pilgrim's Pride
7129	2007	131379	260077132	Pilgrim's Pride
7130	2007	131379	260077132	Pilgrim's Pride
7131	2007	131379	260077132	Pilgrim's Pride
7132	2007	131379	260077132	Pilgrim's Pride
7133	2007	131379	260077132	Pilgrim's Pride
7134	2007	131379	260077132	Pilgrim's Pride
7135	2007	131379	260077132	Pilgrim's Pride
7136	2007	131379	260077132	Pilgrim's Pride
7137	**2007 Total**			
7138	2008	131379	260077132	Pilgrim's Pride
7139	2008	131379	260077132	Pilgrim's Pride
7140	2008	131379	260077132	Pilgrim's Pride
7141	**2008 Total**			
7142	2004	133306	260073117	BROMID LLC
7143	2004	133306	260073117	BROMID LLC
7144	2004	133306	260073117	BROMID LLC
7145	2004	133306	260073117	BROMID LLC
7146	2004	133306	260073117	BROMID LLC
7147	2004	133306	260073117	BROMID LLC
7148	2004	133306	260073117	BROMID LLC
7149	2004	133306	260073117	BROMID LLC

	J	K	L	M
7100	1300 Market St SPKLR	Chattanooga	TN	37402
7101	1300 Market St SPKLR	Chattanooga	TN	37402
7102	1300 Market St SPKLR	Chattanooga	TN	37402
7103	1300 Market St SPKLR	Chattanooga	TN	37402
7104	1300 Market St SPKLR	Chattanooga	TN	37402
7105	1300 Market St SPKLR	Chattanooga	TN	37402
7106	1300 Market St SPKLR	Chattanooga	TN	37402
7107	1300 Market St SPKLR	Chattanooga	TN	37402
7108	1300 Market St SPKLR	Chattanooga	TN	37402
7109	1300 Market St SPKLR	Chattanooga	TN	37402
7110	1300 Market St SPKLR	Chattanooga	TN	37402
7111				
7112	1300 Market St SPKLR	Chattanooga	TN	37402
7113	1300 Market St SPKLR	Chattanooga	TN	37402
7114	1300 Market St SPKLR	Chattanooga	TN	37402
7115	1300 Market St SPKLR	Chattanooga	TN	37402
7116	1300 Market St SPKLR	Chattanooga	TN	37402
7117	1300 Market St SPKLR	Chattanooga	TN	37402
7118	1300 Market St SPKLR	Chattanooga	TN	37402
7119	1300 Market St SPKLR	Chattanooga	TN	37402
7120	1300 Market St SPKLR	Chattanooga	TN	37402
7121	1300 Market St SPKLR	Chattanooga	TN	37402
7122	1300 Market St SPKLR	Chattanooga	TN	37402
7123	1300 Market St SPKLR	Chattanooga	TN	37402
7124				
7125	1300 Market St SPKLR	Chattanooga	TN	37402
7126	1300 Market St SPKLR	Chattanooga	TN	37402
7127	1300 Market St SPKLR	Chattanooga	TN	37402
7128	1300 Market St SPKLR	Chattanooga	TN	37402
7129	1300 Market St SPKLR	Chattanooga	TN	37402
7130	1300 Market St SPKLR	Chattanooga	TN	37402
7131	1300 Market St SPKLR	Chattanooga	TN	37402
7132	1300 Market St SPKLR	Chattanooga	TN	37402
7133	1300 Market St SPKLR	Chattanooga	TN	37402
7134	1300 Market St SPKLR	Chattanooga	TN	37402
7135	1300 Market St SPKLR	Chattanooga	TN	37402
7136	1300 Market St SPKLR	Chattanooga	TN	37402
7137				
7138	1300 Market St SPKLR	Chattanooga	TN	37402
7139	1300 Market St SPKLR	Chattanooga	TN	37402
7140	1300 Market St SPKLR	Chattanooga	TN	37402
7141				
7142	1521 Middle St	Chattanooga	TN	37408
7143	1521 Middle St	Chattanooga	TN	37408
7144	1521 Middle St	Chattanooga	TN	37408
7145	1521 Middle St	Chattanooga	TN	37408
7146	1521 Middle St	Chattanooga	TN	37408
7147	1521 Middle St	Chattanooga	TN	37408
7148	1521 Middle St	Chattanooga	TN	37408
7149	1521 Middle St	Chattanooga	TN	37408

	N	O	P	Q
7100	0	1000G	8.92	A3M4
7101	0	1000G	9.1	A3M4
7102	0	1000G	9.26	A3M4
7103	1.49	1000G	9.6	A3M4
7104	10.47	1000G	37.25	A3M4
7105	2.24	1000G	9.78	A3M4
7106	0	1000G	9.26	A3M4
7107	0	1000G	9.26	A3M4
7108	0	1000G	9.26	A3M4
7109	0	1000G	9.26	A3M4
7110	0	1000G	9.26	A3M4
7111	14.2		139.13	
7112	0	1000G	9.26	A3M4
7113	0	1000G	9.26	A3M4
7114	0	1000G	9.26	A3M4
7115	0	1000G	9.26	A3M4
7116	0	1000G	9.26	A3M4
7117	0	1000G	9.26	A3M4
7118	0	1000G	9.26	A3M4
7119	0	1000G	9.26	A3M4
7120	0	1000G	9.26	A3M4
7121	0	1000G	9.26	A3M4
7122	0	1000G	9.26	A3M4
7123	0	1000G	9.26	A3M4
7124	0		111.12	
7125	0	1000G	9.26	A3M4
7126	0	1000G	9.26	A3M4
7127	0	1000G	9.26	A3M4
7128	0	1000G	9.26	A3M4
7129	0	1000G	9.26	A3M4
7130	0	1000G	10.31	A3M4
7131	0	1000G	10.42	A3M4
7132	0	1000G	10.42	A3M4
7133	0	1000G	10.42	A3M4
7134	0	1000G	10.42	A3M4
7135	0	1000G	10.42	A3M4
7136	0	1000G	10.42	A3M4
7137	0		119.13	
7138	0	1000G	10.42	A3M4
7139	0	1000G	10.42	A3M4
7140	0	1000G	10.42	A3M4
7141	0		31.26	
7142	22.44	1000G	378.47	A3M4S
7143	73.29	1000G	479.9	A3M4S
7144	24.68	1000G	351.09	A3M4S
7145	19.44	1000G	332.7	A3M4S
7146	66.57	1000G	474.81	A3M4S
7147	148.11	1000G	654.77	A3M4S
7148	124.92	1000G	603.59	A3M4S
7149	89.76	1000G	526	A3M4S

	A	B	C	D	E
7150	2600	2603	26CC	3	10
7151	2600	2603	26CC	3	11
7152	2600	2603	26CC	3	12
7153					
7154	2600	2603	26CC	3	1
7155	2600	2603	26CC	3	2
7156	2600	2603	26CC	3	3
7157	2600	2603	26CC	3	4
7158					
7159	2600	2603	26CC	3	3
7160	2600	2603	26CC	3	3
7161	2600	2603	26CC	3	4
7162	2600	2603	26CC	3	4
7163	2600	2603	26CC	3	4
7164	2600	2603	26CC	3	4
7165	2600	2603	26CC	3	4
7166	2600	2603	26CC	3	4
7167	2600	2603	26CC	3	5
7168	2600	2603	26CC	3	5
7169	2600	2603	26CC	3	5
7170	2600	2603	26CC	3	5
7171	2600	2603	26CC	3	8
7172	2600	2603	26CC	3	6
7173	2600	2603	26CC	3	7
7174	2600	2603	26CC	3	8
7175	2600	2603	26CC	3	9
7176	2600	2603	26CC	3	10
7177	2600	2603	26CC	3	11
7178	2600	2603	26CC	3	12
7179					
7180	2600	2603	26CC	3	1
7181	2600	2603	26CC	3	1
7182	2600	2603	26CC	3	3
7183	2600	2603	26CC	3	3
7184	2600	2603	26CC	3	5
7185	2600	2603	26CC	3	6
7186	2600	2603	26CC	3	7
7187	2600	2603	26CC	3	8
7188	2600	2603	26CC	3	9
7189	2600	2603	26CC	3	10
7190	2600	2603	26CC	3	11
7191	2600	2603	26CC	3	12
7192					
7193	2600	2603	26CC	3	1
7194	2600	2603	26CC	3	1
7195	2600	2603	26CC	3	3
7196	2600	2603	26CC	3	3
7197	2600	2603	26CC	3	5
7198	2600	2603	26CC	3	5
7199	2600	2603	26CC	3	6

	F	G	H	I
7150	2004	133306	260073117	BROMID LLC
7151	2004	133306	260073117	BROMID LLC
7152	2004	133306	260073117	BROMID LLC
7153	**2004 Total**			
7154	2005	133306	260073117	BROMID LLC
7155	2005	133306	260073117	BROMID LLC
7156	2005	133306	260073117	BROMID LLC
7157	2005	133306	260073117	BROMID LLC
7158	**2005 Total**			
7159	2004	134665	260073021	COORSTEK INC
7160	2004	134665	260073021	COORSTEK INC
7161	2004	134665	260073021	COORSTEK INC
7162	2004	136897	260017360	FINISHING SOLUTIONS
7163	2004	136897	260017360	FINISHING SOLUTIONS
7164	2004	137621	260033487	MATERIAL CONTROL SYSTEMS
7165	2004	137621	260033487	MATERIAL CONTROL SYSTEMS
7166	2004	137621	260033487	MATERIAL CONTROL SYSTEMS
7167	2004	137621	260033487	MATERIAL CONTROL SYSTEMS
7168	2004	138538	260073697	Signal Mountain Cement
7169	2004	138620	260017360	INDUSTRIES, DAMAN
7170	2004	139701	260073697	CAMERON, OXFORD
7171	2004	139701	260073697	CAMERON, OXFORD
7172	2004	139731	260073021	Adtech Ceramics
7173	2004	139731	260073021	Adtech Ceramics
7174	2004	139731	260073021	Adtech Ceramics
7175	2004	139731	260073021	Adtech Ceramics
7176	2004	139731	260073021	Adtech Ceramics
7177	2004	139731	260073021	Adtech Ceramics
7178	2004	139731	260073021	Adtech Ceramics
7179	**2004 Total**			
7180	2005	139731	260073021	Adtech Ceramics
7181	2005	139731	260073021	Adtech Ceramics
7182	2005	139731	260073021	Adtech Ceramics
7183	2005	139731	260073021	Adtech Ceramics
7184	2005	139731	260073021	Adtech Ceramics
7185	2005	139731	260073021	Adtech Ceramics
7186	2005	139731	260073021	Adtech Ceramics
7187	2005	139731	260073021	Adtech Ceramics
7188	2005	139731	260073021	Adtech Ceramics
7189	2005	139731	260073021	Adtech Ceramics
7190	2005	139731	260073021	Adtech Ceramics
7191	2005	139731	260073021	Adtech Ceramics
7192	**2005 Total**			
7193	2006	139731	260073021	Adtech Ceramics
7194	2006	139731	260073021	Adtech Ceramics
7195	2006	139731	260073021	Adtech Ceramics
7196	2006	139731	260073021	Adtech Ceramics
7197	2006	139731	260073021	Adtech Ceramics
7198	2006	139731	260073021	Adtech Ceramics
7199	2006	139731	260073021	Adtech Ceramics

	J	K	L	M
7150	1521 Middle St	Chattanooga	TN	37408
7151	1521 Middle St	Chattanooga	TN	37408
7152	1521 Middle St	Chattanooga	TN	37408
7153				
7154	1521 Middle St	Chattanooga	TN	37408
7155	1521 Middle St	Chattanooga	TN	37408
7156	1521 Middle St	Chattanooga	TN	37408
7157	1521 Middle St	Chattanooga	TN	37408
7158				
7159	511 Manufacturers Rd	Chattanooga	TN	374053203
7160	511 Manufacturers Rd	Chattanooga	TN	374053203
7161	511 Manufacturers Rd	Chattanooga	TN	374053203
7162	5009 Divine Ave	Chattanooga	TN	37407
7163	5009 Divine Ave	Chattanooga	TN	37407
7164	3800 N Hawthorne St	Chattanooga	TN	374061309
7165	3800 N Hawthorne St	Chattanooga	TN	374061309
7166	3800 N Hawthorne St	Chattanooga	TN	374061309
7167	3800 N Hawthorne St	Chattanooga	TN	374061309
7168	HYDRANT METER #070047244T	Chattanooga	TN	37419
7169	5009 Divine Ave	Chattanooga	TN	37407
7170	HYDRANT METER #070047244T	Chattanooga	TN	37419
7171	HYDRANT METER #070047244T	Chattanooga	TN	37419
7172	511 Manufacturers Rd	Chattanooga	TN	374053203
7173	511 Manufacturers Rd	Chattanooga	TN	374053203
7174	511 Manufacturers Rd	Chattanooga	TN	374053203
7175	511 Manufacturers Rd	Chattanooga	TN	374053203
7176	511 Manufacturers Rd	Chattanooga	TN	374053203
7177	511 Manufacturers Rd	Chattanooga	TN	374053203
7178	511 Manufacturers Rd	Chattanooga	TN	374053203
7179				
7180	511 Manufacturers Rd	Chattanooga	TN	374053203
7181	511 Manufacturers Rd	Chattanooga	TN	374053203
7182	511 Manufacturers Rd	Chattanooga	TN	374053203
7183	511 Manufacturers Rd	Chattanooga	TN	374053203
7184	511 Manufacturers Rd	Chattanooga	TN	374053203
7185	511 Manufacturers Rd	Chattanooga	TN	374053203
7186	511 Manufacturers Rd	Chattanooga	TN	374053203
7187	511 Manufacturers Rd	Chattanooga	TN	374053203
7188	511 Manufacturers Rd	Chattanooga	TN	374053203
7189	511 Manufacturers Rd	Chattanooga	TN	374053203
7190	511 Manufacturers Rd	Chattanooga	TN	374053203
7191	511 Manufacturers Rd	Chattanooga	TN	374053203
7192				
7193	511 Manufacturers Rd	Chattanooga	TN	374053203
7194	511 Manufacturers Rd	Chattanooga	TN	374053203
7195	511 Manufacturers Rd	Chattanooga	TN	374053203
7196	511 Manufacturers Rd	Chattanooga	TN	374053203
7197	511 Manufacturers Rd	Chattanooga	TN	374053203
7198	511 Manufacturers Rd	Chattanooga	TN	374053203
7199	511 Manufacturers Rd	Chattanooga	TN	374053203

	N	O	P	Q
7150	30.67	1000G	372.12	A3M4S
7151	4.48	1000G	280.14	A3M4S
7152	2.99	1000G	274.88	A3M4S
7153	607.35		4728.47	
7154	2.24	1000G	274.72	A3M4S
7155	1.49	1000G	274.55	A3M4S
7156	1.49	1000G	280.22	A3M4S
7157	0.74	1000G	218.52	A3M4S
7158	5.96		1048.01	
7159	84.52	1000G	293.17	A3MSM
7160	140.63	1000G	523.58	A3MSM
7161	175.04	1000G	599.53	A3MSM
7162	3.74	1000G	12.93	A3M4
7163	5.98	1000G	20.67	A3M4
7164	-14.96	1000G	-41.91	A3M4
7165	14.96	1000G	41.91	A3M4
7166	14.96	1000G	41.91	A3M4
7167	-14.96	1000G	-41.91	A3M4
7168	2.24	1000G	105.7	A3M4
7169	3.74	1000G	12.95	A3M4
7170	66.57	1000G	123.55	A3M4
7171	0	1000G	-6.18	CRAC3
7172	387.49	1000G	1060.91	A3MSM
7173	955.26	1000G	1997.52	A3MSM
7174	767.5	1000G	1687.78	A3MSM
7175	1306.09	1000G	2576.26	A3MSM
7176	635.09	1000G	1469.37	A3MSM
7177	595.44	1000G	1403.96	A3MSM
7178	659.03	1000G	1508.85	A3MSM
7179	5788.36		13390.55	
7180	547.57	1000G	1324.99	A3MSM
7181	549.81	1000G	1328.69	A3MSM
7182	642.57	1000G	1519.41	A3MSM
7183	644.07	1000G	1484.17	A3MSM
7184	661.27	1000G	1571.24	A3MSM
7185	742.06	1000G	1841.07	A3MSM
7186	696.43	1000G	1558.49	A3MSM
7187	964.98	1000G	2091.73	A3MSM
7188	1079.43	1000G	2287.88	A3MSM
7189	879.7	1000G	1945.58	A3MSM
7190	798.91	1000G	1807.13	A3MSM
7191	786.2	1000G	1785.33	A3MSM
7192	8993		20545.71	
7193	616.39	1000G	1392.13	A3MSM
7194	782.46	1000G	1851.9	A3MSM
7195	650.8	1000G	1553.29	A3MSM
7196	868.48	1000G	1926.35	A3MSM
7197	780.96	1000G	1776.36	A3MSM
7198	774.23	1000G	1764.82	A3MSM
7199	887.93	1000G	1959.68	A3MSM

	A	B	C	D	E
7200	2600	2603	26CC	3	8
7201	2600	2603	26CC	3	8
7202	2600	2603	26CC	3	9
7203	2600	2603	26CC	3	10
7204	2600	2603	26CC	3	11
7205	2600	2603	26CC	3	12
7206					
7207	2600	2603	26CC	3	1
7208	2600	2603	26CC	3	2
7209	2600	2603	26CC	3	3
7210	2600	2603	26CC	3	4
7211	2600	2603	26CC	3	5
7212	2600	2603	26CC	3	7
7213	2600	2603	26CC	3	7
7214	2600	2603	26CC	3	8
7215	2600	2603	26CC	3	9
7216	2600	2603	26CC	3	10
7217	2600	2603	26CC	3	11
7218	2600	2603	26CC	3	12
7219					
7220	2600	2603	26CC	3	1
7221	2600	2603	26CC	3	2
7222	2600	2603	26CC	3	3
7223					
7224	2600	2603	26CC	3	10
7225	2600	2603	26CC	3	11
7226	2600	2603	26CC	3	12
7227	2600	2603	26CC	3	12
7228					
7229	2600	2603	26CC	3	1
7230	2600	2603	26CC	3	1
7231	2600	2603	26CC	3	1
7232	2600	2603	26CC	3	2
7233	2600	2603	26CC	3	3
7234	2600	2603	26CC	3	4
7235	2600	2603	26CC	3	5
7236	2600	2603	26CC	3	6
7237	2600	2603	26CC	3	7
7238	2600	2603	26CC	3	8
7239	2600	2603	26CC	3	9
7240	2600	2603	26CC	3	10
7241	2600	2603	26CC	3	11
7242	2600	2603	26CC	3	12
7243					
7244	2600	2603	26CC	3	1
7245	2600	2603	26CC	3	2
7246	2600	2603	26CC	3	3
7247	2600	2603	26CC	3	4
7248	2600	2603	26CC	3	5
7249	2600	2603	26CC	3	6

	F	G	H	I
7200	2006	139731	260073021	Adtech Ceramics
7201	2006	139731	260073021	Adtech Ceramics
7202	2006	139731	260073021	Adtech Ceramics
7203	2006	139731	260073021	Adtech Ceramics
7204	2006	139731	260073021	Adtech Ceramics
7205	2006	139731	260073021	Adtech Ceramics
7206	**2006 Total**			
7207	2007	139731	260073021	Adtech Ceramics
7208	2007	139731	260073021	Adtech Ceramics
7209	2007	139731	260073021	Adtech Ceramics
7210	2007	139731	260073021	Adtech Ceramics
7211	2007	139731	260073021	Adtech Ceramics
7212	2007	139731	260073021	Adtech Ceramics
7213	2007	139731	260073021	Adtech Ceramics
7214	2007	139731	260073021	Adtech Ceramics
7215	2007	139731	260073021	Adtech Ceramics
7216	2007	139731	260073021	Adtech Ceramics
7217	2007	139731	260073021	Adtech Ceramics
7218	2007	139731	260073021	Adtech Ceramics
7219	**2007 Total**			
7220	2008	139731	260073021	Adtech Ceramics
7221	2008	139731	260073021	Adtech Ceramics
7222	2008	139731	260073021	Adtech Ceramics
7223	**2008 Total**			
7224	2004	147134	260033481	SSM PROPERTIES LP
7225	2004	147134	260033481	SSM PROPERTIES LP
7226	2004	147134	260033481	SSM PROPERTIES LP
7227	2004	147134	260033481	SSM PROPERTIES LP
7228	**2004 Total**			
7229	2005	147134	260033481	SSM PROPERTIES LP
7230	2005	147134	260033481	SSM PROPERTIES LP
7231	2005	147134	260033481	SSM PROPERTIES LP
7232	2005	147134	260033481	SSM PROPERTIES LP
7233	2005	147134	260033481	SSM PROPERTIES LP
7234	2005	147134	260033481	SSM PROPERTIES LP
7235	2005	147134	260033481	SSM PROPERTIES LP
7236	2005	147134	260033481	SSM PROPERTIES LP
7237	2005	147134	260033481	SSM PROPERTIES LP
7238	2005	147134	260033481	SSM PROPERTIES LP
7239	2005	147134	260033481	SSM PROPERTIES LP
7240	2005	147134	260033481	SSM PROPERTIES LP
7241	2005	147134	260033481	SSM PROPERTIES LP
7242	2005	147134	260033481	SSM PROPERTIES LP
7243	**2005 Total**			
7244	2006	147134	260033481	SSM PROPERTIES LP
7245	2006	147134	260033481	SSM PROPERTIES LP
7246	2006	147134	260033481	SSM PROPERTIES LP
7247	2006	147134	260033481	SSM PROPERTIES LP
7248	2006	147134	260033481	SSM PROPERTIES LP
7249	2006	147134	260033481	SSM PROPERTIES LP

	J	K	L	M
7200	511 Manufacturers Rd	Chattanooga	TN	374053203
7201	511 Manufacturers Rd	Chattanooga	TN	374053203
7202	511 Manufacturers Rd	Chattanooga	TN	374053203
7203	511 Manufacturers Rd	Chattanooga	TN	374053203
7204	511 Manufacturers Rd	Chattanooga	TN	374053203
7205	511 Manufacturers Rd	Chattanooga	TN	374053203
7206				
7207	511 Manufacturers Rd	Chattanooga	TN	374053203
7208	511 Manufacturers Rd	Chattanooga	TN	374053203
7209	511 Manufacturers Rd	Chattanooga	TN	374053203
7210	511 Manufacturers Rd	Chattanooga	TN	374053203
7211	511 Manufacturers Rd	Chattanooga	TN	374053203
7212	511 Manufacturers Rd	Chattanooga	TN	374053203
7213	511 Manufacturers Rd	Chattanooga	TN	374053203
7214	511 Manufacturers Rd	Chattanooga	TN	374053203
7215	511 Manufacturers Rd	Chattanooga	TN	374053203
7216	511 Manufacturers Rd	Chattanooga	TN	374053203
7217	511 Manufacturers Rd	Chattanooga	TN	374053203
7218	511 Manufacturers Rd	Chattanooga	TN	374053203
7219				
7220	511 Manufacturers Rd	Chattanooga	TN	374053203
7221	511 Manufacturers Rd	Chattanooga	TN	374053203
7222	511 Manufacturers Rd	Chattanooga	TN	374053203
7223				
7224	1700 DELMAR ST	CHATTANOOGA	TN	
7225	1700 DELMAR ST	CHATTANOOGA	TN	
7226	1700 DELMAR ST	CHATTANOOGA	TN	
7227	1700 DELMAR ST	CHATTANOOGA	TN	
7228				
7229	1700 DELMAR ST	CHATTANOOGA	TN	
7230	1700 DELMAR ST	CHATTANOOGA	TN	
7231	1700 DELMAR ST	CHATTANOOGA	TN	
7232	1700 DELMAR ST	CHATTANOOGA	TN	
7233	1700 DELMAR ST	CHATTANOOGA	TN	
7234	1700 DELMAR ST	CHATTANOOGA	TN	
7235	1700 DELMAR ST	CHATTANOOGA	TN	
7236	1700 DELMAR ST	CHATTANOOGA	TN	
7237	1700 DELMAR ST	CHATTANOOGA	TN	
7238	1700 DELMAR ST	CHATTANOOGA	TN	
7239	1700 DELMAR ST	CHATTANOOGA	TN	
7240	1700 DELMAR ST	CHATTANOOGA	TN	
7241	1700 DELMAR ST	CHATTANOOGA	TN	
7242	1700 DELMAR ST	CHATTANOOGA	TN	
7243				
7244	1700 DELMAR ST	CHATTANOOGA	TN	
7245	1700 DELMAR ST	CHATTANOOGA	TN	
7246	1700 DELMAR ST	CHATTANOOGA	TN	
7247	1700 DELMAR ST	CHATTANOOGA	TN	
7248	1700 DELMAR ST	CHATTANOOGA	TN	
7249	1700 DELMAR ST	CHATTANOOGA	TN	

	N	O	P	Q
7200	898.41	1000G	1977.63	A3MSM
7201	899.15	1000G	1978.91	A3MSM
7202	990.42	1000G	2135.32	A3MSM
7203	999.39	1000G	2150.7	A3MSM
7204	1173.69	1000G	2449.41	A3MSM
7205	1043.53	1000G	2226.34	A3MSM
7206	11365.84		25142.84	
7207	1478.15	1000G	2971.18	A3MSM
7208	1010.61	1000G	2169.93	A3MSM
7209	934.31	1000G	2039.17	A3MSM
7210	1239.52	1000G	2562.22	A3MSM
7211	1290.38	1000G	2673.84	A3MSM
7212	1097.39	1000G	2610.14	A3MSM
7213	1416.81	1000G	3279.63	A3MSM
7214	1104.12	1000G	2623.13	A3MSM
7215	1161.72	1000G	2734.24	A3MSM
7216	1131.8	1000G	2676.52	A3MSM
7217	1023.33	1000G	2467.28	A3MSM
7218	950.77	1000G	2327.31	A3MSM
7219	13838.91		31134.59	
7220	1095.14	1000G	2605.81	A3MSM
7221	1157.98	1000G	2727.02	A3MSM
7222	1452.71	1000G	3295.57	A3MSM
7223	3705.83		8628.4	
7224	2.24	1000G	24.2	A3M4
7225	50.86	1000G	245.69	A3M4
7226	71.81	1000G	291.92	A3M4
7227	-96.5	1000G	-273.17	A3M4
7228	28.41		288.64	
7229	19.44	1000G	77.44	A3M4
7230	-40.39	1000G	-164.76	A3M4
7231	40.39	1000G	164.76	A3M4
7232	7.48	1000G	50.29	A3M4
7233	19.44	1000G	108.35	A3M4
7234	10.47	1000G	79.42	A3M4
7235	11.22	1000G	82.51	A3M4
7236	12.71	1000G	87.97	A3M4
7237	14.96	1000G	96.16	A3M4
7238	11.22	1000G	82.51	A3M4
7239	11.96	1000G	85.24	A3M4
7240	10.47	1000G	79.78	A3M4
7241	13.46	1000G	90.7	A3M4
7242	10.47	1000G	79.78	A3M4
7243	153.3		1000.15	
7244	8.97	1000G	74.32	A3M4
7245	11.96	1000G	85.24	A3M4
7246	11.96	1000G	85.24	A3M4
7247	13.46	1000G	90.7	A3M4
7248	20.94	1000G	118	A3M4
7249	17.95	1000G	107.08	A3M4

	A	B	C	D	E
7250	2600	2603	26CC	3	7
7251	2600	2603	26CC	3	8
7252	2600	2603	26CC	3	9
7253	2600	2603	26CC	3	10
7254	2600	2603	26CC	3	11
7255	2600	2603	26CC	3	12
7256					
7257	2600	2603	26CC	3	1
7258	2600	2603	26CC	3	2
7259	2600	2603	26CC	3	3
7260	2600	2603	26CC	3	4
7261	2600	2603	26CC	3	5
7262	2600	2603	26CC	3	6
7263	2600	2603	26CC	3	7
7264	2600	2603	26CC	3	8
7265	2600	2603	26CC	3	9
7266	2600	2603	26CC	3	10
7267	2600	2603	26CC	3	11
7268	2600	2603	26CC	3	12
7269					
7270	2600	2603	26CC	3	1
7271	2600	2603	26CC	3	2
7272	2600	2603	26CC	3	3
7273					
7274	2600	2603	26CC	3	1
7275	2600	2603	26CC	3	2
7276	2600	2603	26CC	3	3
7277	2600	2603	26CC	3	4
7278	2600	2603	26CC	3	5
7279	2600	2603	26CC	3	6
7280	2600	2603	26CC	3	7
7281	2600	2603	26CC	3	8
7282	2600	2603	26CC	3	9
7283	2600	2603	26CC	3	10
7284	2600	2603	26CC	3	11
7285	2600	2603	26CC	3	12
7286					
7287	2600	2603	26CC	3	1
7288	2600	2603	26CC	3	2
7289	2600	2603	26CC	3	3
7290	2600	2603	26CC	3	4
7291	2600	2603	26CC	3	5
7292	2600	2603	26CC	3	6
7293	2600	2603	26CC	3	7
7294	2600	2603	26CC	3	8
7295	2600	2603	26CC	3	9
7296	2600	2603	26CC	3	10
7297	2600	2603	26CC	3	11
7298	2600	2603	26CC	3	12
7299					

	F	G	H	I
7250	2006	147134	260033481	SSM PROPERTIES LP
7251	2006	147134	260033481	SSM PROPERTIES LP
7252	2006	147134	260033481	SSM PROPERTIES LP
7253	2006	147134	260033481	SSM PROPERTIES LP
7254	2006	147134	260033481	SSM PROPERTIES LP
7255	2006	147134	260033481	SSM PROPERTIES LP
7256	**2006 Total**			
7257	2007	147134	260033481	SSM PROPERTIES LP
7258	2007	147134	260033481	SSM PROPERTIES LP
7259	2007	147134	260033481	SSM PROPERTIES LP
7260	2007	147134	260033481	SSM PROPERTIES LP
7261	2007	147134	260033481	SSM PROPERTIES LP
7262	2007	147134	260033481	SSM PROPERTIES LP
7263	2007	147134	260033481	SSM PROPERTIES LP
7264	2007	147134	260033481	SSM PROPERTIES LP
7265	2007	147134	260033481	SSM PROPERTIES LP
7266	2007	147134	260033481	SSM PROPERTIES LP
7267	2007	147134	260033481	SSM PROPERTIES LP
7268	2007	147134	260033481	SSM PROPERTIES LP
7269	**2007 Total**			
7270	2008	147134	260033481	SSM PROPERTIES LP
7271	2008	147134	260033481	SSM PROPERTIES LP
7272	2008	147134	260033481	SSM PROPERTIES LP
7273	**2008 Total**			
7274	2005	150937	260033461	Hyperlast North America
7275	2005	150937	260033461	Hyperlast North America
7276	2005	150937	260033461	Hyperlast North America
7277	2005	150937	260033461	Hyperlast North America
7278	2005	150937	260033461	Hyperlast North America
7279	2005	150937	260033461	Hyperlast North America
7280	2005	150937	260033461	Hyperlast North America
7281	2005	150937	260033461	Hyperlast North America
7282	2005	150937	260033461	Hyperlast North America
7283	2005	150937	260033461	Hyperlast North America
7284	2005	150937	260033461	Hyperlast North America
7285	2005	150937	260033461	Hyperlast North America
7286	**2005 Total**			
7287	2006	150937	260033461	Hyperlast North America
7288	2006	150937	260033461	Hyperlast North America
7289	2006	150937	260033461	Hyperlast North America
7290	2006	150937	260033461	Hyperlast North America
7291	2006	150937	260033461	Hyperlast North America
7292	2006	150937	260033461	Hyperlast North America
7293	2006	150937	260033461	Hyperlast North America
7294	2006	150937	260033461	Hyperlast North America
7295	2006	150937	260033461	Hyperlast North America
7296	2006	150937	260033461	Hyperlast North America
7297	2006	150937	260033461	Hyperlast North America
7298	2006	150937	260033461	Hyperlast North America
7299	**2006 Total**			

	J	K	L	M
7250	1700 DELMAR ST	CHATTANOOGA	TN	
7251	1700 DELMAR ST	CHATTANOOGA	TN	
7252	1700 DELMAR ST	CHATTANOOGA	TN	
7253	1700 DELMAR ST	CHATTANOOGA	TN	
7254	1700 DELMAR ST	CHATTANOOGA	TN	
7255	1700 DELMAR ST	CHATTANOOGA	TN	
7256				
7257	1700 DELMAR ST	CHATTANOOGA	TN	
7258	1700 DELMAR ST	CHATTANOOGA	TN	
7259	1700 DELMAR ST	CHATTANOOGA	TN	
7260	1700 DELMAR ST	CHATTANOOGA	TN	
7261	1700 DELMAR ST	CHATTANOOGA	TN	
7262	1700 DELMAR ST	CHATTANOOGA	TN	
7263	1700 DELMAR ST	CHATTANOOGA	TN	
7264	1700 DELMAR ST	CHATTANOOGA	TN	
7265	1700 DELMAR ST	CHATTANOOGA	TN	
7266	1700 DELMAR ST	CHATTANOOGA	TN	
7267	1700 DELMAR ST	CHATTANOOGA	TN	
7268	1700 DELMAR ST	CHATTANOOGA	TN	
7269				
7270	1700 DELMAR ST	CHATTANOOGA	TN	
7271	1700 DELMAR ST	CHATTANOOGA	TN	
7272	1700 DELMAR ST	CHATTANOOGA	TN	
7273				
7274	2001 Curtain Pole Rd	Chattanooga	TN	374062304
7275	2001 Curtain Pole Rd	Chattanooga	TN	374062304
7276	2001 Curtain Pole Rd	Chattanooga	TN	374062304
7277	2001 Curtain Pole Rd	Chattanooga	TN	374062304
7278	2001 Curtain Pole Rd	Chattanooga	TN	374062304
7279	2001 Curtain Pole Rd	Chattanooga	TN	374062304
7280	2001 Curtain Pole Rd	Chattanooga	TN	374062304
7281	2001 Curtain Pole Rd	Chattanooga	TN	374062304
7282	2001 Curtain Pole Rd	Chattanooga	TN	374062304
7283	2001 Curtain Pole Rd	Chattanooga	TN	374062304
7284	2001 Curtain Pole Rd	Chattanooga	TN	374062304
7285	2001 Curtain Pole Rd	Chattanooga	TN	374062304
7286				
7287	2001 Curtain Pole Rd	Chattanooga	TN	374062304
7288	2001 Curtain Pole Rd	Chattanooga	TN	374062304
7289	2001 Curtain Pole Rd	Chattanooga	TN	374062304
7290	2001 Curtain Pole Rd	Chattanooga	TN	374062304
7291	2001 Curtain Pole Rd	Chattanooga	TN	374062304
7292	2001 Curtain Pole Rd	Chattanooga	TN	374062304
7293	2001 Curtain Pole Rd	Chattanooga	TN	374062304
7294	2001 Curtain Pole Rd	Chattanooga	TN	374062304
7295	2001 Curtain Pole Rd	Chattanooga	TN	374062304
7296	2001 Curtain Pole Rd	Chattanooga	TN	374062304
7297	2001 Curtain Pole Rd	Chattanooga	TN	374062304
7298	2001 Curtain Pole Rd	Chattanooga	TN	374062304
7299				

	N	O	P	Q
7250	21.69	1000G	120.73	A3M4
7251	19.44	1000G	112.54	A3M4
7252	18.7	1000G	109.81	A3M4
7253	23.18	1000G	126.19	A3M4
7254	12.71	1000G	87.97	A3M4
7255	32.91	1000G	161.68	A3M4
7256	213.87		1279.5	
7257	19.44	1000G	112.54	A3M4
7258	17.2	1000G	104.35	A3M4
7259	11.96	1000G	85.24	A3M4
7260	33.66	1000G	164.41	A3M4
7261	22.44	1000G	123.46	A3M4
7262	37.4	1000G	186.27	A3M4
7263	32.16	1000G	178.93	A3M4
7264	34.41	1000G	188.15	A3M4
7265	22.44	1000G	138.98	A3M4
7266	23.18	1000G	142.05	A3M4
7267	20.19	1000G	129.76	A3M4
7268	17.2	1000G	117.47	A3M4
7269	291.68		1671.61	
7270	18.7	1000G	123.61	A3M4
7271	17.2	1000G	117.47	A3M4
7272	14.96	1000G	108.25	A3M4
7273	50.86		349.33	
7274	133.9	1000G	353.15	A3M4
7275	178.78	1000G	473.16	A3M4
7276	221.42	1000G	567.27	A3M4
7277	184.76	1000G	502.95	A3M4
7278	162.32	1000G	453.78	A3M4
7279	178.03	1000G	489.8	A3M4
7280	151.85	1000G	429.77	A3M4
7281	171.3	1000G	474.36	A3M4
7282	216.93	1000G	578.98	A3M4
7283	240.87	1000G	633.86	A3M4
7284	420.4	1000G	1018.61	A3M4
7285	337.37	1000G	855.09	A3M4
7286	2597.93		6830.78	
7287	321.66	1000G	819.08	A3M4
7288	282.01	1000G	728.18	A3M4
7289	287.25	1000G	740.19	A3M4
7290	196.73	1000G	532.67	A3M4
7291	13.46	1000G	64.79	A3M4
7292	9.72	1000G	51.14	A3M4
7293	12.71	1000G	62.06	A3M4
7294	14.21	1000G	67.52	A3M4
7295	17.95	1000G	81.17	A3M4
7296	20.19	1000G	89.36	A3M4
7297	23.18	1000G	100.28	A3M4
7298	29.17	1000G	122.12	A3M4
7299	1228.24		3458.56	

	A	B	C	D	E
7300	2600	2603	26CC	3	1
7301	2600	2603	26CC	3	2
7302	2600	2603	26CC	3	3
7303	2600	2603	26CC	3	4
7304	2600	2603	26CC	3	5
7305	2600	2603	26CC	3	6
7306	2600	2603	26CC	3	7
7307	2600	2603	26CC	3	8
7308	2600	2603	26CC	3	9
7309	2600	2603	26CC	3	10
7310	2600	2603	26CC	3	11
7311	2600	2603	26CC	3	12
7312					
7313	2600	2603	26CC	3	1
7314	2600	2603	26CC	3	2
7315	2600	2603	26CC	3	3
7316					
7317	2600	2603	26CC	3	1
7318	2600	2603	26CC	3	2
7319	2600	2603	26CC	3	3
7320	2600	2603	26CC	3	4
7321	2600	2603	26CC	3	5
7322	2600	2603	26CC	3	6
7323	2600	2603	26CC	3	7
7324	2600	2603	26CC	3	8
7325	2600	2603	26CC	3	9
7326	2600	2603	26CC	3	10
7327	2600	2603	26CC	3	11
7328	2600	2603	26CC	3	12
7329					
7330	2600	2603	26CC	3	1
7331	2600	2603	26CC	3	2
7332	2600	2603	26CC	3	3
7333	2600	2603	26CC	3	4
7334	2600	2603	26CC	3	5
7335	2600	2603	26CC	3	6
7336	2600	2603	26CC	3	7
7337	2600	2603	26CC	3	8
7338	2600	2603	26CC	3	9
7339	2600	2603	26CC	3	10
7340	2600	2603	26CC	3	11
7341	2600	2603	26CC	3	12
7342					
7343	2600	2603	26CC	3	1
7344	2600	2603	26CC	3	2
7345	2600	2603	26CC	3	3
7346	2600	2603	26CC	3	4
7347	2600	2603	26CC	3	5
7348	2600	2603	26CC	3	6
7349	2600	2603	26CC	3	7

	F	G	H	I
7300	2007	150937	260033461	Hyperlast North America
7301	2007	150937	260033461	Hyperlast North America
7302	2007	150937	260033461	Hyperlast North America
7303	2007	150937	260033461	Hyperlast North America
7304	2007	150937	260033461	Hyperlast North America
7305	2007	150937	260033461	Hyperlast North America
7306	2007	150937	260033461	Hyperlast North America
7307	2007	150937	260033461	Hyperlast North America
7308	2007	150937	260033461	Hyperlast North America
7309	2007	150937	260033461	Hyperlast North America
7310	2007	150937	260033461	Hyperlast North America
7311	2007	150937	260033461	Hyperlast North America
7312	**2007 Total**			
7313	2008	150937	260033461	Hyperlast North America
7314	2008	150937	260033461	Hyperlast North America
7315	2008	150937	260033461	Hyperlast North America
7316	**2008 Total**			
7317	2005	150938	260033462	Hyperlast North America
7318	2005	150938	260033462	Hyperlast North America
7319	2005	150938	260033462	Hyperlast North America
7320	2005	150938	260033462	Hyperlast North America
7321	2005	150938	260033462	Hyperlast North America
7322	2005	150938	260033462	Hyperlast North America
7323	2005	150938	260033462	Hyperlast North America
7324	2005	150938	260033462	Hyperlast North America
7325	2005	150938	260033462	Hyperlast North America
7326	2005	150938	260033462	Hyperlast North America
7327	2005	150938	260033462	Hyperlast North America
7328	2005	150938	260033462	Hyperlast North America
7329	**2005 Total**			
7330	2006	150938	260033462	Hyperlast North America
7331	2006	150938	260033462	Hyperlast North America
7332	2006	150938	260033462	Hyperlast North America
7333	2006	150938	260033462	Hyperlast North America
7334	2006	150938	260033462	Hyperlast North America
7335	2006	150938	260033462	Hyperlast North America
7336	2006	150938	260033462	Hyperlast North America
7337	2006	150938	260033462	Hyperlast North America
7338	2006	150938	260033462	Hyperlast North America
7339	2006	150938	260033462	Hyperlast North America
7340	2006	150938	260033462	Hyperlast North America
7341	2006	150938	260033462	Hyperlast North America
7342	**2006 Total**			
7343	2007	150938	260033462	Hyperlast North America
7344	2007	150938	260033462	Hyperlast North America
7345	2007	150938	260033462	Hyperlast North America
7346	2007	150938	260033462	Hyperlast North America
7347	2007	150938	260033462	Hyperlast North America
7348	2007	150938	260033462	Hyperlast North America
7349	2007	150938	260033462	Hyperlast North America

	J	K	L	M
7300	2001 Curtain Pole Rd	Chattanooga	TN	374062304
7301	2001 Curtain Pole Rd	Chattanooga	TN	374062304
7302	2001 Curtain Pole Rd	Chattanooga	TN	374062304
7303	2001 Curtain Pole Rd	Chattanooga	TN	374062304
7304	2001 Curtain Pole Rd	Chattanooga	TN	374062304
7305	2001 Curtain Pole Rd	Chattanooga	TN	374062304
7306	2001 Curtain Pole Rd	Chattanooga	TN	374062304
7307	2001 Curtain Pole Rd	Chattanooga	TN	374062304
7308	2001 Curtain Pole Rd	Chattanooga	TN	374062304
7309	2001 Curtain Pole Rd	Chattanooga	TN	374062304
7310	2001 Curtain Pole Rd	Chattanooga	TN	374062304
7311	2001 Curtain Pole Rd	Chattanooga	TN	374062304
7312				
7313	2001 Curtain Pole Rd	Chattanooga	TN	374062304
7314	2001 Curtain Pole Rd	Chattanooga	TN	374062304
7315	2001 Curtain Pole Rd	Chattanooga	TN	374062304
7316				
7317	2003 Curtain Pole Rd	Chattanooga	TN	374062304
7318	2003 Curtain Pole Rd	Chattanooga	TN	374062304
7319	2003 Curtain Pole Rd	Chattanooga	TN	374062304
7320	2003 Curtain Pole Rd	Chattanooga	TN	374062304
7321	2003 Curtain Pole Rd	Chattanooga	TN	374062304
7322	2003 Curtain Pole Rd	Chattanooga	TN	374062304
7323	2003 Curtain Pole Rd	Chattanooga	TN	374062304
7324	2003 Curtain Pole Rd	Chattanooga	TN	374062304
7325	2003 Curtain Pole Rd	Chattanooga	TN	374062304
7326	2003 Curtain Pole Rd	Chattanooga	TN	374062304
7327	2003 Curtain Pole Rd	Chattanooga	TN	374062304
7328	2003 Curtain Pole Rd	Chattanooga	TN	374062304
7329				
7330	2003 Curtain Pole Rd	Chattanooga	TN	374062304
7331	2003 Curtain Pole Rd	Chattanooga	TN	374062304
7332	2003 Curtain Pole Rd	Chattanooga	TN	374062304
7333	2003 Curtain Pole Rd	Chattanooga	TN	374062304
7334	2003 Curtain Pole Rd	Chattanooga	TN	374062304
7335	2003 Curtain Pole Rd	Chattanooga	TN	374062304
7336	2003 Curtain Pole Rd	Chattanooga	TN	374062304
7337	2003 Curtain Pole Rd	Chattanooga	TN	374062304
7338	2003 Curtain Pole Rd	Chattanooga	TN	374062304
7339	2003 Curtain Pole Rd	Chattanooga	TN	374062304
7340	2003 Curtain Pole Rd	Chattanooga	TN	374062304
7341	2003 Curtain Pole Rd	Chattanooga	TN	374062304
7342				
7343	2003 Curtain Pole Rd	Chattanooga	TN	374062304
7344	2003 Curtain Pole Rd	Chattanooga	TN	374062304
7345	2003 Curtain Pole Rd	Chattanooga	TN	374062304
7346	2003 Curtain Pole Rd	Chattanooga	TN	374062304
7347	2003 Curtain Pole Rd	Chattanooga	TN	374062304
7348	2003 Curtain Pole Rd	Chattanooga	TN	374062304
7349	2003 Curtain Pole Rd	Chattanooga	TN	374062304

	N	O	P	Q
7300	17.95	1000G	81.17	A3M4
7301	17.2	1000G	78.44	A3M4
7302	18.7	1000G	83.9	A3M4
7303	18.7	1000G	83.9	A3M4
7304	14.96	1000G	70.25	A3M4
7305	11.96	1000G	62.07	A3M4
7306	14.21	1000G	76.02	A3M4
7307	20.19	1000G	100.6	A3M4
7308	14.96	1000G	79.09	A3M4
7309	14.21	1000G	76.02	A3M4
7310	36.65	1000G	168.21	A3M4
7311	17.2	1000G	88.31	A3M4
7312	216.89		1047.98	
7313	11.96	1000G	66.8	A3M4
7314	20.94	1000G	103.67	A3M4
7315	17.95	1000G	91.38	A3M4
7316	50.85		261.85	
7317	5.23	1000G	29.46	A3M4
7318	58.34	1000G	207.35	A3M4
7319	26.18	1000G	107.05	A3M4
7320	27.67	1000G	116.13	A3M4
7321	18.7	1000G	83.9	A3M4
7322	5.98	1000G	37.49	A3M4
7323	6.73	1000G	40.22	A3M4
7324	5.98	1000G	37.49	A3M4
7325	6.73	1000G	40.22	A3M4
7326	47.12	1000G	187.64	A3M4
7327	-36.66	1000G	-118.12	A3M4
7328	5.98	1000G	37.49	A3M4
7329	177.98		806.32	
7330	5.23	1000G	34.76	A3M4
7331	6.73	1000G	40.22	A3M4
7332	6.73	1000G	40.22	A3M4
7333	6.72	1000G	40.22	A3M4
7334	6.73	1000G	40.22	A3M4
7335	7.48	1000G	42.95	A3M4
7336	7.48	1000G	42.95	A3M4
7337	6.73	1000G	40.22	A3M4
7338	7.48	1000G	42.95	A3M4
7339	5.98	1000G	37.49	A3M4
7340	7.48	1000G	42.95	A3M4
7341	29.17	1000G	122.12	A3M4
7342	103.94		567.27	
7343	8.97	1000G	48.41	A3M4
7344	16.45	1000G	75.71	A3M4
7345	6.73	1000G	40.22	A3M4
7346	8.22	1000G	45.68	A3M4
7347	6.73	1000G	40.22	A3M4
7348	6.73	1000G	42.07	A3M4
7349	7.48	1000G	48.36	A3M4

	A	B	C	D	E
7350	2600	2603	26CC	3	8
7351	2600	2603	26CC	3	9
7352	2600	2603	26CC	3	10
7353	2600	2603	26CC	3	11
7354	2600	2603	26CC	3	12
7355					
7356	2600	2603	26CC	3	1
7357	2600	2603	26CC	3	2
7358	2600	2603	26CC	3	3
7359					
7360	2600	2603	26CC	3	3
7361	2600	2603	26CC	3	4
7362	2600	2603	26CC	3	5
7363	2600	2603	26CC	3	6
7364	2600	2603	26CC	3	7
7365	2600	2603	26CC	3	8
7366	2600	2603	26CC	3	9
7367	2600	2603	26CC	3	10
7368	2600	2603	26CC	3	11
7369	2600	2603	26CC	3	12
7370					
7371	2600	2603	26CC	3	1
7372	2600	2603	26CC	3	2
7373	2600	2603	26CC	3	2
7374	2600	2603	26CC	3	2
7375	2600	2603	26CC	3	3
7376	2600	2603	26CC	3	4
7377	2600	2603	26CC	3	5
7378	2600	2603	26CC	3	6
7379	2600	2603	26CC	3	7
7380	2600	2603	26CC	3	8
7381	2600	2603	26CC	3	9
7382	2600	2603	26CC	3	10
7383	2600	2603	26CC	3	11
7384	2600	2603	26CC	3	12
7385					
7386	2600	2603	26CC	3	1
7387	2600	2603	26CC	3	2
7388	2600	2603	26CC	3	3
7389	2600	2603	26CC	3	4
7390	2600	2603	26CC	3	5
7391	2600	2603	26CC	3	6
7392	2600	2603	26CC	3	7
7393	2600	2603	26CC	3	8
7394	2600	2603	26CC	3	9
7395	2600	2603	26CC	3	10
7396	2600	2603	26CC	3	11
7397	2600	2603	26CC	3	12
7398					
7399	2600	2603	26CC	3	1

	F	G	H	I
7350	2007	150938	260033462	Hyperlast North America
7351	2007	150938	260033462	Hyperlast North America
7352	2007	150938	260033462	Hyperlast North America
7353	2007	150938	260033462	Hyperlast North America
7354	2007	150938	260033462	Hyperlast North America
7355	**2007 Total**			
7356	2008	150938	260033462	Hyperlast North America
7357	2008	150938	260033462	Hyperlast North America
7358	2008	150938	260033462	Hyperlast North America
7359	**2008 Total**			
7360	2005	154153	260073687	Signal Mountain Cement
7361	2005	154153	260073687	Signal Mountain Cement
7362	2005	157121	260040893	ALLIED METAL COMPANY
7363	2005	157121	260040893	ALLIED METAL COMPANY
7364	2005	157121	260040893	ALLIED METAL COMPANY
7365	2005	157121	260040893	ALLIED METAL COMPANY
7366	2005	157121	260040893	ALLIED METAL COMPANY
7367	2005	157121	260040893	ALLIED METAL COMPANY
7368	2005	157121	260040893	ALLIED METAL COMPANY
7369	2005	157121	260040893	ALLIED METAL COMPANY
7370	**2005 Total**			
7371	2006	157121	260040893	ALLIED METAL COMPANY
7372	2006	157121	260040893	ALLIED METAL COMPANY
7373	2006	157121	260040893	ALLIED METAL COMPANY
7374	2006	157121	260040893	ALLIED METAL COMPANY
7375	2006	157121	260040893	ALLIED METAL COMPANY
7376	2006	157121	260040893	ALLIED METAL COMPANY
7377	2006	157121	260040893	ALLIED METAL COMPANY
7378	2006	157121	260040893	ALLIED METAL COMPANY
7379	2006	157121	260040893	ALLIED METAL COMPANY
7380	2006	157121	260040893	ALLIED METAL COMPANY
7381	2006	157121	260040893	ALLIED METAL COMPANY
7382	2006	157121	260040893	ALLIED METAL COMPANY
7383	2006	157121	260040893	ALLIED METAL COMPANY
7384	2006	157121	260040893	ALLIED METAL COMPANY
7385	**2006 Total**			
7386	2007	157121	260040893	ALLIED METAL COMPANY
7387	2007	157121	260040893	ALLIED METAL COMPANY
7388	2007	157121	260040893	ALLIED METAL COMPANY
7389	2007	157121	260040893	ALLIED METAL COMPANY
7390	2007	157121	260040893	ALLIED METAL COMPANY
7391	2007	157121	260040893	ALLIED METAL COMPANY
7392	2007	157121	260040893	ALLIED METAL COMPANY
7393	2007	157121	260040893	ALLIED METAL COMPANY
7394	2007	157121	260040893	ALLIED METAL COMPANY
7395	2007	157121	260040893	ALLIED METAL COMPANY
7396	2007	157121	260040893	ALLIED METAL COMPANY
7397	2007	157121	260040893	ALLIED METAL COMPANY
7398	**2007 Total**			
7399	2008	157121	260040893	ALLIED METAL COMPANY

	J	K	L	M
7350	2003 Curtain Pole Rd	Chattanooga	TN	374062304
7351	2003 Curtain Pole Rd	Chattanooga	TN	374062304
7352	2003 Curtain Pole Rd	Chattanooga	TN	374062304
7353	2003 Curtain Pole Rd	Chattanooga	TN	374062304
7354	2003 Curtain Pole Rd	Chattanooga	TN	374062304
7355				
7356	2003 Curtain Pole Rd	Chattanooga	TN	374062304
7357	2003 Curtain Pole Rd	Chattanooga	TN	374062304
7358	2003 Curtain Pole Rd	Chattanooga	TN	374062304
7359				
7360	HYDRANT METER #031923053T	Chattanooga	TN	37402
7361	HYDRANT METER #031923053T	Chattanooga	TN	37402
7362	3434 Lightfoot Mill Rd	Chattanooga	TN	374062125
7363	3434 Lightfoot Mill Rd	Chattanooga	TN	374062125
7364	3434 Lightfoot Mill Rd	Chattanooga	TN	374062125
7365	3434 Lightfoot Mill Rd	Chattanooga	TN	374062125
7366	3434 Lightfoot Mill Rd	Chattanooga	TN	374062125
7367	3434 Lightfoot Mill Rd	Chattanooga	TN	374062125
7368	3434 Lightfoot Mill Rd	Chattanooga	TN	374062125
7369	3434 Lightfoot Mill Rd	Chattanooga	TN	374062125
7370				
7371	3434 Lightfoot Mill Rd	Chattanooga	TN	374062125
7372	3434 Lightfoot Mill Rd	Chattanooga	TN	374062125
7373	3434 Lightfoot Mill Rd	Chattanooga	TN	374062125
7374	3434 Lightfoot Mill Rd	Chattanooga	TN	374062125
7375	3434 Lightfoot Mill Rd	Chattanooga	TN	374062125
7376	3434 Lightfoot Mill Rd	Chattanooga	TN	374062125
7377	3434 Lightfoot Mill Rd	Chattanooga	TN	374062125
7378	3434 Lightfoot Mill Rd	Chattanooga	TN	374062125
7379	3434 Lightfoot Mill Rd	Chattanooga	TN	374062125
7380	3434 Lightfoot Mill Rd	Chattanooga	TN	374062125
7381	3434 Lightfoot Mill Rd	Chattanooga	TN	374062125
7382	3434 Lightfoot Mill Rd	Chattanooga	TN	374062125
7383	3434 Lightfoot Mill Rd	Chattanooga	TN	374062125
7384	3434 Lightfoot Mill Rd	Chattanooga	TN	374062125
7385				
7386	3434 Lightfoot Mill Rd	Chattanooga	TN	374062125
7387	3434 Lightfoot Mill Rd	Chattanooga	TN	374062125
7388	3434 Lightfoot Mill Rd	Chattanooga	TN	374062125
7389	3434 Lightfoot Mill Rd	Chattanooga	TN	374062125
7390	3434 Lightfoot Mill Rd	Chattanooga	TN	374062125
7391	3434 Lightfoot Mill Rd	Chattanooga	TN	374062125
7392	3434 Lightfoot Mill Rd	Chattanooga	TN	374062125
7393	3434 Lightfoot Mill Rd	Chattanooga	TN	374062125
7394	3434 Lightfoot Mill Rd	Chattanooga	TN	374062125
7395	3434 Lightfoot Mill Rd	Chattanooga	TN	374062125
7396	3434 Lightfoot Mill Rd	Chattanooga	TN	374062125
7397	3434 Lightfoot Mill Rd	Chattanooga	TN	374062125
7398				
7399	3434 Lightfoot Mill Rd	Chattanooga	TN	374062125

	N	O	P	Q
7350	5.23	1000G	39.14	A3M4
7351	6.73	1000G	45.29	A3M4
7352	5.98	1000G	42.21	A3M4
7353	8.97	1000G	54.5	A3M4
7354	11.96	1000G	66.8	A3M4
7355	100.18		588.61	
7356	7.48	1000G	48.36	A3M4
7357	5.98	1000G	42.21	A3M4
7358	7.48	1000G	48.36	A3M4
7359	20.94		138.93	
7360	1447.48	1000G	2838.37	A3M4
7361	0	1000G	93.21	A3M4
7362	0	1000G	5.25	A3M4
7363	0	1000G	9.26	A3M4
7364	0	1000G	9.26	A3M4
7365	0.74	1000G	9.43	A3M4
7366	0	1000G	9.26	A3M4
7367	0.74	1000G	9.43	A3M4
7368	0	1000G	9.26	A3M4
7369	0	1000G	9.26	A3M4
7370	1448.96		3001.99	
7371	112.2	1000G	322.26	A3M4
7372	0	1000G	9.26	A3M4
7373	0.74	1000G	9.43	A3M4
7374	-112.2	1000G	-322.26	A3M4
7375	0	1000G	9.26	A3M4
7376	0	1000G	9.26	A3M4
7377	0	1000G	9.26	A3M4
7378	0	1000G	9.26	A3M4
7379	0	1000G	9.26	A3M4
7380	2.99	1000G	9.95	A3M4
7381	0	1000G	9.26	A3M4
7382	-2.24	1000G	8.74	A3M4
7383	0	1000G	9.26	A3M4
7384	0	1000G	9.26	A3M4
7385	1.49		111.46	
7386	0.74	1000G	9.43	A3M4
7387	0	1000G	9.26	A3M4
7388	0	1000G	9.26	A3M4
7389	0	1000G	9.26	A3M4
7390	0	1000G	9.26	A3M4
7391	0.74	1000G	10.21	A3M4
7392	14.21	1000G	57.3	A3M4
7393	0	1000G	10.42	A3M4
7394	0.74	1000G	10.61	A3M4
7395	0	1000G	10.42	A3M4
7396	0	1000G	10.42	A3M4
7397	0	1000G	10.42	A3M4
7398	16.43		166.27	
7399	10.47	1000G	41.93	A3M4

	A	B	C	D	E
7400	2600	2603	26CC	3	2
7401	2600	2603	26CC	3	3
7402					
7403	2600	2603	26CC	3	7
7404	2600	2603	26CC	3	8
7405	2600	2603	26CC	3	9
7406	2600	2603	26CC	3	10
7407	2600	2603	26CC	3	11
7408	2600	2603	26CC	3	12
7409					
7410	2600	2603	26CC	3	1
7411	2600	2603	26CC	3	2
7412	2600	2603	26CC	3	3
7413	2600	2603	26CC	3	4
7414	2600	2603	26CC	3	5
7415	2600	2603	26CC	3	6
7416	2600	2603	26CC	3	7
7417	2600	2603	26CC	3	8
7418	2600	2603	26CC	3	9
7419	2600	2603	26CC	3	10
7420	2600	2603	26CC	3	11
7421	2600	2603	26CC	3	12
7422					
7423	2600	2603	26CC	3	1
7424	2600	2603	26CC	3	2
7425	2600	2603	26CC	3	3
7426	2600	2603	26CC	3	4
7427	2600	2603	26CC	3	5
7428	2600	2603	26CC	3	6
7429	2600	2603	26CC	3	7
7430	2600	2603	26CC	3	8
7431	2600	2603	26CC	3	8
7432	2600	2603	26CC	3	10
7433	2600	2603	26CC	3	10
7434	2600	2603	26CC	3	11
7435					
7436	2600	2603	26CC	3	1
7437	2600	2603	26CC	3	1
7438	2600	2603	26CC	3	2
7439					
7440	2600	2603	26CC	3	6
7441	2600	2603	26CC	3	11
7442	2600	2603	26CC	3	12
7443					
7444	2600	2603	26CC	3	1
7445	2600	2603	26CC	3	2
7446	2600	2603	26CC	3	3
7447	2600	2603	26CC	3	4
7448	2600	2603	26CC	3	5
7449	2600	2603	26CC	3	6

	F	G	H	I
7400	2008	157121	260040893	ALLIED METAL COMPANY
7401	2008	157121	260040893	ALLIED METAL COMPANY
7402	**2008 Total**			
7403	2005	158276	260087868	CHATTA BOILER & TANK MFG
7404	2005	158276	260087868	CHATTA BOILER & TANK MFG
7405	2005	158276	260087868	CHATTA BOILER & TANK MFG
7406	2005	158276	260087868	CHATTA BOILER & TANK MFG
7407	2005	158276	260087868	CHATTA BOILER & TANK MFG
7408	2005	158276	260087868	CHATTA BOILER & TANK MFG
7409	**2005 Total**			
7410	2006	158276	260087868	CHATTA BOILER & TANK MFG
7411	2006	158276	260087868	CHATTA BOILER & TANK MFG
7412	2006	158276	260087868	CHATTA BOILER & TANK MFG
7413	2006	158276	260087868	CHATTA BOILER & TANK MFG
7414	2006	158276	260087868	CHATTA BOILER & TANK MFG
7415	2006	158276	260087868	CHATTA BOILER & TANK MFG
7416	2006	158276	260087868	CHATTA BOILER & TANK MFG
7417	2006	158276	260087868	CHATTA BOILER & TANK MFG
7418	2006	158276	260087868	CHATTA BOILER & TANK MFG
7419	2006	158276	260087868	CHATTA BOILER & TANK MFG
7420	2006	158276	260087868	CHATTA BOILER & TANK MFG
7421	2006	158276	260087868	CHATTA BOILER & TANK MFG
7422	**2006 Total**			
7423	2007	158276	260087868	CHATTA BOILER & TANK MFG
7424	2007	158276	260087868	CHATTA BOILER & TANK MFG
7425	2007	158276	260087868	CHATTA BOILER & TANK MFG
7426	2007	158276	260087868	CHATTA BOILER & TANK MFG
7427	2007	158276	260087868	CHATTA BOILER & TANK MFG
7428	2007	158276	260087868	CHATTA BOILER & TANK MFG
7429	2007	158276	260087868	CHATTA BOILER & TANK MFG
7430	2007	158276	260087868	CHATTA BOILER & TANK MFG
7431	2007	158276	260087868	CHATTA BOILER & TANK MFG
7432	2007	158276	260087868	CHATTA BOILER & TANK MFG
7433	2007	158276	260087868	CHATTA BOILER & TANK MFG
7434	2007	158276	260087868	CHATTA BOILER & TANK MFG
7435	**2007 Total**			
7436	2008	158276	260087868	CHATTA BOILER & TANK MFG
7437	2008	158276	260087868	CHATTA BOILER & TANK MFG
7438	2008	158276	260087868	CHATTA BOILER & TANK MFG
7439	**2008 Total**			
7440	2005	159463	260086612	Hyperlast North America
7441	2005	168297	260073468	W.M. Wrigley Manufacturing LLC
7442	2005	168297	260073468	W.M. Wrigley Manufacturing LLC
7443	**2005 Total**			
7444	2006	168297	260073468	W.M. Wrigley Manufacturing LLC
7445	2006	168297	260073468	W.M. Wrigley Manufacturing LLC
7446	2006	168297	260073468	W.M. Wrigley Manufacturing LLC
7447	2006	168297	260073468	W.M. Wrigley Manufacturing LLC
7448	2006	168297	260073468	W.M. Wrigley Manufacturing LLC
7449	2006	168297	260073468	W.M. Wrigley Manufacturing LLC

	J	K	L	M
7400	3434 Lightfoot Mill Rd	Chattanooga	TN	374062125
7401	3434 Lightfoot Mill Rd	Chattanooga	TN	374062125
7402				
7403	1030 E Main St	Chattanooga	TN	374081540
7404	1030 E Main St	Chattanooga	TN	374081540
7405	1030 E Main St	Chattanooga	TN	374081540
7406	1030 E Main St	Chattanooga	TN	374081540
7407	1030 E Main St	Chattanooga	TN	374081540
7408	1030 E Main St	Chattanooga	TN	374081540
7409				
7410	1030 E Main St	Chattanooga	TN	374081540
7411	1030 E Main St	Chattanooga	TN	374081540
7412	1030 E Main St	Chattanooga	TN	374081540
7413	1030 E Main St	Chattanooga	TN	374081540
7414	1030 E Main St	Chattanooga	TN	374081540
7415	1030 E Main St	Chattanooga	TN	374081540
7416	1030 E Main St	Chattanooga	TN	374081540
7417	1030 E Main St	Chattanooga	TN	374081540
7418	1030 E Main St	Chattanooga	TN	374081540
7419	1030 E Main St	Chattanooga	TN	374081540
7420	1030 E Main St	Chattanooga	TN	374081540
7421	1030 E Main St	Chattanooga	TN	374081540
7422				
7423	1030 E Main St	Chattanooga	TN	374081540
7424	1030 E Main St	Chattanooga	TN	374081540
7425	1030 E Main St	Chattanooga	TN	374081540
7426	1030 E Main St	Chattanooga	TN	374081540
7427	1030 E Main St	Chattanooga	TN	374081540
7428	1030 E Main St	Chattanooga	TN	374081540
7429	1030 E Main St	Chattanooga	TN	374081540
7430	1030 E Main St	Chattanooga	TN	374081540
7431	1030 E Main St	Chattanooga	TN	374081540
7432	1030 E Main St	Chattanooga	TN	374081540
7433	1030 E Main St	Chattanooga	TN	374081540
7434	1030 E Main St	Chattanooga	TN	374081540
7435				
7436	1030 E Main St	Chattanooga	TN	374081540
7437	1030 E Main St	Chattanooga	TN	374081540
7438	1030 E Main St	Chattanooga	TN	374081540
7439				
7440	HYDRANT METER #070132798T	Chattanooga	TN	37406
7441	3002 Jersey Pike	Chattanooga	TN	374216208
7442	3002 Jersey Pike	Chattanooga	TN	374216208
7443				
7444	3002 Jersey Pike	Chattanooga	TN	374216208
7445	3002 Jersey Pike	Chattanooga	TN	374216208
7446	3002 Jersey Pike	Chattanooga	TN	374216208
7447	3002 Jersey Pike	Chattanooga	TN	374216208
7448	3002 Jersey Pike	Chattanooga	TN	374216208
7449	3002 Jersey Pike	Chattanooga	TN	374216208

	N	O	P	Q
7400	0	1000G	10.42	A3M4
7401	0	1000G	10.42	A3M4
7402	10.47		62.77	
7403	112.2	1000G	333.07	A3M4
7404	105.47	1000G	306.82	A3M4
7405	-217.67	1000G	-608.72	A3M4
7406	0	1000G	8.03	A3M4
7407	0	1000G	9.26	A3M4
7408	0	1000G	9.26	A3M4
7409	2.84217E-14		57.72	
7410	0.74	1000G	9.43	A3M4
7411	0	1000G	9.26	A3M4
7412	0	1000G	9.26	A3M4
7413	0	1000G	9.26	A3M4
7414	0	1000G	9.26	A3M4
7415	0	1000G	9.26	A3M4
7416	0	1000G	9.26	A3M4
7417	0	1000G	9.26	A3M4
7418	0	1000G	9.26	A3M4
7419	0	1000G	9.26	A3M4
7420	0	1000G	9.26	A3M4
7421	0	1000G	9.26	A3M4
7422	0.74		111.29	
7423	0	1000G	9.26	A3M4
7424	0	1000G	9.26	A3M4
7425	0	1000G	9.26	A3M4
7426	0	1000G	9.26	A3M4
7427	0	1000G	9.26	A3M4
7428	0	1000G	9.56	A3M4
7429	0	1000G	10.42	A3M4
7430	0	1000G	10.42	A3M4
7431	0	1000G	10.42	A3M4
7432	0	1000G	10.42	A3M4
7433	0	1000G	10.42	A3M4
7434	0	1000G	10.42	A3M4
7435	0		118.38	
7436	0	1000G	10.42	A3M4
7437	0	1000G	10.42	A3M4
7438	0	1000G	10.42	A3M4
7439	0		31.26	
7440	31.41	1000G	156.47	A3M4
7441	99.49	1000G	272.69	A3M4M
7442	332.88	1000G	984.62	A3M4M
7443	463.78		1413.78	
7444	399.45	1000G	1122.54	A3M4M
7445	615.64	1000G	1493.04	A3M4M
7446	795.17	1000G	1800.72	A3M4M
7447	818.36	1000G	1840.46	A3M4M
7448	1024.83	1000G	2194.29	A3M4M
7449	1259.71	1000G	2596.84	A3M4M

	A	B	C	D	E
7450	2600	2603	26CC	3	7
7451	2600	2603	26CC	3	8
7452	2600	2603	26CC	3	9
7453	2600	2603	26CC	3	10
7454	2600	2603	26CC	3	11
7455	2600	2603	26CC	3	12
7456					
7457	2600	2603	26CC	3	1
7458	2600	2603	26CC	3	2
7459	2600	2603	26CC	3	3
7460	2600	2603	26CC	3	4
7461	2600	2603	26CC	3	5
7462	2600	2603	26CC	3	6
7463	2600	2603	26CC	3	7
7464	2600	2603	26CC	3	8
7465	2600	2603	26CC	3	9
7466	2600	2603	26CC	3	10
7467	2600	2603	26CC	3	11
7468	2600	2603	26CC	3	12
7469					
7470	2600	2603	26CC	3	1
7471	2600	2603	26CC	3	2
7472	2600	2603	26CC	3	3
7473					
7474	2600	2603	26CC	3	11
7475	2600	2603	26CC	3	12
7476					
7477	2600	2603	26CC	3	1
7478	2600	2603	26CC	3	2
7479	2600	2603	26CC	3	3
7480	2600	2603	26CC	3	4
7481	2600	2603	26CC	3	5
7482	2600	2603	26CC	3	6
7483	2600	2603	26CC	3	7
7484	2600	2603	26CC	3	8
7485	2600	2603	26CC	3	9
7486	2600	2603	26CC	3	10
7487	2600	2603	26CC	3	11
7488	2600	2603	26CC	3	12
7489					
7490	2600	2603	26CC	3	1
7491	2600	2603	26CC	3	2
7492	2600	2603	26CC	3	3
7493	2600	2603	26CC	3	4
7494	2600	2603	26CC	3	5
7495	2600	2603	26CC	3	6
7496	2600	2603	26CC	3	7
7497	2600	2603	26CC	3	8
7498	2600	2603	26CC	3	9
7499	2600	2603	26CC	3	10

	F	G	H	I
7450	2006	168297	260073468	W.M. Wrigley Manufacturing LLC
7451	2006	168297	260073468	W.M. Wrigley Manufacturing LLC
7452	2006	168297	260073468	W.M. Wrigley Manufacturing LLC
7453	2006	168297	260073468	W.M. Wrigley Manufacturing LLC
7454	2006	168297	260073468	W.M. Wrigley Manufacturing LLC
7455	2006	168297	260073468	W.M. Wrigley Manufacturing LLC
7456	**2006 Total**			
7457	2007	168297	260073468	W.M. Wrigley Manufacturing LLC
7458	2007	168297	260073468	W.M. Wrigley Manufacturing LLC
7459	2007	168297	260073468	W.M. Wrigley Manufacturing LLC
7460	2007	168297	260073468	W.M. Wrigley Manufacturing LLC
7461	2007	168297	260073468	W.M. Wrigley Manufacturing LLC
7462	2007	168297	260073468	W.M. Wrigley Manufacturing LLC
7463	2007	168297	260073468	W.M. Wrigley Manufacturing LLC
7464	2007	168297	260073468	W.M. Wrigley Manufacturing LLC
7465	2007	168297	260073468	W.M. Wrigley Manufacturing LLC
7466	2007	168297	260073468	W.M. Wrigley Manufacturing LLC
7467	2007	168297	260073468	W.M. Wrigley Manufacturing LLC
7468	2007	168297	260073468	W.M. Wrigley Manufacturing LLC
7469	**2007 Total**			
7470	2008	168297	260073468	W.M. Wrigley Manufacturing LLC
7471	2008	168297	260073468	W.M. Wrigley Manufacturing LLC
7472	2008	168297	260073468	W.M. Wrigley Manufacturing LLC
7473	**2008 Total**			
7474	2005	168298	260073469	W.M. Wrigley Manufacturing LLC
7475	2005	168298	260073469	W.M. Wrigley Manufacturing LLC
7476	**2005 Total**			
7477	2006	168298	260073469	W.M. Wrigley Manufacturing LLC
7478	2006	168298	260073469	W.M. Wrigley Manufacturing LLC
7479	2006	168298	260073469	W.M. Wrigley Manufacturing LLC
7480	2006	168298	260073469	W.M. Wrigley Manufacturing LLC
7481	2006	168298	260073469	W.M. Wrigley Manufacturing LLC
7482	2006	168298	260073469	W.M. Wrigley Manufacturing LLC
7483	2006	168298	260073469	W.M. Wrigley Manufacturing LLC
7484	2006	168298	260073469	W.M. Wrigley Manufacturing LLC
7485	2006	168298	260073469	W.M. Wrigley Manufacturing LLC
7486	2006	168298	260073469	W.M. Wrigley Manufacturing LLC
7487	2006	168298	260073469	W.M. Wrigley Manufacturing LLC
7488	2006	168298	260073469	W.M. Wrigley Manufacturing LLC
7489	**2006 Total**			
7490	2007	168298	260073469	W.M. Wrigley Manufacturing LLC
7491	2007	168298	260073469	W.M. Wrigley Manufacturing LLC
7492	2007	168298	260073469	W.M. Wrigley Manufacturing LLC
7493	2007	168298	260073469	W.M. Wrigley Manufacturing LLC
7494	2007	168298	260073469	W.M. Wrigley Manufacturing LLC
7495	2007	168298	260073469	W.M. Wrigley Manufacturing LLC
7496	2007	168298	260073469	W.M. Wrigley Manufacturing LLC
7497	2007	168298	260073469	W.M. Wrigley Manufacturing LLC
7498	2007	168298	260073469	W.M. Wrigley Manufacturing LLC
7499	2007	168298	260073469	W.M. Wrigley Manufacturing LLC

	J	K	L	M
7450	3002 Jersey Pike	Chattanooga	TN	374216208
7451	3002 Jersey Pike	Chattanooga	TN	374216208
7452	3002 Jersey Pike	Chattanooga	TN	374216208
7453	3002 Jersey Pike	Chattanooga	TN	374216208
7454	3002 Jersey Pike	Chattanooga	TN	374216208
7455	3002 Jersey Pike	Chattanooga	TN	374216208
7456				
7457	3002 Jersey Pike	Chattanooga	TN	374216208
7458	3002 Jersey Pike	Chattanooga	TN	374216208
7459	3002 Jersey Pike	Chattanooga	TN	374216208
7460	3002 Jersey Pike	Chattanooga	TN	374216208
7461	3002 Jersey Pike	Chattanooga	TN	374216208
7462	3002 Jersey Pike	Chattanooga	TN	374216208
7463	3002 Jersey Pike	Chattanooga	TN	374216208
7464	3002 Jersey Pike	Chattanooga	TN	374216208
7465	3002 Jersey Pike	Chattanooga	TN	374216208
7466	3002 Jersey Pike	Chattanooga	TN	374216208
7467	3002 Jersey Pike	Chattanooga	TN	374216208
7468	3002 Jersey Pike	Chattanooga	TN	374216208
7469				
7470	3002 Jersey Pike	Chattanooga	TN	374216208
7471	3002 Jersey Pike	Chattanooga	TN	374216208
7472	3002 Jersey Pike	Chattanooga	TN	374216208
7473				
7474	3002 Jersey Pike	Chattanooga	TN	374216208
7475	3002 Jersey Pike	Chattanooga	TN	374216208
7476				
7477	3002 Jersey Pike	Chattanooga	TN	374216208
7478	3002 Jersey Pike	Chattanooga	TN	374216208
7479	3002 Jersey Pike	Chattanooga	TN	374216208
7480	3002 Jersey Pike	Chattanooga	TN	374216208
7481	3002 Jersey Pike	Chattanooga	TN	374216208
7482	3002 Jersey Pike	Chattanooga	TN	374216208
7483	3002 Jersey Pike	Chattanooga	TN	374216208
7484	3002 Jersey Pike	Chattanooga	TN	374216208
7485	3002 Jersey Pike	Chattanooga	TN	374216208
7486	3002 Jersey Pike	Chattanooga	TN	374216208
7487	3002 Jersey Pike	Chattanooga	TN	374216208
7488	3002 Jersey Pike	Chattanooga	TN	374216208
7489				
7490	3002 Jersey Pike	Chattanooga	TN	374216208
7491	3002 Jersey Pike	Chattanooga	TN	374216208
7492	3002 Jersey Pike	Chattanooga	TN	374216208
7493	3002 Jersey Pike	Chattanooga	TN	374216208
7494	3002 Jersey Pike	Chattanooga	TN	374216208
7495	3002 Jersey Pike	Chattanooga	TN	374216208
7496	3002 Jersey Pike	Chattanooga	TN	374216208
7497	3002 Jersey Pike	Chattanooga	TN	374216208
7498	3002 Jersey Pike	Chattanooga	TN	374216208
7499	3002 Jersey Pike	Chattanooga	TN	374216208

	N	O	P	Q
7450	2396.75	1000G	4545.48	A3M4M
7451	2266.58	1000G	4322.41	A3M4M
7452	2473.05	1000G	4676.24	A3M4M
7453	2472.31	1000G	4674.96	A3M4M
7454	2403.49	1000G	4557.02	A3M4M
7455	1275.42	1000G	2623.76	A3M4M
7456	18200.76		36447.76	
7457	519.14	1000G	1327.66	A3M4M
7458	896.16	1000G	1973.79	A3M4M
7459	731.59	1000G	1691.75	A3M4M
7460	599.18	1000G	1464.83	A3M4M
7461	568.51	1000G	1412.27	A3M4M
7462	802.65	1000G	1988.39	A3M4M
7463	615.64	1000G	1680.85	A3M4M
7464	772.73	1000G	1983.88	A3M4M
7465	757.02	1000G	1953.58	A3M4M
7466	1051.01	1000G	2520.68	A3M4M
7467	969.47	1000G	2363.39	A3M4M
7468	1061.48	1000G	2540.88	A3M4M
7469	9344.58		22901.95	
7470	913.37	1000G	2255.16	A3M4M
7471	1135.54	1000G	2683.73	A3M4M
7472	1036.05	1000G	2491.82	A3M4M
7473	3084.96		7430.71	
7474	329.89	1000G	667.54	A3M4M
7475	902.15	1000G	1984.04	A3M4M
7476	1232.04		2651.58	
7477	629.11	1000G	1516.11	A3M4M
7478	1288.14	1000G	2645.55	A3M4M
7479	885.69	1000G	1955.84	A3M4M
7480	957.5	1000G	2078.91	A3M4M
7481	987.42	1000G	2130.19	A3M4M
7482	2555.34	1000G	4890.24	A3M4M
7483	2010.01	1000G	3882.68	A3M4M
7484	2648.09	1000G	4976.23	A3M4M
7485	2207.5	1000G	4221.13	A3M4M
7486	1689.84	1000G	3333.99	A3M4M
7487	1112.35	1000G	2344.28	A3M4M
7488	1101.13	1000G	2325.05	A3M4M
7489	18072.12		36300.2	
7490	930.57	1000G	2105.74	A3M4M
7491	1112.35	1000G	2285.89	A3M4M
7492	1362.95	1000G	2773.75	A3M4M
7493	1029.31	1000G	2201.98	A3M4M
7494	1466.92	1000G	2951.95	A3M4M
7495	2392.27	1000G	4989.99	A3M4M
7496	2467.07	1000G	5252.27	A3M4M
7497	2393.01	1000G	5109.42	A3M4M
7498	3034.09	1000G	6428.29	A3M4M
7499	1615.79	1000G	3511.49	A3M4M

	A	B	C	D	E
7500	2600	2603	26CC	3	11
7501	2600	2603	26CC	3	12
7502					
7503	2600	2603	26CC	3	1
7504	2600	2603	26CC	3	2
7505	2600	2603	26CC	3	3
7506					
7507	2600	2603	26CC	3	4
7508	2600	2603	26CC	3	5
7509	2600	2603	26CC	3	6
7510	2600	2603	26CC	3	7
7511	2600	2603	26CC	3	8
7512	2600	2603	26CC	3	9
7513	2600	2603	26CC	3	10
7514	2600	2603	26CC	3	11
7515	2600	2603	26CC	3	12
7516					
7517	2600	2603	26CC	3	1
7518	2600	2603	26CC	3	2
7519	2600	2603	26CC	3	3
7520	2600	2603	26CC	3	4
7521	2600	2603	26CC	3	5
7522	2600	2603	26CC	3	6
7523	2600	2603	26CC	3	7
7524	2600	2603	26CC	3	8
7525	2600	2603	26CC	3	9
7526	2600	2603	26CC	3	10
7527	2600	2603	26CC	3	11
7528	2600	2603	26CC	3	12
7529					
7530	2600	2603	26CC	3	1
7531	2600	2603	26CC	3	2
7532	2600	2603	26CC	3	2
7533	2600	2603	26CC	3	3
7534					
7535	2600	2603	26CC	3	1
7536	2600	2603	26CC	3	2
7537	2600	2603	26CC	3	3
7538	2600	2603	26CC	3	4
7539	2600	2603	26CC	3	5
7540	2600	2603	26CC	3	6
7541	2600	2603	26CC	3	7
7542	2600	2603	26CC	3	8
7543	2600	2603	26CC	3	9
7544	2600	2603	26CC	3	10
7545	2600	2603	26CC	3	11
7546	2600	2603	26CC	3	12
7547					
7548	2600	2603	26CC	3	1
7549	2600	2603	26CC	3	2

	F	G	H	I
7500	2007	168298	260073469	W.M. Wrigley Manufacturing LLC
7501	2007	168298	260073469	W.M. Wrigley Manufacturing LLC
7502	**2007 Total**			
7503	2008	168298	260073469	W.M. Wrigley Manufacturing LLC
7504	2008	168298	260073469	W.M. Wrigley Manufacturing LLC
7505	2008	168298	260073469	W.M. Wrigley Manufacturing LLC
7506	**2008 Total**			
7507	2006	175506	260080274	BASF Corporation
7508	2006	175506	260080274	BASF Corporation
7509	2006	175506	260080274	BASF Corporation
7510	2006	175506	260080274	BASF Corporation
7511	2006	175506	260080274	BASF Corporation
7512	2006	175506	260080274	BASF Corporation
7513	2006	175506	260080274	BASF Corporation
7514	2006	175506	260080274	BASF Corporation
7515	2006	175506	260080274	BASF Corporation
7516	**2006 Total**			
7517	2007	175506	260080274	BASF Corporation
7518	2007	175506	260080274	BASF Corporation
7519	2007	175506	260080274	BASF Corporation
7520	2007	175506	260080274	BASF Corporation
7521	2007	175506	260080274	BASF Corporation
7522	2007	175506	260080274	BASF Corporation
7523	2007	175506	260080274	BASF Corporation
7524	2007	175506	260080274	BASF Corporation
7525	2007	175506	260080274	BASF Corporation
7526	2007	175506	260080274	BASF Corporation
7527	2007	175506	260080274	BASF Corporation
7528	2007	175506	260080274	BASF Corporation
7529	**2007 Total**			
7530	2008	175506	260080274	BASF Corporation
7531	2008	175506	260080274	BASF Corporation
7532	2008	175506	260080274	BASF Corporation
7533	2008	175506	260080274	BASF Corporation
7534	**2008 Total**			
7535	2007	189404	260002864	Lamberti Sythesis USA, INC
7536	2007	189404	260002864	Lamberti Sythesis USA, INC
7537	2007	189404	260002864	Lamberti Sythesis USA, INC
7538	2007	189404	260002864	Lamberti Sythesis USA, INC
7539	2007	189404	260002864	Lamberti Sythesis USA, INC
7540	2007	189404	260002864	Lamberti Sythesis USA, INC
7541	2007	189404	260002864	Lamberti Sythesis USA, INC
7542	2007	189404	260002864	Lamberti Sythesis USA, INC
7543	2007	189404	260002864	Lamberti Sythesis USA, INC
7544	2007	189404	260002864	Lamberti Sythesis USA, INC
7545	2007	189404	260002864	Lamberti Sythesis USA, INC
7546	2007	189404	260002864	Lamberti Sythesis USA, INC
7547	**2007 Total**			
7548	2008	189404	260002864	Lamberti Sythesis USA, INC
7549	2008	189404	260002864	Lamberti Sythesis USA, INC

	J	K	L	M
7500	3002 Jersey Pike	Chattanooga	TN	374216208
7501	3002 Jersey Pike	Chattanooga	TN	374216208
7502				
7503	3002 Jersey Pike	Chattanooga	TN	374216208
7504	3002 Jersey Pike	Chattanooga	TN	374216208
7505	3002 Jersey Pike	Chattanooga	TN	374216208
7506				
7507	3805 Amnicola Hwy	Chattanooga	TN	374061004
7508	3805 Amnicola Hwy	Chattanooga	TN	374061004
7509	3805 Amnicola Hwy	Chattanooga	TN	374061004
7510	3805 Amnicola Hwy	Chattanooga	TN	374061004
7511	3805 Amnicola Hwy	Chattanooga	TN	374061004
7512	3805 Amnicola Hwy	Chattanooga	TN	374061004
7513	3805 Amnicola Hwy	Chattanooga	TN	374061004
7514	3805 Amnicola Hwy	Chattanooga	TN	374061004
7515	3805 Amnicola Hwy	Chattanooga	TN	374061004
7516				
7517	3805 Amnicola Hwy	Chattanooga	TN	374061004
7518	3805 Amnicola Hwy	Chattanooga	TN	374061004
7519	3805 Amnicola Hwy	Chattanooga	TN	374061004
7520	3805 Amnicola Hwy	Chattanooga	TN	374061004
7521	3805 Amnicola Hwy	Chattanooga	TN	374061004
7522	3805 Amnicola Hwy	Chattanooga	TN	374061004
7523	3805 Amnicola Hwy	Chattanooga	TN	374061004
7524	3805 Amnicola Hwy	Chattanooga	TN	374061004
7525	3805 Amnicola Hwy	Chattanooga	TN	374061004
7526	3805 Amnicola Hwy	Chattanooga	TN	374061004
7527	3805 Amnicola Hwy	Chattanooga	TN	374061004
7528	3805 Amnicola Hwy	Chattanooga	TN	374061004
7529				
7530	3805 Amnicola Hwy	Chattanooga	TN	374061004
7531	3805 Amnicola Hwy	Chattanooga	TN	374061004
7532	3805 Amnicola Hwy	Chattanooga	TN	374061004
7533	3805 Amnicola Hwy	Chattanooga	TN	374061004
7534				
7535	4001 N Hawthorne St	Chattanooga	TN	374061314
7536	4001 N Hawthorne St	Chattanooga	TN	374061314
7537	4001 N Hawthorne St	Chattanooga	TN	374061314
7538	4001 N Hawthorne St	Chattanooga	TN	374061314
7539	4001 N Hawthorne St	Chattanooga	TN	374061314
7540	4001 N Hawthorne St	Chattanooga	TN	374061314
7541	4001 N Hawthorne St	Chattanooga	TN	374061314
7542	4001 N Hawthorne St	Chattanooga	TN	374061314
7543	4001 N Hawthorne St	Chattanooga	TN	374061314
7544	4001 N Hawthorne St	Chattanooga	TN	374061314
7545	4001 N Hawthorne St	Chattanooga	TN	374061314
7546	4001 N Hawthorne St	Chattanooga	TN	374061314
7547				
7548	4001 N Hawthorne St	Chattanooga	TN	374061314
7549	4001 N Hawthorne St	Chattanooga	TN	374061314

	N	O	P	Q
7500	1294.12	1000G	2989.65	A3M4M
7501	1233.53	1000G	2872.77	A3M4M
7502	20331.98		43473.19	
7503	742.81	1000G	1926.16	A3M4M
7504	1247.75	1000G	2900.18	A3M4M
7505	1029.31	1000G	2478.83	A3M4M
7506	3019.87		7305.17	
7507	44.13	1000G	160.1	A3M4
7508	55.35	1000G	191.92	A3M4
7509	54.6	1000G	190.2	A3M4
7510	46.37	1000G	168.29	A3M4
7511	44.88	1000G	162.83	A3M4
7512	46.37	1000G	168.29	A3M4
7513	40.39	1000G	146.45	A3M4
7514	41.14	1000G	149.18	A3M4
7515	43.38	1000G	157.37	A3M4
7516	416.61		1494.63	
7517	37.4	1000G	135.53	A3M4
7518	45.63	1000G	165.56	A3M4
7519	54.6	1000G	190.2	A3M4
7520	54.6	1000G	190.2	A3M4
7521	49.37	1000G	178.2	A3M4
7522	68.82	1000G	233.05	A3M4
7523	58.34	1000G	223.75	A3M4
7524	63.58	1000G	237.27	A3M4
7525	61.34	1000G	231.48	A3M4
7526	68.82	1000G	250.79	A3M4
7527	64.33	1000G	239.2	A3M4
7528	66.57	1000G	244.99	A3M4
7529	693.4		2520.22	
7530	76.3	1000G	270.1	A3M4
7531	0	1000G	-67.89	CRAC3
7532	63.58	1000G	237.27	A3M4
7533	81.53	1000G	283.61	A3M4
7534	221.41		723.09	
7535	698.68	1000G	1635.34	A3MSM
7536	677.73	1000G	1599.44	A3MSM
7537	1146.76	1000G	2403.26	A3MSM
7538	846.04	1000G	1887.89	A3MSM
7539	974.71	1000G	2108.4	A3MSM
7540	1021.09	1000G	2288.73	A3MSM
7541	1103.37	1000G	2621.69	A3MSM
7542	1041.28	1000G	2501.92	A3MSM
7543	1371.92	1000G	3139.72	A3MSM
7544	1336.76	1000G	3071.9	A3MSM
7545	953.01	1000G	2331.64	A3MSM
7546	923.84	1000G	2275.37	A3MSM
7547	12095.19		27865.3	
7548	994.9	1000G	2412.45	A3MSM
7549	1208.1	1000G	2823.71	A3MSM

	A	B	C	D	E
7550	2600	2603	26CC	3	3
7551	2600	2603	26CC	3	3
7552					
7553					

	F	G	H	I
7550	2008	189404	260002864	Lamberti Sythesis USA, INC
7551	2008	212088	260078914	Fibron
7552	**2008 Total**			
7553	**Grand Total**			

	J	K	L	M
7550	4001 N Hawthorne St	Chattanooga	TN	374061314
7551	4019 Industry Dr	Chattanooga	TN	374163812
7552				
7553				

	N	O	P	Q
7550	1071.21	1000G	2559.64	A3MSM
7551	46.37	1000G	365.55	A3M4M
7552	3320.58		8161.35	
7553	9646362.92		14827652.37	

	A	B	C	D	E	F	G
1	Account Type/Class	Account Connect Date @ Premise YYYYMMDD	Preminse Initital Service Date YYYYMMDD	Route Number	Stop Number	District Code	Area Code
2	3	19670501	19670501	261001	135	2600	2603
3	3	19670501	19670501	261001	135	2600	2603
4							
5	3	19900119	19900119	261006	2085	2600	2603
6							
7	3	19900119	20050408	261006	2070	2600	2603
8							
9	3	19640401	19640401	261006	1985	2600	2603
10	3	19640401	19640401	261006	1985	2600	2603
11							
12	3	20010525	20010525	261006	1260	2600	2603
13							
14	3	19990907	19990907	261007	2400	2600	2603
15	3	19990907	19990907	261007	2400	2600	2603
16							
17	3	20031122	19881017	261008	2975	2600	2603
18							
19	3	20031126	20000125	261008	2960	2600	2603
20	3	20031126	20000125	261008	2960	2600	2603
21	3	20031126	20000125	261008	2960	2600	2603
22							
23	3	19710902	19710902	261009	2860	2600	2603
24							
25	3	19701201	19701201	261009	2895	2600	2603
26							
27	3	19961226	19961226	261020	3525	2600	2603
28							
29	3	19861222	19861222	261050	3655	2600	2603
30							
31	3	19740102	19740102	261102	5075	2600	2603
32							
33	3	19991011	19991011	261103	2855	2600	2603
34							
35	3	20031017	19981109	261104	3990	2600	2603
36							
37	3	20000707	20000707	261104	2840	2600	2603
38							
39	3	19750702	19750702	261108	2090	2600	2603
40							
41	3	19861015	19861015	261108	2110	2600	2603
42							
43	3	19750421	19750421	261108	1005	2600	2603
44							
45	3	20010402	20010402	261108	825	2600	2603
46							
47	3	19850702	19850702	261108	960	2600	2603

	H	I	J	K
1	**Utility Code**	**Account Number**	**Premise Number**	**Account Name**
2	W	104782	260073317	Cannon Equipment Se Inc
3	W	104782	260073317	Cannon Equipment Se Inc
4		**104782 Count**		
5	W	37877	260025808	A D M MILLING
6		**37877 Count**		
7	W	37878	260025809	A D M MILLING
8		**37878 Count**		
9	W	104711	260073248	CHATT PUBLISHING CO
10	W	104711	260073248	CHATT PUBLISHING CO
11		**104711 Count**		
12	W	104724	260073259	Southeast Local Dev Corp
13		**104724 Count**		
14	W	120279	260083931	Koch Food LLC
15	W	120279	260083931	Koch Food LLC
16		**120279 Count**		
17	W	131246	260011425	PILGRIM'S PRIDE #79532
18		**131246 Count**		
19	W	131258	260073106	PILGRIM'S PRIDE #79530
20	W	131258	260073106	PILGRIM'S PRIDE #79530
21	W	131258	260073106	PILGRIM'S PRIDE #79530
22		**131258 Count**		
23	W	19915	260013872	SHERMAN & REILLY INC
24		**19915 Count**		
25	W	104579	260073122	Southern Wood Piedmont
26		**104579 Count**		
27	W	104687	260073227	Schrader, Herman
28		**104687 Count**		
29	W	40934	260028068	Beeler Impression
30		**40934 Count**		
31	W	45866	260031374	Signal Plating Inc
32		**45866 Count**		
33	W	104839	260073375	Buster Brown Prop LLC
34		**104839 Count**		
35	W	104844	260073381	PIONEER MAT COMPANY
36		**104844 Count**		
37	W	115676	260081421	JONES PRINTING
38		**115676 Count**		
39	W	48796	260033445	Foam Fabricating Inc
40		**48796 Count**		
41	W	48797	260033446	Foam Fabricating Inc
42		**48797 Count**		
43	W	48836	260033480	Nu Foam Products
44		**48836 Count**		
45	W	48849	260033489	W R Grace Company
46		**48849 Count**		
47	W	48850	260033490	American Manufacturing

	L	M	N
1	**Sequence Number**	**Meter Number**	**Service Size**
2	1	060449620T	2
3	2	060449744T	2
4		2	
5	1	060573038T	2
6		1	
7	1	060453174T	2
8		1	
9	1	060440684T	2
10	2	060440648T	2
11		2	
12	1	033932668T	1
13		1	
14	1	070066662T	6
15	2	070066663T	6
16		2	
17	1	060449864T	2
18		1	
19	1	031965105T	4
20	2	031965097T	4
21	3	031646280T	2
22		3	
23	1	047543335T	1
24		1	
25	1	060453166T	2
26		1	
27	1	048184600T	1
28		1	
29	1	080313617T	5/8
30		1	
31	1	049259477T	1
32		1	
33	1	033932624T	1
34		1	
35	1	060449841T	2
36		1	
37	1	030948414T	1
38		1	
39	1	048331626T	1
40		1	
41	1	049697974T	1
42		1	
43	1	030951510T	1
44		1	
45	1	084309347T	5/8
46		1	
47	1	049657799T	1

	A	B	C	D	E	F	G
48							
49	3	19680501	19680501	261108	950	2600	2603
50							
51	3	20010402	20010402	261108	755	2600	2603
52	3	20010402	20010402	261108	755	2600	2603
53	3	20010402	20010402	261108	755	2600	2603
54	3	20010402	20010402	261108	755	2600	2603
55	3	20010402	20010402	261108	755	2600	2603
56	3	20010402	20010402	261108	755	2600	2603
57	3	20010402	20010402	261108	755	2600	2603
58							
59	3	19640701	19640701	261108	835	2600	2603
60	3	19640701	19640701	261108	835	2600	2603
61							
62	3	19850702	19850702	261108	845	2600	2603
63							
64	3	19400101	19400101	261108	875	2600	2603
65	3	19400101	19400101	261108	875	2600	2603
66	3	19400101	19400101	261108	875	2600	2603
67							
68	3	19400101	19400101	261108	1270	2600	2603
69	3	19400101	19400101	261108	1270	2600	2603
70							
71	3	19891101	19891101	261108	2325	2600	2603
72	3	19891101	19891101	261108	2325	2600	2603
73	3	19891101	19891101	261108	2325	2600	2603
74							
75	3	19770303	19770303	261108	1680	2600	2603
76	3	19770303	19770303	261108	1680	2600	2603
77							
78	3	19771220	19771220	261108	1345	2600	2603
79							
80	3	19901001	19901001	261108	2015	2600	2603
81							
82	3	19851202	19851202	261108	2060	2600	2603
83							
84	3	19971231	19971231	261108	2080	2600	2603
85							
86	3	19900919	20060809	261108	2275	2600	2603
87							
88	3	19820130	19820130	261108	2305	2600	2603
89							
90	3	19960426	19960426	261108	2565	2600	2603
91							
92	3	19910815	19910815	261108	2225	2600	2603
93							
94	3	19931213	19931213	261108	855	2600	2603
95	3	19931213	19931213	261108	855	2600	2603
96							
97	3	19961218	19961218	261108	2300	2600	2603

	H	I	J	K
48		**48850 Count**		
49	W	48851	260033491	American Manufacturing
50		**48851 Count**		
51	W	104848	260073384	W R Grace Company
52	W	104848	260073384	W R Grace Company
53	W	104848	260073384	W R Grace Company
54	W	104848	260073384	W R Grace Company
55	W	104848	260073384	W R Grace Company
56	W	104848	260073384	W R Grace Company
57	W	104848	260073384	W R Grace Company
58		**104848 Count**		
59	W	104853	260073387	Mueller Co
60	W	104853	260073387	Mueller Co
61		**104853 Count**		
62	W	104854	260073388	Mueller Co
63		**104854 Count**		
64	W	104856	260073390	ALCO CHEMICAL CORP
65	W	104856	260073390	ALCO CHEMICAL CORP
66	W	104856	260073390	ALCO CHEMICAL CORP
67		**104856 Count**		
68	W	104865	260073399	Chatt Coca-Cola Bottling
69	W	104865	260073399	Chatt Coca-Cola Bottling
70		**104865 Count**		
71	W	104867	260073401	Na Industries Inc
72	W	104867	260073401	Na Industries Inc
73	W	104867	260073401	Na Industries Inc
74		**104867 Count**		
75	W	104868	260073402	Southern Centrifugal Inc
76	W	104868	260073402	Southern Centrifugal Inc
77		**104868 Count**		
78	W	104869	260073403	TENN VALLEY ICE CO
79		**104869 Count**		
80	W	104876	260073410	BASF Corpration
81		**104876 Count**		
82	W	104878	260073412	The Pepsi Bottling Group
83		**104878 Count**		
84	W	104879	260073413	T E Capital Partners
85		**104879 Count**		
86	W	104882	260073416	Cargill V #50026797
87		**104882 Count**		
88	W	104883	260073417	Horizon Milling, LLC.
89		**104883 Count**		
90	W	104888	260073422	Cherokee Warehouse
91		**104888 Count**		
92	W	110923	260077834	Sofix Corporation
93		**110923 Count**		
94	W	113306	260079468	Alco Chemical Corporation
95	W	113306	260079468	Alco Chemical Corporation
96		**113306 Count**		
97	W	116321	260081915	Cargill Inc Corn Mill

	L	M	N
48		1	
49	1	060453103T	2
50		1	
51	1	031979740T	4
52	2	060573049T	2
53	3	060425444T	2
54	4	026252068T	4
55	5	060449759T	2
56	6	060440665T	2
57	7	070145859T	4
58		7	
59	1	031968359T	4
60	2	070070996T	2
61		2	
62	1	083356429T	5/8
63		1	
64	1	031818166T	2
65	2	060000882T	2
66	3	060025113T	2
67		3	
68	1	031965099T	4
69	2	031965098T	4
70		2	
71	1	060453241T	2
72	2	060453334T	2
73	3	060453224T	2
74		3	
75	1	060265277T	2
76	2	060265266T	2
77		2	
78	1	060453109T	2
79		1	
80	1	031935527T	4
81		1	
82	1	060453151T	2
83		1	
84	1	083218047T	5/8
85		1	
86	1	049697900T	1
87		1	
88	1	060453292T	2
89		1	
90	1	060453234T	2
91		1	
92	1	031918643T	4
93		1	
94	1	060453112T	2
95	2	060453104T	2
96		2	
97	1	060453291T	2

	A	B	C	D	E	F	G
98							
99	3	19971006	19971006	261108	980	2600	2603
100							
101	3	20040930	19921005	261108	635	2600	2603
102							
103	3	20041216	19790820	261108	2550	2600	2603
104							
105	3	20041216	19891102	261108	2530	2600	2603
106							
107	3	20060307	19400101	261108	2020	2600	2603
108							
109	3	20061205	20000104	261108	715	2600	2603
110	3	20061205	20000104	261108	715	2600	2603
111							
112	3	19900321	19900321	261109	3150	2600	2603
113							
114	3	19991022	19991022	261109	3695	2600	2603
115							
116	3	19950410	19950410	261703	4555	2600	2603
117							
118	3	20050426	20050426	261703	4530	2600	2603
119							
120	3	20060315	20010801	261708	2125	2600	2603
121							
122	3	19780821	19780821	261709	1280	2600	2603
123							
124	3	20080228	20060327	261803	2535	2600	2603
125	3	20080228	20060327	261803	2535	2600	2603
126							
127	3	19690301	19690301	261904	1360	2600	2603
128	3	19690301	19690301	261904	1360	2600	2603
129							
130	3	19660601	19660601	261909	2295	2600	2603
131							
132	3	19911122	20060810	261909	2280	2600	2603
133	3	19911122	20060810	261909	2280	2600	2603
134							
135	3	20051110	20060810	261909	2260	2600	2603
136	3	20051110	20060810	261909	2260	2600	2603
137							
138	3	20051110	20060810	261909	2270	2600	2603
139	3	20051110	20060810	261909	2270	2600	2603
140							
141	3	19970501	19970501	262005	5920	2600	2603
142	3	19970501	19970501	262005	5920	2600	2603
143							
144	3	19990514	19990514	262007	1465	2600	2603
145							
146	3	19990618	19990618	262007	1510	2600	2603
147	3	19990618	19990618	262007	1510	2600	2603

	H	I	J	K
98		**116321 Count**		
99	W	117218	260082543	American Manufacturing
100		**117218 Count**		
101	W	147134	260033481	SSM PROPERTIES LP
102		**147134 Count**		
103	W	150937	260033461	Hyperlast North America
104		**150937 Count**		
105	W	150938	260033462	Hyperlast North America
106		**150938 Count**		
107	W	175506	260080274	BASF Corporation
108		**175506 Count**		
109	W	189404	260002864	Lamberti Sythesis USA, INC
110	W	189404	260002864	Lamberti Sythesis USA, INC
111		**189404 Count**		
112	W	48568	260033262	Sovereign Stainless Fab
113		**48568 Count**		
114	W	48690	260033355	Roadtec Inc
115		**48690 Count**		
116	W	59402	260040889	ALLIED METAL COMPANY
117		**59402 Count**		
118	W	157121	260040893	ALLIED METAL COMPANY
119		**157121 Count**		
120	W	114637	260080711	Executive Flight Inc
121		**114637 Count**		
122	W	64072	260044341	Golf Players
123		**64072 Count**		
124	W	212088	260078914	Fibron
125	W	212088	260078914	Fibron
126		**212088 Count**		
127	W	104973	260073498	BASF Corporation
128	W	104973	260073498	BASF Corporation
129		**104973 Count**		
130	W	65687	260045597	VULCAN MATERIALS CO
131		**65687 Count**		
132	W	104943	260073470	Brock Candy Company
133	W	104943	260073470	Brock Candy Company
134		**104943 Count**		
135	W	168297	260073468	W.M. Wrigley Manufacturing LLC
136	W	168297	260073468	W.M. Wrigley Manufacturing LLC
137		**168297 Count**		
138	W	168298	260073469	W.M. Wrigley Manufacturing LLC
139	W	168298	260073469	W.M. Wrigley Manufacturing LLC
140		**168298 Count**		
141	W	116584	260082116	Southern Cellulose
142	W	116584	260082116	Southern Cellulose
143		**116584 Count**		
144	W	37421	260025442	H & H BROWN
145		**37421 Count**		
146	W	104676	260073216	R L Stowe Mills Inc
147	W	104676	260073216	R L Stowe Mills Inc

	L	M	N
98		1	
99	1	060450544T	1 1/2
100		1	
101	1	060396046T	1 1/2
102		1	
103	1	049532028T	1
104		1	
105	1	049714058T	1
106		1	
107	1	083218566T	5/8
108		1	
109	1	060453102T	2
110	2	060453110T	2
111		2	
112	1	060045955T	1 1/2
113		1	
114	1	048330651T	1
115		1	
116	1	060452965T	2
117		1	
118	1	080822638T	
119		1	
120	1	051275396T	1
121		1	
122	1	083218369T	5/8
123		1	
124	1	070001743T	2
125	2	070001746T	2
126		2	
127	1	031970097T	2
128	2	031988577T	4
129		2	
130	1	060449823T	2
131		1	
132	1	070163440T	2
133	2	070163455T	2
134		2	
135	1	060449702T	2
136	2	060449706T	2
137		2	
138	1	060449700T	2
139	2	060449696T	2
140		2	
141	1	070070993T	2
142	2	070163439T	2
143		2	
144	1	079008577T	5/8
145		1	
146	1	031948034A	6
147	2	031948036A	6

	A	B	C	D	E	F	G
148							
149	3	20031124	19951122	262007	415	2600	2603
150							
151	3	20031124	19951002	262007	405	2600	2603
152							
153	3	20031124	20000407	262007	480	2600	2603
154							
155	3	20031124	19990902	262007	385	2600	2603
156	3	20031124	19990902	262007	385	2600	2603
157							
158	3	20031124	20030207	262007	425	2600	2603
159							
160	3	19900614	19900614	262008	310	2600	2603
161							
162	3	19860905	19860905	262008	870	2600	2603
163							
164	3	19810913	19810913	262008	780	2600	2603
165							
166	3	19420501	19420501	262008	330	2600	2603
167	3	19420501	19420501	262008	330	2600	2603
168	3	19420501	19420501	262008	330	2600	2603
169	3	19420501	19420501	262008	330	2600	2603
170							
171	3	19860905	19860905	262008	835	2600	2603
172	3	19860905	19860905	262008	835	2600	2603
173							
174	3	20021118	20021118	262008	990	2600	2603
175							
176	3	19700401	19700401	262008	1085	2600	2603
177	3	19700401	19700401	262008	1085	2600	2603
178							
179	3	19641001	19641001	262008	1170	2600	2603
180	3	19641001	19641001	262008	1170	2600	2603
181	3	19641001	19641001	262008	1170	2600	2603
182							
183	3	19800125	19800125	262008	1215	2600	2603
184	3	19800125	19800125	262008	1215	2600	2603
185							
186	3	19690601	19690601	262008	1310	2600	2603
187	3	19690601	19690601	262008	1310	2600	2603
188	3	19690601	19690601	262008	1310	2600	2603
189	3	19690601	19690601	262008	1310	2600	2603
190							
191	3	19990629	19990629	262008	1100	2600	2603
192	3	19990629	19990629	262008	1100	2600	2603
193							
194	3	19960626	19960626	262008	1080	2600	2603
195							
196	3	20031105	19960624	262008	750	2600	2603
197							

	H	I	J	K
148		**104676 Count**		
149	W	131250	260025803	Pilgrim's Pride
150		**131250 Count**		
151	W	131252	260025804	Pilgrim's Pride
152		**131252 Count**		
153	W	131255	260026351	Pilgrim's Pride
154		**131255 Count**		
155	W	131257	260084407	Pilgrim's Pride
156	W	131257	260084407	Pilgrim's Pride
157		**131257 Count**		
158	W	131379	260077132	Pilgrim's Pride
159		**131379 Count**		
160	W	16222	260011206	Alstom Power Inc
161		**16222 Count**		
162	W	104547	260073097	Eureka Foundry
163		**104547 Count**		
164	W	104549	260073099	Siskin Steel & Supply
165		**104549 Count**		
166	W	104553	260073103	Alstom Power Inc
167	W	104553	260073103	Alstom Power Inc
168	W	104553	260073103	Alstom Power Inc
169	W	104553	260073103	Alstom Power Inc
170		**104553 Count**		
171	W	104555	260073105	Eureka Foundry
172	W	104555	260073105	Eureka Foundry
173		**104555 Count**		
174	W	104569	260073115	Perimeter Properties LLC
175		**104569 Count**		
176	W	104620	260073160	Chattem Chemicals Inc
177	W	104620	260073160	Chattem Chemicals Inc
178		**104620 Count**		
179	W	104627	260073166	Velsicol Chemical Corp
180	W	104627	260073166	Velsicol Chemical Corp
181	W	104627	260073166	Velsicol Chemical Corp
182		**104627 Count**		
183	W	104630	260073169	Bunge Foods Corporation
184	W	104630	260073169	Bunge Foods Corporation
185		**104630 Count**		
186	W	104637	260073175	Southern Cellulose
187	W	104637	260073175	Southern Cellulose
188	W	104637	260073175	Southern Cellulose
189	W	104637	260073175	Southern Cellulose
190		**104637 Count**		
191	W	115309	260081136	Chattem Inc.
192	W	115309	260081136	Chattem Inc.
193		**115309 Count**		
194	W	115883	260081594	Chattem Chemicals Inc
195		**115883 Count**		
196	W	130177	260073102	Southern Foundry Supply
197		**130177 Count**		

	L	M	N
148		2	
149	1	060425477T	2
150		1	
151	1	060425463T	2
152		1	
153	1	047905168T	1
154		1	
155	1	070163435T	2
156	2	070163446T	2
157		2	
158	1	084747512T	5/8
159		1	
160	1	081814079T	5/8
161		1	
162	1	060408541T	2
163		1	
164	1	060440682T	2
165		1	
166	1	031988573T	4
167	2	070070989T	2
168	3	060408515T	2
169	4	060408531T	2
170		4	
171	1	060449964T	2
172	2	060208959T	2
173		2	
174	1	047458869T	1
175		1	
176	1	060248000T	2
177	2	031955377T	4
178		2	
179	1	031948035A	6
180	2		4
181	3		2
182		1	
183	1	031984252T	4
184	2	070000157T	2
185		2	
186	1	070016973A	6
187	2	070045236T	4
188	3	070016972A	6
189	4	070047386T	4
190		4	
191	1	060450410T	1 1/2
192	2	060425433T	2
193		2	
194	1	060452984T	2
195		1	
196	1	060452974T	2
197		1	

	A	B	C	D	E	F	G
198	3	20031105	19890516	262008	770	2600	2603
199							
200	3	19840531	19840531	263007	780	2600	2603
201							
202	3	20000613	20000613	263007	1090	2600	2603
203							
204	3	20010104	20010104	263007	270	2600	2607
205							
206	3	19980217	19980217	263007	2370	2600	2603
207							
208	3	20031020	20000613	263007	800	2600	2603
209	3	20031020	20000613	263007	800	2600	2603
210							
211	3	20031125	19881227	263007	1290	2600	2607
212							
213	3	20000222	20000222	265008	3100	2600	2607
214							
215	3	20001113	20001113	265008	690	2600	2603
216							
217	3	19870323	19870323	265008	3075	2600	2603
218							
219	3	19590901	19590901	265008	550	2600	2603
220							
221	3	19680501	19680501	265008	530	2600	2603
222							
223	3	19980505	19980505	265008	165	2600	2603
224							
225	3	19990312	19990312	265008	3095	2600	2603
226							
227	3	19990511	19990511	265008	3105	2600	2603
228							
229	3	19990901	19990901	265008	560	2600	2603
230							
231	3	20031104	20031104	265008	3080	2600	2603
232							
233	3	20040517	19900206	265008	460	2600	2603
234	3	20040517	19900206	265008	460	2600	2603
235							
236	3	19840118	19840118	265009	2680	2600	2603
237							
238	3	19990618	19990618	266001	1905	2600	2603
239							
240	3	19990618	19990618	266001	200	2600	2603
241							
242	3	19861205	19861205	266003	4525	2600	2603
243							
244	3	19950313	19950313	266003	4435	2600	2603
245							
246	3	19860415	19860415	266004	25	2600	2603
247							

	H	I	J	K
198	W	130184	260011212	Southern Foundry Supply
199		**130184 Count**		
200	W	101797	260070900	Brenntag Mid South Inc
201		**101797 Count**		
202	W	101900	260070990	CLEAN HARBORS ENVIRONMENTAL, S
203		**101900 Count**		
204	W	102541	260071478	Heller Properties LLC
205		**102541 Count**		
206	W	117493	260082741	Tiftonia Tn Loding LLC
207		**117493 Count**		
208	W	129119	260070899	CLEAN HARBORS ENVIRONMENTAL, S
209	W	129119	260070899	CLEAN HARBORS ENVIRONMENTAL, S
210		**129119 Count**		
211	W	131251	260070932	Pilgrim's Pride
212		**131251 Count**		
213	W	4447	260002984	SIGNAL MOUNTAIN CEMENT
214		**4447 Count**		
215	W	6883	260004647	Applied Thermal Coatings
216		**6883 Count**		
217	W	104442	260072997	Signal Mountain Cement
218		**104442 Count**		
219	W	104464	260073019	Rock Tenn Co Mill Div
220		**104464 Count**		
221	W	104465	260073020	Rock Tenn Co Mill Div
222		**104465 Count**		
223	W	104467	260073022	THE KNITTING MILL PROJECT
224		**104467 Count**		
225	W	120249	260083919	Signal Mountain Cement
226		**120249 Count**		
227	W	120908	260084205	Signal Mountain Cement
228		**120908 Count**		
229	W	121164	260084378	Southern Champion Tray
230		**121164 Count**		
231	W	128191	260085156	SIGNAL MTN CEMENT CO
232		**128191 Count**		
233	W	139731	260073021	Adtech Ceramics
234	W	139731	260073021	Adtech Ceramics
235		**139731 Count**		
236	W	6676	260004486	Power Corporation
237		**6676 Count**		
238	W	16004	260010996	R L Stowe Mills Inc
239		**16004 Count**		
240	W	112729	260079110	R L Stowe Mills Inc
241		**112729 Count**		
242	W	12068	260008047	Komatsu American Mfg
243		**12068 Count**		
244	W	114635	260080709	Komatsu American Mfg
245		**114635 Count**		
246	W	104433	260072992	Komatsu American Mfg
247		**104433 Count**		

	L	M	N
198	1	051159086T	1
199		1	
200	1	060453273T	2
201		1	
202	1	060265265T	2
203		1	
204	1	048187316T	3/4
205		1	
206	1	060453274T	2
207		1	
208	1	060440653T	2
209	2	060440663T	2
210		2	
211	1	070163447T	2
212		1	
213	1	060247993T	2
214		1	
215	1	060450370T	1 1/2
216		1	
217	1	060383808T	2
218		1	
219	1	082670144T	5/8
220		1	
221	1	060006804T	2
222		1	
223	1	049532013T	1
224		1	
225	1	047458883T	1
226		1	
227	1	084310082T	5/8
228		1	
229	1	031889964T	2
230		1	
231	1	060354716T	
232		1	
233	1	060039990T	2
234	2	060026451T	2
235		2	
236	1	083357023T	5/8
237		1	
238	1	031988582T	4
239		1	
240	1	049697979T	1
241		1	
242	1	084310882T	5/8
243		1	
244	1	060449724T	2
245		1	
246	1	060449723T	2
247		1	

	A	B	C	D	E	F	G
248	3	19960411	19960411	267008	2290	2600	2603
249							
250	3	19840820	19840820	267008	470	2600	2603
251	3	19840820	19840820	267008	470	2600	2603
252							
253	3	20020929	20020929	267008	485	2600	2603
254							
255	3	19940104	19940104	267008	1765	2600	2603
256							
257	3	19920625	19920625	268001	2365	2600	2603
258							
259	3	19920103	19920103	268001	3255	2600	2603
260							
261	3	19680501	19680501	268001	3440	2600	2603
262							
263	3	20010629	20010629	268001	3325	2600	2603
264							
265	3	20050527	20050527	268001	3430	2600	2603
266							
267	3	19680201	19680201	268002	880	2600	2603
268							
269	3	19530701	19530701	268002	3215	2600	2603
270							
271	3	19400101	19400101	268002	2740	2600	2603
272	3	19400101	19400101	268002	2740	2600	2603
273							
274	3	19940610	19940610	268002	3115	2600	2603
275							
276	3	19640301	19640301	268004	2325	2600	2603
277							
278	3	19740301	19740301	268004	2570	2600	2603
279							
280	3	20080326	19971204	268005	685	2600	2603
281	3	20080326	19971204	268005	685	2600	2603
282							
283	3	19980206	19980206	269005	3525	2600	2603
284							
285	3	19511001	19511001	269009	2860	2600	2603
286							
287	3	19940315	19940315	269009	3175	2600	2603
288							
289	3	19960523	19960523	269009	2870	2600	2603
290							
291							

	H	I	J	K
248	W	21858	260015174	Ken Garner Manufacturing
249		**21858 Count**		
250	W	104596	260073137	Chatt Paperboard Corp
251	W	104596	260073137	Chatt Paperboard Corp
252		**104596 Count**		
253	W	104598	260073138	Ccd Properties
254		**104598 Count**		
255	W	104600	260073140	ENGINEERED REFRIGERATION
256		**104600 Count**		
257	W	37044	260025126	Happy Bag Company
258		**37044 Count**		
259	W	37178	260025211	Custom Werks
260		**37178 Count**		
261	W	37197	260025225	Chatt Boiler & Tank Mfg
262		**37197 Count**		
263	W	104693	260073232	Structure Group
264		**104693 Count**		
265	W	158276	260087868	CHATTA BOILER & TANK MFG
266		**158276 Count**		
267	W	22001	260015280	Corley Mfg Co
268		**22001 Count**		
269	W	22894	260015878	D M Steward Mfg Co
270		**22894 Count**		
271	W	104605	260073145	D M Steward Mfg Co
272	W	104605	260073145	D M Steward Mfg Co
273		**104605 Count**		
274	W	113823	260079832	D M Steward Mfg Co
275		**113823 Count**		
276	W	24134	260016675	Oneal Steel Inc
277		**24134 Count**		
278	W	24197	260016709	Oneal Steel Inc
279		**24197 Count**		
280	W	213277	260082641	Coca Cola North America
281	W	213277	260082641	Coca Cola North America
282		**213277 Count**		
283	W	31457	260021379	P & C CONSTRUCTION
284		**31457 Count**		
285	W	35533	260024099	Lucey Boiler Co
286		**35533 Count**		
287	W	35586	260024138	Dixie Industries Div
288		**35586 Count**		
289	W	115854	260081567	Lucey Boiler Co
290		**115854 Count**		
291		**Grand Count**		

	L	M	N
248	1	060101526T	2
249		1	
250	1	031988579T	4
251	2	031988580T	4
252		2	
253	1	076745572T	5/8
254		1	
255	1	049532029T	1
256		1	
257	1	039419677T	5/8
258		1	
259	1	049532012T	1
260		1	
261	1	060045689T	2
262		1	
263	1	043120032T	5/8
264		1	
265	1	080823073T	
266		1	
267	1	047458868T	1
268		1	
269	1	060449816T	2
270		1	
271	1	060449846T	2
272	2	060449831T	2
273		2	
274	1	060450465T	1 1/2
275		1	
276	1	051111205T	3/4
277		1	
278	1	044231049T	5/8
279		1	
280	1	047470534T	1
281	2		2
282		1	
283	1	043120091T	5/8
284		1	
285	1	060449867T	2
286		1	
287	1	083040158T	5/8
288		1	
289	1	041653572T	5/8
290		1	
291		164	

TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 08-00039
FIRST DISCOVERY REQUEST OF THE
CONSUMER ADVOCATE AND PROTECTION DIVISION

Responsible Witness: John Watson

PART IV: QUESTIONS & REQUESTS REGARDING REVENUES, EXPENSES, TAXES, RATE BASE & MISCELLANEOUS

Question:

6. Provide the current contracts in effect for each utility purchasing water for resale from the Company: Ft. Oglethorpe, Catoosa Utility District, Walden's Ridge Utility District, and Signal Mountain.

Response:

See the attached purchase water contracts.

WATER PURCHASE AGREEMENT

THIS AGREEMENT, made this 14th day of July 2003 by and between

Tennessee-American Water Company ("Tennessee-American"), located at 1101 Broad Street, Chattanooga, Tennessee

and

Walden's Ridge Utility District ("Walden's Ridge"), located at 3900 Taft Highway, Signal Mountain, Tennessee

WHEREAS, Tennessee-American, a Tennessee corporation, is a public utility which owns and operates a water utility system in and around the City of Chattanooga, Tennessee including the contiguous cities of Red Bank, East Ridge, Ridgeside, and Lookout Mountain, plus the cities of Rossville and Lookout Mountain, Georgia and areas in the Georgia counties of Dade, Walker and Catoosa; and

WHEREAS, Walden's Ridge wishes to purchase all of its water supply from Tennessee-American; and

WHEREAS, Tennessee-American has the capability to provide all of the water supply currently required by Walden's Ridge and is willing to construct a water supply pipeline and booster station, which will provide a sufficient volume of water in order to serve as WRUD's sole source of supply; and

WHEREAS, Walden's Ridge and Tennessee-American are desirous of establishing an Agreement for the purchase and sale of water for a fixed period of time; and

WHEREAS, the parties have reached an Agreement for the sale and purchase of water which they now desire to record in writing;

NOW THEREFORE, in consideration of the mutual covenants contained herein and other good and valuable consideration the receipt and sufficiency of which is hereby acknowledged, the parties agree as follows:

SECTION I
EXCLUSIVE SUPPLIER

Tennessee-American agrees to sell and Walden's Ridge agrees to buy, during the term of this Agreement and any extension hereof, all of the potable and raw water requirements of Walden's Ridge, as it now exists or may hereafter by expanded, in conformity with the provisions hereof.

SECTION II
CONSTRUCTION OF FACILITIES

(A) Tennessee-American shall construct, at an estimated cost of $2.4 million, a water supply pipeline and booster station from its existing distribution system to the Walden's Ridge water tank near Taft Highway, which will provide a sufficient volume of water in order to serve as Walden's Ridge sole source of supply. This water supply pipeline will be capable of delivering up to 2.9 million gallons of water per day at the top of the mountain. The estimated construction time, from the time of a final non-appealable order from the Tennessee Regulatory Authority ("TRA") granting approval of the project, until the connection to the system and delivery of water, is eighteen (18) months. In the event that the construction bid price exceeds $2.4 million by 5% or more, Tennessee-American shall have the right to negotiate an adjustment in the price for the sale of water as provided in Section III hereof or terminate this Agreement.

(B) If any conditions or requirements are imposed by any regulatory authority, or court, which make this project economically unfeasible, Tennessee-American has the right to withdraw and terminate the Agreement.

(C) As part of this consideration, Walden's Ridge agrees that Tennessee-American will be the sole and exclusive supplier of potable and raw water to Walden's Ridge, as it now exists or

NOW THEREFORE, in consideration of the mutual covenants contained herein and other good and valuable consideration the receipt and sufficiency of which is hereby acknowledged, the parties agree as follows:

SECTION I
EXCLUSIVE SUPPLIER

Tennessee-American agrees to sell and Walden's Ridge agrees to buy, during the term of this Agreement and any extension hereof, all of the potable and raw water requirements of Walden's Ridge, as it now exists or may hereafter by expanded, in conformity with the provisions hereof.

SECTION II
CONSTRUCTION OF FACILITIES

(A) Tennessee-American shall construct, at an estimated cost of $2.4 million, a water supply pipeline and booster station from its existing distribution system to the Walden's Ridge water tank near Taft Highway, which will provide a sufficient volume of water in order to serve as Walden's Ridge sole source of supply. This water supply pipeline will be capable of delivering up to 2.9 million gallons of water per day at the top of the mountain. The estimated construction time, from the time of a final non-appealable order from the Tennessee Regulatory Authority ("TRA") granting approval of the project, until the connection to the system and delivery of water, is eighteen (18) months. In the event that the construction bid price exceeds $2.4 million by 5% or more, Tennessee-American shall have the right to negotiate an adjustment in the price for the sale of water as provided in Section III hereof or terminate this Agreement.

(B) If any conditions or requirements are imposed by any regulatory authority, or court, which make this project economically unfeasible, Tennessee-American has the right to withdraw and terminate the Agreement.

(C) As part of this consideration, Walden's Ridge agrees that Tennessee-American will be the sole and exclusive supplier of potable and raw water to Walden's Ridge, as it now exists or

hereafter be changed, except as noted below in this Section, and that Walden's Ridge will not, without prior written consent of Tennessee-American, receive potable or raw water service from any person or entity (including Walden's Ridge and its own customers), for the period of time under the Agreement including any extensions or renewals. The parties agree that the approximately eighty (80) current Walden's Ridge customers in the Falling Water Community located on Levi Road, Ferry Road, Pickett Gulf Road, Levi Cemetery Road, Courtney Road and Godsey Road, will be an exception, which allows Walden's Ridge to seek an alternative source for these customers.

(D) In the event Walden's Ridge terminates the Agreement prior to the expiration of forty (40) years from the Date of Service, as defined below, or fails to renew the agreement for a period of time adequate to allow Tennessee-American an opportunity to recover its investment, or if Tennessee-American is no longer the sole and exclusive provider of potable and raw water to Walden's Ridge, or fails to pay Tennessee-American as provided herein, then Walden's Ridge, and its successors and assigns, agree to pay Tennessee-American, within thirty (30) days following such termination or event, the balance of the undepreciated costs, on a straight-line basis, of Tennessee-American's pipeline and all other facilities that are constructed to serve Walden's Ridge.

(E) Walden's Ridge will decommission and terminate its existing source of supply and treatment facilities upon completion of the Tennessee-American water supply pipeline extension and connection to the Walden's Ridge system and no later than ninety (90) days following the Date of Service, as defined below. As part of this consideration, and upon completion of the Tennessee-American water supply pipeline and booster station, Walden's Ridge agrees to exclusively lease to Tennessee-American, for a period of forty (40) years from the Date of Service as defined below, the 6" and 8" welded steel water supply lines, along with perpetual easements, from its Mountain Station at the end of Levi Cemetery Road to top of the mountain.

SECTION III
SALE OF WATER

(A) The water from the Tennessee-American pipeline shall be provided to Walden's Ridge at a rate of $1.25/1000 gallons, except for the pass-through cost as identified in Section III (B) herein, for the first three (3) years, beginning with the date that water service is first taken from these facilities ("Date of Service"). Any proposed change in the rate after this initial period will be accompanied by supporting data and computations, which will be based on industry accepted cost of service methodology. Walden's Ridge has the right to agree to this rate or to propose an alternative rate with the understanding that the TRA will be the ultimate authority in determining the rate.

(B) From the date this Agreement is executed and during the first three (3) years from the Date of Service under this Agreement, in the event that electric costs, which can be directly identified with this project, increase, Walden's Ridge agrees to meet with Tennessee-American to discuss an equitable pass-through of those cost increases if so requested by Tennessee-American.

(C) Walden's Ridge will permit Tennessee-American to use the Walden's Ridge distribution system as a conduit through which Tennessee-American may wheel water to other water utility districts and other customers as agreed to by the parties, which agreement by Walden's Ridge shall not be unreasonably withheld. The parties agree to meet within ninety (90) days after execution of this Agreement to define the territory that will be served by Walden's Ridge. The wheeling charge from Walden's Ridge to Tennessee-American shall be at a rate of $.39/1000 gallons. This rate is guaranteed for three (3) years from the Date of Service. Any proposed change in the rate after this initial period will be accompanied by supporting data and computations, which will be based on industry accepted

cost of service methodology. Tennessee-American has the right, within ninety (90) days, to agree to this rate or to propose an alternative rate. If the Parties do not agree on the rate change, then the Parties will refer the matter to a neutral mediator. If mediation does not resolve the matter, either of the Parties may take the matter to the TRA, if applicable, or Utility Management Review Board or seek Judicial Review as necessary for resolution. As part of the consideration under this agreement, Tennessee-American shall have the right, at the cost specified above or at a rate that may change from time to time as agreed by the parties, even after termination of the agreement, to transfer water through Walden's Ridge facilities.

(D) Walden's Ridge will not be charged by Tennessee-American for any water supplied through its system that is transferred to other water utility districts and/or customers outside the Walden's Ridge service area. Tennessee-American shall install a meter or meters on the Walden's Ridge distribution system where appropriate in order to measure the volume of water that is transferred. Walden's Ridge will have reasonable access to such meters at all times.

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FLUORIDATION OF WATER SUPPLY

Tennessee-American will fluoridate the water supply to Walden's Ridge, in accordance with the Tennessee Department of Environment and Conservation Rule 1200-5-1-17 (20), which requires the maintenance of a monthly average concentration of fluoride between 0.9 mg/l and 1.3 mg/l, unless required to do otherwise by applicable law or regulations.

SECTION V
OPERATIONAL REQUIREMENTS

(A) In order to minimize utilization of the peaking capacity of Tennessee-American, Walden's Ridge will provide, by the Date of Service, adequate storage to provide for its own

maximum hour needs. Walden's Ridge shall maintain a minimum of one-day of water supply storage on its distribution system.

(B) Walden's Ridge agrees to cooperate with Tennessee-American in making improvements as needed to its distribution system in order to efficiently facilitate the wheeling of water through its system to other water utility district customers of Tennessee-American or other customers of Tennessee-American outside the Walden's Ridge service area. Any such improvements, which are deemed necessary by Tennessee-American to adequately wheel water through the Walden's Ridge system for the benefit of Tennessee-American, shall be done at Tennessee American's expense.

(C) Tennessee-American will conduct a one-time comprehensive leak survey along Walden's Ridge transmission mains that are located in Taft Highway between Walden's Ridge twin storage tanks (located at the old Walden's Ridge office) and the end of the line near Grandview subdivision. This leak survey will be at no cost to Walden's Ridge. However, Walden's Ridge will be responsible for uncovering and repairing any identified leaks. The purpose of the survey will be to identify and locate leaks to help Walden's Ridge reduce its unaccounted for water.

SECTION VI
CUSTOMERS AT BOTTOM OF MOUNTAIN

In the event that Walden's Ridge, at any time in the future, decides to divest itself of the approximately eighty (80) customers, and as that number of customers may change from time to time, at the base of the mountain near the Soddy-Daisy system, Tennessee-American will be granted the right of first refusal to purchase from Walden's Ridge the facilities necessary to serve these customers at a price not to exceed the actual, bona fide offer made to Walden's Ridge for the facilities.

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Metering of the water sold under this Agreement shall be at the point where Tennessee-American's water supply pipeline is connected to the Walden's Ridge water tank near Taft Highway.

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During its normal billing cycle each month, Tennessee-American will issue an invoice to Walden's Ridge for Walden's Ridge metered usage during the prior month. Payment of such invoice will be made by Walden's Ridge on or before eighteen (18) days after receipt of the invoice. Interest and penalties shall accrue on the unpaid balance at the rate and amounts provided in Tennessee-American's filed tariff for its customers.

SECTION IX
APPROVALS BY TENNESSEE REGULATORY AUTHORITY

It is understood and agreed that this Agreement is conditioned on approval by the TRA. Promptly upon execution of this Agreement, Tennessee-American shall file an application for approval with the TRA and take such action in good faith as may be necessary to obtain the appropriate approval. Service provided hereunder will be pursuant to the rules and regulations of the TRA as may be changed from time to time during the term of this Agreement. Walden's Ridge agrees to provide all reasonable support for such regulatory approval.

SECTION X
TERM OF AGREEMENT

The term of this Agreement shall be for a period of forty (40) years, beginning on the Date of Service. In consideration of the requirement for Walden's Ridge to have a

reliable source of supply at all times, if the Company should desire to terminate this Agreement after the Date of Service and prior to the end of the term, except for breach of this Agreement by Walden's Ridge, the Company will provide Walden's Ridge with three (3) years advance written notice of such desire to terminate.

SECTION XI
FORCE MAJEURE

Neither Walden's Ridge or Tennessee-American shall be liable for damages to the other for any act, omission, or circumstance occasioned by or in consequence of strikes, lockouts, acts of the public enemy, wars, blockades, insurrections, riots, acts of terrorism, epidemics, landslides, lightning, earthquakes, fires, storms, floods, washouts, civil disturbances, explosions, breakage, or accident to machinery or lines of pipe, and any other cause, whether of the kind herein enumerated or otherwise, not reasonably within the control of the party claiming suspension and which by the exercise of due diligence such party is unable to prevent or overcome. Failure to prevent or settle any strike or strikes shall not be considered to be a matter within the control of the party claiming suspension. Such causes or contingencies affecting such performance shall not relieve Walden's Ridge from its obligation to make payment of amounts due hereunder.

SECTION XII
RENEWAL OF AGREEMENT

This agreement may be renegotiated for additional periods of time beyond the term of this Agreement. Negotiations to extend the term of this Agreement shall commence no later than six (6) months prior to the expiration date of this Agreement.

However, the rates to be charged during any renewal period shall also be subject to prior approval by the Tennessee Regulatory Authority.

SECTION XIII
MISCELLANEOUS PROVISIONS

(A) Assignment

This Agreement shall be binding on the successors and assigns of Tennessee-American. Upon obtaining written approval from Tennessee-American, which will not be unreasonably withheld, this Agreement may be assigned by Walden's Ridge to any successor in the operation of the distribution facilities currently owned by Walden's Ridge.

(B) Notices

Any notice required or permitted to be given by one of the parties to this Agreement shall be given by U.S. mail, personal delivery or by overnight carrier to the other party at the address set forth below:

Tennessee-American Water Company
1101 Broad Street
P. O. Box 6338,
Chattanooga, Tennessee 37377
Attn: President

Walden's Ridge Utility District
3900 Taft Highway
Signal Mountain, Tennessee 37377
Attn: General Manager

Any notice so given shall be deemed given upon its deposit in the U.S. mail, upon personal delivery or upon its delivery to the overnight carrier.

(C) Governing Law

This Agreement shall be governed by the laws of the State of Tennessee.

(D) Severability

In the event that any provision hereof is found to be invalid or unenforceable, such invalidity or unenforceability shall not impair or limit the validity or enforceability of any other provision hereof, each of which shall continue in full force and effect, and this Agreement shall be construed as if such invalid or unenforceable provisions were omitted from the Agreement.

(E) Entire Agreement

This Agreement constitutes the entire Agreement between Walden's Ridge and Tennessee-American with respect to the subject matter contained in the Agreement, except that Walden's Ridge is subject to the rules, regulations and other applicable conditions and provisions set forth in Tennessee-American's tariff on file with the Tennessee Regulatory and as from time to time amended. This Agreement shall not be amended without the prior written consent of both parties. No modification of this Agreement or waiver of any of its terms and conditions will be effective unless set forth in a written document signed by both parties.

WALDEN'S RIDGE UTILTIY DISTRICT

By: _____
Frank Groves, Jr.

Its: President

By: _____
Robert McKenzie

Its: Treasurer

By: _____
David J. Fulton

Its: Secretary

District Seal Here

TENNESSEE-AMERICAN WATER COMPANY

By: _____
William F. L'Ecuyer

Its: President

ACKNOWLEDGEMENT
FOR WALDEN'S RIDGE UTILITY DISTRICT

STATE OF TENNESSEE)
)
COUNTY OF Hamilton)

The foregoing instrument was acknowledged before me this 14 day of July, 2003, by **Frank Groves, Jr., as President** of Walden's Ridge Utility District.

My Commission expires: July 11, 2005

Katherine Lonergan

NOTARY PUBLIC, Chattanooga, TN

STATE OF TENNESSEE)
)
COUNTY OF Hamilton)

The foregoing instrument was acknowledged before me this 14th day of July, 2003, by **Robert McKenzie, as Treasurer** of Walden's Ridge Utility District.

My Commission expires: March 11, 2006

Nancy H. Hay

NOTARY PUBLIC, Chattanooga, TN

STATE OF TENNESSEE)
)
COUNTY OF Hamilton)

The foregoing instrument was acknowledged before me this 14th day of July, 2003, by **David J. Fulton, as Secretary** of Walden's Ridge Utility District.

My Commission expires: March 11, 2006

Nancy H. Hay

NOTARY PUBLIC, Chattanooga, TN

ACKNOWLEDGEMENT
FOR TENNESSEE-AMERICAN WATER COMPANY

STATE OF TENNESSEE)
)
COUNTY OF Hamilton)

The foregoing instrument was acknowledged before me this 14th day of July, 2003, by **William F. L'Ecuyer, as President,** of Tennessee-American Water Company.

My Commission expires: April 7, 2004

Virginia B. Bradley
NOTARY PUBLIC, Chattanooga, TN

RESOLUTION
of the
COMMISSIONERS
for the
WALDEN'S RIDGE UTILITY DISTRICT

A resolution ratifying Tennessee – American Water Company and
Walden's Ridge Utility District Contract for the Water Source Agreement

WHEREAS, Walden's Ridge Utility District deemed it necessary to seek a new source for water;

WHEREAS, WRUD considered all options available including drilling additional wells and plant expansion and purchase proposal from Soddy Daisy-Falling Water Utility, Hixson Utility District and Tennessee-American Water Company;

WHEREAS, after many years of researching all options available and an engineering cost analysis study, it has been decided to enter a purchase agreement with Tennessee-American Water Company;

WHEREAS, with increased demand, our Board was faced with a large expenditure to modernize and expand our production facilities to meet new and more stringent governmental regulations. After much study, we found it more economical to purchase water from Tennessee-American Water Company.

NOW THEREFORE, BE IT RESOLVED BY THE COMMISSIONERS OF THE WALDEN'S RIDGE UTILITY DISTRICT:

That contingent upon Tennessee-American Water Company signing the Water Purchase Agreement, this resolution shall take effect upon its passage, the public welfare requiring it and passage occurred this 22nd day of July 2003.

Frank Groves, Jr.
President

Robert McKenzie
Treasurer

David J. Fulton
Secretary

WALDEN'S RIDGE UTILITY DISTRICT
3900 TAFT HIGHWAY
SIGNAL MOUNTAIN, TENNESSEE 37377

COMMISSIONERS:
FRANK GROVES, JR., PRESIDENT
ROBERT MCKENZIE, TREASURER
DAVID J. FULTON, SECRETARY

DAVID STREETER, MANAGER
DEE HOBBS, ATTORNEY

WATER PURCHASE AGREEMENT

AMENDMENT A

This is an amendment to the Water Purchase Agreement between Tennessee-American Water Company and Walden's Ridge Utility District signed the 14th day of July 2003 This Amendment (the "Amendment") to the Agreement is, made this 14th day of January, 2004, between and among WALDEN'S RIDGE UTILITY DISTRICT (hereinafter "WRUD"), and TENNESSEE-AMERICAN WATER COMPANY (hereinafter "TAWC")

Upon reviewing our records, it appears that WRUD and TAWC did not formally recognize the renegotiated purchase rate for which WRUD will charge TAWC for water purchased by TAWC from WRUD during the interim period (approximately 18 months) until TAWC has the new water transmission main installed to deliver water to WRUD.

At this time, the only detail found omitted is that WRUD will charge $2.05 per 1000 gallons for all water sold to TAWC to supply the Lone Oak and Suck Creek Utility District areas and other areas as TAWC may expand its system in the future

If for any reason TAWC exercises their option to withdraw from the planned water transmission main installation, then, WRUD reserves the right to bill at the original $2 98 per 1000 gallons retroactive to the activation of water supply to the Lone Oak and Suck Creek Utility District areas and other areas as TAWC may have expanded its system up to the time of withdrawal

IN WITNESS WHEREOF, WRUD and TAWC, have agreed to this Amendment A to be signed by the proper officers thereunto duly authorized, all as of the day and year first above written

WALDEN'S RIDGE UTILITY DISTRICT
3900 TAFT HIGHWAY
SIGNAL MOUNTAIN, TENNESSEE 37377

COMMISSIONERS:
FRANK GROVES, JR., PRESIDENT
ROBERT MCKENZIE, TREASURER
DAVID J. FULTON, SECRETARY

DAVID STREETER, MANAGER
DEE HOBBS, ATTORNEY

TENNESSEE-AMERICAN WATER COMPANY

BY: _____
David Schultz
Its: President

Acknowledgment for Tennessee-American Water Company

STATE OF TENNESSEE)
)
COUNTY OF Hamilton)

The foregoing instrument was acknowledged before me this 14th day of January, 2004, by **David Schultz**, as **President** of Tennessee-American Water Company.

My Commission expires: April 17, 2004

Virginia B. Sneed

NOTARY PUBLIC, Chattanooga, TN

WALDEN'S RIDGE UTILITY DISTRICT
3900 TAFT HIGHWAY
SIGNAL MOUNTAIN, TENNESSEE 37377

COMMISSIONERS:
FRANK GROVES, JR., PRESIDENT
ROBERT MCKENZIE, TREASURER
DAVID J. FULTON, SECRETARY

DAVID STREETER, MANAGER
DEE HOBBS, ATTORNEY

WALDEN'S RIDGE UTILITY DISTRICT

BY: _____
Frank Groves, Jr.
Its: President

WITNESS:

BY: _____
David Streeter
Its: General Manager

Acknowledgment for Walden's Ridge Utility District

STATE OF TENNESSEE)
)
COUNTY OF Hamilton)

The foregoing instrument was acknowledged before me this 09 day of January 2004, by **Frank Groves, Jr., as President** of Walden's Ridge Utility District.

My Commission expires: 12 August 2007.

_____
NOTARY PUBLIC, Chattanooga, TN

TINA A. DAVIES
NOTARY PUBLIC AT LARGE
HAMILTON COUNTY, TN

WATER PURCHASE AGREEMENT

THIS AGREEMENT, made this 14th day of July 2003 by and between

Tennessee-American Water Company ("Tennessee-American"), located at 1101 Broad Street, Chattanooga, Tennessee

and

Walden's Ridge Utility District ("Walden's Ridge"), located at 3900 Taft Highway, Signal Mountain, Tennessee

WHEREAS, Tennessee-American, a Tennessee corporation, is a public utility which owns and operates a water utility system in and around the City of Chattanooga, Tennessee including the contiguous cities of Red Bank, East Ridge, Ridgeside, and Lookout Mountain, plus the cities of Rossville and Lookout Mountain, Georgia and areas in the Georgia counties of Dade, Walker and Catoosa; and

WHEREAS, Walden's Ridge wishes to purchase all of its water supply from Tennessee-American; and

WHEREAS, Tennessee-American has the capability to provide all of the water supply currently required by Walden's Ridge and is willing to construct a water supply pipeline and booster station, which will provide a sufficient volume of water in order to serve as WRUD's sole source of supply; and

WHEREAS, Walden's Ridge and Tennessee-American are desirous of establishing an Agreement for the purchase and sale of water for a fixed period of time; and

WHEREAS, the parties have reached an Agreement for the sale and purchase of water which they now desire to record in writing;

NOW THEREFORE, in consideration of the mutual covenants contained herein and other good and valuable consideration the receipt and sufficiency of which is hereby acknowledged, the parties agree as follows:

SECTION I
EXCLUSIVE SUPPLIER

Tennessee-American agrees to sell and Walden's Ridge agrees to buy, during the term of this Agreement and any extension hereof, all of the potable and raw water requirements of Walden's Ridge, as it now exists or may hereafter by expanded, in conformity with the provisions hereof.

SECTION II
CONSTRUCTION OF FACILITIES

(A) Tennessee-American shall construct, at an estimated cost of $2 4 million, a water supply pipeline and booster station from its existing distribution system to the Walden's Ridge water tank near Taft Highway, which will provide a sufficient volume of water in order to serve as Walden's Ridge sole source of supply This water supply pipeline will be capable of delivering up to 2.9 million gallons of water per day at the top of the mountain. The estimated construction time, from the time of a final non-appealable order from the Tennessee Regulatory Authority ("TRA") granting approval of the project, until the connection to the system and delivery of water, is eighteen (18) months. In the event that the construction bid price exceeds $2.4 million by 5% or more, Tennessee-American shall have the right to negotiate an adjustment in the price for the sale of water as provided in Section III hereof or terminate this Agreement.

(B) If any conditions or requirements are imposed by any regulatory authority, or court, which make this project economically unfeasible, Tennessee-American has the right to withdraw and terminate the Agreement.

(C) As part of this consideration, Walden's Ridge agrees that Tennessee-American will be the sole and exclusive supplier of potable and raw water to Walden's Ridge, as it now exists or

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(D) In the event Walden's Ridge terminates the Agreement prior to the expiration of forty (40) years from the Date of Service, as defined below, or fails to renew the agreement for a period of time adequate to allow Tennessee-American an opportunity to recover its investment, or if Tennessee-American is no longer the sole and exclusive provider of potable and raw water to Walden's Ridge, or fails to pay Tennessee-American as provided herein, then Walden's Ridge, and its successors and assigns, agree to pay Tennessee-American, within thirty (30) days following such termination or event, the balance of the undepreciated costs, on a straight-line basis, of Tennessee-American's pipeline and all other facilities that are constructed to serve Walden's Ridge.

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Neither Walden's Ridge or Tennessee-American shall be liable for damages to the other for any act, omission, or circumstance occasioned by or in consequence of strikes, lockouts, acts of the public enemy, wars, blockades, insurrections, riots, acts of terrorism, epidemics, landslides, lightning, earthquakes, fires, storms, floods, washouts, civil disturbances, explosions, breakage, or accident to machinery or lines of pipe, and any other cause, whether of the kind herein enumerated or otherwise, not reasonably within the control of the party claiming suspension and which by the exercise of due diligence such party is unable to prevent or overcome. Failure to prevent or settle any strike or strikes shall not be considered to be a matter within the control of the party claiming suspension. Such causes or contingencies affecting such performance shall not relieve Walden's Ridge from its obligation to make payment of amounts due hereunder.

SECTION XII
RENEWAL OF AGREEMENT

This agreement may be renegotiated for additional periods of time beyond the term of this Agreement. Negotiations to extend the term of this Agreement shall commence no later than six (6) months prior to the expiration date of this Agreement.

However, the rates to be charged during any renewal period shall also be subject to prior approval by the Tennessee Regulatory Authority.

SECTION XIII
MISCELLANEOUS PROVISIONS

(A) Assignment

This Agreement shall be binding on the successors and assigns of Tennessee-American. Upon obtaining written approval from Tennessee-American, which will not be unreasonably withheld, this Agreement may be assigned by Walden's Ridge to any successor in the operation of the distribution facilities currently owned by Walden's Ridge.

(B) Notices

Any notice required or permitted to be given by one of the parties to this Agreement shall be given by U.S. mail, personal delivery or by overnight carrier to the other party at the address set forth below:

Tennessee-American Water Company
1101 Broad Street
P. O. Box 6338,
Chattanooga, Tennessee 37377
Attn: President

Walden's Ridge Utility District
3900 Taft Highway
Signal Mountain, Tennessee 37377
Attn: General Manager

Any notice so given shall be deemed given upon its deposit in the U S. mail, upon personal delivery or upon its delivery to the overnight carrier.

(C) Governing Law

This Agreement shall be governed by the laws of the State of Tennessee.

(D) Severability

In the event that any provision hereof is found to be invalid or unenforceable, such invalidity or unenforceability shall not impair or limit the validity or enforceability of any other provision hereof, each of which shall continue in full force and effect, and this Agreement shall be construed as if such invalid or unenforceable provisions were omitted from the Agreement.

(E) Entire Agreement

This Agreement constitutes the entire Agreement between Walden's Ridge and Tennessee-American with respect to the subject matter contained in the Agreement, except that Walden's Ridge is subject to the rules, regulations and other applicable conditions and provisions set forth in Tennessee-American's tariff on file with the Tennessee Regulatory and as from time to time amended. This Agreement shall not be amended without the prior written consent of both parties. No modification of this Agreement or waiver of any of its terms and conditions will be effective unless set forth in a written document signed by both parties.

WALDEN'S RIDGE UTILTIY DISTRICT

By: _____
Frank Groves, Jr.

Its: President

By: _____
Robert McKenzie

Its: Treasurer

By: _____
David J. Fulton

Its: Secretary

District Seal Here

TENNESSEE-AMERICAN WATER COMPANY

By: _____
William F. L'Ecuyer

Its: President

ACKNOWLEDGEMENT
FOR WALDEN'S RIDGE UTILITY DISTRICT

STATE OF TENNESSEE)
)
COUNTY OF Hamilton)

The foregoing instrument was acknowledged before me this 14 day of July, 2003, by **Frank Groves, Jr., as President** of Walden's Ridge Utility District.

My Commission expires: July 11, 2005

Katherine Loneryan

NOTARY PUBLIC, Chattanooga, TN

STATE OF TENNESSEE)
)
COUNTY OF Hamilton)

The foregoing instrument was acknowledged before me this 14th day of July, 2003, by **Robert McKenzie, as Treasurer** of Walden's Ridge Utility District.

My Commission expires: March 11, 2006

Nancy H. Hay

NOTARY PUBLIC, Chattanooga, TN

STATE OF TENNESSEE)
)
COUNTY OF Hamilton)

The foregoing instrument was acknowledged before me this 14th day of July, 2003, by **David J. Fulton, as Secretary** of Walden's Ridge Utility District.

My Commission expires: March 11, 2006

Nancy H. Hay

NOTARY PUBLIC, Chattanooga, TN

ACKNOWLEDGEMENT
FOR TENNESSEE-AMERICAN WATER COMPANY

STATE OF TENNESSEE)
)
COUNTY OF Hamilton)

The foregoing instrument was acknowledged before me this 14th day of July, 2003, by **William F. L'Ecuyer, as President,** of Tennessee-American Water Company.

My Commission expires: April 7, 2004

Virginia B. Scruggs
NOTARY PUBLIC, Chattanooga, TN

RESOLUTION
of the
COMMISSIONERS
for the
WALDEN'S RIDGE UTILITY DISTRICT

A resolution ratifying Tennessee – American Water Company and
Walden's Ridge Utility District Contract for the Water Source Agreement

WHEREAS, Walden's Ridge Utility District deemed it necessary to seek a new source for water;

WHEREAS, WRUD considered all options available including drilling additional wells and plant expansion and purchase proposal from Soddy Daisy-Falling Water Utility, Hixson Utility District and Tennessee-American Water Company;

WHEREAS, after many years of researching all options available and an engineering cost analysis study, it has been decided to enter a purchase agreement with Tennessee-American Water Company;

WHEREAS, with increased demand, our Board was faced with a large expenditure to modernize and expand our production facilities to meet new and more stringent governmental regulations. After much study, we found it more economical to purchase water from Tennessee-American Water Company

NOW THEREFORE, BE IT RESOLVED BY THE COMMISSIONERS OF THE WALDEN'S RIDGE UTILITY DISTRICT:

That contingent upon Tennessee-American Water Company signing the Water Purchase Agreement, this resolution shall take effect upon its passage, the public welfare requiring it and passage occurred this 22nd day of July 2003.

Frank Groves, Jr.
President

Robert McKenzie
Treasurer

David J. Fulton
Secretary

BEFORE THE TENNESSEE REGULATORY AUTHORITY

NASHVILLE, TENNESSEE

March 16, 2004

IN RE:	)	
	)	
TENNESSEE-AMERICAN WATER COMPANY - APPROVAL OF SPECIAL CONTRACT WITH WALDEN'S RIDGE UTILITY DISTRICT	)	DOCKET NO. 03-00452

ORDER APPROVING SPECIAL CONTRACT

This matter came before Chairman Deborah Taylor Tate, Director Sara Kyle and Director Ron Jones of the Tennessee Regulatory Authority ("TRA" or "Authority"), the voting panel assigned to this docket, at a regularly scheduled Authority Conference held on October 21, 2003, for consideration of a petition filed by Tennessee-American Water Company ("Tennessee-American") seeking approval of an agreement for Tennessee-American to provide water for resale to Walden's Ridge Utility District ("Walden's Ridge").

Background

On July 24, 2003, Tennessee-American petitioned the Authority for approval of a Water Purchase Agreement ("Special Contract") with Walden's Ridge. This Special Contract was negotiated by the parties and submitted to the Authority for approval pursuant to Tenn. Comp. R. & Regs. 1220-4-1-.07, which states:

> Special contracts between public utilities and certain customers prescribing and providing rates, services and practices not covered by or permitted in the general tariffs, schedules or rules filed by such utilities are subject to supervision, regulation and control by the Authority. A copy of such special agreements shall be filed, subject to review and approval.

No other interested party requested intervention in this matter.

Terms of the Special Contract

The term of the Special Contract is for forty (40) years from the "date of service," defined as the date that water is first taken from the Tennessee-American pipeline. As part of the agreement, Tennessee-American will construct a water supply pipeline and booster station from its existing distribution system to the Walden's Ridge water tank at an estimated cost of $2.4 million. If the construction bid price exceeds $2.4 million by five percent (5%) or more, Tennessee-American has the right under the Special Contract to negotiate an adjustment in the price for the sale of water or terminate the contract.[1] In return, Tennessee-American will be the sole and exclusive provider of potable and raw water to Walden's Ridge, and Walden's Ridge will decommission and terminate its water supply and treatment facilities within ninety (90) days following the date of service.

The agreement provides for the sale of water by Tennessee-American to Walden's Ridge at a rate of one dollar and twenty-five cents ($1.25) per one thousand (1,000) gallons for the first three (3) years of the contract, plus a negotiable pass-through of any increased electric costs identified with the project. After the initial three-year period, if Tennessee-American proposes a rate change, Walden's Ridge can agree to the new rate or propose an alternative rate with the understanding that the TRA will be the ultimate authority in determining the rate.

The agreement also stipulates that Tennessee-American can use Walden Ridge's distribution system to resell (or "wheel") water to other neighboring utilities. The resale (or "wheeling") rate under the terms of the agreement will be thirty-nine cents ($.39) per one thousand (1,000) gallons and will be fixed for the first three (3) years of the agreement. If any proposed change to the wheeling rate after the initial three-year period cannot be agreed upon by the parties, the contract

[1] At the Authority Conference on October 21, 2003, Mr. Coleman Bush of Tennessee-American committed to the panel that if Tennessee-American petitions the TRA in future rate cases for a rate adjustment to permit full recovery of the $2.4 million construction costs, the rate adjustment will apply only to Tennessee-American's Walden's Ridge customers and not to other customers of Tennessee-American. *See Transcript of Authority Conference*, pp. 44-45 (October 21, 2003).

requires mediation. If mediation is unsuccessful, pursuant to the contract either of the parties may take the matter to the TRA, the Utility Management Review Board or the courts.[2]

Findings and Conclusions

Based upon the terms of the Water Purchase Agreement previously set forth, the Authority finds the agreement justifies a departure from Tennessee-American's tariff through a special contract. The Special Contract will enable Tennessee-American to generate additional revenues that will help offset future rate increases for existing customers and benefit its ratepayers.

October 21, 2003 Authority Conference

The Directors of this voting panel considered Tennessee-American's petition for approval of the Special Contract at the regularly scheduled Authority Conference held on October 21, 2003. During the Conference, the panel found that the Special Contract was in the public interest and after careful consideration voted unanimously to approve the petition.

IT IS THEREFORE ORDERED THAT:

The Special Contract by and between Tennessee-American Water Company and Walden's Ridge Utility District is hereby approved.

Deborah Taylor Tate, Chairman

Sara Kyle, Director

Ron Jones, Director

[2] This particular provision of the contract was discussed at the Authority Conference on October 21, 2003 by Mr. George Masterson of Tennessee-American Water, who told the voting panel the contract states that if the parties "can't agree after mediation, that either party can bring the matter to the TRA on the wheeling charge." *Transcript of Authority Conference*, p. 44 (October 21, 2003).

WILLIAM O. LEONARD, III
Mayor

PHILLIP A. NOBLETT
Town Attorney

DIANA CAMPBELL
Town Manager

STEPHEN RUFFIN
Vice Mayor

ROBERT E. WHITE, II
Councilmember

LIZETTA PATURALSKI
Councilmember

ROBERT V. LINEHART, JR.
Councilmember

Town of Signal Mountain
1111 RIDGEWAY AVENUE
SIGNAL MOUNTAIN, TENNESSEE 37377
423-886-2177

April 19, 2006

Mr. John S. Watson
Vice-President and General Network Manager
Tennessee American Water
1101 Broad Street
P.O.Box 6338
Chattanooga, TN 37401

Dear Mr. Watson:

Enclosed please find the signed "Extension of Water Purchase Agreement" effective as of July 1, 2006 by and between Tennessee American Water and The Town of Signal Mountain.

Yours truly,

THE TOWN OF SIGNAL MOUNTAIN

Diana Campbell

Diana Campbell
Town Manager

DC/sm

Enclosure

Tennessee American Water

John S. Watson
Vice-President &
General Network Manager

March 14, 2006

Mr. William O. Leonard III, Mayor
Town of Signal Mountain
1100 Ridgeway Avenue
Signal Mountain, TN 37377

Dear Mayor Leonard:

Enclosed for your review is a proposed agreement in which we are requesting a third extension to the water purchase agreement dated July 1, 1997 between the Town of Signal Mountain and Tennessee-American Water. The extension agreement will be effective July 1, 2006 and will extend for an additional three years the same terms and conditions as the original contract, and the proposed rate will increase to $1.061 per 1000 gallons, or $.796 per CCF.

If the agreement meets with your approval, please sign on behalf of the Town of Signal Mountain and return to my attention so that I may submit it for approval by the Tennessee Regulatory Authority. We appreciate the opportunity to continue to work with you in providing water service to the residents of Signal Mountain.

Sincerely,

John S. Watson
Vice-President and
General Network Manager

JSW/s
Enc.

American Water
1101 Broad Street
Post Office Box 6338
Chattanooga, TN 37401
USA
T +1 423 755 9307
F +1 423 755 7634
I www.tawc.com

RWE GROUP

EXTENSION OF WATER PURCHASE AGREEMENT

THIS EXTENSION OF WATER PURCHASE AGREEMENT, made effective as of July 1, 2006, by and between Tennessee American Water ("Tennessee American"), located at 1101 Broad Street, Chattanooga, Tennessee, and Town of Signal Mountain ("Signal Mountain"), whose address is 1111 Ridgeway Avenue, Signal Mountain, Tennessee,

WHEREAS, the parties hereto have agreed to extend the term of their Water Purchase Agreement dated July 1, 1997 ("Original Agreement") as amended and extended by agreement dated as being effective July 1, 2000 ("First Extension Agreement"), and agreement dated as being effective July 1, 2003 ("Second Extension Agreement"), copies of which are attached hereto and incorporated herein by reference, for an additional term of three years as provided herein,

NOW THEREFORE, in consideration of the mutual convenants and promises herein and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the parties hereto agree as follows:

1. Except as specifically provided herein, all of the terms, conditions, privileges and obligations in the Original Agreement, as amended and extended by the First and Second Extension Agreements are hereby extended for a term of three (3) years (or thirty-six (36) monthly billing periods), beginning July 1, 2006 and ending July 1, 2009.

2. Effective July 1, 2006 and continuing through the end of the term hereof, Section 1 of the Original Agreement, as amended and extended by the First and Second Extension Agreements, is hereby amended to state that Signal Mountain will purchase water at the rate of exactly $0.796 per hundred cubic feet (CCF), which is approximately $1.061 per 1,000 gallons.

3. This Extension of Water Purchase Agreement is subject to the approval by the Board of Tennessee American Water and the Tennessee Regulatory Authority ("TRA"). Signal Mountain agrees to take such action reasonably necessary to support Tennessee American's application for approval from the TRA.

IN WITNESS WHEREOF, the parties have set forth their hands.

TOWN OF SIGNAL MOUNTAIN	TENNESSEE AMERICAN WATER
By [signature]	By [signature]
Title: Town Manager	Title: VICE-PRESIDENT & GENERAL NETWORK MANAGER
Date: 4-10-2006	Date: APRIL 4, 2006

EXTENSION OF WATER PURCHASE AGREEMENT

THIS EXENSION OF WATER PURCHASE AGEEMENT, made effective as of July 1, 2003, by and between Tennessee-American Water Company (Tennessee-American"), located at 1101 Broad Street, Chattanooga, Tennessee, and Town of Signal Mountain ("Signal Mountain"), whose address is 1101 Ridgeway Avenue, Signal Mountain, Tennessee.

WHEREAS, the parties hereto have agreed to extend the term of their Water Purchase Agreement dated July 1, 1997 ("Original Agreement"), as amended and extended by agreement dated as being effective July 1, 2000 ("First Extension Agreement"), copies of both are attached hereto and incorporated herein by reference, for an additional term of three years as provided herein,

NOW, THEREFORE, in consideration of the mutual covenants and promises herein and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the parties agree as follows:

1. Except as specifically provided herein, all of the terms, conditions, privileges and obligations in the Original Agreement, as amended and extended by the First Extension Agreement, are hereby extended for a term of three (3) years (or thirty-six (36) monthly billing periods), beginning July 1, 2003 and ending July 1, 2006.

2. Effective August 7, 2003, and continuing through the end of the term hereof, Section 1 of the Original Agreement, as amended and extended by the First Extension Agreement, is hereby amended to state that Signal Mountain will purchase water at the rate of $1.02 per 1,000 gallons.

3. This Extension of Water Purchase Agreement is subject to the approval by the Board of the Tennessee-American Water Company and the Tennessee Regulatory Authority ("TRA"). Signal Mountain agrees to take such action reasonably necessary to support Tennessee-American's application for approval from the TRA.

IN WITNESS WHEREOF, the parties have set forth their hands.

TOWN OF SIGNAL MOUNTAIN

By: _____
Title: Mayor
Date: 1-29-04

TENNESSEE-AMERICAN WATER COMPANY

By: _____
Title President
Date: 2/20/04

EXTENSION OF WATER PURCHASE AGREEMENT

THIS EXTENSION OF WATER PURCHASE AGREEMENT, made effective as of July 1, 2000, by and between:

Tennessee-American Water Company ("Tennessee-American"), located at 1101 Broad Street, Post Office Box 6338, Chattanooga, Tennessee

And

Town of Signal Mountain ("Signal Mountain"), located at 1101 Ridgeway Avenue, Signal Mountain, Tennessee

WHEREAS, Signal Mountain and Tennessee-American have mutually agreed to extend the term of their Water Purchase Agreement dated July 1, 1997 ("Original Agreement") for an additional period of time under the same terms and conditions, except as herein specified.

NOW THEREFORE, in consideration of the mutual covenants and promises herein and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the parties hereto agree as follows:

1. All of the terms, conditions, privileges and obligations in the Original Agreement, except as specifically otherwise stated herein, are hereby extended for a term of three (3) years (or thirty-six [36] monthly billing periods) beginning September 1, 2000.
2. A copy of the Original Agreement is attached hereto and incorporated herein by reference.
3. Section X (2) of the Original Agreement is amended to provide that any notice to Tennessee-American be sent to the attention of the President of Tennessee-American.

4. This Extension of Water Purchase Agreement is subject to the approval by the Board of Directors of Tennessee-American and by the Tennessee Regulatory Authority ("TRA"). Signal Mountain agrees to take such action reasonably necessary to support Tennessee-American's application for approval from the TRA.

IN WITNESS WHEREOF, the parties have set forth their hands.

TOWN OF SIGNAL MOUNTAIN

By: _____

Title: _____

Date: _____

TENNESSEE-AMERICAN WATER CO.

By: _____

Title: _____

Date: August 14, 2000

WATER PURCHASE AGREEMENT

THIS AGREEMENT, made this 1st day of July, 1997 by and between

Tennessee-American Water Company ("Tennessee-American"), located at 1101 Broad Street, Post Office Box 6338, Chattanooga, Tennessee

and

Town of Signal Mountain ("Signal Mountain"), located at 1100 Ridgeway Avenue, Signal Mountain, Tennessee

WHEREAS, Tennessee-American, a Tennessee corporation, is a public utility which owns and operates a water utility system in and around the City of Chattanooga, Tennessee including the contiguous Tennessee cities of Red Bank, East Ridge, Ridgeside, and Lookout Mountain, plus the cities of Rossville and Lookout Mountain, Georgia and areas in the Georgia counties of Dade, Walker and Catoosa; and

WHEREAS, Signal Mountain wishes to purchase all or substantially all of its water supply from Tennessee-American; and

WHEREAS, Tennessee-American currently supplies water to Signal Mountain and has the capability and facilities in place to provide all or substantially all of the water supply currently required by Signal Mountain; and

WHEREAS, Signal Mountain and Tennessee-American are desirous of establishing an Agreement for the purchase of water for a fixed period of time; and,

WHEREAS, the parties have reached an Agreement for the sale and purchase of water which they now desire to record in writing;

NOW, THEREFORE, in consideration of the mutual covenants contained herein and other

good and valuable consideration the receipt and sufficiency of which is hereby acknowledged, the parties hereto agree as follows:

SECTION I
SALE OF WATER

Signal Mountain agrees to purchase a minimum of 273,750,000 gallons per year at $.95 per 1,000 gallons.

On or before the tenth day after the end of each twelve months of this Agreement, Tennessee-American will review the usage of Signal Mountain during the prior twelve month period year. If Signal Mountain's usage during the prior twelve month period was 273,750,000 gallons or more, no additional charge will be made. Should Signal Mountain's usage be less than 273,750,000 gallons, that month's invoice will include a charge for the difference between the actual usage and 273,750,000 gallons priced at $.95 per 1,000 gallons.

SECTION II
FLUORIDATION OF WATER SUPPLY

The Company will fluoridate the water supplied to the Town of Signal Mountain, in accordance with the Tennessee Department of Environment and Conservation Rule 1200-5-1-.17 (20), which requires the maintenance of a monthly average concentration of fluoride between 0.9 mg/l and 1.3 mg/l, unless required to do otherwise by applicable state law or regulations.

SECTION III
OPERATIONAL REQUIREMENTS

In order to minimize utilization of the peaking capacity of Tennessee-American, Signal Mountain will provide adequate storage to provide for its own maximum hour needs. Signal Mountain shall maintain a minimum of one day of water supply storage on their distribution system.

Tennessee-American will supply up to 2,500 gallons per minute to the existing metering location as described in Section IV hereof, at a pressure sufficient to fill the existing Signal Mountain Receiving tanks at the base of Signal Mountain. If Signal Mountain requests flow rates in excess of 2,500 g.p.m. at any time during the term of this Agreement, it will be required either to pay for the additional system improvements that are needed to meet such additional flow or to contract for water at a higher rate per 1,000 gallons of water to be determined by the Company.

SECTION IV
METERING

Metering of the water sold under this Agreement shall be at the existing meter setting located at the Town of Signal Mountain's existing storage tanks at the base of Signal Mountain, just off of Signal Mountain Road and Suck Creek Road.

SECTION V
BILLING

On or before the tenth day of each month, Tennessee-American will issue an invoice to Signal Mountain for Signal Mountain's metered usage during the prior month. Payment of such invoice will be made by Signal Mountain on or before eighteen days after receipt of the invoice.

SECTION VI
APPROVALS BY TENNESSEE REGULATORY AUTHORITY

It is understood and agreed that this Agreement is conditioned on approval by the Tennessee Regulatory Authority ("TRA"). Promptly upon execution of this Agreement, Tennessee-American shall file an application for approval with the TRA and take such action in good faith as may be necessary to obtain the appropriate approval.

SECTION VII
TERM OF AGREEMENT

The term of this Agreement shall be for a period of three (3) years or thirty-six (36) monthly billing periods. The three (3) year period shall commence with the effective date of the purchase of water under this Agreement. The effective date of the commencement of sales under the terms of this Agreement shall be the beginning of the next regular monthly billing period following approval of this Agreement by the TRA.

SECTION VIII
FORCE MAJEURE

Neither Signal Mountain or Tennessee-American shall be liable for damages to the other for any act, omission, or circumstance occasioned by or in consequence of any strikes, lockouts, acts of the public enemy, wars, blockades, insurrections, riots, epidemics, landslides, lightning, earthquakes, fires, storms, floods, washouts, civil disturbances, explosions, breakage, or accident to machinery or lines of pipe, and any other cause, whether of the kind herein enumerated or otherwise, not reasonably within the control of the party claiming suspension and which by the exercise of due diligence such party is unable to prevent or overcome. Failure to prevent or settle any strike or strikes shall not be considered to be a matter within the control of the party claiming suspension. Such causes or contingencies affecting such performance shall not relieve Signal Mountain from its obligations to make payment of amounts due hereunder. During the period of force majeure, the minimum annual charge shall be reduced by a ratio equal to the number of days of interruption divided by 365 days. If, during the period of force majeure some water can be delivered, then the ratio shall be multiplied by the percentage reduction in usage.

SECTION IX
RENEWAL OF AGREEMENT

This Agreement may be renegotiated for additional periods of time beyond the term of this Agreement. Negotiations to extend the term of this Agreement shall commence no later than six (6) months prior to the expiration date of this Agreement. However, the rates to be charged during any renewal period shall also be subject to prior approval by TRA.

SECTION X
MISCELLANEOUS PROVISIONS

(1) **Assignment**

Upon obtaining written approval from Tennessee-American which will not be unreasonably withheld, this Agreement may be assigned by Signal Mountain to any successor in the operation of the facilities currently owned by Signal Mountain.

(2) **Notices**

Any notice required or permitted to be given by one of the parties to this Agreement shall be given by U.S. mail, personal delivery or by overnight carrier to the other party at the address set forth below:

Town of Signal Mountain
1100 Ridgeway Avenue
Signal Mountain, TN 37377
Attn: Town Manager

Tennessee-American Water Company
1101 Broad Street
P. O. Box 6338
Chattanooga, Tennessee 37401
Attn: Vice-President and Manager

Any notice so given shall be deemed given upon its deposit in the U.S. mail, upon personal delivery or upon its delivery to the overnight carrier.

(3) **Governing Law**

This Agreement shall be governed by the laws of the State of Tennessee.

(4) **Enforceability**

In the event that any provision hereof is found to be invalid or unenforceable, such invalidity or unenforceability shall not impair or limit the validity or enforceability of any other provision hereof, each of which shall continue in full force and effect, and this Agreement shall be construed as if such invalid or unenforceable provisions were omitted from this Agreement.

(5) **Entire Agreement**

This Agreement constitutes the entire Agreement between Signal Mountain and Tennessee-American with respect to the subject matter contained in the Agreement, except that Signal Mountain is subject to the rules, regulations and other applicable conditions and provisions set forth in Tennessee-American's tariff on file with the TRA and as from time to time amended. This Agreement shall not be amended without the prior written consent of both parties. No modification of this Agreement or waiver of any of its terms and conditions will be effective unless set forth in a written document signed by both parties.

TOWN OF SIGNAL MOUNTAIN	TENNESSEE-AMERICAN WATER COMPANY
By: _____	By: _____
James H. Althaus	Richard T. Sullivan
Its: Mayor	Its: Vice-President and Manager

Tennessee-American Water Company

P.O. Box 6338 • 1101 South Broad Street • Chattanooga, TN 37401

Richard T. Sullivan
Vice President and Manager

(423) 755-7620
Fax (423) 755-7634
http://www.tawc.com

July 30, 1997

Mr. Rick Sonnenburg
Town of Signal Mountain
1100 Ridgeway Avenue
Signal Mountain, TN 37377

Dear Mr. Sonnenburg:

This is to advise that the Tennessee Regulatory Authority unanimously approved the special Water Purchase Agreement between Tennessee-American Water Company and the Town of Signal Mountain at their regular conference yesterday, July 29, 1997. Therefore, I am enclosing a copy of the fully executed agreement for your files. As soon as I receive a copy of the official order of the Tennessee Regulatory Authority, which should follow in about two weeks, I will send you a copy. The next billing to the town will reflect the new rate of $.95 per 1,000 gallons.

We are pleased that we are able to offer the Town of Signal Mountain this special sale for resale rate, and look forward to continuing our long-standing relationship with the Town, and providing excellent water service to your fine community.

Sincerely,

R. T. Sullivan
Vice-President and Manager

RTS/lvbs
Enclosure

c: Hershel Dick
W. H. Novak
T. G. Pappas, Esq.
D. R. Bailey
R. J. Gallo
B. E. Tillotson
J. E. Salser

BEFORE THE TENNESSEE REGULATORY AUTHORITY

August 18, 1997 NASHVILLE, TENNESSEE

In Re:	**Application for Approval of Special Contract Between Tennessee American Water Company and the Town of Signal Mountain**	))))	**Docket No. 97-01305**

ORDER APPROVING WATER PURCHASE AGREEMENT

This matter is before the Tennessee Regulatory Authority ("Authority") upon the application of Tennessee American Water Company ("Tenn. American") for approval of a Water Purchase Agreement ("Special Contract") entered into between Tenn. American and the Town of Signal Mountain, Tennessee ("Signal Mountain"). The Directors of the Authority considered approval of this Special Contract at a regularly scheduled conference held on July 29, 1997. Upon consideration of this matter, the Authority finds the following:

1. The Authority has jurisdiction over this matter pursuant to Tenn. Code Ann. § 65-4-101 et. seq. and Authority Rules 1220-4-1-.07, (Special Contracts), and 1220-4-1-.08, (Resale of Water).

2. On July 2, 1997, Tenn. American filed its application for approval of the Special Contract with the Authority's Executive Secretary.

3. The Town Council of Signal Mountain unanimously approved this Special Contract at a special meeting of the Council held on June 2, 1997. However, Section VI of the Special Contract is conditioned upon subsequent approval of the contract by the Authority.

However, Section VI of the Special Contract is conditioned upon subsequent approval of the contract by the Authority.

4. The Town of Signal Mountain has been a purchaser of water for resale from Tenn. American since the town was incorporated more than 50 years ago. Tenn. American's only other customer of water for resale is the City of Fort Oglethorpe, Georgia.[1]

5. This Special Contract contains identical financial terms to those that were approved by the Authority for the City of Fort Oglethrope. That is to say that Signal Mountain will be required to purchase 273,750,000 gallons of water per year at a cost of ninety-five cents ($0.95) per thousand gallons ("pmg") for three (3) years. Further, the contract price of ninety-five cents ($0.95) pmg is a nine cent ($0.09) rate reduction from current rates.

6. No party has petitioned for intervention in this matter or has raised objection to the Authority's approval of the terms of this Special Contract.

7. After careful review of this contract, the Directors of the Authority find that this contract would permit the company to furnish water for resale to its only two resale customers at the same non-discriminatory price and under the same conditions. Further, the Authority finds that this contract is in the public interest as it enures to the benefit of Signal Mountain and its residents by providing a dependable supply of water at fair and affordable prices.

IT IS THEREFORE ORDERED THAT:

1. The application for approval of the Special Contract entered into

[1] A Water Purchase Agreement was entered into by the company and the City of Fort Oglethorpe as of March 1, 1997 and was approved by the Authority on March 4, 1997, Docket No. 97-00223.

between Tennessee American Water Company and the Town of Signal Mountain, Tennessee is hereby approved;

2. That any party aggrieved by the Authority's decision in this matter may file a Petition for Reconsideration with the Authority within ten (10) days from and after the date of this Order; and

3. That any party aggrieved by the Authority's decision in this matter has the right of judicial review by filing a Petition for Review in the Tennessee Court of Appeals, Middle Division, within sixty (60) days from and after the date of this Order.

CHAIRMAN

DIRECTOR

DIRECTOR

ATTEST:

EXECUTIVE SECRETARY

WATER PURCHASE AGREEMENT

THIS AGREEMENT, made this 1st day of July, 1997 by and between

Tennessee-American Water Company ("Tennessee-American"), located at 1101 Broad Street, Post Office Box 6338, Chattanooga, Tennessee

and

Town of Signal Mountain ("Signal Mountain"), located at 1100 Ridgeway Avenue, Signal Mountain, Tennessee

WHEREAS, Tennessee-American, a Tennessee corporation, is a public utility which owns and operates a water utility system in and around the City of Chattanooga, Tennessee including the contiguous Tennessee cities of Red Bank, East Ridge, Ridgeside, and Lookout Mountain, plus the cities of Rossville and Lookout Mountain, Georgia and areas in the Georgia counties of Dade, Walker and Catoosa; and

WHEREAS, Signal Mountain wishes to purchase all or substantially all of its water supply from Tennessee-American; and

WHEREAS, Tennessee-American currently supplies water to Signal Mountain and has the capability and facilities in place to provide all or substantially all of the water supply currently required by Signal Mountain; and

WHEREAS, Signal Mountain and Tennessee-American are desirous of establishing an Agreement for the purchase of water for a fixed period of time; and,

WHEREAS, the parties have reached an Agreement for the sale and purchase of water which they now desire to record in writing;

NOW, THEREFORE, in consideration of the mutual covenants contained herein and other

good and valuable consideration the receipt and sufficiency of which is hereby acknowledged, the parties hereto agree as follows:

SECTION I
SALE OF WATER

Signal Mountain agrees to purchase a minimum of 273,750,000 gallons per year at $.95 per 1,000 gallons.

On or before the tenth day after the end of each twelve months of this Agreement, Tennessee-American will review the usage of Signal Mountain during the prior twelve month period year. If Signal Mountain's usage during the prior twelve month period was 273,750,000 gallons or more, no additional charge will be made. Should Signal Mountain's usage be less than 273,750,000 gallons, that month's invoice will include a charge for the difference between the actual usage and 273,750,000 gallons priced at $.95 per 1,000 gallons.

SECTION II
FLUORIDATION OF WATER SUPPLY

The Company will fluoridate the water supplied to the Town of Signal Mountain, in accordance with the Tennessee Department of Environment and Conservation Rule 1200-5-1-.17 (20), which requires the maintenance of a monthly average concentration of fluoride between 0.9 mg/l and 1.3 mg/l, unless required to do otherwise by applicable state law or regulations.

SECTION III
OPERATIONAL REQUIREMENTS

In order to minimize utilization of the peaking capacity of Tennessee-American, Signal Mountain will provide adequate storage to provide for its own maximum hour needs. Signal Mountain shall maintain a minimum of one day of water supply storage on their distribution system.

Tennessee-American will supply up to 2,500 gallons per minute to the existing metering location as described in Section IV hereof, at a pressure sufficient to fill the existing Signal Mountain Receiving tanks at the base of Signal Mountain. If Signal Mountain requests flow rates in excess of 2,500 g.p.m. at any time during the term of this Agreement, it will be required either to pay for the additional system improvements that are needed to meet such additional flow or to contract for water at a higher rate per 1,000 gallons of water to be determined by the Company.

SECTION IV
METERING

Metering of the water sold under this Agreement shall be at the existing meter setting located at the Town of Signal Mountain's existing storage tanks at the base of Signal Mountain, just off of Signal Mountain Road and Suck Creek Road.

SECTION V
BILLING

On or before the tenth day of each month, Tennessee-American will issue an invoice to Signal Mountain for Signal Mountain's metered usage during the prior month. Payment of such invoice will be made by Signal Mountain on or before eighteen days after receipt of the invoice.

SECTION VI
APPROVALS BY TENNESSEE REGULATORY AUTHORITY

It is understood and agreed that this Agreement is conditioned on approval by the Tennessee Regulatory Authority ("TRA"). Promptly upon execution of this Agreement, Tennessee-American shall file an application for approval with the TRA and take such action in good faith as may be necessary to obtain the appropriate approval.

SECTION VII
TERM OF AGREEMENT

The term of this Agreement shall be for a period of three (3) years or thirty-six (36) monthly billing periods. The three (3) year period shall commence with the effective date of the purchase of water under this Agreement. The effective date of the commencement of sales under the terms of this Agreement shall be the beginning of the next regular monthly billing period following approval of this Agreement by the TRA.

SECTION VIII
FORCE MAJEURE

Neither Signal Mountain or Tennessee-American shall be liable for damages to the other for any act, omission, or circumstance occasioned by or in consequence of any strikes, lockouts, acts of the public enemy, wars, blockades, insurrections, riots, epidemics, landslides, lightning, earthquakes, fires, storms, floods, washouts, civil disturbances, explosions, breakage, or accident to machinery or lines of pipe, and any other cause, whether of the kind herein enumerated or otherwise, not reasonably within the control of the party claiming suspension and which by the exercise of due diligence such party is unable to prevent or overcome. Failure to prevent or settle any strike or strikes shall not be considered to be a matter within the control of the party claiming suspension. Such causes or contingencies affecting such performance shall not relieve Signal Mountain from its obligations to make payment of amounts due hereunder. During the period of force majeure, the minimum annual charge shall be reduced by a ratio equal to the number of days of interruption divided by 365 days. If, during the period of force majeure some water can be delivered, then the ratio shall be multiplied by the percentage reduction in usage.

SECTION IX
RENEWAL OF AGREEMENT

This Agreement may be renegotiated for additional periods of time beyond the term of this Agreement. Negotiations to extend the term of this Agreement shall commence no later than six (6) months prior to the expiration date of this Agreement. However, the rates to be charged during any renewal period shall also be subject to prior approval by TRA.

SECTION X
MISCELLANEOUS PROVISIONS

(1) **Assignment**

Upon obtaining written approval from Tennessee-American which will not be unreasonably withheld, this Agreement may be assigned by Signal Mountain to any successor in the operation of the facilities currently owned by Signal Mountain.

(2) **Notices**

Any notice required or permitted to be given by one of the parties to this Agreement shall be given by U.S. mail, personal delivery or by overnight carrier to the other party at the address set forth below:

Town of Signal Mountain
1100 Ridgeway Avenue
Signal Mountain, TN 37377
Attn: Town Manager

Tennessee-American Water Company
1101 Broad Street
P. O. Box 6338
Chattanooga, Tennessee 37401
Attn: Vice-President and Manager

Any notice so given shall be deemed given upon its deposit in the U.S. mail, upon personal delivery or upon its delivery to the overnight carrier.

(3) **Governing Law**

This Agreement shall be governed by the laws of the State of Tennessee.

(4) **Enforceability**

In the event that any provision hereof is found to be invalid or unenforceable, such invalidity or unenforceability shall not impair or limit the validity or enforceability of any other provision hereof, each of which shall continue in full force and effect, and this Agreement shall be construed as if such invalid or unenforceable provisions were omitted from this Agreement.

(5) **Entire Agreement**

This Agreement constitutes the entire Agreement between Signal Mountain and Tennessee-American with respect to the subject matter contained in the Agreement, except that Signal Mountain is subject to the rules, regulations and other applicable conditions and provisions set forth in Tennessee-American's tariff on file with the TRA and as from time to time amended. This Agreement shall not be amended without the prior written consent of both parties. No modification of this Agreement or waiver of any of its terms and conditions will be effective unless set forth in a written document signed by both parties.

TOWN OF SIGNAL MOUNTAIN	TENNESSEE-AMERICAN WATER COMPANY
By: _____	By: _____
James H. Althaus	Richard T. Sullivan
Its: Mayor	Its: Vice-President and Manager

BEFORE THE TENNESSEE REGULATORY AUTHORITY

NASHVILLE, TENNESSEE

June 27, 2005

IN RE:	)	
	)	
PETITION FOR APPROVAL OF THE EXTENSION OF WATER PURCHASE AGREEMENT BETWEEN TENNESSEE AMERICAN WATER COMPANY AND THE TOWN OF SIGNAL MOUNTAIN, TENNESSEE	)	**DOCKET NO. 04-00088**

ORDER APPROVING EXTENSION OF WATER PURCHASE AGREEMENT

This matter came before Director Pat Miller, Director Sara Kyle, and Director Ron Jones of the Tennessee Regulatory Authority ("Authority" or "TRA"), the voting panel assigned to this docket, at the regularly scheduled Authority Conference held on April 26, 2004 for consideration of the *Extension of Water Purchase Agreement* ("*Special Contract*") between Tennessee American Water Company ("TAWC" or "Company") and the Town of Signal Mountain, Tennessee ("Town")

The Authority approved the original water purchase agreement ("Agreement") between the Company and the Town by Order dated August 18, 1997 in TRA Docket No. 97-01305. The Agreement is a sale-for-resale agreement. As stated in the Authority's Order of August 18, 1997, under the terms of the Agreement, the Town agreed to purchase a minimum of 273,750,000 gallons per year for three (3) years at a cost of ninety-five cents ($0.95) per 1,000 gallons and to pay an additional charge if the Town's usage is below that amount The Authority also approved a three year extension of this Agreement lasting until July 1, 2003 in Docket No. 00-00745, under the same terms and conditions.

The Authority has jurisdiction over this matter pursuant to Tenn. Code Ann. § 65-5-101 *et seq* and Authority Rule 1220-4-1- 07, which states.

> SPECIAL CONTRACTS. Special contracts between public utilities and certain customers prescribing and providing rates, services and practices not covered by or permitted in the general tariffs, schedules or rules filed by such utilities are subject to supervision, regulation and control by the Authority. A copy of such special agreements shall be filed, subject to review and approval.

The *Special Contract* was filed with the Authority on March 15, 2004. The *Special Contract* seeks to extend the Agreement an additional three (3) years beginning July 1, 2003 and ending July 1, 2006. The rate charged for water service will increase from ninety-five cents ($0.95) per 1000 gallons to one dollar and two cents ($1.02) per 1000 gallons The new rate represents a price increase of approximately seven percent (7%) and is approximately the same increase established for the Company's other customers in TAWC's most recent rate case before the Authority which was considered in TRA Docket No. 03-00118.[1] All other terms, conditions, privileges, and obligations set forth in the Agreement remain unchanged.

The Company's estimated annual revenues under the *Special Contract* will be three hundred thirty thousand dollars ($330,000) as compared with approximately three hundred seven thousand dollars ($307,000) under the existing contract. In addition, the estimated annual revenue of three hundred thirty thousand dollars ($330,000) represents a discount of ten thousand dollars ($10,000) from the Company's regular tariff rates.

The terms of the Agreement and of the *Special Contract*, which distinguish the Town from the Company's tariff customers, justify a departure from the Company's tariff through a special contract. The Agreement is a sale-for-resale agreement, a category that does not exist

[1] *See In re Petition of Tennessee American Water Company to Change and Increase Certain Rates and Charges so as to Permit It to Earn a Fair and Adequate Rate of Return on Its Property Used and Useful in Furnishing Water Service to Its Customers*, Docket No 03-00118, *Final Order Approving Rate Increase and Rate Design and Approving Rates Filed by Tennessee American Water Company* (June 25, 2004) and *Concurrence and Dissent of Director Pat Miller* (June 25, 2004).

under TAWC's current tariff.[2] The inclusion of a three (3) year term of service and a minimum usage requirement further distinguishes the Town from the Company's tariff customers. The Agreement also requires the Town to maintain storage capacity equal to one (1) day's water supply, which allows the Company to provide water to the Town during non-peak periods, thereby avoiding higher on-peak operating costs.

The use of a special contract in dealing with large-usage customers such as the Town serves the public interest because it provides greater flexibility to the Company than is available under its tariff. The unique terms and conditions of the Agreement and the *Special Contract* benefit the Company and its ratepayers by providing the Company a long-term source of revenue and by helping control the Company's production costs during peak usage periods. Through the use of a special contract, the Company can attract the Town and other large-use customers and collect additional revenues to the benefit of the Company and ratepayers without the burden of undergoing a full-scale rate review in order to revise its tariff. In addition, the Agreement provides the Town and its residents with a dependable supply of water at fair and affordable prices.

No party has intervened in this docket or otherwise objected to the Authority's approval of the *Special Contract*. After careful review of the *Special Contract* and of the entire record in this matter and based on the foregoing findings and conclusions, the panel voted unanimously at the April 26, 2004 Authority Conference to approve the *Special Contract* extending the water purchase agreement.

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[2] The Company is provided the opportunity, through special contracts, to secure new business and pursue new prospects in instances where an approved, tariffed rate does not currently exist. Absent the flexibility to negotiate special contracts and submit such contracts to the Authority for approval, the Company would be faced with potential forfeiture of its ability to generate additional revenues that inure to the benefit of its ratepayers. Each special contract is evaluated on its own merits given the circumstances existing at the time of consideration. Notwithstanding the entry of this Order, the Company has the continuing responsibility to acknowledge new customer classes and amend its existing tariff accordingly.

IT IS THEREFORE ORDERED THAT:

The *Extension of Water Purchase Agreement* between Tennessee American Water Company and the Town of Signal Mountain, Tennessee, is approved.

Pat Miller, Director

Sara Kyle, Director

Ron Jones, Director

BASS, BERRY & SIMS PLC
Attorneys at Law
A PROFESSIONAL LIMITED LIABILITY COMPANY
AmSouth Center
315 Deaderick Street, Suite 2700
Nashville, Tennessee 37238-3001
(615) 742-6200

George H. Masterson

PHONE: (615) 742-6263
FAX: (615) 742-2763
E-MAIL: gmasterson@bassberry.com

June 9, 2006

The Honorable Ron Jones,
Chairman
Tennessee Regulatory Authority
460 James Robertson Parkway
Nashville, Tennessee 37243-0505

Dear Chairman Jones:

06-00154

On behalf of our client, Tennessee-American Water Company, enclosed are an original and thirteen copies of an Extension of Water Purchase Agreement (the "Special Contract") between Tennessee-American and the Town of Signal Mountain, Tennessee, which we are submitting for approval by the Tennessee Regulatory Authority pursuant to Rule 1220-4-1-.07 relating to special contracts.

As you will notice, the enclosed agreement extends an agreement previously approved by the TRA (Order dated August 18, 1997, Docket No. 97-01305), which has been heretofore extended twice, with TRA approval (Order dated June 21, 2001, Docket No. 00-00745; Order dated June 27, 2005, Docket No. 04-00088). A copy of the original agreement and the previous extensions are also enclosed. As you can see, the terms of the agreement, as heretofore extended and approved by the TRA, will not be materially modified by the proposed extension.

The approval of the extension to the Special Contract would allow Tennessee-American to continue furnishing water to the Town of Signal Mountain for resale to its customers at the non-discriminatory tariff price of 0.796 per hundred cubic feet and under the same conditions as it has in the past and would benefit the Town of Signal Mountain and its residents by providing a good, clean, dependable water supply at fair and affordable prices.

If you have any questions concerning this matter, please call John Watson, General Manager of Tennessee-American (423-755-9307), or me.

Very truly yours,

George H. Masterson

GHM/ch
Enclosures
cc: John Watson

6105276.1

EXTENSION OF WATER PURCHASE AGREEMENT

THIS EXTENSION OF WATER PURCHASE AGREEMENT, made effective as of July 1, 2006, by and between Tennessee American Water ("Tennessee American"), located at 1101 Broad Street, Chattanooga, Tennessee, and Town of Signal Mountain ("Signal Mountain"), whose address is 1111 Ridgeway Avenue, Signal Mountain, Tennessee,

WHEREAS, the parties hereto have agreed to extend the term of their Water Purchase Agreement dated July 1, 1997 ("Original Agreement") as amended and extended by agreement dated as being effective July 1, 2000 ("First Extension Agreement"), and agreement dated as being effective July 1, 2003 ("Second Extension Agreement"), copies of which are attached hereto and incorporated herein by reference, for an additional term of three years as provided herein,

NOW THEREFORE, in consideration of the mutual convenants and promises herein and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the parties hereto agree as follows:

1. Except as specifically provided herein, all of the terms, conditions, privileges and obligations in the Original Agreement, as amended and extended by the First and Second Extension Agreements are hereby extended for a term of three (3) years (or thirty-six (36) monthly billing periods), beginning July 1, 2006 and ending July 1, 2009.

2. Effective July 1, 2006 and continuing through the end of the term hereof, Section 1 of the Original Agreement, as amended and extended by the First and Second Extension Agreements, is hereby amended to state that Signal Mountain will purchase water at the rate of exactly $0.796 per hundred cubic feet (CCF), which is approximately $1.061 per 1,000 gallons.

3. This Extension of Water Purchase Agreement is subject to the approval by the Board of Tennessee American Water and the Tennessee Regulatory Authority ("TRA"). Signal Mountain agrees to take such action reasonably necessary to support Tennessee American's application for approval from the TRA.

IN WITNESS WHEREOF, the parties have set forth their hands.

TOWN OF SIGNAL MOUNTAIN	TENNESSEE AMERICAN WATER
By _____	By _____
Title: Town Manager	Title: VICE PRESIDENT & GENERAL NETWORK MANAGER
Date: 4-10-2006	Date: APRIL 4, 2006

WATER PURCHASE AGREEMENT

THIS AGREEMENT, made this 1st day of July, 1997 by and between

Tennessee-American Water Company ("Tennessee-American"), located at 1101 Broad Street, Post Office Box 6338, Chattanooga, Tennessee

and

Town of Signal Mountain ("Signal Mountain"), located at 1100 Ridgeway Avenue, Signal Mountain, Tennessee

WHEREAS, Tennessee-American, a Tennessee corporation, is a public utility which owns and operates a water utility system in and around the City of Chattanooga, Tennessee including the contiguous Tennessee cities of Red Bank, East Ridge, Ridgeside, and Lookout Mountain, plus the cities of Rossville and Lookout Mountain, Georgia and areas in the Georgia counties of Dade, Walker and Catoosa; and

WHEREAS, Signal Mountain wishes to purchase all or substantially all of its water supply from Tennessee-American; and

WHEREAS, Tennessee-American currently supplies water to Signal Mountain and has the capability and facilities in place to provide all or substantially all of the water supply currently required by Signal Mountain; and

WHEREAS, Signal Mountain and Tennessee-American are desirous of establishing an Agreement for the purchase of water for a fixed period of time; and,

WHEREAS, the parties have reached an Agreement for the sale and purchase of water which they now desire to record in writing;

NOW, THEREFORE, in consideration of the mutual covenants contained herein and other

good and valuable consideration the receipt and sufficiency of which is hereby acknowledged, the parties hereto agree as follows:

SECTION I
SALE OF WATER

Signal Mountain agrees to purchase a minimum of 273,750,000 gallons per year at $.95 per 1,000 gallons.

On or before the tenth day after the end of each twelve months of this Agreement, Tennessee-American will review the usage of Signal Mountain during the prior twelve month period year. If Signal Mountain's usage during the prior twelve month period was 273,750,000 gallons or more, no additional charge will be made. Should Signal Mountain's usage be less than 273,750,000 gallons, that month's invoice will include a charge for the difference between the actual usage and 273,750,000 gallons priced at $.95 per 1,000 gallons.

SECTION II
FLUORIDATION OF WATER SUPPLY

The Company will fluoridate the water supplied to the Town of Signal Mountain, in accordance with the Tennessee Department of Environment and Conservation Rule 1200-5-1-.17 (20), which requires the maintenance of a monthly average concentration of fluoride between 0.9 mg/l and 1.3 mg/l, unless required to do otherwise by applicable state law or regulations.

SECTION III
OPERATIONAL REQUIREMENTS

In order to minimize utilization of the peaking capacity of Tennessee-American, Signal Mountain will provide adequate storage to provide for its own maximum hour needs. Signal Mountain shall maintain a minimum of one day of water supply storage on their distribution system.

Tennessee-American will supply up to 2,500 gallons per minute to the existing metering location as described in Section IV hereof, at a pressure sufficient to fill the existing Signal Mountain Receiving tanks at the base of Signal Mountain. If Signal Mountain requests flow rates in excess of 2,500 g.p.m. at any time during the term of this Agreement, it will be required either to pay for the additional system improvements that are needed to meet such additional flow or to contract for water at a higher rate per 1,000 gallons of water to be determined by the Company.

SECTION IV
METERING

Metering of the water sold under this Agreement shall be at the existing meter setting located at the Town of Signal Mountain's existing storage tanks at the base of Signal Mountain, just off of Signal Mountain Road and Suck Creek Road.

SECTION V
BILLING

On or before the tenth day of each month, Tennessee-American will issue an invoice to Signal Mountain for Signal Mountain's metered usage during the prior month. Payment of such invoice will be made by Signal Mountain on or before eighteen days after receipt of the invoice.

SECTION VI
APPROVALS BY TENNESSEE REGULATORY AUTHORITY

It is understood and agreed that this Agreement is conditioned on approval by the Tennessee Regulatory Authority ("TRA"). Promptly upon execution of this Agreement, Tennessee-American shall file an application for approval with the TRA and take such action in good faith as may be necessary to obtain the appropriate approval.

SECTION VII
TERM OF AGREEMENT

The term of this Agreement shall be for a period of three (3) years or thirty-six (36) monthly billing periods. The three (3) year period shall commence with the effective date of the purchase of water under this Agreement. The effective date of the commencement of sales under the terms of this Agreement shall be the beginning of the next regular monthly billing period following approval of this Agreement by the TRA.

SECTION VIII
FORCE MAJEURE

Neither Signal Mountain or Tennessee-American shall be liable for damages to the other for any act, omission, or circumstance occasioned by or in consequence of any strikes, lockouts, acts of the public enemy, wars, blockades, insurrections, riots, epidemics, landslides, lightning, earthquakes, fires, storms, floods, washouts, civil disturbances, explosions, breakage, or accident to machinery or lines of pipe, and any other cause, whether of the kind herein enumerated or otherwise, not reasonably within the control of the party claiming suspension and which by the exercise of due diligence such party is unable to prevent or overcome. Failure to prevent or settle any strike or strikes shall not be considered to be a matter within the control of the party claiming suspension. Such causes or contingencies affecting such performance shall not relieve Signal Mountain from its obligations to make payment of amounts due hereunder. During the period of force majeure, the minimum annual charge shall be reduced by a ratio equal to the number of days of interruption divided by 365 days. If, during the period of force majeure some water can be delivered, then the ratio shall be multiplied by the percentage reduction in usage.

SECTION IX
RENEWAL OF AGREEMENT

This Agreement may be renegotiated for additional periods of time beyond the term of this Agreement. Negotiations to extend the term of this Agreement shall commence no later than six (6) months prior to the expiration date of this Agreement. However, the rates to be charged during any renewal period shall also be subject to prior approval by TRA.

SECTION X
MISCELLANEOUS PROVISIONS

(1) **Assignment**

Upon obtaining written approval from Tennessee-American which will not be unreasonably withheld, this Agreement may be assigned by Signal Mountain to any successor in the operation of the facilities currently owned by Signal Mountain.

(2) **Notices**

Any notice required or permitted to be given by one of the parties to this Agreement shall be given by U.S. mail, personal delivery or by overnight carrier to the other party at the address set forth below:

Town of Signal Mountain
1100 Ridgeway Avenue
Signal Mountain, TN 37377
Attn: Town Manager

Tennessee-American Water Company
1101 Broad Street
P. O. Box 6338
Chattanooga, Tennessee 37401
Attn: Vice-President and Manager

Any notice so given shall be deemed given upon its deposit in the U.S. mail, upon personal delivery or upon its delivery to the overnight carrier.

(3) **Governing Law**

This Agreement shall be governed by the laws of the State of Tennessee.

(4) **Enforceability**

In the event that any provision hereof is found to be invalid or unenforceable, such invalidity or unenforceability shall not impair or limit the validity or enforceability of any other provision hereof, each of which shall continue in full force and effect, and this Agreement shall be construed as if such invalid or unenforceable provisions were omitted from this Agreement.

(5) **Entire Agreement**

This Agreement constitutes the entire Agreement between Signal Mountain and Tennessee-American with respect to the subject matter contained in the Agreement, except that Signal Mountain is subject to the rules, regulations and other applicable conditions and provisions set forth in Tennessee-American's tariff on file with the TRA and as from time to time amended. This Agreement shall not be amended without the prior written consent of both parties. No modification of this Agreement or waiver of any of its terms and conditions will be effective unless set forth in a written document signed by both parties.

TOWN OF SIGNAL MOUNTAIN	TENNESSEE-AMERICAN WATER COMPANY
By: _____	By: _____
James H. Althaus	Richard T. Sullivan
Its: Mayor	Its: Vice-President and Manager

EXTENSION OF WATER PURCHASE AGREEMENT

REC'D TN
REGULATORY AUTH.
'00 AUG 22 PM 3 5
OFFICE OF THE
EXECUTIVE SECRETA

THIS EXTENSION OF WATER PURCHASE AGREEMENT, made effective as of July 1, 2000, by and between:

Tennessee-American Water Company ("Tennessee-American"), located at 1101 Broad Street, Post Office Box 6338, Chattanooga, Tennessee

And

Town of Signal Mountain ("Signal Mountain"), located at 1101 Ridgeway Avenue, Signal Mountain, Tennessee

WHEREAS, Signal Mountain and Tennessee-American have mutually agreed to extend the term of their Water Purchase Agreement dated July 1, 1997 ("Original Agreement") for an additional period of time under the same terms and conditions, except as herein specified.

NOW THEREFORE, in consideration of the mutual covenants and promises herein and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the parties hereto agree as follows:

1. All of the terms, conditions, privileges and obligations in the Original Agreement, except as specifically otherwise stated herein, are hereby extended for a term of three (3) years (or thirty-six [36] monthly billing periods) beginning September 1, 2000.
2. A copy of the Original Agreement is attached hereto and incorporated herein by reference.
3. Section X (2) of the Original Agreement is amended to provide that any notice to Tennessee-American be sent to the attention of the President of Tennessee-American.

4. This Extension of Water Purchase Agreement is subject to the approval by the Board of Directors of Tennessee-American and by the Tennessee Regulatory Authority ("TRA"). Signal Mountain agrees to take such action reasonably necessary to support Tennessee-American's application for approval from the TRA.

IN WITNESS WHEREOF, the parties have set forth their hands.

TOWN OF SIGNAL MOUNTAIN

By: _____

Title: Mayor

Date: 6/15/00

TENNESSEE-AMERICAN WATER CO.

By: _____

Title: _____

Date: August 14, 2000

EXTENSION OF WATER PURCHASE AGREEMENT

THIS EXENSION OF WATER PURCHASE AGEEMENT, made effective as of July 1, 2003, by and between Tennessee-American Water Company (Tennessee-American"), located at 1101 Broad Street, Chattanooga, Tennessee, and Town of Signal Mountain ("Signal Mountain"), whose address is 1101 Ridgeway Avenue, Signal Mountain, Tennessee.

WHEREAS, the parties hereto have agreed to extend the term of their Water Purchase Agreement dated July 1, 1997 ("Original Agreement"), as amended and extended by agreement dated as being effective July 1, 2000 ("First Extension Agreement"), copies of both are attached hereto and incorporated herein by reference. for an additional term of three years as provided herein,

NOW, THEREFORE, in consideration of the mutual covenants and promises herein and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the parties agree as follows.

1. Except as specifically provided herein, all of the terms, conditions, privileges and obligations in the Original Agreement, as amended and extended by the First Extension Agreement, are hereby extended for a term of three (3) years (or thirty-six (36) monthly billing periods), beginning July 1, 2003 and ending July 1, 2006.

2. Effective August 7, 2003, and continuing through the end of the term hereof, Section 1 of the Original Agreement, as amended and extended by the First Extension Agreement, is hereby amended to state that Signal Mountain will purchase water at the rate of $1.02 per 1,000 gallons.

3. This Extension of Water Purchase Agreement is subject to the approval by the Board of the Tennessee-American Water Company and the Tennessee Regulatory Authority ("TRA") Signal Mountain agrees to take such action reasonably necessary to support Tennessee-American's application for approval from the TRA.

IN WITNESS WHEREOF, the parties have set forth their hands

TOWN OF SIGNAL MOUNTAIN

By: _____
Title: (Mayor)
Date: 1-29-04

TENNESSEE-AMERICAN WATER COMPANY

By: _____
Title: President
Date 2/20/04

Tennessee American Water

John S. Watson
Vice-President &
General Network Manager

May 30, 2007

The Honorable Judd Burkhart
Mayor, City of Fort Oglethorpe
Post Office Drawer 5509
Fort Oglethorpe, GA 30742

Dear Mayor Burkhart:

It is the goal of Tennessee American Water to provide the highest quality of water service at the lowest possible price. We have worked diligently to control operational expenses and have succeeded in keeping them at one-half of the annual rate of inflation. While doing so, the company has continued to make the necessary investments to maintain the quality of the water system.

To continue to provide the best product possible, it has become necessary for Tennessee American to increase water rates to the customers in our general service area. That rate increase was granted by the Tennessee Regulatory Authority and became effective May 22, 2007.

As a result of that increase, we have reviewed the Water Purchase Agreement that we currently have with your organization. It stipulates that we must provide a written notice twelve months prior to any such increase. The purpose of this letter is to serve as that notice. The rate that Tennessee American Water will place in effect on May 30, 2008 will be $0.8961 per CCF (hundred cubic feet). Your current rate is $0.796 per CCF.

Tennessee American appreciates the partnership we share with your organization. Please call me personally should you have any questions or want to discuss this matter. You may reach me at 755-7607.

Sincerely,

John S. Watson
Vice President & General
Network Manager

American Water
1101 Broad Street
Post Office Box 6338
Chattanooga, TN 37401
USA
T +1 423 755 9307
F +1 423 755 7634
I www.tawc.com

RWE GROUP

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ATTORNEYS AT LAW

315 DEADERICK STREET, SUITE 2700
NASHVILLE, TENNESSEE 37238-0002
(615) 742-6200

KNOXVILLE OFFICE:
1700 RIVERVIEW TOWER
KNOXVILLE, TN 37901-1509
(423) 521-6200

MEMPHIS OFFICE:
100 PEABODY STREET, SUITE 950
MEMPHIS, TN 38103
(901) 312-9100

T. G. PAPPAS
TEL: (615) 742-6242
FAX: (615) 742-6293

December 12, 2000

VIA HAND DELIVERY
Mr. K. David Waddell
Executive Secretary
TENNESSEE REGULATORY AUTHORITY
460 James Robertson Parkway
Nashville, Tennessee 37243-0505

RE: Special Contract Water Purchase Agreement Between Tennessee American Water Company and the City of Fort Oglethorpe, Georgia

Dear Mr. Waddell:

Enclosed please find original and 13 copies of a Water Purchase Agreement dated October 23, 2000 by and between Tennessee American Water Company and the City of Fort Oglethorpe, Georgia for approval of the Directors of the Tennessee Regulatory Authority pursuant to Rules 1220-4-1-07 Special Contracts and 1220-4-1-08 Resale of Water of the Rules of the Authority.

As you will notice this is an extension of a previous agreement between the parties that was approved by the Authority in Docket No. 97-00223 by Order dated March 10, 1997. The terms and conditions as to the water are practically the same, but there is a Schedule A attached to the contract and made a part thereof, which is a description of certain non-regulated services which the City may purchase and the terms and conditions and hourly rates of those services.

We are also attaching a copy of Page 5 of the October 23, 2000 minutes of the City Counsel of Fort Oglethorpe. Item 4 recites that the City Counsel is approving this contract unanimously. Also I am enclosing a copy of a unanimous Consent by the Board of Directors of Tennessee American Water Company, without a meeting, dated as of November 1, 2000 approving the Contract.

The approval of this Extension Agreement and Service Agreement would allow the Company to continue furnishing water to the City of Oglethorpe, Georgia for resale to its customers at the same and non-discriminatory price and under the same conditions as it has in the past and it would benefit the town of Fort Oglethorpe, Georgia and its residents by providing a good, clean, dependable water

supply at fair and affordable prices. If you have any questions concerning this contract, do not hesitate to call me or Mr. Bill L'Ecuyer at (423) 755-9307.

With kindest regards, I remain,

Very truly yours,

T.G. Pappas

Enclosures

cc: William F. L'Ecuyer
Herbert A. Miller, Jr., Esq.
Roy Ferrell
Daniel R. Bailey
Cynthia Kinser, Esq.
Richard Collier, Esq.(w/o enclosures)

TGP2161281.1

WATER PURCHASE AGREEMENT

THIS WATER PURCHASE AGREEMENT ("Agreement"), made this 23RD day of _____ OCT., 2000 by and between

Tennessee-American Water Company ("Tennessee-American"), located at 1101 Broad Street, P.O. Box 6338, Chattanooga, Tennessee

and

City of Fort Oglethorpe, Georgia ("Ft. Oglethorpe"), located at 500 City Hall Drive, Fort Oglethorpe, Georgia

WHEREAS, Tennessee-American, a Tennessee corporation is a public utility which owns and operates a water utility system in and around the City of Chattanooga, Tennessee including the contiguous Tennessee cities of Red Bank, East Ridge, Ridgeside, and Lookout Mountain, plus the cities of Rossville and Lookout Mountain, Georgia and areas in the Georgia counties of Dade, Walker and Catoosa; and

WHEREAS, Ft. Oglethorpe wishes to continue to purchase all or substantially all of its water supply from Tennessee-American; and

WHEREAS, Tennessee-American currently supplies substantially all of the water to Ft. Oglethorpe and has the capability and facilities in place to provide all or substantially all of the water supply currently required by Ft. Oglethorpe; and

WHEREAS, Ft. Oglethorpe and Tennessee-American are desirous of extending its existing agreement for the purchase of water for a fixed period of time and amending said agreement for the purchase of certain services from Tennessee-American; and,

WHEREAS, the parties have reached an Agreement for the sale and purchase of water and services which they now desire to record in writing;

NOW, THEREFORE, in consideration of the mutual covenants contained herein and other good and valuable consideration the receipt and sufficiency of which is hereby acknowledged, the parties hereto agree as follows:

SECTION I

SALE OF WATER

Ft. Oglethorpe agrees to purchase from Tennessee-American, a minimum of 273,750,000 gallons per year. Ft. Oglethorpe agrees to pay $.95 per one-thousand gallons (the "$.95 Rate") for the first 35,000,000 gallons each month. Water purchased in excess of 35,000,000 gallons per month shall be paid at the rate of $0.74 per one-thousand gallons. Such rates shall not be increased during the initial term of the Agreement.

On or before the tenth day after the end of each twelve months of this Agreement, Tennessee-American will review the usage of Ft. Oglethorpe during the prior twelve-month period year. Should Ft. Oglethorpe's usage be less than 273,750,000 gallons, that month's invoice will include a charge for the difference between the actual usage and 273,750,000 gallons priced at the $.95 Rate.

SECTION II

FLUORIDATION AND TREATMENT OF WATER SUPPLY

The Company will fluoridate the water supplied to the City of Fort Oglethorpe, in accordance with the Tennessee Department of Environment and Conservation Rule 1200-5-1-17(20), which requires the maintenance of a monthly average concentration of fluoride at the Point of Delivery between 0.9 mg/l and 1.3 mg/l, unless required to do otherwise by applicable Tennessee state law or regulations. Any treatment of the water after the Point of Delivery shall

be the responsibility of Ft. Oglethorpe, unless otherwise agreed to in writing between the parties. Upon request, the Company will provide documentation as to water quality.

SECTION III

METERING

Metering of the water sold under this Agreement shall be at the Point of Delivery. Meters shall be installed by Tennessee-American that will allow for the flow of water into Ft. Oglethorpe's water distribution system for ease of controlling/operating the pumping facilities providing water to Ft. Oglethorpe.

SECTION IV

BILLING

On or before the tenth day of each month, Tennessee-American will issue an invoice to Ft. Oglethorpe for Ft. Oglethorpe's metered usage during the prior month. Payment of such invoice must be made by Ft. Oglethorpe within eighteen days after receipt of the invoice. Late fees shall be imposed pursuant to the tariff filed with the Tennessee Regulatory Authority, as amended from time to time.

SECTION V

APPROVALS

It is understood and agreed that this Agreement is conditioned on approval by the Tennessee Regulatory Authority ("TRA") and the Tennessee-American Board of Directors. Promptly upon execution of this Agreement, Tennessee-American shall file an application for approval with the TRA and take such action in good faith as may be necessary to obtain the appropriate approval.

SECTION VI

INITIAL TERM OF AGREEMENT AND RENEWAL PERIODS

The initial term of this Agreement shall be for a period of three (3) years or thirty-six (36) monthly billing periods with three (3) optional three (3) year renewal periods. This Agreement will automatically renew on the same terms and conditions unless Ft. Oglethorpe notifies Tennessee American in writing that it affirmatively elects to not renew the Agreement no later than six (6) months prior to the termination date of the initial terms or any renewal term thereafter.

The water rates set forth in Section I are subject to increase during any renewal period as may be approved by the TRA. Tennessee-American will give Ft. Oglethorpe twelve (12) months prior written notice of any such rate increase and said rates are only subject to increase once per each renewal period.

The initial term shall commence with the effective date of the purchase of water under this Agreement. The effective date of the commencement of sales under the terms of this Agreement shall be the beginning of the next regular monthly billing period following approval of this Agreement by the TRA. Tennessee American shall notify Ft. Oglethorpe in writing of the date constituting the effective date of the purchase of water under this Agreement, once said date is established. No later than nine (9) months prior to the termination date of the initial terms or any renewal term thereafter, Tennessee-American shall notify Fort Oglethorpe in writing of the upcoming termination date.

SECTION VII

FORCE MAJEURE

Neither Ft. Oglethorpe or Tennessee-American shall be liable for damages to the other for any act, omission, or circumstance occasioned by or in consequence of any strikes, lockouts, acts of the public enemy, wars, blockades, insurrections, riots, epidemics, landslides, lightning, earthquakes, fires, storms, floods, droughts, washouts, civil disturbances, explosions, defects, leakage, breakage, or accident to machinery or lines of pipe, and any other cause, whether of the kind herein enumerated or otherwise, not reasonably within the control of the party claiming suspension and which by the exercise of due diligence such party is unable to prevent or overcome. Failure to prevent or settle any strike or strikes shall not be considered to be a matter within the control of the party claiming suspension. Such causes or contingencies affecting such performance shall not relieve Ft. Oglethorpe from its obligations to make payment of amounts due hereunder. During the period of force majeure, the minimum annual charge shall be reduced by a ratio equal to the number of days of complete interruption divided by 365 days. If, during the period of force majeure some water can be delivered, then the ratio shall be multiplied by the percentage reduction in usage.

In the event of any type of water curtailment or interruption event, or any procedure, regulation or law for curtailment or interruption is utilized by, or imposed upon, Tennessee-American, then Ft. Oglethorpe shall abide by such curtailment or interruption procedures so as to restrict its customers in a fashion similar to affected customers of Tennessee-American.

SECTION VIII

EXTENSION OF AGREEMENT

This Agreement may be renegotiated for additional periods of time beyond the initial term of this Agreement and the renewal periods set forth in Section VI. Negotiations to extend the term of this Agreement beyond the last renewal period shall commence no later than six (6) months prior to the expiration date. However, the rates to be charged during any extension period and any renegotiated conditions shall be subject to prior approval by TRA.

SECTION IX

REPRESENTATIONS, COVENANTS AND INDEMNITY

(1) **Authority**

Ft. Oglethorpe represents and covenants that, at all times, it has the authority to enter into this Agreement, that no other requirements exist for this Agreement to be enforceable and that nothing in this Agreement is in violation, or will cause a violation, of any other contract, obligation or law to which Ft. Oglethorpe is subject.

(2) **Resale**

Ft. Oglethorpe may resell to another water re-seller any water purchased from Tennessee-American, provided Ft. Oglethorpe gives Tennessee-American ninety (90) days prior written notice. If Fort Oglethorpe enters an agreement to resell water purchased from Tennessee-American to another water re-seller, Fort Oglethorpe remains responsible for compliance with Section IX(3).

(3) Inter-basin Transfer

Ft. Oglethorpe acknowledges that none of the water it receives from Tennessee-American may be transferred, either directly or indirectly, outside the Lower Tennessee-Hiwassee River Basin, as that basin is defined by the Tennessee Department of Environment and Conservation ("TDEC"), unless Tennessee-American first obtains a permit for such transfer from TDEC.

Ft. Oglethorpe certifies and agrees that none of the water it receives from Tennessee-American will be transferred, either directly or indirectly, outside the Lower Tennessee-Hiwassee River Basin, as that basin is defined by TDEC, unless: (1) Ft. Oglethorpe provides Tennessee-American with 90-days prior notice of its intent to transfer such water outside the above-named basin, and (2) Ft. Oglethorpe receives notification from Tennessee-American that the proposed transfer has been approved by TDEC through the requisite permitting process.

Ft. Oglethorpe agrees to cooperate fully with Tennessee-American and TDEC and provide any documentation, records, or other assistance requested by Tennessee-American or TDEC throughout any required permitting process.

Ft. Oglethorpe agrees to indemnify Tennessee-American for the amount of any permit application fee Tennessee-American is assessed as a result of Ft. Oglethorpe's intent to transfer any water it received from Tennessee-American outside the Lower Tennessee-Hiwassee River Basin, as that basin is defined by TDEC.

Ft. Oglethorpe agrees to indemnify Tennessee-American for any fines, fees, or penalties Tennessee-American is assessed, or any costs Tennessee-American incurs due to any action on the part of Ft. Oglethorpe that results in a violation of any permitting requirement.

On September 1 of each year, Ft. Oglethorpe agrees to provide Tennessee-American with a statement, signed under oath, certifying that during the previous calendar year, Ft. Oglethorpe

has not directly or indirectly transferred any of the water it receives from Tennessee-American outside the Lower Tennessee-Hiwassee River basin, as that basin is defined by TDEC.

(4) **Indemnification**

Ft. Oglethorpe hereby indemnifies and holds Tennessee-American harmless from and against any claim, demands, penalties, actions, judgments, and losses or liabilities whatsoever, arising from or in connection with its breach or violation of this Agreement.

SECTION X

AFFIDAVITS

Prior to the effective date of this Agreement, and at any time during this Agreement upon reasonable notice, Ft. Oglethorpe agrees to provide an affidavit (or certificate, at the discretion of Tennessee-American) which represents and covenants that it is not in breach or any violation of this Agreement, nor has it any knowledge of any fact which, by the passage of time, will cause it to be in breach or violation of this Agreement.

SECTION XI

SERVICES

During the term of this Agreement, Tennessee-American may provide to Ft. Oglethorpe, certain non-regulated services ("Services") which are set forth in Schedule A, which is attached hereto and incorporated herein by reference. In the event such Services are provided, Ft. Oglethorpe agrees to pay Tennessee-American for such Services at the rates and charges set forth in Schedule A, as such may be amended from time to time by Tennessee-American upon giving Ft. Oglethorpe sixty (60) days advance notice.

Tennessee-American may add or discontinue Services to be offered under this Agreement upon written notice to Ft. Oglethorpe.

Tennessee-American reserves the right to enter into such separate agreements, contracts, work orders or other arrangement with Ft. Oglethorpe in order to adequately address the scope and performance of the specific Services to be provided to Ft. Oglethorpe.

Charges and rates for the Services shall be billed and paid, at the determination of Tennessee-American, either monthly along with Ft. Oglethorpe's metered usage according to Section V above, or on such other terms and conditions as directed by Tennessee-American.

SECTION XII

MISCELLANEOUS PROVISIONS

(1) **Assignment**

Upon obtaining written approval from Tennessee-American which will not be unreasonably withheld, this Agreement may be assigned by Ft. Oglethorpe to any successor in the operation of the facilities currently owned by Ft. Oglethorpe.

(2) **Notices**

Any notice required or permitted to be given by one of the parties to this Agreement shall be given by U.S. mail, personal delivery or by overnight carrier to the other party at the address set forth below:

City of Ft. Oglethorpe, Georgia
500 City Hall Drive
Ft. Oglethorpe, Georgia 30742
Attn: City Manager

Tennessee-American Water Company
1101 Broad Street
P.O. Box 6338
Chattanooga, Tennessee 37401
Attn: President

Any notice so given shall be deemed given upon its deposit in the U.S. mail, upon personal delivery or upon its delivery to the overnight carrier.

(3) **Governing Law And Venue**

This Agreement shall be governed by the laws of the State of Tennessee, which state shall also be the venue for any actions arising under this Agreement.

(4) **Enforceability**

In the event that any provision hereof is found to be invalid or unenforceable, such invalidity or unenforceability shall not impair or limit the validity or enforceability of any other provision hereof, each of which shall continue in full force and effect, and this Agreement shall be construed as if such invalid or unenforceable provisions were omitted from this Agreement. Titles to any section or subsection in this Agreement are for assistance in identification only and shall not be used to determine the enforceability of any provision of this Agreement.

(5) **Entire Agreement**

This Agreement constitutes the entire Agreement between Ft. Oglethorpe and Tennessee-American with respect to the subject matter contained in the Agreement, except that Ft. Oglethorpe is subject to the rules, regulations and other applicable conditions and provisions set forth in Tennessee-American's tariff on file with the TRA and as from time to time amended. This Agreement shall not be amended without the prior written consent of both parties. No

modification of this Agreement or waiver of any of its terms and conditions will be effective unless set forth in a written document signed by both parties.

CITY OF FORT OGLETHORPE, GEORGIA

By: _____

Its: MAYOR

TENNESSEE-AMERICAN WATER CO.

By: _____

Its: President

ATTEST:

_____

Its: City Clerk

SCHEDULE A

The following Schedule of Services is a general description of non-regulated Services which may be purchased on the terms and conditions, including hourly rate, which may be stated below. The actual scope of any Services to be performed and charges thereon may vary with the facts of each engagement. Therefore, each Service to be provided may be delineated in a specific contract, work order or other agreement.

General Type of Service	Fee
1. System Flushing	$400 per hour
2. Leak Detection	$121 per hour
3. Valve Maintenance	$121 per hour
4. Identification of Operation and Maintenance Problems	$ 62 per hour
5. Fire hydrant flow-testing and maintenance	$ 87 per hour
6. Water Quality Sampling for bacteria & chlorine analysis	$ 41 per hour
7. Repair of Main Breaks	$175 per hour, plus materials
8. Back Flow Valve Testing	$ 41 per hour
9. Construction Inspection Services	$ 51 per hour
10. Field Estimations for Main Extensions	$ 61 per hour
11. Loss Control Services	$ 64 per hour
12. Meter Testing (larger than 2-inch)	$117 per hour, plus materials
13. Meter Change-out	$ 68 per hour, plus materials
14. Meter Reading	$ 35 per hour
15. Monthly Billing Services	$0.405 per bill
16. Customer Services for Telephone Inquiries for Name Changes, Turn-Ons, Turn-Offs, Balance Inquiries, etc.	$ 30 per hour

Some minimum charges per Service may exist and will set forth with each specific contract or work order.

City of Ft. Oglethorpe, Georgia

By: _____

Title: MAYOR

ATTEST:

_____
Its: City Clerk

Tennessee-American Water Co.

By: _____

Title: President

Water Rate Schedule D
DSMC
DSMCM

Tennessee American Water

John S. Watson
Vice-President &
General Network Manager

May 30, 2007

Mr. Jerry Lee, Chairman
Catoosa Utility District
Post Office Box 750
Ringgold, GA 30736

Dear Mr. Lee:

It is the goal of Tennessee American Water to provide the highest quality of water service at the lowest possible price. We have worked diligently to control operational expenses and have succeeded in keeping them at one-half of the annual rate of inflation. While doing so, the company has continued to make the necessary investments to maintain the quality of the water system.

To continue to provide the best product possible, it has become necessary for Tennessee American to increase water rates to the customers in our general service area. That rate increase was granted by the Tennessee Regulatory Authority and became effective May 22, 2007.

As a result of that increase, we have reviewed the Water Purchase Agreement that we currently have with your organization. As a courtesy, we are providing written notice thirty days prior to any such increase. The purpose of this letter is to serve as that notice. The rate that Tennessee American Water will place in effect on June 29, 2007 will be $0.8961 per CCF (hundred cubic feet). Your current rate is $0.796 per CCF.

Tennessee American appreciates the partnership we share with your organization. Please call me personally should you have any questions or want to discuss this matter. You may reach me at 755-7607.

Sincerely,

John S. Watson
Vice President & General
Network Manager

American Water
1101 Broad Street
Post Office Box 6338
Chattanooga, TN 37401
USA
T +1 423 755 9307
F +1 423 755 7634
I www.tawc.com

RWE GROUP

Tennessee-American Water Company

P.O. Box 6338 - 1101 South Broad Street - Chattanooga, TN 37401

Richard T. Sullivan
Vice President and Manager

(423) 755-7620
Fax (423) 755-7634
http://www.tawc.com

December 1, 1998

T. G. Pappas, Esq.
Bass, Berry & Sims
2700 First American Center
315 Deaderick Street
Nashville, TN 37238

Dear Ted:

Enclosed find a Water Purchase Agreement between Tennessee-American Water Company and the Catoosa Utility District, which has been executed on behalf of both the utility district and Tennessee-American. As you will note, this is a ten-year agreement effective January 1, 1999, and is now ready to be submitted to the Tennessee Regulatory Authority for approval.

I will appreciate your taking the necessary steps for filing. Should you have any questions or need any further information, please let me know.

Sincerely yours,

R. T. Sullivan
Vice-President and Manager

RTS/lvbs
Enclosure

c: Hal Novak
R. J. Gallo

Catoosa Utility District
Managed By
Catoosa County Board of Utilities Commissioners

P. O. DRAWER 750
RINGGOLD, GEORGIA 30736-0750
PHONE: 706-937-4121

November 30, 1998

DEC 0 1 1998

Mr. Richard T. Sullivan
Vice President and Manager
Tennessee-American Water Company
P. O. box 6338
Chattanooga, Tennessee 37402

Re: Tennessee-American Water Purchase Agreement

Please find three signed copies of the above referenced agreement.

You will find one change on the first page of the contract, which is the District's physical and mailing address.

Please forward a copy to me, when you have signed, for our files.

Thank you for your cooperation. I look forward to a long and prosperous relationship with Tennessee-American Water Company.

Sincerely,
CATOOSA UTILITY DISTRICT

Deirdre A. Hullender
Secretary/Treasurer

DAH/dah

Enclosures - 3 copies of Water Purchase Agreement

c: Board of Utilities Commissioners

JAN 27 '03 05:43PM

WATER PURCHASE AGREEMENT

THIS AGREEMENT, made this 24th day of November, 1998 by and between

Tennessee-American Water Company ("Tennessee-American"), located at 1101 Broad Street, P. O. Box 6338, Chattanooga, Tennessee

and

Catoosa Utility District, located at ~~Highway 41 North,~~ 1058 OLD HILLRD P.O. Box 750 Ringgold, Georgia

WHEREAS, Tennessee-American, a Tennessee corporation, is a public utility which owns and operates a water utility system in and around the City of Chattanooga, Tennessee including the contiguous Tennessee cities of Red Bank, East Ridge, Ridgeside, and Lookout Mountain, plus the cities of Rossville and Lookout Mountain, Georgia and areas in the Georgia counties of Dade, Walker and Catoosa; and

WHEREAS, Catoosa Utility District wishes to purchase a portion of its water supply from Tennessee-American; and

WHEREAS, Tennessee-American currently supplies a minimal amount of water to Catoosa Utility District and has the capability and facilities in place to provide all or substantially all of the water supply currently required by Catoosa Utility District; and

WHEREAS, Catoosa Utility District and Tennessee-American are desirous of establishing an Agreement for the purchase of water for a fixed period of time; and

WHEREAS, the parties have reached an Agreement for the sale and purchase of water which they now desire to record in writing;

NOW, THEREFORE, in consideration of the mutual covenants contained herein and other good and valuable consideration the receipt and sufficiency of which is hereby acknowledged, the parties hereto agree as follows:

SECTION I

SALE OF WATER

During a ten (10) year period, Catoosa Utility District agrees to purchase a minimum of water from Tennessee-American Water Company as follows:

Year 1:	First six (6) months (January 1, 1999 through June 30, 1999) No minimum requirement to allow for the District to complete the necessary improvements to their system.
Year 1:	Second six (6) months (July 1, 1999 through December 31, 1999) 45,625,000 gallons (250,000 gallons per day average)
Year 2 - 5:	182,500,000 gallons per year (500,000 gallons per day average)
Year 6 - 10:	273,750,000 gallons per year (750,000 gallons per day average)

During the first three (3) years of this agreement, all water sold to the Catoosa Utility District will be at the rate of $.95 per 1,000 gallons for the first 35 million gallons per month. All water purchased over 35 million gallons per month will be at the rate of $.74 per 1,000 gallons. Any increase in rates approved by the Tennessee Regulatory Authority for Tennessee-American Water Company during the remaining seven (7) years of this agreement will be applied to the rates charged to the Catoosa Utility District.

JAN 27 '03 05:44PM P.5/8

SECTION II

FLUORIDATION OF WATER SUPPLY

The Company will fluoridate the water supplied to the Catoosa Utility District, in accordance with the Tennessee Department of Environment and Conservation Rule 1200-5-1-.17 (20), which requires the maintenance of a monthly average concentration of fluoride between 0.9 mg/l and 1.3 mg/l, unless required to do otherwise by applicable state law or regulations.

SECTION III

OPERATIONAL REQUIREMENTS

In order to minimize utilization of the peaking capacity of Tennessee-American, Catoosa Utility District will provide adequate storage to provide for its own maximum hour needs. Catoosa Utility District shall maintain a minimum of one day of water supply storage on their distribution system.

SECTION IV

METERING

Metering of the water sold under this Agreement shall be at the existing meter settings located at Highway 27 at Cloud Springs Road and along Scruggs Road.

SECTION V

BILLING

On or before the tenth day of each month, Tennessee-American will issue an invoice to Catoosa Utility District for Catoosa Utility District's metered usage during the prior month.

P.6/8 JAN 27 '03 05:45PM

Payment of such invoice will be made by Catoosa Utility District eighteen days after receipt of the invoice.

SECTION VI

APPROVALS BY TENNESSEE REGULATORY AUTHORITY

It is understood and agreed that this Agreement is conditioned on approval by the Tennessee Regulatory Authority ("TRA"). Promptly upon execution of this Agreement, Tennessee-American shall file an application for approval with the TRA and take such action in good faith as may be necessary to obtain the appropriate approval.

SECTION VII

TERM OF AGREEMENT

The term of this Agreement shall be for a period of ten (10) years. The ten (10) year period shall commence on the first day of the month following approval of the agreement by the Tennessee Regulatory Authority.

SECTION VIII

FORCE MAJEURE

Neither Catoosa Utility District nor Tennessee-American shall be liable for damages to the other for any act, omission, or circumstance occasioned by or in consequence of any strikes, lockouts, acts of the public enemy, wars, blockades, insurrections, riots, epidemics, landslides,

JAN 27 '03 05:46PM P.7/8

lightning, earthquakes, fires, storms, floods, washouts, civil disturbances, explosions, breakage, or accident to machinery or lines of pipe, and any other cause, whether of the kind herein enumerated or otherwise, not reasonably within the control of the party claiming suspension and which by the exercise of due diligence such party is unable to prevent or overcome. Failure to prevent or settle any strike or strikes shall not be considered to be a matter within the control of the party claiming suspension. Such causes or contingencies affecting such performance shall not relieve Catoosa Utility District from its obligations to make payment of amounts due hereunder.

SECTION IX

RENEWAL OF AGREEMENT

This Agreement may be renegotiated for additional periods of time beyond the term of this Agreement. Negotiations to extend the term of this Agreement shall commence no later than sixty (60) days prior to the expiration date of this Agreement. However, the rates to be charged during any renewal period shall also be subject to prior approval by TRA.

CATOOSA UTILITY DISTRICT

By: R. F Pierce

R. FRANK PIERCE

Its: CHAIRMAN

TENNESSEE-AMERICAN WATER COMPANY

By: R T Sullivan

Richard T. Sullivan

Its: Vice-President and Manager

TENN-AMERICAN WATER COMPANY

Vicki Griffith
Senior Secretary
Tennessee-American Water Company
Phone: 423/755-7614
FAX: 423/755-7636
email: vgriffit@amwater.com

Facsimile

To: *Shelia Valentine*
Fax #: *304-353-6308*
From: *Vicki*
Date: *January 27, 2003*
Re: *Catoosa County Utility Contract*
Pages: *8 pages (including cover page)*

TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 08-00039
FIRST DISCOVERY REQUEST OF THE
CONSUMER ADVOCATE AND PROTECTION DIVISION

Responsible Witness: Sheila Miller

PART IV: QUESTIONS & REQUESTS REGARDING REVENUES, EXPENSES, TAXES, RATE BASE & MISCELLANEOUS

Question:

7. Provide the Private Fire Revenues per Books for the twelve months ended November 2007, February 2008, and March 2008 by billing determinate at present rates.

Response:

		Nov-07		Feb-08		Mar-08	
	Rate	Connections	Revenues	Connections	Revenues	Connections	Revenues
Private Fire 1 1/2"	**61.24**	1	$61	1	$61	1	$61
Private Fire 2"	**108.92**	13	$1,416	13	$1,416	14	$1,525
Private Fire 2 1/2"	**166.09**	1	$166	1	$166	1	$166
Private Fire 3"	**244.83**	2	$490	2	$490	2	$490
Private Fire 4"	**490.28**	83	$40,693	86	$42,164	87	$42,654
Private Fire 6"	**979.79**	757	$741,701	778	$762,277	780	$764,236
Private Fire 8"	**1,961.24**	299	$586,411	300	$588,372	301	$590,333
Private Fire 10"	**2,942.08**	15	$44,131	15	$44,131	15	$44,131
Private Fire 12"	**3,923.10**	19	$74,539	19	$74,539	19	$74,539
			$1,489,608		$1,513,616		$1,518,135

TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 08-00039
FIRST DISCOVERY REQUEST OF THE
CONSUMER ADVOCATE AND PROTECTION DIVISION

Responsible Witness: Sheila Miller

PART IV: QUESTIONS & REQUESTS REGARDING REVENUES, EXPENSES, TAXES, RATE BASE & MISCELLANEOUS

Question:

8. Provide a forecast of billing determinants for the Walden's Ridge Utility District for the attrition period ending August 2009. Include all work papers and documentation supporting the forecast.

Response:

The attrition year includes no billing determinants for Walden's Ridge. Walden's Ridge revenues were eliminated from the rate filing. Please refer to working papers provided to the first TRA data request labeled as TN-TRA-01-Q013-Revenues page 12 of 99, which shows the elimination from the bill analysis and TN-TRA-01-Q013-Revenues page 47 of 99 that details the billing determinants that were eliminated.

TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 08-00039
FIRST DISCOVERY REQUEST OF THE
CONSUMER ADVOCATE AND PROTECTION DIVISION

Responsible Witness: Sheila Miller

PART IV: QUESTIONS & REQUESTS REGARDING REVENUES, EXPENSES, TAXES, RATE BASE & MISCELLANEOUS

Question:

9. Provide a reconciliation of the attrition year billing determinates and revenues at present rates by class from Exhibit 4, Schedule 1 to the attrition year billing determinates and revenues at present rates by class by location from Exhibit 4, Schedule 2. Include in your reconciliation an explanation of which Schedule reflects the correct forecasted amounts and why.

Response:

See the attached reconciliation. The bill analysis utilizes billing determinants at present rates to verify per books revenues within one-half of one percent (Exhibit No. 4, Schedule 2). The amount under each customer classification on the total line labeled "Net Amount" is the amount generated by the bill analysis calculation. The next line "Net Amt Per Revenue Summary" is the per books amount for the 12 months ending November 2007. The difference is a tolerance factor that is within the acceptable limits of one-half of one percent. This tolerance factor is carried over as adjustments are made to the normalized and forecasted test periods. The correct amount is the total shown on Exhibit No. 4, Schedule 1 and ties to Exhibit No. 4, Schedule 2 referenced on the line labeled as "Net Amt Per Revenue Summary" under each customer classification.

Tennessee American Water Company
CAPD DR 1 Part 4 Question 9
Reconciliation of Revenues

Exhibit 4, Schedule 1 Attrition Yr @ present rates	Current Rate Sales	Attrition Yr Revenues
Residential	4,455,330	14,994,956
Commercial	4,145,286	11,460,266
Industrial	3,144,865	3,914,733
OPA	1,115,708	2,603,078
OWU	1,503,523	1,310,628
Private Fire		1,489,608
	14,364,712	35,773,269

Exhibit 4, Schedule 2	Sales				Revenues			
	Per Bill Analysis	Per Rev Summary	Adjustment Amt	Adjustment %	Per Bill Analysis	Per Rev Summary	Adjustment Amt	Adjustment %
Residential	4,465,591	4,455,330	10,261	0.23%	15,041,876	14,994,956	46,920	0.31%
Commercial	4,151,653	4,145,286	6,367	0.15%	11,504,709	11,460,266	44,443	0.39%
Industrial	3,154,510	3,144,865	9,645	0.31%	3,913,739	3,914,733	(994)	-0.03%
OPA	1,115,908	1,115,708	200	0.02%	2,603,094	2,603,078	16	0.00%
OWU	1,507,416	1,503,523	3,893	0.26%	1,309,819	1,310,628	(809)	-0.06%
Private Fire	0	0	0	0	1,489,608	1,489,608	0	0
	14,395,078	14,364,712	30,366	0.21%	35,862,845	35,773,269	89,576	0.25%

TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 08-00039
FIRST DISCOVERY REQUEST OF THE
CONSUMER ADVOCATE AND PROTECTION DIVISION

Responsible Witness: Paul R. Herbert

PART IV: QUESTIONS & REQUESTS REGARDING REVENUES, EXPENSES, TAXES, RATE BASE & MISCELLANEOUS

Question:

10. Provide the business reasons for the proposed reduction in residential rates for Lone Oak and Suck Creek and the percent variance from 13.60% to 28.26% in proposed residential rate increases for Chattanooga, Lookout Mountain, and Lakeview per TN-TRA-01-Q013-REVENUES, Page 15 of 99.

Response:

The Company's goal is to establish two separate tariffs from the five existing rate schedules. There will be one tariff for the Chattanooga Service Area and one tariff for the repumped service areas which include Lookout Mountain, Lakeview, Suck Creek and Lone Oak. The repumped service areas reflect the added cost of pumping water to these higher elevations.

The decreases to the average residential bills in Lone Oak and Suck Creek reflect movement toward the average bill for Lookout Mountain and Lakeview. Although the average bill decreases for Lone Oak and Suck Creek, the total proposed revenue for these service areas is approximately revenue neutral.

The varying percentage increases for Lookout Mountain and Lakeview reflect combining the rates from these two service areas into one rate schedule. Since the existing rates for Lakeview are lower than the rates for Lookout Mountain, the increase to Lakeview must be higher than Lookout Mountain in order to establish a single rate schedule.

TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 08-00039
FIRST DISCOVERY REQUEST OF THE
CONSUMER ADVOCATE AND PROTECTION DIVISION

Responsible Witness: John Watson/Sheila Miller

PART IV: QUESTIONS & REQUESTS REGARDING REVENUES, EXPENSES, TAXES, RATE BASE & MISCELLANEOUS

Question: EXPENSES

11. Provide the hourly pay rate by TAWC employee, (union, non-union, and salary) as of March 31, 2008.

Response:

Tennessee American Water Hourly Pay as of March 31, 2008

ASSOCIATE NAME		JOB CLASSIFICATION	SCHEDULED HOURS PER WEEK	RATE OF PAY
Atkins, Kelly L.		Field Services Representative	40	$22.60
Autry, Freddie L.		Heavy Equipment Operator	40	$22.30
Banks, Kathleen A.		Water Quality Specialist/Cross Connec	Varies	$63,400.00
Bartley, Rachel M.		Network Operations Supervisor	Varies	$87,050.00
Bednarski, Richard		Truck Driver/Utility Worker	40	$22.13
Beets, Jr. James E		Laborer/Relief Process Technician	40	$22.27
Bennette, Michael J.		Network Operations Supervisor	Varies	$72,750.00
Betty, Steven W.		Water Quality Specialist/Cross Connec	Varies	$58,350.00
Billups, Brian		Field Service Representative	40	$22.60
Bishop, Monty L.		Network Superintendent	Varies	$103,900.00
Blevins, Marvin R.		Network Operations Supervisor	Varies	$60,900.00
Blevins, Timothy B.		Field Services Representative	40	$22.60
Blevins, Waylon T.		Truck Driver/Utility Worker	40	$22.13
Blevins, William L.		Field Service Representative	40	$22.60
Borders, Stephen A.		Truck Driver/Utility Worker	40	$22.13
Bowling, Stanley E.		Heavy Equipment Operator	40	$22.30
Boyer, John B.		Field Services Representative	40	$22.60
Bratcher, Neil F.		Production Supervisor	Varies	$68,100.00
Burrell, Dale		Master Maintenance Mechanic	40	$25.26

Camp, Debbie H.		Process Technician	42	$25.43
Chrnalogar, Adam D.		Master Maintenance Mechanic	40	$25.26
Coates, John D.		Maintenance Mechanic	40	$24.34
Collins, Steven L.		Truck Driver/Utility Worker	40	$22.13
Cordell, Terry L.		Process Technician	42	$25.43
Crane, Scott E.		Truck Driver/Utility Worker	40	$22.13
Crutchfield, Patrick W.		Truck Driver/Utility Worker	40	$22.13
Cummings, Pamela B.		Network Operations Supervisor	Varies	$81,550.00
Dalton, Kimberly M.		Communications & CSR Specialist	Varies	$61,100.00
Derryberry, Jack S.		Heavy Equipment Operator	40	$22.30
Durham, Kimberly F.		Lab Analyst	Varies	$47,700.00
Eady, R. Glenn		Field Services	40	$25.55
Gamble, Robert A.		Heavy Equipment Operator	40	$22.30
Grace, Renee R.		Heavy Equipment Operator	40	$22.30
Green, Joseph A.		Field Services Representative	40	$22.60
Griffith, Michael J.		Truck Driver/Utility Worker	40	$22.13
Griffith, Vicki L.		Administrative Assistant	40	$44,200.00
Ha, Jason T.		Master Maintenance Mechanic	40	$25.26
Haddock, Gerald L.		Truck Driver/Utility Worker	40	$22.13
Harris, Edward D.		Heavy Equipment Operator	40	$22.30
Harvey, Robbie G.		Drafter	40	$20.86
Haws, Erich S.		Truck Driver/Utility Worker	40	$22.13
Hays, Chris L.		Truck Driver/Utility Worker	40	$22.13
Hays, Denise W.		Meter Reader	40	$22.22
Hester, Herbert F.		Field Service Representative	40	$22.60
Hicks, Worn Jr.		On & Off	40	$22.38
Highsmith, Kevin B.		Loss Control Specialist	Varies	$54,390.00
Hindman, Roy C.		Truck Driver/Utility Worker	40	$22.13
Holmes, Susan T.		Supervisor Water Quality	Varies	$82,450.00
Hughes, James T. Jr.		Heavy Equipment Operator	40	$22.30
Hughes, Jane B.		Distribution Clerk	40	$20.82
Hughes, Kendall W.		Master Maintenance Mechanic	40	$25.26
Hutsell, Charlotte A.		Process Technician	42	$25.43
Jenkins, Lamar		Field Service Representative	40	$22.60
Johnson, Courtney		Field Service Representative	40	$22.60
Johnson, Edward L.		Field Services Representative	40	$22.60
Jones, Jeffrey A.		Field Services Representative	40	$22.60
Justice, Matthew W.		Field Services Representative	40	$22.60
Kelley, Myra V.		Field Services Records Specialist	40	$20.82
King, Elijah J.		Truck Driver/Utility Worker	40	$22.13
Knight, Stacy L.		Field Services Representative	40	$22.60
Layne, Chase N.		Field Services Representative	40	$22.60
Markham, Brian J.		Operations Specialist	40	$45,000.00
Martin, Tolly E.		Truck Driver/Utility Worker	40	$22.13
Matthews, Larry H.		Truck Driver/Utility Worker	40	$22.13

McBay, David E.		Operations Specialist	Varies	$52,425.00
McGhee, Brian S.		Utility Worker	40	$21.84
McNabb, David A.		Truck Driver/Utility Worker	40	$22.13
Melton, Brenda H.		Meter Reader	40	$22.22
Moorhouse, James S.		Production Supervisor	Varies	$62,700.00
Morgan, Donald		Utility Worker	40	$21.84
Morrison, Leah T.		Network Operations Supervisor	Varies	$67,550.00
Moses, Michael S.		Truck Driver/Utility Worker	40	$22.13
Nartey, Kate S.		Engineer	Varies	$54,100.00
Norwood, R. Gary		Network Operations Supervisor	Varies	$70,800.00
O'Donnell, William T.		Meter Repair	40	$22.41
Partridge, Adrien L.		Lab Analyst	Varies	$45,100.00
Pitman, Benjamin J.		Process Technician	42	$25.43
Robinson, C. Gregory		Field Services	40	$25.55
Russell, Linda H.		Distribution Clerk	40	$20.82
Satterfield, Donette A.		Field Services Records Specialist	40	$20.82
Scealf, Virginia B.		Executive Assistant	40	$60,250.00
Schleifer, Ronald		Non Revenue Water Supervisor	40	$77,600.00
Scruggs, Arthur L., Jr.		Laborer/Relief Process Technician	40	$22.27
Seebeck, J. Daniel Jr.		Truck Driver/Utility Worker	40	$22.13
Skiles, Rick J.		Meter Repair	40	$22.41
Springs, James P.		On & Off	40	$22.38
Stafford, Jeffrey R.		Field Services Representative	40	$22.60
Stanley, R. Jeffery		Truck Driver/Utility Worker	40	$22.13
Steed, Cynthia A.		Field Services Representative	40	$22.60
Stephens, Ricky E.		Truck Driver/Utility Worker	40	$22.13
Talley, Dustin L.		Field Services Representative	40	$22.60
Taylor, Morris		Truck Driver/Utility Worker	40	$22.13
Taylor, Randal D.		Project Manager	Varies	$85,450.00
Thornton, Rebecca L.		Sr HR Generalist	Varies	$78,052.00
Tucker, Shirley A.		Engineering Clerk	40	$20.82
Turley, D. Mark		Operations Specialist	40	$61,100.00
Upshaw, Barbara J.		Lab Worker	40	$20.86
Vaughn, Dianna L.		Production Clerk	40	$20.82
Walden, Herman F.		Heavy Equipment Operator	40	$22.30
Walker, Melvin B.		Master Maintenance Mechanic	40	$25.26
Watson, John S.		President	Varies	$123,989.00
Watts, Daniel L.		Heavy Equipment Operator	40	$22.30
Weathers, Edward E.		Maintenance Mechanic	40	$24.34
Welch, Billy J.		Heavy Equipment Operator	40	$22.30
Williams, Derick D.		Field Services Representative	40	$22.60
Williams, Faye J.		Engineering Clerk	40	$20.82

Wilson, V. Keith Jr.		Truck Driver/Utility Worker	40	$22.13
Wortham, Deborah S.		Engineering Clerk	40	$20.82
Zinnanti, Mark J.		Production Superintendent	Varies	90,000

TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 08-00039
FIRST DISCOVERY REQUEST OF THE
CONSUMER ADVOCATE AND PROTECTION DIVISION

Responsible Witness: John Watson

PART IV: QUESTIONS & REQUESTS REGARDING REVENUES, EXPENSES, TAXES, RATE BASE & MISCELLANEOUS

Question: EXPENSES

12. Provide the hiring date and termination date by employee from February 2007 through March 2008.

Response:

Terminations

Retired - 3/01/07 - Baggett, Herman

Resigned - 7/06/07 - Mount, Jason

Retired - 11/01/07 – Davis, Bennie J.

Retired – 01/01/08 – Jenkins, Sammy R.

Retired – 01/01/08 – Worrell, David T.

New Hires

4/02/07 – Talley, Dustin L. – Field Service Representative

4/09/07 – Beets, James E. Jr. – Laborer/Relief process Technician

4/10/07 – Blevins, William L. – Field Service Representative

4/16/07 – Layne, Chase N. – Field Service Representative

4/23/07 – Durham, Kimberly F. – Lab Analyst

1/21/08 – Moorhouse, James S. – Production Supervisor

2/18/08 – Markham, Brian J. – Operations Specialist

TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 08-00039
FIRST DISCOVERY REQUEST OF THE
CONSUMER ADVOCATE AND PROTECTION DIVISION

Responsible Witness: John Watson

PART IV: QUESTIONS & REQUESTS REGARDING REVENUES, EXPENSES, TAXES, RATE BASE & MISCELLANEOUS

Question: EXPENSES

13. Provide the number of employees, (union, non-union, and salary) by month from February 2007 through March 2008 in the format of Exhibit JSW-2. Also, provide the name, position, and business contact information for each employee.

Response:

See attached schedules.

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AUTHORIZED WORKFORCE TENNESSEE

Updated 2-28-07

DEPARTMENT			Actual	Auth
Administrative				
John Watson	Vice Pres/Gen Network Mgr		1	1
Sally Thornton	Senior HR Generalist		1	1
Kimberly Dalton	Communications Specialist		1	1
Ginny Scealf	Executive Assistant		1	1
Vicki Griffith	Administrative Assistant		1	1
Vacancy	Loss Control Specialist		0	1
Subtotal			5	6
Network Operations				
Management				
Monty Bishop	Network Operations Supt		1	1
Rachel Bartley	Network Operations Supervisor		1	1
Michael Bennette	Network Operations Supervisor		1	1
Pamela Cummings	Network Operations Supervisor		1	1
Kevin Highsmith	Network Operations Supervisor		1	1
David McBay	Network Operations Specialist		1	1
Leah Morrison	Network Operations Supervisor		1	1
Gary Norwood	Network Operations Supervisor		1	1
Mark Turley	Network Operations Specialist		1	1
			9	9
Heavy Equipment Operator				
Tad Autry	Heavy Equipment Operator		1	1
Stanley Bowling	Heavy Equipment Operator		1	1
Jack Derryberry	Heavy Equipment Operator		1	1
Alan Gamble	Heavy Equipment Operator		1	1
Renee Grace	Heavy Equipment Operator		1	1
Ed Harris	Heavy Equipment Operator		1	1
James Hughes	Heavy Equipment Operator		1	1
Danny Watts	Heavy Equipment Operator		1	1
Herman Walden	Heavy Equipment Operator		1	1
Billy Welch	Heavy Equipment Operator		1	1
			10	10
Distribution Clerk				
Linda Russell	Distribution Clerk		1	1
Janie Hughes	Distribution Clerk		1	1
			2	2
Truck Driver Utility Worker				
Richard Bednarski	Truck Driver Utility Worker		1	1
Marvin Blevins	Truck Driver Utility Worker		1	1
Tobey Blevins	Truck Driver Utility Worker		1	1
Tony Borders	Truck Driver Utility Worker		1	1
Steve Collins	Truck Driver Utility Worker		1	1
Scott Crane	Truck Driver Utility Worker		1	1
Pat Crutchfield	Truck Driver Utility Worker		1	1
Jerry Haddock	Truck Driver Utility Worker		1	1
Chris Hays	Truck Driver Utility Worker		1	1
Eric Haws	Truck Driver Utility Worker		1	1
Roy Hindman	Truck Driver Utility Worker		1	1
Sam Jenkins	Truck Driver Utility Worker		1	1
Elijah King	Truck Driver Utility Worker		1	1
Eddie Martin	Truck Driver Utility Worker		1	1
Larry Matthews	Truck Driver Utility Worker		1	1
David McNabb	Truck Driver Utility Worker		1	1
Mike Moses	Truck Driver Utility Worker		1	1
Danny Seebeck	Truck Driver Utility Worker		1	1

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AUTHORIZED WORKFORCE TENNESSEE

Updated 2-28-07

DEPARTMENT			Actual	Auth
	Jeff Stanley	Truck Driver Utility Worker	1	1
	Rick Stephens	Truck Driver Utility Worker	1	1
	Morris Taylor	Truck Driver Utility Worker	1	1
	Keith Wilson	Truck Driver Utility Worker	1	1
			22	22
Utility Worker				
	Donald Ray Morgan	Utility Worker	1	1
	Shawn McGhee	Utility Worker	1	1
			2	2
Meter Reader				
	Denise Hays	Meter Reader	1	1
	Brenda Melton	Meter Reader	1	1
			2	2
Field Representative				
	Kelly Atkins	Field Representative	1	1
	Herman Baggett	Field Representative	1	1
	Brian Billups	Field Representative	1	1
	Tim Blevins	Field Representative	1	1
	John Boyer	Field Representative	1	1
	Vacancy	Field Representative	0	1
	Michael Griffith	Field Representative	1	1
	Chase Hester	Field Representative	1	1
	Vacancy	Field Representative	0	1
	Lamar Jenkins	Field Representative	1	1
	Courtney Johnson	Field Representative	1	1
	Edward Johnson	Field Representative	1	1
	Jeffrey Jones	Field Representative	1	1
	Matthew Justice	Field Representative	1	1
	Stacy Knight	Field Representative	1	1
	Jason Mount	Field Representative	1	1
	Jeff Stafford	Field Representative	1	1
	Cindy Steed	Field Representative	1	1
	Derick Williams	Field Representative	1	1
			17	19
On/Off				
	Worn Hicks	On/Off	1	1
	James Springs	On/Off	1	1
			2	2
Meter Repair				
	William O'Donnell	Meter Repair	1	1
	Rick Skiles	Meter Repair	1	1
			2	2
Field Services				
	Greg Robinson	Field Services	1	1
	Glenn Eady	Field Services	1	1
			2	2
Clerical				
	Myra Kelley	Field Service Records Clerk	1	1
	Donette Satterfield	Field Service Records Clerk	1	1
			2	2
Sub-total Meter Shop			27	29
Total Network			72	74
Engineering				
Management				

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AUTHORIZED WORKFORCE TENNESSEE

Updated 2-28-07

DEPARTMENT			Actual	Auth
	kate Nartey	Engineer	1	1
	Kitty Banks	WQ Spec/Cross Connection	1	1
	Steve Betty	WQ Spec/Cross Connection	1	1
	Randal Taylor	Project Manager	1	1
			4	4
Draftsperson				
	Robbie Harvey	Drafter	1	1
			1	1
Clerical				
	Shirley Tucker	Engineering Clerk	1	1
	Faye Williams (eff. 4-18-05)	Engineering Clerk	1	1
	Deborah Wortham	Engineering Clerk	1	1
			3	3
Subtotal			8	8
Production				
Management				
	Vacancy	Production Superintendent	0	1
	Neil Bratcher	Production Supervisor	1	1
	Mark Zinnanti	Production Supervisor	1	1
			2	3
Process Technician				
	Terry Cordell	Process Technician	1	1
	Debbie Camp	Process Technician	1	1
	Ben Pitman	Process Technician	1	1
	David Worrell	Process Technician	1	1
			4	4
Laborer/Relief Process Tech in Training				
	Bennie Davis	Laborer/Relief Proc Tech/Training	1	1
			1	1
Master Maintenance Mechanic				
	Adam Chrnalogar	Master Maintenance Mechanic	1	1
	Melvin Walker	Master Maintenance Mechanic	1	1
	Dale Burrell	Master Maintenance Mechanic	1	1
	Jason Ha	Master Maintenance Mechanic	1	1
	Ken Hughes	Master Maintenance Mechanic	1	1
			5	5
Maintenance Mechanic				
	David Coates	Maintenance Mechanic	1	1
	Ed Weathers	Maintenance Mechanic	1	1
			2	2
Laborer/Relief Process Technician				
	Charlotte Hutsell	Laborer/Relief Process Tech	1	1
	Vacancy	Laborer/Relief Process Tech	0	1
	Randee Scruggs	Laborer/Relief Process Tech	1	1
			2	3
Production Clerk				
	Diana Vaughn	Production Clerk	1	1
			1	1
Subtotal			17	19
Service Delivery/Environmental				
Management				
	Susan Holmes	Water Quality Superintendent	1	1
	Vacancy	Lab Analyst	0	1
	Adrien Partridge (eff 10-9-06)	Lab Analyst	1	1
			2	3

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AUTHORIZED WORKFORCE TENNESSEE

Updated 2-28-07

DEPARTMENT			Actual	Auth
Lab Worker				
	Barbara Upshaw	Lab Worker	1	1
			1	1
Subtotal			3	4
Total			105	111
Non-Union Employees			22	25
Union Employees			83	86
Vacancies - Non-Union			3	
Vacancies - Union			3	

AUTHORIZED WORKFORCE TENNESSEE

Updated 3-31-07

DEPARTMENT

			Actual	Auth
Administrative				
	John Watson	Vice Pres/Gen Network Mgr	1	1
	Sally Thornton	Senior HR Generalist	1	1
	Kimberly Dalton	Communications Specialist	1	1
	Ginny Scealf	Executive Assistant	1	1
	Vicki Griffith	Administrative Assistant	1	1
	Vacancy	Loss Control Specialist	0	1
Subtotal			5	6
Network Operations				
Management				
	Monty Bishop	Network Operations Supt	1	1
	Rachel Bartley	Network Operations Supervisor	1	1
	Michael Bennette	Network Operations Supervisor	1	1
	Pamela Cummings	Network Operations Supervisor	1	1
	Kevin Highsmith	Network Operations Supervisor	1	1
	David McBay	Network Operations Specialist	1	1
	Leah Morrison	Network Operations Supervisor	1	1
	Gary Norwood	Network Operations Supervisor	1	1
	Mark Turley	Network Operations Specialist	1	1
			9	9
Heavy Equipment Operator				
	Tad Autry	Heavy Equipment Operator	1	1
	Stanley Bowling	Heavy Equipment Operator	1	1
	Jack Derryberry	Heavy Equipment Operator	1	1
	Alan Gamble	Heavy Equipment Operator	1	1
	Renee Grace	Heavy Equipment Operator	1	1
	Ed Harris	Heavy Equipment Operator	1	1
	James Hughes	Heavy Equipment Operator	1	1
	Danny Watts	Heavy Equipment Operator	1	1
	Herman Walden	Heavy Equipment Operator	1	1
	Billy Welch	Heavy Equipment Operator	1	1
			10	10
Distribution Clerk				
	Linda Russell	Distribution Clerk	1	1
	Janie Hughes	Distribution Clerk	1	1
			2	2
Truck Driver Utility Worker				
	Richard Bednarski	Truck Driver Utility Worker	1	1
	Marvin Blevins	Truck Driver Utility Worker	1	1
	Tobey Blevins	Truck Driver Utility Worker	1	1
	Tony Borders	Truck Driver Utility Worker	1	1
	Steve Collins	Truck Driver Utility Worker	1	1
	Scott Crane	Truck Driver Utility Worker	1	1
	Pat Crutchfield	Truck Driver Utility Worker	1	1
	Jerry Haddock	Truck Driver Utility Worker	1	1
	Chris Hays	Truck Driver Utility Worker	1	1
	Eric Haws	Truck Driver Utility Worker	1	1

AUTHORIZED WORKFORCE TENNESSEE

Updated 3-31-07

DEPARTMENT

			Actual	Auth
	Roy Hindman	Truck Driver Utility Worker	1	1
	Sam Jenkins	Truck Driver Utility Worker	1	1
	Elijah King	Truck Driver Utility Worker	1	1
	Eddie Martin	Truck Driver Utility Worker	1	1
	Larry Matthews	Truck Driver Utility Worker	1	1
	David McNabb	Truck Driver Utility Worker	1	1
	Mike Moses	Truck Driver Utility Worker	1	1
	Danny Seebeck	Truck Driver Utility Worker	1	1
	Jeff Stanley	Truck Driver Utility Worker	1	1
	Rick Stephens	Truck Driver Utility Worker	1	1
	Morris Taylor	Truck Driver Utility Worker	1	1
	Keith Wilson	Truck Driver Utility Worker	1	1
			22	22
Utility Worker				
	Donald Ray Morgan	Utility Worker	1	1
	Shawn McGhee	Utility Worker	1	1
			2	2
Meter Reader				
	Denise Hays	Meter Reader	1	1
	Brenda Melton	Meter Reader	1	1
			2	2
Field Representative				
	Kelly Atkins	Field Representative	1	1
	Vacancy	Field Representative	0	1
	Brian Billups	Field Representative	1	1
	Tim Blevins	Field Representative	1	1
	John Boyer	Field Representative	1	1
	Vacancy	Field Representative	0	1
	Michael Griffith	Field Representative	1	1
	Chase Hester	Field Representative	1	1
	Vacancy	Field Representative	0	1
	Lamar Jenkins	Field Representative	1	1
	Courtney Johnson	Field Representative	1	1
	Edward Johnson	Field Representative	1	1
	Jeffrey Jones	Field Representative	1	1
	Matthew Justice	Field Representative	1	1
	Stacy Knight	Field Representative	1	1
	Jason Mount	Field Representative	1	1
	Jeff Stafford	Field Representative	1	1
	Cindy Steed	Field Representative	1	1
	Derick Williams	Field Representative	1	1
			16	19
On/Off				
	Worn Hicks	On/Off	1	1
	James Springs	On/Off	1	1
			2	2
Meter Repair				
	William O'Donnell	Meter Repair	1	1
	Rick Skiles	Meter Repair	1	1

AUTHORIZED WORKFORCE TENNESSEE

Updated 3-31-07

DEPARTMENT

		Actual	Auth
		2	2
Field Services			
Greg Robinson	Field Services	1	1
Glenn Eady	Field Services	1	1
		2	2
Clerical			
Myra Kelley	Field Service Records Clerk	1	1
Donette Satterfield	Field Service Records Clerk	1	1
		2	2
Sub-total Meter Shop		26	29
Total Network		71	74
Engineering			
Management			
kate Nartey	Engineer	1	1
Kitty Banks	WQ Spec/Cross Connection	1	1
Steve Betty	WQ Spec/Cross Connection	1	1
Randal Taylor	Project Manager	1	1
		4	4
Draftsperson			
Robbie Harvey	Drafter	1	1
		1	1
Clerical			
Shirley Tucker	Engineering Clerk	1	1
Faye Williams	Engineering Clerk	1	1
Deborah Wortham	Engineering Clerk	1	1
		3	3
Subtotal		8	8
Production			
Management			
Vacancy	Production Superintendent	0	1
Neil Bratcher	Production Supervisor	1	1
Mark Zinnanti	Production Supervisor	1	1
		2	3
Process Technician			
Terry Cordell	Process Technician	1	1
Debbie Camp	Process Technician	1	1
Ben Pitman	Process Technician	1	1
David Worrell	Process Technician	1	1
		4	4
Laborer/Relief Process Tech in Training			
Bennie Davis	Laborer/Relief Proc Tech/Training	1	1
		1	1
Master Maintenance Mechanic			
Adam Chrnalogar	Master Maintenance Mechanic	1	1
Melvin Walker	Master Maintenance Mechanic	1	1

AUTHORIZED WORKFORCE TENNESSEE

Updated 3-31-07

DEPARTMENT

		Actual	Auth
Dale Burrell	Master Maintenance Mechanic	1	1
Jason Ha	Master Maintenance Mechanic	1	1
Ken Hughes	Master Maintenance Mechanic	1	1
		5	5
Maintenance Mechanic			
David Coates	Maintenance Mechanic	1	1
Ed Weathers	Maintenance Mechanic	1	1
		2	2
Laborer/Relief Process Technician			
Charlotte Hutsell	Laborer/Relief Process Tech	1	1
Vacancy	Laborer/Relief Process Tech	0	1
Randee Scruggs	Laborer/Relief Process Tech	1	1
		2	3
Production Clerk			
Diana Vaughn	Production Clerk	1	1
		1	1
Subtotal		17	19
Service Delivery/Environmental			
Management			
Susan Holmes	Water Quality Superintendent	1	1
Vacancy	Lab Analyst	0	1
Adrien Partridge (eff 10-9-06)	Lab Analyst	1	1
		2	3
Lab Worker			
Barbara Upshaw	Lab Worker	1	1
		1	1
Subtotal		3	4
Total		104	111
Non-Union Employees		22	25
Union Employees		82	86
Vacancies - Non-Union		3	
Vacancies - Union		4	

AUTHORIZED WORKFORCE TENNESSEE

Updated 4-30-07

DEPARTMENT

		Actual	Auth
Administrative			
John Watson	Vice Pres/Gen Network Mgr	1	1
Sally Thornton	Senior HR Generalist	1	1
Kimberly Dalton	Communications Specialist	1	1
Ginny Scealf	Executive Assistant	1	1
Vicki Griffith	Administrative Assistant	1	1
Vacancy	Loss Control Specialist	0	1
Subtotal		5	6
Network Operations			
Management			
Monty Bishop	Network Operations Supt	1	1
Rachel Bartley	Network Operations Supervisor	1	1
Michael Bennette	Network Operations Supervisor	1	1
Pamela Cummings	Network Operations Supervisor	1	1
Kevin Highsmith	Network Operations Supervisor	1	1
David McBay	Network Operations Specialist	1	1
Leah Morrison	Network Operations Supervisor	1	1
Gary Norwood	Network Operations Supervisor	1	1
Mark Turley	Network Operations Specialist	1	1
		9	9
Heavy Equipment Operator			
Tad Autry	Heavy Equipment Operator	1	1
Stanley Bowling	Heavy Equipment Operator	1	1
Jack Derryberry	Heavy Equipment Operator	1	1
Alan Gamble	Heavy Equipment Operator	1	1
Renee Grace	Heavy Equipment Operator	1	1
Ed Harris	Heavy Equipment Operator	1	1
James Hughes	Heavy Equipment Operator	1	1
Danny Watts	Heavy Equipment Operator	1	1
Herman Walden	Heavy Equipment Operator	1	1
Billy Welch	Heavy Equipment Operator	1	1
		10	10
Distribution Clerk			
Linda Russell	Distribution Clerk	1	1
Janie Hughes	Distribution Clerk	1	1
		2	2
Truck Driver Utility Worker			
Richard Bednarski	Truck Driver Utility Worker	1	1
Marvin Blevins	Truck Driver Utility Worker	1	1
Tobey Blevins	Truck Driver Utility Worker	1	1
Tony Borders	Truck Driver Utility Worker	1	1
Steve Collins	Truck Driver Utility Worker	1	1
Scott Crane	Truck Driver Utility Worker	1	1
Pat Crutchfield	Truck Driver Utility Worker	1	1
Jerry Haddock	Truck Driver Utility Worker	1	1
Chris Hays	Truck Driver Utility Worker	1	1
Eric Haws	Truck Driver Utility Worker	1	1

AUTHORIZED WORKFORCE TENNESSEE

Updated 4-30-07

DEPARTMENT

			Actual	Auth
	Roy Hindman	Truck Driver Utility Worker	1	1
	Sam Jenkins	Truck Driver Utility Worker	1	1
	Elijah King	Truck Driver Utility Worker	1	1
	Eddie Martin	Truck Driver Utility Worker	1	1
	Larry Matthews	Truck Driver Utility Worker	1	1
	David McNabb	Truck Driver Utility Worker	1	1
	Mike Moses	Truck Driver Utility Worker	1	1
	Danny Seebeck	Truck Driver Utility Worker	1	1
	Jeff Stanley	Truck Driver Utility Worker	1	1
	Rick Stephens	Truck Driver Utility Worker	1	1
	Morris Taylor	Truck Driver Utility Worker	1	1
	Keith Wilson	Truck Driver Utility Worker	1	1
			22	22
Utility Worker				
	Donald Ray Morgan	Utility Worker	1	1
	Shawn McGhee	Utility Worker	1	1
			2	2
Meter Reader				
	Denise Hays	Meter Reader	1	1
	Brenda Melton	Meter Reader	1	1
			2	2
Field Representative				
	Kelly Atkins	Field Representative	1	1
	Brian Billups	Field Representative	1	1
	Tim Blevins	Field Representative	1	1
	William Blevins (eff 4/10/07)	Field Representative	1	1
	John Boyer	Field Representative	1	1
	Michael Griffith	Field Representative	1	1
	Chase Hester	Field Representative	1	1
	Lamar Jenkins	Field Representative	1	1
	Chase Layne (eff 4-16-07)	Field Representative	1	1
	Courtney Johnson	Field Representative	1	1
	Edward Johnson	Field Representative	1	1
	Jeffrey Jones	Field Representative	1	1
	Matthew Justice	Field Representative	1	1
	Stacy Knight	Field Representative	1	1
	Jason Mount	Field Representative	1	1
	Jeff Stafford	Field Representative	1	1
	Cindy Steed	Field Representative	1	1
	Dustin Talley (eff 4-2-07)	Field Representative	1	1
	Derick Williams	Field Representative	1	1
			19	19
On/Off				
	Worn Hicks	On/Off	1	1
	James Springs	On/Off	1	1
			2	2
Meter Repair				
	William O'Donnell	Meter Repair	1	1
	Rick Skiles	Meter Repair	1	1

AUTHORIZED WORKFORCE TENNESSEE

Updated 4-30-07

DEPARTMENT

		Actual	Auth
		2	2
Field Services			
Greg Robinson	Field Services	1	1
Glenn Eady	Field Services	1	1
		2	2
Clerical			
Myra Kelley	Field Service Records Clerk	1	1
Donette Satterfield	Field Service Records Clerk	1	1
		2	2
Sub-total Meter Shop		29	29
Total Network		74	74
Engineering			
Management			
kate Nartey	Engineer	1	1
Kitty Banks	WQ Spec/Cross Connection	1	1
Steve Betty	WQ Spec/Cross Connection	1	1
Randal Taylor	Project Manager	1	1
		4	4
Draftsperson			
Robbie Harvey	Drafter	1	1
		1	1
Clerical			
Shirley Tucker	Engineering Clerk	1	1
Faye Williams	Engineering Clerk	1	1
Deborah Wortham	Engineering Clerk	1	1
		3	3
Subtotal		8	8
Production			
Management			
Vacancy	Production Superintendent	0	1
Neil Bratcher	Production Supervisor	1	1
Mark Zinnanti	Production Supervisor	1	1
		2	3
Process Technician			
Terry Cordell	Process Technician	1	1
Debbie Camp	Process Technician	1	1
Ben Pitman	Process Technician	1	1
David Worrell	Process Technician	1	1
		4	4
Laborer/Relief Process Tech in Training			
Bennie Davis	Laborer/Relief Proc Tech/Training	1	1
		1	1
Master Maintenance Mechanic			
Adam Chrnalogar	Master Maintenance Mechanic	1	1
Melvin Walker	Master Maintenance Mechanic	1	1

AUTHORIZED WORKFORCE TENNESSEE

Updated 4-30-07

DEPARTMENT

		Actual	Auth
Dale Burrell	Master Maintenance Mechanic	1	1
Jason Ha	Master Maintenance Mechanic	1	1
Ken Hughes	Master Maintenance Mechanic	1	1
		5	5
Maintenance Mechanic			
David Coates	Maintenance Mechanic	1	1
Ed Weathers	Maintenance Mechanic	1	1
		2	2
Laborer/Relief Process Technician			
Charlotte Hutsell	Laborer/Relief Process Tech	1	1
James Beets (eff 4-9-07)	Laborer/Relief Process Tech	1	1
Randee Scruggs	Laborer/Relief Process Tech	1	1
		3	3
Production Clerk			
Diana Vaughn	Production Clerk	1	1
		1	1
Subtotal		18	19
Service Delivery/Environmental			
Management			
Susan Holmes	Water Quality Superintendent	1	1
Kim Durham (eff 4-23-07)	Lab Analyst	1	1
Adrien Partridge	Lab Analyst	1	1
		3	3
Lab Worker			
Barbara Upshaw	Lab Worker	1	1
		1	1
Subtotal		4	4
Total		109	111
Non-Union Employees		23	25
Union Employees		86	86
Vacancies - Non-Union		2	
Vacancies - Union		0	

AUTHORIZED WORKFORCE TENNESSEE

Updated 5-31-07

DEPARTMENT

			Actual	Auth
Administrative				
	John Watson	Vice Pres/Gen Network Mgr	1	1
	Sally Thornton	Senior HR Generalist	1	1
	Kimberly Dalton	Communications Specialist	1	1
	Ginny Scealf	Executive Assistant	1	1
	Vicki Griffith	Administrative Assistant	1	1
	Kevin Highsmith (eff 5-21-07)	Loss Control Specialist	1	1
Subtotal			6	6
Network Operations				
Management				
	Monty Bishop	Network Operations Supt	1	1
	Rachel Bartley	Network Operations Supervisor	1	1
	Michael Bennette	Network Operations Supervisor	1	1
	Pamela Cummings	Network Operations Supervisor	1	1
	Marvin Blevins (eff 5-21-07)	Network Operations Supervisor	1	1
	David McBay	Network Operations Specialist	1	1
	Leah Morrison	Network Operations Supervisor	1	1
	Gary Norwood	Network Operations Supervisor	1	1
	Mark Turley	Network Operations Specialist	1	1
			9	9
Heavy Equipment Operator				
	Tad Autry	Heavy Equipment Operator	1	1
	Stanley Bowling	Heavy Equipment Operator	1	1
	Jack Derryberry	Heavy Equipment Operator	1	1
	Alan Gamble	Heavy Equipment Operator	1	1
	Renee Grace	Heavy Equipment Operator	1	1
	Ed Harris	Heavy Equipment Operator	1	1
	James Hughes	Heavy Equipment Operator	1	1
	Danny Watts	Heavy Equipment Operator	1	1
	Herman Walden	Heavy Equipment Operator	1	1
	Billy Welch	Heavy Equipment Operator	1	1
			10	10
Distribution Clerk				
	Linda Russell	Distribution Clerk	1	1
	Janie Hughes	Distribution Clerk	1	1
			2	2
Truck Driver Utility Worker				
	Richard Bednarski	Truck Driver Utility Worker	1	1
	Vacancy	Truck Driver Utility Worker	0	1
	Tobey Blevins	Truck Driver Utility Worker	1	1
	Tony Borders	Truck Driver Utility Worker	1	1
	Steve Collins	Truck Driver Utility Worker	1	1
	Scott Crane	Truck Driver Utility Worker	1	1
	Pat Crutchfield	Truck Driver Utility Worker	1	1
	Jerry Haddock	Truck Driver Utility Worker	1	1
	Chris Hays	Truck Driver Utility Worker	1	1
	Eric Haws	Truck Driver Utility Worker	1	1
	Roy Hindman	Truck Driver Utility Worker	1	1
	Sam Jenkins	Truck Driver Utility Worker	1	1
	Elijah King	Truck Driver Utility Worker	1	1
	Eddie Martin	Truck Driver Utility Worker	1	1
	Larry Matthews	Truck Driver Utility Worker	1	1
	David McNabb	Truck Driver Utility Worker	1	1
	Mike Moses	Truck Driver Utility Worker	1	1
	Danny Seebeck	Truck Driver Utility Worker	1	1

AUTHORIZED WORKFORCE TENNESSEE

Updated 5-31-07

DEPARTMENT

			Actual	Auth
	Jeff Stanley	Truck Driver Utility Worker	1	1
	Rick Stephens	Truck Driver Utility Worker	1	1
	Morris Taylor	Truck Driver Utility Worker	1	1
	Keith Wilson	Truck Driver Utility Worker	1	1
			21	22
Utility Worker				
	Donald Ray Morgan	Utility Worker	1	1
	Shawn McGhee	Utility Worker	1	1
			2	2
Meter Reader				
	Denise Hays	Meter Reader	1	1
	Brenda Melton	Meter Reader	1	1
			2	2
Field Representative				
	Kelly Atkins	Field Representative	1	1
	Brian Billups	Field Representative	1	1
	Tim Blevins	Field Representative	1	1
	William Blevins	Field Representative	1	1
	John Boyer	Field Representative	1	1
	Michael Griffith	Field Representative	1	1
	Chase Hester	Field Representative	1	1
	Lamar Jenkins	Field Representative	1	1
	Chase Layne	Field Representative	1	1
	Courtney Johnson	Field Representative	1	1
	Edward Johnson	Field Representative	1	1
	Jeffrey Jones	Field Representative	1	1
	Matthew Justice	Field Representative	1	1
	Stacy Knight	Field Representative	1	1
	Jason Mount	Field Representative	1	1
	Jeff Stafford	Field Representative	1	1
	Cindy Steed	Field Representative	1	1
	Dustin Talley	Field Representative	1	1
	Derick Williams	Field Representative	1	1
			19	19
On/Off				
	Worn Hicks	On/Off	1	1
	James Springs	On/Off	1	1
			2	2
Meter Repair				
	William O'Donnell	Meter Repair	1	1
	Rick Skiles	Meter Repair	1	1
			2	2
Field Services				
	Greg Robinson	Field Services	1	1
	Glenn Eady	Field Services	1	1
			2	2
Clerical				
	Myra Kelley	Field Service Records Clerk	1	1
	Donette Satterfield	Field Service Records Clerk	1	1
			2	2
Sub-total Meter Shop			29	29
Total Network			73	74

Engineering
Management

AUTHORIZED WORKFORCE TENNESSEE

Updated 5-31-07

DEPARTMENT

		Actual	Auth
kate Nartey	Engineer	1	1
Kitty Banks	WQ Spec/Cross Connection	1	1
Steve Betty	WQ Spec/Cross Connection	1	1
Randal Taylor	Project Manager	1	1
		4	4
Draftsperson			
Robbie Harvey	Drafter	1	1
		1	1
Clerical			
Shirley Tucker	Engineering Clerk	1	1
Faye Williams	Engineering Clerk	1	1
Deborah Wortham	Engineering Clerk	1	1
		3	3
Subtotal		8	8
Production			
Management			
Vacancy	Production Superintendent	0	1
Neil Bratcher	Production Supervisor	1	1
Mark Zinnanti	Production Supervisor	1	1
		2	3
Process Technician			
Terry Cordell	Process Technician	1	1
Debbie Camp	Process Technician	1	1
Ben Pitman	Process Technician	1	1
David Worrell	Process Technician	1	1
		4	4
Laborer/Relief Process Tech in Training			
Bennie Davis	Laborer/Relief Proc Tech/Training	1	1
		1	1
Master Maintenance Mechanic			
Adam Chrnalogar	Master Maintenance Mechanic	1	1
Melvin Walker	Master Maintenance Mechanic	1	1
Dale Burrell	Master Maintenance Mechanic	1	1
Jason Ha	Master Maintenance Mechanic	1	1
Ken Hughes	Master Maintenance Mechanic	1	1
		5	5
Maintenance Mechanic			
David Coates	Maintenance Mechanic	1	1
Ed Weathers	Maintenance Mechanic	1	1
		2	2
Laborer/Relief Process Technician			
Charlotte Hutsell eff	Laborer/Relief Process Tech	1	1
James Beets	Laborer/Relief Process Tech	1	1
Randee Scruggs	Laborer/Relief Process Tech	1	1
		3	3
Production Clerk			
Diana Vaughn	Production Clerk	1	1
		1	1
Subtotal		18	19
Service Delivery/Environmental			
Management			
Susan Holmes	Water Quality Superintendent	1	1
Kim Durham	Lab Analyst	1	1
Adrien Partridge	Lab Analyst	1	1
		3	3

AUTHORIZED WORKFORCE TENNESSEE

Updated 5-31-07

DEPARTMENT

		Actual	Auth
Lab Worker			
Barbara Upshaw	Lab Worker	1	1
		1	1
Subtotal		4	4
Total		109	111
Non-Union Employees		24	25
Union Employees		85	86
Vacancies - Non-Union		1	
Vacancies - Union		1	

AUTHORIZED WORKFORCE TENNESSEE

Updated 6-30-07

DEPARTMENT

		Actual	Auth
Administrative			
John Watson	Vice Pres/Gen Network Mgr	1	1
Sally Thornton	Senior HR Generalist	1	1
Kimberly Dalton	Communications Specialist	1	1
Ginny Scealf	Executive Assistant	1	1
Vicki Griffith	Administrative Assistant	1	1
Kevin Highsmith	Loss Control Specialist	1	1
Subtotal		6	6
Network Operations			
Management			
Monty Bishop	Network Operations Supt	1	1
Rachel Bartley	Network Operations Supervisor	1	1
Michael Bennette	Network Operations Supervisor	1	1
Pamela Cummings	Network Operations Supervisor	1	1
Marvin Blevins (eff 5-21-07)	Network Operations Supervisor	1	1
David McBay	Network Operations Specialist	1	1
Leah Morrison	Network Operations Supervisor	1	1
Gary Norwood	Network Operations Supervisor	1	1
Mark Turley	Network Operations Specialist	1	1
		9	9
Heavy Equipment Operator			
Tad Autry	Heavy Equipment Operator	1	1
Stanley Bowling	Heavy Equipment Operator	1	1
Jack Derryberry	Heavy Equipment Operator	1	1
Alan Gamble	Heavy Equipment Operator	1	1
Renee Grace	Heavy Equipment Operator	1	1
Ed Harris	Heavy Equipment Operator	1	1
James Hughes	Heavy Equipment Operator	1	1
Danny Watts	Heavy Equipment Operator	1	1
Herman Walden	Heavy Equipment Operator	1	1
Billy Welch	Heavy Equipment Operator	1	1
		10	10
Distribution Clerk			
Linda Russell	Distribution Clerk	1	1
Janie Hughes	Distribution Clerk	1	1
		2	2
Truck Driver Utility Worker			
Richard Bednarski	Truck Driver Utility Worker	1	1
Vacancy	Truck Driver Utility Worker	0	1
Tobey Blevins	Truck Driver Utility Worker	1	1
Tony Borders	Truck Driver Utility Worker	1	1
Steve Collins	Truck Driver Utility Worker	1	1
Scott Crane	Truck Driver Utility Worker	1	1
Pat Crutchfield	Truck Driver Utility Worker	1	1
Jerry Haddock	Truck Driver Utility Worker	1	1
Chris Hays	Truck Driver Utility Worker	1	1
Eric Haws	Truck Driver Utility Worker	1	1
Roy Hindman	Truck Driver Utility Worker	1	1
Sam Jenkins	Truck Driver Utility Worker	1	1
Elijah King	Truck Driver Utility Worker	1	1
Eddie Martin	Truck Driver Utility Worker	1	1
Larry Matthews	Truck Driver Utility Worker	1	1
David McNabb	Truck Driver Utility Worker	1	1
Mike Moses	Truck Driver Utility Worker	1	1
Danny Seebeck	Truck Driver Utility Worker	1	1

AUTHORIZED WORKFORCE TENNESSEE

Updated 6-30-07

DEPARTMENT

			Actual	Auth
	Jeff Stanley	Truck Driver Utility Worker	1	1
	Rick Stephens	Truck Driver Utility Worker	1	1
	Morris Taylor	Truck Driver Utility Worker	1	1
	Keith Wilson	Truck Driver Utility Worker	1	1
			21	22
Utility Worker				
	Donald Ray Morgan	Utility Worker	1	1
	Shawn McGhee	Utility Worker	1	1
			2	2
Meter Reader				
	Denise Hays	Meter Reader	1	1
	Brenda Melton	Meter Reader	1	1
			2	2
Field Representative				
	Kelly Atkins	Field Representative	1	1
	Brian Billups	Field Representative	1	1
	Tim Blevins	Field Representative	1	1
	William Blevins	Field Representative	1	1
	John Boyer	Field Representative	1	1
	Michael Griffith	Field Representative	1	1
	Chase Hester	Field Representative	1	1
	Lamar Jenkins	Field Representative	1	1
	Chase Layne	Field Representative	1	1
	Courtney Johnson	Field Representative	1	1
	Edward Johnson	Field Representative	1	1
	Jeffrey Jones	Field Representative	1	1
	Matthew Justice	Field Representative	1	1
	Stacy Knight	Field Representative	1	1
	Jason Mount	Field Representative	1	1
	Jeff Stafford	Field Representative	1	1
	Cindy Steed	Field Representative	1	1
	Dustin Talley	Field Representative	1	1
	Derick Williams	Field Representative	1	1
			19	19
On/Off				
	Worn Hicks	On/Off	1	1
	James Springs	On/Off	1	1
			2	2
Meter Repair				
	William O'Donnell	Meter Repair	1	1
	Rick Skiles	Meter Repair	1	1
			2	2
Field Services				
	Greg Robinson	Field Services	1	1
	Glenn Eady	Field Services	1	1
			2	2
Clerical				
	Myra Kelley	Field Service Records Clerk	1	1
	Donette Satterfield	Field Service Records Clerk	1	1
			2	2
Sub-total Meter Shop			29	29
Total Network			73	74

Engineering
Management

AUTHORIZED WORKFORCE TENNESSEE

Updated 6-30-07

DEPARTMENT

		Actual	Auth
kate Nartey	Engineer	1	1
Kitty Banks	WQ Spec/Cross Connection	1	1
Steve Betty	WQ Spec/Cross Connection	1	1
Randal Taylor	Project Manager	1	1
		4	4
Draftsperson			
Robbie Harvey	Drafter	1	1
		1	1
Clerical			
Shirley Tucker	Engineering Clerk	1	1
Faye Williams	Engineering Clerk	1	1
Deborah Wortham	Engineering Clerk	1	1
		3	3
Subtotal		8	8
Production			
Management			
Vacancy	Production Superintendent	0	1
Neil Bratcher	Production Supervisor	1	1
Mark Zinnanti	Production Supervisor	1	1
		2	3
Process Technician			
Terry Cordell	Process Technician	1	1
Debbie Camp	Process Technician	1	1
Ben Pitman	Process Technician	1	1
David Worrell	Process Technician	1	1
		4	4
Laborer/Relief Process Tech in Training			
Bennie Davis	Laborer/Relief Proc Tech/Training	1	1
		1	1
Master Maintenance Mechanic			
Adam Chrnalogar	Master Maintenance Mechanic	1	1
Melvin Walker	Master Maintenance Mechanic	1	1
Dale Burrell	Master Maintenance Mechanic	1	1
Jason Ha	Master Maintenance Mechanic	1	1
Ken Hughes	Master Maintenance Mechanic	1	1
		5	5
Maintenance Mechanic			
David Coates	Maintenance Mechanic	1	1
Ed Weathers	Maintenance Mechanic	1	1
		2	2
Laborer/Relief Process Technician			
Charlotte Hutsell	Laborer/Relief Process Tech	1	1
James Beets	Laborer/Relief Process Tech	1	1
Randee Scruggs	Laborer/Relief Process Tech	1	1
		3	3
Production Clerk			
Diana Vaughn	Production Clerk	1	1
		1	1
Subtotal		18	19
Service Delivery/Environmental			
Management			
Susan Holmes	Water Quality Superintendent	1	1
Kim Durham	Lab Analyst	1	1
Adrien Partridge	Lab Analyst	1	1
		3	3

AUTHORIZED WORKFORCE TENNESSEE

Updated 6-30-07

DEPARTMENT

		Actual	Auth
Lab Worker			
Barbara Upshaw	Lab Worker	1	1
		1	1
Subtotal		4	4
Total		109	111
Non-Union Employees		24	25
Union Employees		85	86
Vacancies - Non-Union		1	
Vacancies - Union		1	

AUTHORIZED WORKFORCE TENNESSEE

Updated 7-31-07

DEPARTMENT

			Actual	Auth
Administrative				
	John Watson	Vice Pres/Gen Network Mgr	1	1
	Sally Thornton	Senior HR Generalist	1	1
	Kimberly Dalton	Communications Specialist	1	1
	Ginny Scealf	Executive Assistant	1	1
	Vicki Griffith	Administrative Assistant	1	1
	Kevin Highsmith	Loss Control Specialist	1	1
Subtotal			6	6
Network Operations				
Management				
	Monty Bishop	Network Operations Supt	1	1
	Rachel Bartley	Network Operations Supervisor	1	1
	Michael Bennette	Network Operations Supervisor	1	1
	Pamela Cummings	Network Operations Supervisor	1	1
	Marvin Blevins	Network Operations Supervisor	1	1
	David McBay	Network Operations Specialist	1	1
	Leah Morrison	Network Operations Supervisor	1	1
	Gary Norwood	Network Operations Supervisor	1	1
	Mark Turley	Network Operations Specialist	1	1
			9	9
Heavy Equipment Operator				
	Tad Autry	Heavy Equipment Operator	1	1
	Stanley Bowling	Heavy Equipment Operator	1	1
	Jack Derryberry	Heavy Equipment Operator	1	1
	Alan Gamble	Heavy Equipment Operator	1	1
	Renee Grace	Heavy Equipment Operator	1	1
	Ed Harris	Heavy Equipment Operator	1	1
	James Hughes	Heavy Equipment Operator	1	1
	Danny Watts	Heavy Equipment Operator	1	1
	Herman Walden	Heavy Equipment Operator	1	1
	Billy Welch	Heavy Equipment Operator	1	1
			10	10
Distribution Clerk				
	Linda Russell	Distribution Clerk	1	1
	Janie Hughes	Distribution Clerk	1	1
			2	2
Truck Driver Utility Worker				
	Richard Bednarski	Truck Driver Utility Worker	1	1
	Vacancy	Truck Driver Utility Worker	0	1
	Tobey Blevins	Truck Driver Utility Worker	1	1
	Tony Borders	Truck Driver Utility Worker	1	1
	Steve Collins	Truck Driver Utility Worker	1	1
	Scott Crane	Truck Driver Utility Worker	1	1
	Pat Crutchfield	Truck Driver Utility Worker	1	1
	Jerry Haddock	Truck Driver Utility Worker	1	1
	Chris Hays	Truck Driver Utility Worker	1	1
	Eric Haws	Truck Driver Utility Worker	1	1
	Roy Hindman	Truck Driver Utility Worker	1	1
	Sam Jenkins	Truck Driver Utility Worker	1	1
	Elijah King	Truck Driver Utility Worker	1	1
	Eddie Martin	Truck Driver Utility Worker	1	1
	Larry Matthews	Truck Driver Utility Worker	1	1
	David McNabb	Truck Driver Utility Worker	1	1
	Mike Moses	Truck Driver Utility Worker	1	1
	Danny Seebeck	Truck Driver Utility Worker	1	1

AUTHORIZED WORKFORCE TENNESSEE

Updated 7-31-07

DEPARTMENT

		Actual	Auth
Jeff Stanley	Truck Driver Utility Worker	1	1
Rick Stephens	Truck Driver Utility Worker	1	1
Morris Taylor	Truck Driver Utility Worker	1	1
Keith Wilson	Truck Driver Utility Worker	1	1
		21	22
Utility Worker			
Donald Ray Morgan	Utility Worker	1	1
Shawn McGhee	Utility Worker	1	1
		2	2
Meter Reader			
Denise Hays	Meter Reader	1	1
Brenda Melton	Meter Reader	1	1
		2	2
Field Representative			
Kelly Atkins	Field Representative	1	1
Brian Billups	Field Representative	1	1
Tim Blevins	Field Representative	1	1
William Blevins	Field Representative	1	1
John Boyer	Field Representative	1	1
Michael Griffith	Field Representative	1	1
Chase Hester	Field Representative	1	1
Lamar Jenkins	Field Representative	1	1
Chase Layne	Field Representative	1	1
Courtney Johnson	Field Representative	1	1
Edward Johnson	Field Representative	1	1
Jeffrey Jones	Field Representative	1	1
Matthew Justice	Field Representative	1	1
Stacy Knight	Field Representative	1	1
Vacancy	Field Representative	0	1
Jeff Stafford	Field Representative	1	1
Cindy Steed	Field Representative	1	1
Dustin Talley	Field Representative	1	1
Derick Williams	Field Representative	1	1
		18	19
On/Off			
Worn Hicks	On/Off	1	1
James Springs	On/Off	1	1
		2	2
Meter Repair			
William O'Donnell	Meter Repair	1	1
Rick Skiles	Meter Repair	1	1
		2	2
Field Services			
Greg Robinson	Field Services	1	1
Glenn Eady	Field Services	1	1
		2	2
Clerical			
Myra Kelley	Field Service Records Clerk	1	1
Donette Satterfield	Field Service Records Clerk	1	1
		2	2
Sub-total Meter Shop		28	29
Total Network		72	74

Engineering
Management

AUTHORIZED WORKFORCE TENNESSEE

Updated 7-31-07

DEPARTMENT

		Actual	Auth
kate Nartey	Engineer	1	1
Kitty Banks	WQ Spec/Cross Connection	1	1
Steve Betty	WQ Spec/Cross Connection	1	1
Randal Taylor	Project Manager	1	1
		4	4
Draftsperson			
Robbie Harvey	Drafter	1	1
		1	1
Clerical			
Shirley Tucker	Engineering Clerk	1	1
Faye Williams	Engineering Clerk	1	1
Deborah Wortham	Engineering Clerk	1	1
		3	3
Subtotal		8	8
Production			
Management			
Vacancy	Production Superintendent	0	1
Neil Bratcher	Production Supervisor	1	1
Mark Zinnanti	Production Supervisor	1	1
		2	3
Process Technician			
Terry Cordell	Process Technician	1	1
Debbie Camp	Process Technician	1	1
Ben Pitman	Process Technician	1	1
David Worrell	Process Technician	1	1
		4	4
Laborer/Relief Process Tech in Training			
Bennie Davis	Laborer/Relief Proc Tech/Training	1	1
		1	1
Master Maintenance Mechanic			
Adam Chrnalogar	Master Maintenance Mechanic	1	1
Melvin Walker	Master Maintenance Mechanic	1	1
Dale Burrell	Master Maintenance Mechanic	1	1
Jason Ha	Master Maintenance Mechanic	1	1
Ken Hughes	Master Maintenance Mechanic	1	1
		5	5
Maintenance Mechanic			
David Coates	Maintenance Mechanic	1	1
Ed Weathers	Maintenance Mechanic	1	1
		2	2
Laborer/Relief Process Technician			
Charlotte Hutsell	Laborer/Relief Process Tech	1	1
James Beets	Laborer/Relief Process Tech	1	1
Randee Scruggs	Laborer/Relief Process Tech	1	1
		3	3
Production Clerk			
Diana Vaughn	Production Clerk	1	1
		1	1
Subtotal		18	19
Service Delivery/Environmental			
Management			
Susan Holmes	Water Quality Superintendent	1	1
Kim Durham	Lab Analyst	1	1
Adrien Partridge	Lab Analyst	1	1
		3	3

AUTHORIZED WORKFORCE TENNESSEE

Updated 7-31-07

DEPARTMENT

		Actual	Auth
Lab Worker			
Barbara Upshaw	Lab Worker	1	1
		1	1
Subtotal		4	4
Total		108	111
Non-Union Employees		24	25
Union Employees		84	86
Vacancies - Non-Union		1	
Vacancies - Union		2	

AUTHORIZED WORKFORCE TENNESSEE

Updated 8-31-07

DEPARTMENT

		Actual	Auth
Administrative			
John Watson	Vice Pres/Gen Network Mgr	1	1
Sally Thornton	Senior HR Generalist	1	1
Kimberly Dalton	Communications Specialist	1	1
Ginny Scealf	Executive Assistant	1	1
Vicki Griffith	Administrative Assistant	1	1
Kevin Highsmith	Loss Control Specialist	1	1
Subtotal		6	6
Network Operations			
Management			
Monty Bishop	Network Operations Supt	1	1
Rachel Bartley	Network Operations Supervisor	1	1
Michael Bennette	Network Operations Supervisor	1	1
Pamela Cummings	Network Operations Supervisor	1	1
Marvin Blevins	Network Operations Supervisor	1	1
David McBay	Network Operations Specialist	1	1
Leah Morrison	Network Operations Supervisor	1	1
Gary Norwood	Network Operations Supervisor	1	1
Mark Turley	Network Operations Specialist	1	1
		9	9
Heavy Equipment Operator			
Tad Autry	Heavy Equipment Operator	1	1
Stanley Bowling	Heavy Equipment Operator	1	1
Jack Derryberry	Heavy Equipment Operator	1	1
Alan Gamble	Heavy Equipment Operator	1	1
Renee Grace	Heavy Equipment Operator	1	1
Ed Harris	Heavy Equipment Operator	1	1
James Hughes	Heavy Equipment Operator	1	1
Danny Watts	Heavy Equipment Operator	1	1
Herman Walden	Heavy Equipment Operator	1	1
Billy Welch	Heavy Equipment Operator	1	1
		10	10
Distribution Clerk			
Linda Russell	Distribution Clerk	1	1
Janie Hughes	Distribution Clerk	1	1
		2	2
Truck Driver Utility Worker			
Richard Bednarski	Truck Driver Utility Worker	1	1
Vacancy	Truck Driver Utility Worker	0	1
Tobey Blevins	Truck Driver Utility Worker	1	1
Tony Borders	Truck Driver Utility Worker	1	1
Steve Collins	Truck Driver Utility Worker	1	1
Scott Crane	Truck Driver Utility Worker	1	1
Pat Crutchfield	Truck Driver Utility Worker	1	1
Jerry Haddock	Truck Driver Utility Worker	1	1
Chris Hays	Truck Driver Utility Worker	1	1
Eric Haws	Truck Driver Utility Worker	1	1
Roy Hindman	Truck Driver Utility Worker	1	1
Sam Jenkins	Truck Driver Utility Worker	1	1
Elijah King	Truck Driver Utility Worker	1	1
Eddie Martin	Truck Driver Utility Worker	1	1
Larry Matthews	Truck Driver Utility Worker	1	1
David McNabb	Truck Driver Utility Worker	1	1
Mike Moses	Truck Driver Utility Worker	1	1
Danny Seebeck	Truck Driver Utility Worker	1	1

AUTHORIZED WORKFORCE TENNESSEE

Updated 8-31-07

DEPARTMENT

			Actual	Auth
	Jeff Stanley	Truck Driver Utility Worker	1	1
	Rick Stephens	Truck Driver Utility Worker	1	1
	Morris Taylor	Truck Driver Utility Worker	1	1
	Keith Wilson	Truck Driver Utility Worker	1	1
			21	22
Utility Worker				
	Donald Ray Morgan	Utility Worker	1	1
	Shawn McGhee	Utility Worker	1	1
			2	2
Meter Reader				
	Denise Hays	Meter Reader	1	1
	Brenda Melton	Meter Reader	1	1
			2	2
Field Representative				
	Kelly Atkins	Field Representative	1	1
	Brian Billups	Field Representative	1	1
	Tim Blevins	Field Representative	1	1
	William Blevins	Field Representative	1	1
	John Boyer	Field Representative	1	1
	Michael Griffith	Field Representative	1	1
	Chase Hester	Field Representative	1	1
	Lamar Jenkins	Field Representative	1	1
	Chase Layne	Field Representative	1	1
	Courtney Johnson	Field Representative	1	1
	Edward Johnson	Field Representative	1	1
	Jeffrey Jones	Field Representative	1	1
	Matthew Justice	Field Representative	1	1
	Stacy Knight	Field Representative	1	1
	Vacancy	Field Representative	0	1
	Jeff Stafford	Field Representative	1	1
	Cindy Steed	Field Representative	1	1
	Dustin Talley	Field Representative	1	1
	Derick Williams	Field Representative	1	1
			18	19
On/Off				
	Worn Hicks	On/Off	1	1
	James Springs	On/Off	1	1
			2	2
Meter Repair				
	William O'Donnell	Meter Repair	1	1
	Rick Skiles	Meter Repair	1	1
			2	2
Field Services				
	Greg Robinson	Field Services	1	1
	Glenn Eady	Field Services	1	1
			2	2
Clerical				
	Myra Kelley	Field Service Records Clerk	1	1
	Donette Satterfield	Field Service Records Clerk	1	1
			2	2
Sub-total Meter Shop			28	29
Total Network			72	74

Engineering
Management

AUTHORIZED WORKFORCE TENNESSEE

Updated 8-31-07

DEPARTMENT

		Actual	Auth
kate Nartey	Engineer	1	1
Kitty Banks	WQ Spec/Cross Connection	1	1
Steve Betty	WQ Spec/Cross Connection	1	1
Randal Taylor	Project Manager	1	1
		4	4
Draftsperson			
Robbie Harvey	Drafter	1	1
		1	1
Clerical			
Shirley Tucker	Engineering Clerk	1	1
Faye Williams	Engineering Clerk	1	1
Deborah Wortham	Engineering Clerk	1	1
		3	3
Subtotal		8	8
Production			
Management			
Vacancy	Production Superintendent	0	1
Neil Bratcher	Production Supervisor	1	1
Mark Zinnanti	Production Supervisor	1	1
		2	3
Process Technician			
Terry Cordell	Process Technician	1	1
Debbie Camp	Process Technician	1	1
Ben Pitman	Process Technician	1	1
David Worrell	Process Technician	1	1
		4	4
Laborer/Relief Process Tech in Training			
Bennie Davis	Laborer/Relief Proc Tech/Training	1	1
		1	1
Master Maintenance Mechanic			
Adam Chrnalogar	Master Maintenance Mechanic	1	1
Melvin Walker	Master Maintenance Mechanic	1	1
Dale Burrell	Master Maintenance Mechanic	1	1
Jason Ha	Master Maintenance Mechanic	1	1
Ken Hughes	Master Maintenance Mechanic	1	1
		5	5
Maintenance Mechanic			
David Coates	Maintenance Mechanic	1	1
Ed Weathers	Maintenance Mechanic	1	1
		2	2
Laborer/Relief Process Technician			
Charlotte Hutsell	Laborer/Relief Process Tech	1	1
James Beets	Laborer/Relief Process Tech	1	1
Randee Scruggs	Laborer/Relief Process Tech	1	1
		3	3
Production Clerk			
Diana Vaughn	Production Clerk	1	1
		1	1
Subtotal		18	19
Service Delivery/Environmental			
Management			
Susan Holmes	Water Quality Superintendent	1	1
Kim Durham	Lab Analyst	1	1
Adrien Partridge	Lab Analyst	1	1
		3	3

AUTHORIZED WORKFORCE TENNESSEE

Updated 8-31-07

DEPARTMENT

		Actual	Auth
Lab Worker			
Barbara Upshaw	Lab Worker	1	1
		1	1
Subtotal		4	4
Total		108	111
Non-Union Employees		24	25
Union Employees		84	86
Vacancies - Non-Union		1	
Vacancies - Union		2	

AUTHORIZED WORKFORCE TENNESSEE

Updated 9-30-07

DEPARTMENT

		Actual	Auth
Administrative			
John Watson	Vice Pres/Gen Network Mgr	1	1
Sally Thornton	Senior HR Generalist	1	1
Kimberly Dalton	Communications Specialist	1	1
Ginny Scealf	Executive Assistant	1	1
Vicki Griffith	Administrative Assistant	1	1
Kevin Highsmith	Loss Control Specialist	1	1
Subtotal		6	6
Network Operations			
Management			
Monty Bishop	Network Operations Supt	1	1
Rachel Bartley	Network Operations Supervisor	1	1
Michael Bennette	Network Operations Supervisor	1	1
Pamela Cummings	Network Operations Supervisor	1	1
Marvin Blevins	Network Operations Supervisor	1	1
David McBay	Network Operations Specialist	1	1
Leah Morrison	Network Operations Supervisor	1	1
Gary Norwood	Network Operations Supervisor	1	1
Mark Turley	Network Operations Specialist	1	1
		9	9
Heavy Equipment Operator			
Tad Autry	Heavy Equipment Operator	1	1
Stanley Bowling	Heavy Equipment Operator	1	1
Jack Derryberry	Heavy Equipment Operator	1	1
Alan Gamble	Heavy Equipment Operator	1	1
Renee Grace	Heavy Equipment Operator	1	1
Ed Harris	Heavy Equipment Operator	1	1
James Hughes	Heavy Equipment Operator	1	1
Danny Watts	Heavy Equipment Operator	1	1
Herman Walden	Heavy Equipment Operator	1	1
Billy Welch	Heavy Equipment Operator	1	1
		10	10
Distribution Clerk			
Linda Russell	Distribution Clerk	1	1
Janie Hughes	Distribution Clerk	1	1
		2	2
Truck Driver Utility Worker			
Richard Bednarski	Truck Driver Utility Worker	1	1
Tobey Blevins	Truck Driver Utility Worker	1	1
Tony Borders	Truck Driver Utility Worker	1	1
Steve Collins	Truck Driver Utility Worker	1	1
Scott Crane	Truck Driver Utility Worker	1	1
Pat Crutchfield	Truck Driver Utility Worker	1	1
Michael Griffith	Truck Driver Utility Worker	1	1
Jerry Haddock	Truck Driver Utility Worker	1	1
Chris Hays	Truck Driver Utility Worker	1	1
Eric Haws	Truck Driver Utility Worker	1	1
Roy Hindman	Truck Driver Utility Worker	1	1
Sam Jenkins	Truck Driver Utility Worker	1	1
Elijah King	Truck Driver Utility Worker	1	1
Eddie Martin	Truck Driver Utility Worker	1	1
Larry Matthews	Truck Driver Utility Worker	1	1
David McNabb	Truck Driver Utility Worker	1	1
Mike Moses	Truck Driver Utility Worker	1	1
Danny Seebeck	Truck Driver Utility Worker	1	1

AUTHORIZED WORKFORCE TENNESSEE

Updated 9-30-07

DEPARTMENT

			Actual	Auth
	Jeff Stanley	Truck Driver Utility Worker	1	1
	Rick Stephens	Truck Driver Utility Worker	1	1
	Morris Taylor	Truck Driver Utility Worker	1	1
	Keith Wilson	Truck Driver Utility Worker	1	1
			22	22
Utility Worker				
	Donald Ray Morgan	Utility Worker	1	1
	Shawn McGhee	Utility Worker	1	1
			2	2
Meter Reader				
	Denise Hays	Meter Reader	1	1
	Brenda Melton	Meter Reader	1	1
			2	2
Field Representative				
	Kelly Atkins	Field Representative	1	1
	Brian Billups	Field Representative	1	1
	Tim Blevins	Field Representative	1	1
	William Blevins	Field Representative	1	1
	John Boyer	Field Representative	1	1
	Joe Green	Field Representative	1	1
	Vacancy	Field Representative	0	1
	Chase Hester	Field Representative	1	1
	Lamar Jenkins	Field Representative	1	1
	Chase Layne	Field Representative	1	1
	Courtney Johnson	Field Representative	1	1
	Edward Johnson	Field Representative	1	1
	Jeffrey Jones	Field Representative	1	1
	Matthew Justice	Field Representative	1	1
	Stacy Knight	Field Representative	1	1
	Jeff Stafford	Field Representative	1	1
	Cindy Steed	Field Representative	1	1
	Dustin Talley	Field Representative	1	1
	Derick Williams	Field Representative	1	1
			18	19
On/Off				
	Worn Hicks	On/Off	1	1
	James Springs	On/Off	1	1
Meter Repair			2	2
	William O'Donnell	Meter Repair	1	1
	Rick Skiles	Meter Repair	1	1
Field Services			2	2
	Greg Robinson	Field Services	1	1
	Glenn Eady	Field Services	1	1
Clerical			2	2
	Myra Kelley	Field Service Records Clerk	1	1
	Donette Satterfield	Field Service Records Clerk	1	1
			2	2
Sub-total Meter Shop			28	29
Total Network			73	74

Engineering
Management

AUTHORIZED WORKFORCE TENNESSEE

Updated 9-30-07

DEPARTMENT

		Actual	Auth
kate Nartey	Engineer	1	1
Kitty Banks	WQ Spec/Cross Connection	1	1
Steve Betty	WQ Spec/Cross Connection	1	1
Randal Taylor	Project Manager	1	1
Draftsperson		4	4
Robbie Harvey	Drafter	1	1
Clerical		1	1
Shirley Tucker	Engineering Clerk	1	1
Faye Williams	Engineering Clerk	1	1
Deborah Wortham	Engineering Clerk	1	1
Subtotal		3	3
		8	8
Production			
Management			
Vacancy	Production Superintendent	0	1
Neil Bratcher	Production Supervisor	1	1
Mark Zinnanti	Production Supervisor	1	1
Process Technician		2	3
Terry Cordell	Process Technician	1	1
Debbie Camp	Process Technician	1	1
Ben Pitman	Process Technician	1	1
David Worrell	Process Technician	1	1
		4	4
Laborer/Relief Process Tech in Training			
Bennie Davis	Laborer/Relief Proc Tech/Training	1	1
Master Maintenance Mechanic		1	1
Adam Chrnalogar	Master Maintenance Mechanic	1	1
Melvin Walker	Master Maintenance Mechanic	1	1
Dale Burrell	Master Maintenance Mechanic	1	1
Jason Ha	Master Maintenance Mechanic	1	1
Ken Hughes	Master Maintenance Mechanic	1	1
Maintenance Mechanic		5	5
David Coates	Maintenance Mechanic	1	1
Ed Weathers	Maintenance Mechanic	1	1
Laborer/Relief Process Technician		2	2
Charlotte Hutsell	Laborer/Relief Process Tech	1	1
James Beets	Laborer/Relief Process Tech	1	1
Randee Scruggs	Laborer/Relief Process Tech	1	1
Production Clerk		3	3
Diana Vaughn	Production Clerk	1	1
Subtotal		1	1
		18	19
Service Delivery/Environmental			
Management			
Susan Holmes	Water Quality Superintendent	1	1
Kim Durham	Lab Analyst	1	1
Adrien Partridge	Lab Analyst	1	1
		3	3

AUTHORIZED WORKFORCE TENNESSEE

Updated 9-30-07

DEPARTMENT

		Actual	Auth
Lab Worker			
Barbara Upshaw	Lab Worker	1	1
Subtotal		1	1
		4	4
Total			
		109	111
Non-Union Employees		24	25
Union Employees		85	86
Vacancies - Non-Union		1	
Vacancies - Union		1	

AUTHORIZED WORKFORCE TENNESSEE

Updated 10-31-07

DEPARTMENT

			Actual	Auth
Administrative				
	John Watson	Vice Pres/Gen Network Mgr	1	1
	Sally Thornton	Senior HR Generalist	1	1
	Kimberly Dalton	Communications Specialist	1	1
	Ginny Scealf	Executive Assistant	1	1
	Vicki Griffith	Administrative Assistant	1	1
	Kevin Highsmith	Loss Control Specialist	1	1
Subtotal			6	6
Network Operations				
Management				
	Monty Bishop	Network Operations Supt	1	1
	Rachel Bartley	Network Operations Supervisor	1	1
	Michael Bennette	Network Operations Supervisor	1	1
	Pamela Cummings	Network Operations Supervisor	1	1
	Marvin Blevins	Network Operations Supervisor	1	1
	David McBay	Network Operations Specialist	1	1
	Leah Morrison	Network Operations Supervisor	1	1
	Gary Norwood	Network Operations Supervisor	1	1
	Mark Turley	Network Operations Specialist	1	1
			9	9
Heavy Equipment Operator				
	Tad Autry	Heavy Equipment Operator	1	1
	Stanley Bowling	Heavy Equipment Operator	1	1
	Jack Derryberry	Heavy Equipment Operator	1	1
	Alan Gamble	Heavy Equipment Operator	1	1
	Renee Grace	Heavy Equipment Operator	1	1
	Ed Harris	Heavy Equipment Operator	1	1
	James Hughes	Heavy Equipment Operator	1	1
	Danny Watts	Heavy Equipment Operator	1	1
	Herman Walden	Heavy Equipment Operator	1	1
	Billy Welch	Heavy Equipment Operator	1	1
			10	10
Distribution Clerk				
	Linda Russell	Distribution Clerk	1	1
	Janie Hughes	Distribution Clerk	1	1
			2	2
Truck Driver Utility Worker				
	Richard Bednarski	Truck Driver Utility Worker	1	1
	Tobey Blevins	Truck Driver Utility Worker	1	1
	Tony Borders	Truck Driver Utility Worker	1	1
	Steve Collins	Truck Driver Utility Worker	1	1
	Scott Crane	Truck Driver Utility Worker	1	1
	Pat Crutchfield	Truck Driver Utility Worker	1	1
	Michael Griffith	Truck Driver Utility Worker	1	1
	Jerry Haddock	Truck Driver Utility Worker	1	1
	Chris Hays	Truck Driver Utility Worker	1	1
	Eric Haws	Truck Driver Utility Worker	1	1
	Roy Hindman	Truck Driver Utility Worker	1	1
	Sam Jenkins	Truck Driver Utility Worker	1	1
	Elijah King	Truck Driver Utility Worker	1	1
	Eddie Martin	Truck Driver Utility Worker	1	1
	Larry Matthews	Truck Driver Utility Worker	1	1
	David McNabb	Truck Driver Utility Worker	1	1
	Mike Moses	Truck Driver Utility Worker	1	1
	Danny Seebeck	Truck Driver Utility Worker	1	1

AUTHORIZED WORKFORCE TENNESSEE

Updated 10-31-07

DEPARTMENT

			Actual	Auth
	Jeff Stanley	Truck Driver Utility Worker	1	1
	Rick Stephens	Truck Driver Utility Worker	1	1
	Morris Taylor	Truck Driver Utility Worker	1	1
	Keith Wilson	Truck Driver Utility Worker	1	1
			22	22
Utility Worker				
	Donald Ray Morgan	Utility Worker	1	1
	Shawn McGhee	Utility Worker	1	1
			2	2
Meter Reader				
	Denise Hays	Meter Reader	1	1
	Brenda Melton	Meter Reader	1	1
			2	2
Field Representative				
	Kelly Atkins	Field Representative	1	1
	Brian Billups	Field Representative	1	1
	Tim Blevins	Field Representative	1	1
	William Blevins	Field Representative	1	1
	John Boyer	Field Representative	1	1
	Joe Green	Field Representative	1	1
	Chase Hester	Field Representative	1	1
	Lamar Jenkins	Field Representative	1	1
	Chase Layne	Field Representative	1	1
	Courtney Johnson	Field Representative	1	1
	Edward Johnson	Field Representative	1	1
	Jeffrey Jones	Field Representative	1	1
	Matthew Justice	Field Representative	1	1
	Stacy Knight	Field Representative	1	1
	Vacancy	Field Representative	0	1
	Jeff Stafford	Field Representative	1	1
	Cindy Steed	Field Representative	1	1
	Dustin Talley	Field Representative	1	1
	Derick Williams	Field Representative	1	1
			18	19
On/Off				
	Worn Hicks	On/Off	1	1
	James Springs	On/Off	1	1
Meter Repair			2	2
	William O'Donnell	Meter Repair	1	1
	Rick Skiles	Meter Repair	1	1
Field Services			2	2
	Greg Robinson	Field Services	1	1
	Glenn Eady	Field Services	1	1
Clerical			2	2
	Myra Kelley	Field Service Records Clerk	1	1
	Donette Satterfield	Field Service Records Clerk	1	1
			2	2
Sub-total Meter Shop			28	29
Total Network			73	74

Engineering
Management

AUTHORIZED WORKFORCE TENNESSEE

Updated 10-31-07

DEPARTMENT

		Actual	Auth
kate Nartey	Engineer	1	1
Kitty Banks	WQ Spec/Cross Connection	1	1
Steve Betty	WQ Spec/Cross Connection	1	1
Randal Taylor	Project Manager	1	1
Draftsperson		4	4
Robbie Harvey	Drafter	1	1
Clerical		1	1
Shirley Tucker	Engineering Clerk	1	1
Faye Williams	Engineering Clerk	1	1
Deborah Wortham	Engineering Clerk	1	1
Subtotal		3	3
		8	8
Production			
Management			
Mark Zinnanti	Production Superintendent	1	1
Neil Bratcher	Production Supervisor	1	1
Vacancy	Production Supervisor	0	1
		2	3
Process Technician			
Terry Cordell	Process Technician	1	1
Debbie Camp	Process Technician	1	1
Ben Pitman	Process Technician	1	1
David Worrell	Process Technician	1	1
		4	4
Laborer/Relief Process Tech in Training			
Bennie Davis	Laborer/Relief Proc Tech/Training	1	1
Master Maintenance Mechanic		1	1
Adam Chrnalogar	Master Maintenance Mechanic	1	1
Melvin Walker	Master Maintenance Mechanic	1	1
Dale Burrell	Master Maintenance Mechanic	1	1
Jason Ha	Master Maintenance Mechanic	1	1
Ken Hughes	Master Maintenance Mechanic	1	1
Maintenance Mechanic		5	5
David Coates	Maintenance Mechanic	1	1
Ed Weathers	Maintenance Mechanic	1	1
Laborer/Relief Process Technician		2	2
Charlotte Hutsell	Laborer/Relief Process Tech	1	1
James Beets	Laborer/Relief Process Tech	1	1
Randee Scruggs	Laborer/Relief Process Tech	1	1
Production Clerk		3	3
Diana Vaughn	Production Clerk	1	1
Subtotal		1	1
		18	19
Service Delivery/Environmental			
Management			
Susan Holmes	Water Quality Superintendent	1	1
Kim Durham	Lab Analyst	1	1
Adrien Partridge (eff 10-9-06)	Lab Analyst	1	1
		3	3

AUTHORIZED WORKFORCE TENNESSEE

Updated 10-31-07

DEPARTMENT

		Actual	Auth
Lab Worker			
Barbara Upshaw	Lab Worker	1	1
Subtotal		1	1
		4	4
Total			
		109	111
Non-Union Employees		24	25
Union		85	86
Vacancies - Non-Union		1	
Vacancies - Union		1	

AUTHORIZED WORKFORCE TENNESSEE

Updated 11-30-07

DEPARTMENT

		Actual	Auth
Administrative			
John Watson	Vice Pres/Gen Network Mgr	1	1
Sally Thornton	Senior HR Generalist	1	1
Kimberly Dalton	Communications Specialist	1	1
Ginny Scealf	Executive Assistant	1	1
Vicki Griffith	Administrative Assistant	1	1
Kevin Highsmith	Loss Control Specialist	1	1
Subtotal		6	6
Network Operations			
Management			
Monty Bishop	Network Operations Supt	1	1
Rachel Bartley	Network Operations Supervisor	1	1
Michael Bennette	Network Operations Supervisor	1	1
Pamela Cummings	Network Operations Supervisor	1	1
Marvin Blevins	Network Operations Supervisor	1	1
David McBay	Network Operations Specialist	1	1
Leah Morrison	Network Operations Supervisor	1	1
Gary Norwood	Network Operations Supervisor	1	1
Mark Turley	Network Operations Specialist	1	1
		9	9
Heavy Equipment Operator			
Tad Autry	Heavy Equipment Operator	1	1
Stanley Bowling	Heavy Equipment Operator	1	1
Jack Derryberry	Heavy Equipment Operator	1	1
Alan Gamble	Heavy Equipment Operator	1	1
Renee Grace	Heavy Equipment Operator	1	1
Ed Harris	Heavy Equipment Operator	1	1
James Hughes	Heavy Equipment Operator	1	1
Danny Watts	Heavy Equipment Operator	1	1
Herman Walden	Heavy Equipment Operator	1	1
Billy Welch	Heavy Equipment Operator	1	1
		10	10
Distribution Clerk			
Linda Russell	Distribution Clerk	1	1
Janie Hughes	Distribution Clerk	1	1
		2	2
Truck Driver Utility Worker			
Richard Bednarski	Truck Driver Utility Worker	1	1
Tobey Blevins	Truck Driver Utility Worker	1	1
Tony Borders	Truck Driver Utility Worker	1	1
Steve Collins	Truck Driver Utility Worker	1	1
Scott Crane	Truck Driver Utility Worker	1	1
Pat Crutchfield	Truck Driver Utility Worker	1	1
Michael Griffith	Truck Driver Utility Worker	1	1
Jerry Haddock	Truck Driver Utility Worker	1	1
Chris Hays	Truck Driver Utility Worker	1	1
Eric Haws	Truck Driver Utility Worker	1	1
Roy Hindman	Truck Driver Utility Worker	1	1
Sam Jenkins	Truck Driver Utility Worker	1	1
Elijah King	Truck Driver Utility Worker	1	1
Eddie Martin	Truck Driver Utility Worker	1	1
Larry Matthews	Truck Driver Utility Worker	1	1
David McNabb	Truck Driver Utility Worker	1	1
Mike Moses	Truck Driver Utility Worker	1	1
Danny Seebeck	Truck Driver Utility Worker	1	1

AUTHORIZED WORKFORCE TENNESSEE

Updated 11-30-07

DEPARTMENT

			Actual	Auth
	Jeff Stanley	Truck Driver Utility Worker	1	1
	Rick Stephens	Truck Driver Utility Worker	1	1
	Morris Taylor	Truck Driver Utility Worker	1	1
	Keith Wilson	Truck Driver Utility Worker	1	1
			22	22
Utility Worker				
	Donald Ray Morgan	Utility Worker	1	1
	Shawn McGhee	Utility Worker	1	1
			2	2
Meter Reader				
	Denise Hays	Meter Reader	1	1
	Brenda Melton	Meter Reader	1	1
			2	2
Field Representative				
	Kelly Atkins	Field Representative	1	1
	Brian Billups	Field Representative	1	1
	Tim Blevins	Field Representative	1	1
	William Blevins	Field Representative	1	1
	John Boyer	Field Representative	1	1
	Joe Green	Field Representative	1	1
	Chase Hester	Field Representative	1	1
	Lamar Jenkins	Field Representative	1	1
	Chase Layne	Field Representative	1	1
	Courtney Johnson	Field Representative	1	1
	Edward Johnson	Field Representative	1	1
	Jeffrey Jones	Field Representative	1	1
	Matthew Justice	Field Representative	1	1
	Stacy Knight	Field Representative	1	1
	Vacancy	Field Representative	0	1
	Jeff Stafford	Field Representative	1	1
	Cindy Steed	Field Representative	1	1
	Dustin Talley	Field Representative	1	1
	Derick Williams	Field Representative	1	1
			18	19
On/Off				
	Worn Hicks	On/Off	1	1
	James Springs	On/Off	1	1
Meter Repair			2	2
	William O'Donnell	Meter Repair	1	1
	Rick Skiles	Meter Repair	1	1
Field Services			2	2
	Greg Robinson	Field Services	1	1
	Glenn Eady	Field Services	1	1
Clerical			2	2
	Myra Kelley	Field Service Records Clerk	1	1
	Donette Satterfield	Field Service Records Clerk	1	1
			2	2
Sub-total Meter Shop			28	29
Total Network			73	74

Engineering
Management

AUTHORIZED WORKFORCE TENNESSEE

Updated 11-30-07

DEPARTMENT

		Actual	Auth
kate Nartey	Engineer	1	1
Kitty Banks	WQ Spec/Cross Connection	1	1
Steve Betty	WQ Spec/Cross Connection	1	1
Randal Taylor	Project Manager	1	1
Draftsperson		4	4
Robbie Harvey	Drafter	1	1
Clerical		1	1
Shirley Tucker	Engineering Clerk	1	1
Faye Williams	Engineering Clerk	1	1
Deborah Wortham	Engineering Clerk	1	1
Subtotal		3	3
		8	8
Production			
Management			
Mark Zinnanti	Production Superintendent	1	1
Neil Bratcher	Production Supervisor	1	1
Vacancy	Production Supervisor	0	1
		2	3
Process Technician			
Terry Cordell	Process Technician	1	1
Debbie Camp	Process Technician	1	1
Ben Pitman	Process Technician	1	1
David Worrell	Process Technician	1	1
		4	4
Laborer/Relief Process Tech in Training			
Vacancy	Laborer/Relief Proc Tech/Training	0	1
Master Maintenance Mechanic		0	1
Adam Chrnalogar	Master Maintenance Mechanic	1	1
Melvin Walker	Master Maintenance Mechanic	1	1
Dale Burrell	Master Maintenance Mechanic	1	1
Jason Ha	Master Maintenance Mechanic	1	1
Ken Hughes	Master Maintenance Mechanic	1	1
Maintenance Mechanic		5	5
David Coates	Maintenance Mechanic	1	1
Ed Weathers	Maintenance Mechanic	1	1
Laborer/Relief Process Technician		2	2
Charlotte Hutsell	Laborer/Relief Process Tech	1	1
James Beets	Laborer/Relief Process Tech	1	1
Randee Scruggs	Laborer/Relief Process Tech	1	1
Production Clerk		3	3
Diana Vaughn	Production Clerk	1	1
Subtotal		1	1
		17	19
Service Delivery/Environmental			
Management			
Susan Holmes	Water Quality Superintendent	1	1
Kim Durham	Lab Analyst	1	1
Adrien Partridge	Lab Analyst	1	1
		3	3

AUTHORIZED WORKFORCE TENNESSEE

Updated 11-30-07

DEPARTMENT

		Actual	Auth
Lab Worker			
Barbara Upshaw	Lab Worker	1	1
Subtotal		1	1
		4	4
Total			
		108	111
Non-Union Employees		24	25
Union Employees		84	86
Vacancies - Non-Union		1	
Vacancies - Union		2	

AUTHORIZED WORKFORCE TENNESSEE

Updated 12-31-07

DEPARTMENT

			Actual	Auth
Administrative				
	John Watson	Vice Pres/Gen Network Mgr	1	1
	Sally Thornton	Senior HR Generalist	1	1
	Kimberly Dalton	Communications Specialist	1	1
	Ginny Scealf	Executive Assistant	1	1
	Vicki Griffith	Administrative Assistant	1	1
	Kevin Highsmith	Loss Control Specialist	1	1
Subtotal			6	6
Network Operations				
Management				
	Monty Bishop	Network Operations Supt	1	1
	Rachel Bartley	Network Operations Supervisor	1	1
	Michael Bennette	Network Operations Supervisor	1	1
	Pamela Cummings	Network Operations Supervisor	1	1
	Marvin Blevins	Network Operations Supervisor	1	1
	David McBay	Network Operations Specialist	1	1
	Leah Morrison	Network Operations Supervisor	1	1
	Gary Norwood	Network Operations Supervisor	1	1
	Mark Turley	Network Operations Specialist	1	1
			9	9
Heavy Equipment Operator				
	Tad Autry	Heavy Equipment Operator	1	1
	Stanley Bowling	Heavy Equipment Operator	1	1
	Jack Derryberry	Heavy Equipment Operator	1	1
	Alan Gamble	Heavy Equipment Operator	1	1
	Renee Grace	Heavy Equipment Operator	1	1
	Ed Harris	Heavy Equipment Operator	1	1
	James Hughes	Heavy Equipment Operator	1	1
	Danny Watts	Heavy Equipment Operator	1	1
	Herman Walden	Heavy Equipment Operator	1	1
	Billy Welch	Heavy Equipment Operator	1	1
			10	10
Distribution Clerk				
	Linda Russell	Distribution Clerk	1	1
	Janie Hughes	Distribution Clerk	1	1
			2	2
Truck Driver Utility Worker				
	Richard Bednarski	Truck Driver Utility Worker	1	1
	Tobey Blevins	Truck Driver Utility Worker	1	1
	Tony Borders	Truck Driver Utility Worker	1	1
	Steve Collins	Truck Driver Utility Worker	1	1
	Scott Crane	Truck Driver Utility Worker	1	1
	Pat Crutchfield	Truck Driver Utility Worker	1	1
	Michael Griffith	Truck Driver Utility Worker	1	1
	Jerry Haddock	Truck Driver Utility Worker	1	1
	Chris Hays	Truck Driver Utility Worker	1	1
	Eric Haws	Truck Driver Utility Worker	1	1
	Roy Hindman	Truck Driver Utility Worker	1	1
	Sam Jenkins	Truck Driver Utility Worker	1	1
	Elijah King	Truck Driver Utility Worker	1	1
	Eddie Martin	Truck Driver Utility Worker	1	1
	Larry Matthews	Truck Driver Utility Worker	1	1
	David McNabb	Truck Driver Utility Worker	1	1
	Mike Moses	Truck Driver Utility Worker	1	1
	Danny Seebeck	Truck Driver Utility Worker	1	1

AUTHORIZED WORKFORCE TENNESSEE

Updated 12-31-07

DEPARTMENT

			Actual	Auth
	Jeff Stanley	Truck Driver Utility Worker	1	1
	Rick Stephens	Truck Driver Utility Worker	1	1
	Morris Taylor	Truck Driver Utility Worker	1	1
	Keith Wilson	Truck Driver Utility Worker	1	1
			22	22
Utility Worker				
	Donald Ray Morgan	Utility Worker	1	1
	Shawn McGhee	Utility Worker	1	1
			2	2
Meter Reader				
	Denise Hays	Meter Reader	1	1
	Brenda Melton	Meter Reader	1	1
			2	2
Field Representative				
	Kelly Atkins	Field Representative	1	1
	Brian Billups	Field Representative	1	1
	Tim Blevins	Field Representative	1	1
	William Blevins	Field Representative	1	1
	John Boyer	Field Representative	1	1
	Joe Green	Field Representative	1	1
	Chase Hester	Field Representative	1	1
	Lamar Jenkins	Field Representative	1	1
	Chase Layne	Field Representative	1	1
	Courtney Johnson	Field Representative	1	1
	Edward Johnson	Field Representative	1	1
	Jeffrey Jones	Field Representative	1	1
	Matthew Justice	Field Representative	1	1
	Stacy Knight	Field Representative	1	1
	Vacancy	Field Representative	0	1
	Jeff Stafford	Field Representative	1	1
	Cindy Steed	Field Representative	1	1
	Dustin Talley	Field Representative	1	1
	Derick Williams	Field Representative	1	1
			18	19
On/Off				
	Worn Hicks	On/Off	1	1
	James Springs	On/Off	1	1
Meter Repair			2	2
	William O'Donnell	Meter Repair	1	1
	Rick Skiles	Meter Repair	1	1
Field Services			2	2
	Greg Robinson	Field Services	1	1
	Glenn Eady	Field Services	1	1
Clerical			2	2
	Myra Kelley	Field Service Records Clerk	1	1
	Donette Satterfield	Field Service Records Clerk	1	1
			2	2
Sub-total Meter Shop			28	29
Total Network			73	74

Engineering
Management

AUTHORIZED WORKFORCE TENNESSEE

Updated 12-31-07

DEPARTMENT

		Actual	Auth
kate Nartey	Engineer	1	1
Kitty Banks	WQ Spec/Cross Connection	1	1
Steve Betty	WQ Spec/Cross Connection	1	1
Randal Taylor	Project Manager	1	1
Draftsperson		4	4
Robbie Harvey	Drafter	1	1
Clerical		1	1
Shirley Tucker	Engineering Clerk	1	1
Faye Williams	Engineering Clerk	1	1
Deborah Wortham	Engineering Clerk	1	1
Subtotal		3	3
		8	8
Production			
Management			
Mark Zinnanti	Production Superintendent	1	1
Neil Bratcher	Production Supervisor	1	1
Vacancy	Production Supervisor	0	1
		2	3
Process Technician			
Terry Cordell	Process Technician	1	1
Debbie Camp	Process Technician	1	1
Ben Pitman	Process Technician	1	1
David Worrell	Process Technician	1	1
		4	4
Laborer/Relief Process Tech in Training			
Vacancy	Laborer/Relief Proc Tech/Training	0	1
Master Maintenance Mechanic		0	1
Adam Chrnalogar	Master Maintenance Mechanic	1	1
Melvin Walker	Master Maintenance Mechanic	1	1
Dale Burrell	Master Maintenance Mechanic	1	1
Jason Ha	Master Maintenance Mechanic	1	1
Ken Hughes	Master Maintenance Mechanic	1	1
Maintenance Mechanic		5	5
David Coates	Maintenance Mechanic	1	1
Ed Weathers	Maintenance Mechanic	1	1
Laborer/Relief Process Technician		2	2
Charlotte Hutsell	Laborer/Relief Process Tech	1	1
James Beets	Laborer/Relief Process Tech	1	1
Randee Scruggs	Laborer/Relief Process Tech	1	1
Production Clerk		3	3
Diana Vaughn	Production Clerk	1	1
Subtotal		1	1
		17	19
Service Delivery/Environmental			
Management			
Susan Holmes	Water Quality Superintendent	1	1
Kim Durham	Lab Analyst	1	1
Adrien Partridge	Lab Analyst	1	1
		3	3

AUTHORIZED WORKFORCE TENNESSEE

Updated 12-31-07

DEPARTMENT

		Actual	Auth
Lab Worker			
Barbara Upshaw	Lab Worker	1	1
Subtotal		1	1
		4	4
Total			
		108	111
Non-Union Employees		24	25
Union Employee		84	86
Vacancies - Non-Union		1	
Vacancies - Union		2	

AUTHORIZED WORKFORCE TENNESSEE

Updated 01-31-08

DEPARTMENT

			Actual	Auth
Administrative				
	John Watson	Vice Pres/Gen Network Mgr	1	1
	Sally Thornton	Senior HR Generalist	1	1
	Kimberly Dalton	Communications Specialist	1	1
	Ginny Scealf	Executive Assistant	1	1
	Vicki Griffith	Administrative Assistant	1	1
	Kevin Highsmith	Loss Control Specialist	1	1
	Ron Schleifer	Non Revenue Water Supervisor	1	1
	Vacancy	Operations Specialist	0	1
Subtotal			7	8
Network Operations				
Management				
	Monty Bishop	Network Operations Supt	1	1
	Rachel Bartley	Network Operations Supervisor	1	1
	Michael Bennette	Network Operations Supervisor	1	1
	Pamela Cummings	Network Operations Supervisor	1	1
	Marvin Blevins	Network Operations Supervisor	1	1
	David McBay	Network Operations Specialist	1	1
	Leah Morrison	Network Operations Supervisor	1	1
	Gary Norwood	Network Operations Supervisor	1	1
	Mark Turley	Network Operations Specialist	1	1
			9	9
Heavy Equipment Operator				
	Tad Autry	Heavy Equipment Operator	1	1
	Stanley Bowling	Heavy Equipment Operator	1	1
	Jack Derryberry	Heavy Equipment Operator	1	1
	Alan Gamble	Heavy Equipment Operator	1	1
	Renee Grace	Heavy Equipment Operator	1	1
	Ed Harris	Heavy Equipment Operator	1	1
	James Hughes	Heavy Equipment Operator	1	1
	Danny Watts	Heavy Equipment Operator	1	1
	Herman Walden	Heavy Equipment Operator	1	1
	Billy Welch	Heavy Equipment Operator	1	1
			10	10
Distribution Clerk				
	Linda Russell	Distribution Clerk	1	1
	Janie Hughes	Distribution Clerk	1	1
			2	2
Truck Driver Utility Worker				
	Richard Bednarski	Truck Driver Utility Worker	1	1
	Tobey Blevins	Truck Driver Utility Worker	1	1
	Tony Borders	Truck Driver Utility Worker	1	1
	Steve Collins	Truck Driver Utility Worker	1	1
	Scott Crane	Truck Driver Utility Worker	1	1
	Pat Crutchfield	Truck Driver Utility Worker	1	1
	Michael Griffith	Truck Driver Utility Worker	1	1
	Jerry Haddock	Truck Driver Utility Worker	1	1
	Chris Hays	Truck Driver Utility Worker	1	1
	Eric Haws	Truck Driver Utility Worker	1	1
	Roy Hindman	Truck Driver Utility Worker	1	1
	Vacancy	Truck Driver Utility Worker	0	1
	Elijah King	Truck Driver Utility Worker	1	1
	Eddie Martin	Truck Driver Utility Worker	1	1
	Larry Matthews	Truck Driver Utility Worker	1	1
	David McNabb	Truck Driver Utility Worker	1	1

AUTHORIZED WORKFORCE TENNESSEE

Updated 01-31-08

DEPARTMENT

			Actual	Auth
	Mike Moses	Truck Driver Utility Worker	1	1
	Danny Seebeck	Truck Driver Utility Worker	1	1
	Jeff Stanley	Truck Driver Utility Worker	1	1
	Rick Stephens	Truck Driver Utility Worker	1	1
	Morris Taylor	Truck Driver Utility Worker	1	1
	Keith Wilson	Truck Driver Utility Worker	1	1
			21	22
Utility Worker				
	Donald Ray Morgan	Utility Worker	1	1
	Shawn McGhee	Utility Worker	1	1
			2	2
Meter Reader				
	Denise Hays	Meter Reader	1	1
	Brenda Melton	Meter Reader	1	1
			2	2
Field Representative				
	Kelly Atkins	Field Representative	1	1
	Brian Billups	Field Representative	1	1
	Tim Blevins	Field Representative	1	1
	William Blevins	Field Representative	1	1
	John Boyer	Field Representative	1	1
	Joe Green	Field Representative	1	1
	Chase Hester	Field Representative	1	1
	Lamar Jenkins	Field Representative	1	1
	Chase Layne	Field Representative	1	1
	Courtney Johnson	Field Representative	1	1
	Edward Johnson	Field Representative	1	1
	Jeffrey Jones	Field Representative	1	1
	Matthew Justice	Field Representative	1	1
	Stacy Knight	Field Representative	1	1
	Vacancy	Field Representative	0	1
	Jeff Stafford	Field Representative	1	1
	Cindy Steed	Field Representative	1	1
	Dustin Talley	Field Representative	1	1
	Derick Williams	Field Representative	1	1
			18	19
On/Off				
	Worn Hicks	On/Off	1	1
	James Springs	On/Off	1	1
Meter Repair			2	2
	William O'Donnell	Meter Repair	1	1
	Rick Skiles	Meter Repair	1	1
Field Services			2	2
	Greg Robinson	Field Services	1	1
	Glenn Eady	Field Services	1	1
Clerical			2	2
	Myra Kelley	Field Service Records Clerk	1	1
	Donette Satterfield	Field Service Records Clerk	1	1
			2	2
Sub-total Meter Shop			28	29
Total Network			72	74

Engineering

AUTHORIZED WORKFORCE TENNESSEE

Updated 01-31-08

DEPARTMENT

		Actual	Auth
Management			
Vacancy	Manager Engineering	0	1
kate Nartey	Engineer	1	1
Kitty Banks	WQ Spec/Cross Connection	1	1
Steve Betty	WQ Spec/Cross Connection	1	1
Randal Taylor	Project Manager	1	1
Draftsperson		4	5
Robbie Harvey	Drafter	1	1
Clerical		1	1
Shirley Tucker	Engineering Clerk	1	1
Faye Williams	Engineering Clerk	1	1
Deborah Wortham	Engineering Clerk	1	1
Subtotal		3	3
		8	9
Production			
Management			
Mark Zinnanti	Production Superintendent	1	1
Neil Bratcher	Production Supervisor	1	1
James Stan Moorhouse	Production Supervisor	1	1
		3	3
Process Technician			
Terry Cordell	Process Technician	1	1
Debbie Camp	Process Technician	1	1
Ben Pitman	Process Technician	1	1
Charlotte Hutsell	Process Technician	1	1
		4	4
Laborer/Relief Process Tech in Training			
Vacancy	Laborer/Relief Proc Tech/Training	0	1
Master Maintenance Mechanic		0	1
Adam Chrnalogar	Master Maintenance Mechanic	1	1
Melvin Walker	Master Maintenance Mechanic	1	1
Dale Burrell	Master Maintenance Mechanic	1	1
Jason Ha	Master Maintenance Mechanic	1	1
Ken Hughes	Master Maintenance Mechanic	1	1
Maintenance Mechanic		5	5
David Coates	Maintenance Mechanic	1	1
Ed Weathers	Maintenance Mechanic	1	1
Laborer/Relief Process Technician		2	2
Vacancy	Laborer/Relief Process Tech	0	1
James Beets	Laborer/Relief Process Tech	1	1
Randee Scruggs	Laborer/Relief Process Tech	1	1
Production Clerk		2	3
Diana Vaughn	Production Clerk	1	1
Subtotal		1	1
		17	19
Service Delivery/Environmental			
Management			
Susan Holmes	Water Quality Superintendent	1	1
Kim Durham	Lab Analyst	1	1

AUTHORIZED WORKFORCE TENNESSEE

Updated 01-31-08

DEPARTMENT

		Actual	Auth
Adrien Partridge	Lab Analyst	1	1
		3	3
Lab Worker			
Barbara Upshaw	Lab Worker	1	1
Subtotal		1	1
		4	4
Total			
		108	114
Non-Union Employees		26	28
Union Employee		82	86
Vacancies - Non-Union		2	
Vacancies - Union		4	

AUTHORIZED WORKFORCE TENNESSEE

Updated 02-29-08

DEPARTMENT

			Actual	Auth
Administrative				
	John Watson	Vice Pres/Gen Network Mgr	1	1
	Sally Thornton	Senior HR Generalist	1	1
	Kimberly Dalton	Communications Specialist	1	1
	Ginny Scealf	Executive Assistant	1	1
	Vicki Griffith	Administrative Assistant	1	1
	Kevin Highsmith	Loss Control Specialist	1	1
	Ron Schleifer	Non Revenue Water Supervisor	1	1
	Brian Markham	Operations Specialist	1	1
Subtotal			8	8
Network Operations				
Management				
	Monty Bishop	Network Operations Supt	1	1
	Rachel Bartley	Network Operations Supervisor	1	1
	Michael Bennette	Network Operations Supervisor	1	1
	Pamela Cummings	Network Operations Supervisor	1	1
	Marvin Blevins	Network Operations Supervisor	1	1
	David McBay	Network Operations Specialist	1	1
	Leah Morrison	Network Operations Supervisor	1	1
	Gary Norwood	Network Operations Supervisor	1	1
	Mark Turley	Network Operations Specialist	1	1
			9	9
Heavy Equipment Operator				
	Tad Autry	Heavy Equipment Operator	1	1
	Stanley Bowling	Heavy Equipment Operator	1	1
	Jack Derryberry	Heavy Equipment Operator	1	1
	Alan Gamble	Heavy Equipment Operator	1	1
	Renee Grace	Heavy Equipment Operator	1	1
	Ed Harris	Heavy Equipment Operator	1	1
	James Hughes	Heavy Equipment Operator	1	1
	Danny Watts	Heavy Equipment Operator	1	1
	Herman Walden	Heavy Equipment Operator	1	1
	Billy Welch	Heavy Equipment Operator	1	1
			10	10
Distribution Clerk				
	Linda Russell	Distribution Clerk	1	1
	Janie Hughes	Distribution Clerk	1	1
			2	2
Truck Driver Utility Worker				
	Richard Bednarski	Truck Driver Utility Worker	1	1
	Tobey Blevins	Truck Driver Utility Worker	1	1
	Tony Borders	Truck Driver Utility Worker	1	1
	Steve Collins	Truck Driver Utility Worker	1	1
	Scott Crane	Truck Driver Utility Worker	1	1
	Pat Crutchfield	Truck Driver Utility Worker	1	1
	Michael Griffith	Truck Driver Utility Worker	1	1
	Jerry Haddock	Truck Driver Utility Worker	1	1
	Chris Hays	Truck Driver Utility Worker	1	1
	Eric Haws	Truck Driver Utility Worker	1	1
	Roy Hindman	Truck Driver Utility Worker	1	1
	Vacancy	Truck Driver Utility Worker	0	1
	Elijah King	Truck Driver Utility Worker	1	1
	Eddie Martin	Truck Driver Utility Worker	1	1
	Larry Matthews	Truck Driver Utility Worker	1	1
	David McNabb	Truck Driver Utility Worker	1	1

AUTHORIZED WORKFORCE TENNESSEE

Updated 02-29-08

DEPARTMENT

			Actual	Auth
	Mike Moses	Truck Driver Utility Worker	1	1
	Danny Seebeck	Truck Driver Utility Worker	1	1
	Jeff Stanley	Truck Driver Utility Worker	1	1
	Rick Stephens	Truck Driver Utility Worker	1	1
	Morris Taylor	Truck Driver Utility Worker	1	1
	Keith Wilson	Truck Driver Utility Worker	1	1
			21	22
Utility Worker				
	Donald Ray Morgan	Utility Worker	1	1
	Shawn McGhee	Utility Worker	1	1
			2	2
Meter Reader				
	Denise Hays	Meter Reader	1	1
	Brenda Melton	Meter Reader	1	1
			2	2
Field Representative				
	Kelly Atkins	Field Representative	1	1
	Brian Billups	Field Representative	1	1
	Tim Blevins	Field Representative	1	1
	William Blevins	Field Representative	1	1
	John Boyer	Field Representative	1	1
	Joe Green	Field Representative	1	1
	Chase Hester	Field Representative	1	1
	Lamar Jenkins	Field Representative	1	1
	Chase Layne	Field Representative	1	1
	Courtney Johnson	Field Representative	1	1
	Edward Johnson	Field Representative	1	1
	Jeffrey Jones	Field Representative	1	1
	Matthew Justice	Field Representative	1	1
	Stacy Knight	Field Representative	1	1
	Vacancy	Field Representative	0	1
	Jeff Stafford	Field Representative	1	1
	Cindy Steed	Field Representative	1	1
	Dustin Talley	Field Representative	1	1
	Derick Williams	Field Representative	1	1
			18	19
On/Off				
	Worn Hicks	On/Off	1	1
	James Springs	On/Off	1	1
Meter Repair			2	2
	William O'Donnell	Meter Repair	1	1
	Rick Skiles	Meter Repair	1	1
Field Services			2	2
	Greg Robinson	Field Services	1	1
	Glenn Eady	Field Services	1	1
Clerical			2	2
	Myra Kelley	Field Service Records Clerk	1	1
	Donette Satterfield	Field Service Records Clerk	1	1
			2	2
Sub-total Meter Shop			28	29
Total Network			72	74

Engineering

AUTHORIZED WORKFORCE TENNESSEE

Updated 02-29-08

DEPARTMENT

		Actual	Auth
Management			
Vacancy	Manager Engineering	0	1
kate Nartey	Engineer	1	1
Kitty Banks	WQ Spec/Cross Connection	1	1
Steve Betty	WQ Spec/Cross Connection	1	1
Randal Taylor	Project Manager	1	1
Draftsperson		4	5
Robbie Harvey	Drafter	1	1
Clerical		1	1
Shirley Tucker	Engineering Clerk	1	1
Faye Williams	Engineering Clerk	1	1
Deborah Wortham	Engineering Clerk	1	1
Subtotal		3	3
		8	9
Production			
Management			
Mark Zinnanti	Production Superintendent	1	1
Neil Bratcher	Production Supervisor	1	1
James Stan Moorhouse	Production Supervisor	1	1
		3	3
Process Technician			
Terry Cordell	Process Technician	1	1
Debbie Camp	Process Technician	1	1
Ben Pitman	Process Technician	1	1
Charlotte Hutsell	Process Technician	1	1
		4	4
Laborer/Relief Process Tech in Training			
Vacancy	Laborer/Relief Proc Tech/Training	0	1
Master Maintenance Mechanic		0	1
Adam Chrnalogar	Master Maintenance Mechanic	1	1
Melvin Walker	Master Maintenance Mechanic	1	1
Dale Burrell	Master Maintenance Mechanic	1	1
Jason Ha	Master Maintenance Mechanic	1	1
Ken Hughes	Master Maintenance Mechanic	1	1
Maintenance Mechanic		5	5
David Coates	Maintenance Mechanic	1	1
Ed Weathers	Maintenance Mechanic	1	1
Laborer/Relief Process Technician		2	2
James Beets	Laborer/Relief Process Tech	0	1
Vacancy	Laborer/Relief Process Tech	1	1
Randee Scruggs	Laborer/Relief Process Tech	1	1
Production Clerk		2	3
Diana Vaughn	Production Clerk	1	1
Subtotal		1	1
		17	19
Service Delivery/Environmental			
Management			
Susan Holmes	Water Quality Superintendent	1	1
Kim Durham	Lab Analyst	1	1

AUTHORIZED WORKFORCE TENNESSEE

Updated 02-29-08

DEPARTMENT

		Actual	Auth
Adrien Partridge	Lab Analyst	1	1
		3	3
Lab Worker			
Barbara Upshaw	Lab Worker	1	1
Subtotal		1	1
		4	4
Total			
		109	114
Non-Union Employees		27	28
Union Employee		82	86
Vacancies - Non-Union		1	
Vacancies - Union		4	

AUTHORIZED WORKFORCE TENNESSEE

Updated 03-31-08

DEPARTMENT

			Actual	Auth
Administrative				
	John Watson	Vice Pres/Gen Network Mgr	1	1
	Sally Thornton	Senior HR Generalist	1	1
	Kimberly Dalton	Communications Specialist	1	1
	Ginny Scealf	Executive Assistant	1	1
	Vicki Griffith	Administrative Assistant	1	1
	Kevin Highsmith	Loss Control Specialist	1	1
	Ron Schleifer	Non Revenue Water Supervisor	1	1
	Brian Markham	Operations Specialist	1	1
Subtotal			8	8
Network Operations				
Management				
	Monty Bishop	Network Operations Supt	1	1
	Rachel Bartley	Network Operations Supervisor	1	1
	Michael Bennette	Network Operations Supervisor	1	1
	Pamela Cummings	Network Operations Supervisor	1	1
	Marvin Blevins	Network Operations Supervisor	1	1
	David McBay	Network Operations Specialist	1	1
	Leah Morrison	Network Operations Supervisor	1	1
	Gary Norwood	Network Operations Supervisor	1	1
	Mark Turley	Network Operations Specialist	1	1
			9	9
Heavy Equipment Operator				
	Tad Autry	Heavy Equipment Operator	1	1
	Stanley Bowling	Heavy Equipment Operator	1	1
	Jack Derryberry	Heavy Equipment Operator	1	1
	Alan Gamble	Heavy Equipment Operator	1	1
	Renee Grace	Heavy Equipment Operator	1	1
	Ed Harris	Heavy Equipment Operator	1	1
	James Hughes	Heavy Equipment Operator	1	1
	Danny Watts	Heavy Equipment Operator	1	1
	Herman Walden	Heavy Equipment Operator	1	1
	Billy Welch	Heavy Equipment Operator	1	1
			10	10
Distribution Clerk				
	Linda Russell	Distribution Clerk	1	1
	Janie Hughes	Distribution Clerk	1	1
			2	2
Truck Driver Utility Worker				
	Richard Bednarski	Truck Driver Utility Worker	1	1
	Tobey Blevins	Truck Driver Utility Worker	1	1
	Tony Borders	Truck Driver Utility Worker	1	1
	Steve Collins	Truck Driver Utility Worker	1	1
	Scott Crane	Truck Driver Utility Worker	1	1
	Pat Crutchfield	Truck Driver Utility Worker	1	1
	Michael Griffith	Truck Driver Utility Worker	1	1
	Jerry Haddock	Truck Driver Utility Worker	1	1
	Chris Hays	Truck Driver Utility Worker	1	1
	Eric Haws	Truck Driver Utility Worker	1	1
	Roy Hindman	Truck Driver Utility Worker	1	1
	Vacancy	Truck Driver Utility Worker	0	1
	Elijah King	Truck Driver Utility Worker	1	1
	Eddie Martin	Truck Driver Utility Worker	1	1
	Larry Matthews	Truck Driver Utility Worker	1	1
	David McNabb	Truck Driver Utility Worker	1	1

AUTHORIZED WORKFORCE TENNESSEE

Updated 03-31-08

DEPARTMENT

			Actual	Auth
	Mike Moses	Truck Driver Utility Worker	1	1
	Danny Seebeck	Truck Driver Utility Worker	1	1
	Jeff Stanley	Truck Driver Utility Worker	1	1
	Rick Stephens	Truck Driver Utility Worker	1	1
	Morris Taylor	Truck Driver Utility Worker	1	1
	Keith Wilson	Truck Driver Utility Worker	1	1
			21	22
Utility Worker				
	Donald Ray Morgan	Utility Worker	1	1
	Shawn McGhee	Utility Worker	1	1
			2	2
Meter Reader				
	Denise Hays	Meter Reader	1	1
	Brenda Melton	Meter Reader	1	1
			2	2
Field Representative				
	Kelly Atkins	Field Representative	1	1
	Brian Billups	Field Representative	1	1
	Tim Blevins	Field Representative	1	1
	William Blevins	Field Representative	1	1
	John Boyer	Field Representative	1	1
	Joe Green	Field Representative	1	1
	Chase Hester	Field Representative	1	1
	Lamar Jenkins	Field Representative	1	1
	Chase Layne	Field Representative	1	1
	Courtney Johnson	Field Representative	1	1
	Edward Johnson	Field Representative	1	1
	Jeffrey Jones	Field Representative	1	1
	Matthew Justice	Field Representative	1	1
	Stacy Knight	Field Representative	1	1
	Vacancy	Field Representative	0	1
	Jeff Stafford	Field Representative	1	1
	Cindy Steed	Field Representative	1	1
	Dustin Talley	Field Representative	1	1
	Derick Williams	Field Representative	1	1
			18	19
On/Off				
	Worn Hicks	On/Off	1	1
	James Springs	On/Off	1	1
Meter Repair			2	2
	William O'Donnell	Meter Repair	1	1
	Rick Skiles	Meter Repair	1	1
Field Services			2	2
	Greg Robinson	Field Services	1	1
	Glenn Eady	Field Services	1	1
Clerical			2	2
	Myra Kelley	Field Service Records Clerk	1	1
	Donette Satterfield	Field Service Records Clerk	1	1
			2	2
Sub-total Meter Shop			28	29
Total Network			72	74

Engineering

AUTHORIZED WORKFORCE TENNESSEE

Updated 03-31-08

DEPARTMENT

		Actual	Auth
Management			
Vacancy	Manager Engineering	0	1
kate Nartey	Engineer	1	1
Kitty Banks	WQ Spec/Cross Connection	1	1
Steve Betty	WQ Spec/Cross Connection	1	1
Randal Taylor	Project Manager	1	1
Draftsperson		4	5
Robbie Harvey	Drafter	1	1
Clerical		1	1
Shirley Tucker	Engineering Clerk	1	1
Faye Williams	Engineering Clerk	1	1
Deborah Wortham	Engineering Clerk	1	1
Subtotal		3	3
		8	9
Production			
Management			
Mark Zinnanti	Production Superintendent	1	1
Neil Bratcher	Production Supervisor	1	1
James Stan Moorhouse	Production Supervisor	1	1
		3	3
Process Technician			
Terry Cordell	Process Technician	1	1
Debbie Camp	Process Technician	1	1
Ben Pitman	Process Technician	1	1
Charlotte Hutsell	Process Technician	1	1
		4	4
Laborer/Relief Process Tech in Training			
Vacancy	Laborer/Relief Proc Tech/Training	0	1
Master Maintenance Mechanic		0	1
Adam Chrnalogar	Master Maintenance Mechanic	1	1
Melvin Walker	Master Maintenance Mechanic	1	1
Dale Burrell	Master Maintenance Mechanic	1	1
Jason Ha	Master Maintenance Mechanic	1	1
Ken Hughes	Master Maintenance Mechanic	1	1
Maintenance Mechanic		5	5
David Coates	Maintenance Mechanic	1	1
Ed Weathers	Maintenance Mechanic	1	1
Laborer/Relief Process Technician		2	2
James Beets	Laborer/Relief Process Tech	0	1
Vacancy	Laborer/Relief Process Tech	1	1
Randee Scruggs	Laborer/Relief Process Tech	1	1
Production Clerk		2	3
Diana Vaughn	Production Clerk	1	1
Subtotal		1	1
		17	19
Service Delivery/Environmental			
Management			
Susan Holmes	Water Quality Superintendent	1	1
Kim Durham	Lab Analyst	1	1

AUTHORIZED WORKFORCE TENNESSEE

Updated 03-31-08

DEPARTMENT

		Actual	Auth
Adrien Partridge	Lab Analyst	1	1
		3	3
Lab Worker			
Barbara Upshaw	Lab Worker	1	1
Subtotal		1	1
		4	4
Total			
		109	,114
Non-Union Employees		27	28
Union Employee		82	86
Vacancies - Non-Union		1	
Vacancies - Union		4	

TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 08-00039
FIRST DISCOVERY REQUEST OF THE
CONSUMER ADVOCATE AND PROTECTION DIVISION

Responsible Witness: Sheila Miller

PART IV: QUESTIONS & REQUESTS REGARDING REVENUES, EXPENSES, TAXES, RATE BASE & MISCELLANEOUS

Question: EXPENSES

14. Provide a payroll distribution by NARUC account for the 12 months ended March 2008.

Response:

TAWC objects to this request because it calls upon TAWC to create, categorize, manipulate, customize or otherwise organize data regarding timeframes outside of TAWC's historical test-year. TAWC objects to such a request because it is unduly burdensome, seeks to have TAWC create work product, and seeks information that is not relevant to this rate case.

Subject to and without waiving these objections, below is the payroll distribution by NARUC account for the 12 months ended March 2008.

NARUC	NARUC Description	Amount
105	CWIP	629,862
184	Clearing Accounts	379,233
186.2	Other Deferred Debits	124,304
416	M&J Expenses	12,647
601.1	Salaries-Empl Oper SS	1,313,361
601.3	Salaries-Empl Oper WT	196
601.5	Salaries-Empl Oper TD	551,683
601.6	Salaries-Empl Maint TD	1,132,985
601.7	Salaries-Empl CA	413,306
601.8	Salaries-Empl AG	1,340,857
	Total Payroll Distribution	5,898,435

TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 08-00039
FIRST DISCOVERY REQUEST OF THE
CONSUMER ADVOCATE AND PROTECTION DIVISION

Responsible Witness: Sheila Miller

PART IV: QUESTIONS & REQUESTS REGARDING REVENUES, EXPENSES, TAXES, RATE BASE & MISCELLANEOUS

Question: EXPENSES

15. Provide the payroll capitalization rate for the 4 months ended March 2008 by month.

Response:

December 2007	20.42%
January 2008	20.71%
February 2008	20.96%
March 2008	21.15%

TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 08-00039
FIRST DISCOVERY REQUEST OF THE
CONSUMER ADVOCATE AND PROTECTION DIVISION

Responsible Witness: Sheila Miller

PART IV: QUESTIONS & REQUESTS REGARDING REVENUES, EXPENSES, TAXES, RATE BASE & MISCELLANEOUS

Question: EXPENSES

16. Identify each employee as either full-time or part-time for the 12 months ended March 2008 by month.

Response:

All employees are full-time.

TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 08-00039
FIRST DISCOVERY REQUEST OF THE
CONSUMER ADVOCATE AND PROTECTION DIVISION

Responsible Witness: Sheila Miller

PART IV: QUESTIONS & REQUESTS REGARDING REVENUES, EXPENSES, TAXES, RATE BASE & MISCELLANEOUS

Question: EXPENSES

17. Provide the shift differential pay for the 12 months ended February 2008 and March 2008 by employee.

Response:

See attached.

Tennessee American Water Company
Docket NO. 08-00039
CAPD DR 1 Part 4 Question 17

Employee #	Employee Name	Job Title	Shift Code	Shift Description	Shift Differential	12 months ending February 2008 Hours	12 months ending February 2008 Shift Pay	12 months ending March 2008 Hours	12 months ending March 2008 Shift Pay
26000120	Pitman, Benjamin J.	Process Technician	2	Second Shift	0.36	913.00	328.68	937.00	337.32
			3	Third Shift	0.41	552.00	226.32	744.00	305.04
26000136	Worrell, David T.	Process Technician	2	Second Shift	0.36	1,226.75	441.63	1,074.00	386.64
			3	Third Shift	0.41	384.00	157.44	376.00	154.16
26000155	Cordell, Terry L.	Process Technician	2	Second Shift	0.36	783.00	281.88	975.00	351.00
			3	Third Shift	0.41	728.00	298.48	560.00	229.60
26000162	Camp, Debbie H.	Process Technician	2	Second Shift	0.36	1,504.00	541.44	1,520.00	547.20
			3	Third Shift	0.41	624.00	255.84	624.00	255.84
26000169	Hutsell, Charlotte A.	Process Technician	2	Second Shift	0.36	632.00	227.52	616.00	221.76
			3	Third Shift	0.41	489.00	200.49	417.00	170.97
50341466	Beets, James E.	Process Technician	2	Second Shift	0.36	344.00	123.84	372.00	133.92
			3	Third Shift	0.41	392.00	160.72	392.00	160.72
				Total			$3,244.28		$3,254.17

TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 08-00039
FIRST DISCOVERY REQUEST OF THE
CONSUMER ADVOCATE AND PROTECTION DIVISION

Responsible Witness: Sheila Miller/Michael Miller

PART IV: QUESTIONS & REQUESTS REGARDING REVENUES, EXPENSES, TAXES, RATE BASE & MISCELLANEOUS

Question: EXPENSES

18. Provide the total salaries and wages, exclusive of AIP compensation, by employee for the 12 months ended February 2008 and March 2008 in the format of TN-TRA-01-Q013-LABOR, pages 25 and 26 of 102.

Response:

The Company objects to this request on the grounds that it is unduly burdensome, in particular because the information requested is not readily available in the requested format and is very costly to gather and produce. The Company also objects to this request on the grounds that it detracts from the Company's ability to address and support its historical test-year data and the adjustments developed to arrive at a reasonable attrition year and is not required by the TRA's recognized rate case procedures.

The Company filed its petition, testimony, exhibits, and workpapers fully supporting its case based on a test year ending on November 30, 2007. Test year data and schedules were prepared specifically for the historical test year utilized in the Company's filing. This request seeks the compilation of data for the 12 months ended March 31, 2008, a test year that the CAPD has stated it intends to propose. It is burdensome and fundamentally unfair to require the Company to respond to a data request that, in essence, requires the Company to completely redo the data collection and analysis required to file its petition based

on a test year, or multiple test years, proposed by an Intervenor, particularly when that test year includes dates after the petition was filed. The re-creation of every aspect of its case for multiple historical test years is not required by TRA rules and is not necessary for the CAPD to assess the Company's petition.

Notwithstanding the objection, attached to this response is the payroll data in the format readily available to the Company.

Tennessee American Water Company
Docket No. 08-00039
CAPD DR 1 Part 4 Question 18

12 months ending February 2008

					Data	
Employee Name	Home Business Unit	Job Title	Pay Category	Pay Description	Sum of Hours	Sum of Amount
Atkins, Kelly L.	CHAT-Customer Service	Field Services Representative	Float holiday	Float Holidy	8.50	$191.77
			Holiday	Holiday	72.00	$1,606.08
			Other	Med w/ Pay	5.75	$127.64
			Out of Dept.	Training	4.00	$87.76
			Overtime	OT 1.50 NS	0.25	$8.48
			Regular	Regular	1,901.75	$42,097.79
			Sick	Sick	8.00	$175.52
			Vacation	Vacation	80.00	$1,781.60
Autry, Freddie L.	CHAT-Field Services	Heavy Equipment Operator	Float holiday	Float Holidy	3.50	$76.43
			Holiday	Holiday	72.00	$1,584.80
			Meal money	Meal Taxable	0.00	$115.50
			Other	Med w/ Pay	4.50	$97.43
			Out of Dept.	Training	4.00	$86.60
			Overtime	OT 1.50 NS	67.50	$2,222.30
				OT 2.0 NS	14.50	$628.18
			Regular	Regular	1,804.00	$39,422.61
			Sick	Sick	16.00	$356.80
			Vacation	Vacation	176.00	$3,831.20
Baggett, James L.	CHAT-Customer Service	Field Services Representative	Other	Pay Adjust	0.00	$175.52
			Vacation	Vacation	24.00	$526.56
Banks, Kathleen A.	CHAT-Production	Specialist Water Quality	Float holiday	Float Holidy	32.00	$935.36
			Holiday	Holiday	72.00	$2,104.65
			Out of Dept.	Training	8.00	$225.96
			Regular	Regular	1,768.00	$51,538.07
			Sick	Sick	48.00	$1,395.17
			Vacation	Vacation	152.00	$4,443.07
Bartley, Rachel M.	CHAT-Customer Service	Supvr Field Operations	Float holiday	Float Holidy	32.00	$1,339.24
			Holiday	Holiday	72.00	$3,013.29
			Other	Lump Sum	0.00	$3,033.00
			Out of Dept.	Training	42.00	$1,757.74
			Regular	Regular	1,758.00	$73,573.99
			Vacation	Vac Prior Yr	8.00	$334.81
				Vacation	168.00	$7,031.01
Bednarski, Richard P.	CHAT-Field Services	Truck Driver/Utility Worker	Float holiday	Float Holidy	20.00	$432.36
			Holiday	Holiday	72.00	$1,572.88
			Meal money	Meal Taxable	0.00	$168.00
			Out of Dept.	Training	4.00	$85.96
			Overtime	OT 1.50 NS	66.25	$2,168.46
				OT 2.0 NS	10.75	$470.68
			Regular	Regular	1,912.00	$41,460.13
			Sick	Sick	16.00	$354.08
			Vacation	Vacation	56.00	$1,213.68
Beets, James E.	CHAT-Production	Laborer/Relief Process Tech	Holiday	Holiday	32.00	$702.24
			Regular	Regular	584.00	$12,636.48
		Process Technician	Holiday	Hol 1.5 NS	24.00	$929.64
				Holiday	8.00	$197.52
			Other	Med w/ Pay	1.50	$37.58
			Overtime	OT 1.50 NS	8.00	$305.16
				OT 1.50 SCH	40.00	$1,512.72
				OT 2.0 NS	23.00	$1,176.34
			Regular	Regular	999.50	$25,236.66
Bennette, Michael J.	CHAT-Field Services	Supvr Field Operations	Float holiday	Float Holidy	32.00	$1,099.24
			Holiday	Holiday	64.00	$2,198.48
			Other	Funeral	32.00	$1,099.24
			Out of Dept.	Training	44.00	$1,511.45
			Regular	Regular	1,684.00	$57,705.07
			Vacation	Vacation	224.00	$7,678.90
Betty, Steven W.	CHAT-Production	Specialist Water Quality	Float holiday	Float Holidy	32.00	$843.84
			Holiday	Holiday	72.00	$1,898.64
			Other	Funeral	8.00	$210.96
			Regular	Regular	1,688.00	$44,359.42
			Sick	Sick	16.00	$421.92
			Vacation	Vacation	264.00	$6,934.56
Billups, Brian D.	CHAT-Customer Service	Field Services Representative	Float holiday	Float Holidy	19.50	$430.14
			Holiday	Holiday	72.00	$1,606.08
			Other	Exc w/o Pay	12.25	$0.00
				Med w/ Pay	4.50	$98.73
			Out of Dept	Training	4.00	$87.76

Tennessee American Water Company
Docket No. 08-00039
CAPD DR 1 Part 4 Question 18

12 months ending February 2008

					Data	
Employee Name	Home Business Unit	Job Title	Pay Category	Pay Description	Sum of Hours	Sum of Amount
Billups, Brian D.	CHAT-Customer Service	Field Services Representative	Overtime	OT 1.50 NS	1.00	$32.92
			Regular	Regular	1,873.75	$41,502.62
			Sick	Sick	54.00	$1,195.32
			Vacation	Vacation	40.00	$877.60
Bishop, Monty L.	CHAT-Field Services	Supt Field Operations	Float holiday	Float Holidy	32.00	$1,554.64
			Holiday	Holiday	72.00	$3,497.94
			Other	Meeting	56.00	$2,720.62
			Out of Dept.	Training	34.00	$1,651.81
			Regular	Regular	1,670.00	$80,937.67
			Sick	Sick	24.00	$1,165.98
			Vacation	Vac Prior Yr	16.00	$777.32
				Vacation	176.00	$8,528.68
Blankenship, Sheila M.	CHAT-Production	Guard	Other	Pay Adjust	0.00	$214.50
Blevins, Marvin R.	CHAT-Field Services	Supvr Field Operations	Float holiday	Float Holidy	26.00	$725.01
			Holiday	Holiday	56.00	$1,561.56
			Out of Dept.	Training	20.00	$557.70
			Regular	Regular	1,274.00	$35,524.92
			Sick	Family Sick	32.00	$892.32
			Vacation	Vacation	80.00	$2,230.80
		Supvr Opns II	Holiday	Holiday	8.00	$223.08
			Regular	Regular	104.00	$2,900.01
		Truck Driver/Utility Worker	Float holiday	Float Holidy	6.00	$128.94
			Holiday	Holiday	8.00	$171.92
			Meal money	Meal Taxable	0.00	$52.50
			Overtime	OT 1.50 NS	17.75	$572.20
				OT 2.0 NS	9.25	$397.57
			Regular	Regular	434.00	$9,326.66
			Vacation	Vacation	32.00	$687.68
Blevins, Timothy B	CHAT-Customer Service	Field Services Representative	Float holiday	Float Holidy	21.00	$469.32
			Holiday	Holiday	72.00	$1,606.08
			Other	Med w/ Pay	1.50	$33.90
			Out of Dept.	Training	8.00	$175.52
			Overtime	OT 1.50 NS	8.75	$291.51
			Regular	Regular	1,905.50	$42,193.10
			Vacation	Vacation	72.00	$1,590.24
Blevins, Waylon T.	CHAT-Field Services	Truck Driver/Utility Worker	Float holiday	Float Holidy	1.50	$33.20
			Holiday	Holiday	72.00	$1,572.88
			Meal money	Meal Taxable	0.00	$378.00
			Out of Dept.	Training	4.00	$85.96
			Overtime	OT 1.50 NS	153.00	$5,030.19
			Regular	Regular	1,906.50	$41,353.75
			Sick	Sick	16.00	$343.84
			Vacation	Vacation	80.00	$1,729.44
Blevins, William L.	CHAT-Customer Service	Field Services Representative	Float holiday	Float Holidy	16.00	$356.32
			Holiday	Hol w/o Pay	16.00	$0.00
				Holiday	48.00	$1,079.52
			Other	Exc w/o Pay	3.00	$0.00
			Out of Dept.	Training	4.00	$87.76
			Regular	Regular	1,745.00	$38,686.58
Borders, Stephen A.	CHAT-Field Services	Truck Driver/Utility Worker	Float holiday	Float Holidy	23.00	$499.40
			Holiday	Holiday	72.00	$1,572.88
			Meal money	Meal Taxable	0.00	$21.00
			Other	Exc w/o Pay	9.00	$0.00
				Funeral	64.00	$1,375.36
				Med w/ Pay	10.75	$231.03
			Out of Dept.	Training	4.00	$85.96
			Overtime	OT 1.50 NS	7.50	$242.73
			Regular	Regular	1,627.25	$35,294.43
			Sick	Sick	86.00	$1,881.42
			Vacation	Vacation	184.00	$3,979.76
Bowling, Stanley E.	CHAT-Field Services	Heavy Equipment Operator	Float holiday	Float Holidy	8.00	$173.20
			Holiday	Holiday	72.00	$1,584.80
			Meal money	Meal Taxable	0.00	$220.50
			Other	Med w/ Pay	8.00	$173.20
			Out of Dept.	Training	4.00	$86.60
			Overtime	OT 1.0 NS	0.75	$16.73
				OT 1.50 NS	94.25	$3,098.36
			Regular	Regular	1,634.00	$35,645.21

Tennessee American Water Company
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CAPD DR 1 Part 4 Question 18

12 months ending February 2008

					Data	
Employee Name	Home Business Unit	Job Title	Pay Category	Pay Description	Sum of Hours	Sum of Amount
Bowling, Stanley E.	CHAT-Field Services	Heavy Equipment Operator	Sick	Sick	138.00	$3,041.00
			Vacation	Vacation	216.00	$4,754.40
Boyer, John B.	CHAT-Customer Service	Field Services Representative	Float holiday	Float Holidy	16.50	$364.65
			Holiday	Holiday	72.00	$1,606.08
			Other	Funeral	24.00	$542.40
				Med w/ Pay	5.50	$121.67
			Out of Dept.	Training	4.00	$87.76
			Overtime	OT 1.50 NS	8.25	$273.32
			Regular	Regular	1,862.00	$41,223.54
			Sick	Sick	16.00	$351.04
			Vacation	Vacation	80.00	$1,771.04
Bradley, Chad	CHAT-Production	Guard	Other	Pay Adjust	0.00	$72.00
Bratcher, Neil F	CHAT-Production	Supvr Production	Float holiday	Float Holidy	32.00	$1,001.57
			Holiday	Holiday	72.00	$2,253.42
			Other	Funeral	32.00	$1,001.52
			Regular	Regular	1,768.00	$55,158.52
			Sick	Sick	16.00	$490.96
			Vacation	Vacation	160.00	$4,997.95
Bryden, Jeffrey C.	CHAT-Production	Guard	Other	Pay Adjust	0.00	$360.00
			Regular	Regular	21.38	$384.84
Burrell, Dale R.	CHAT-Production	Master M Mechanic	Float holiday	Float Holidy	14.50	$361.83
			Holiday	Holiday	72.00	$1,795.04
			Meal money	Meal Taxable	0.00	$42.00
			Other	Med w/ Pay	13.75	$339.00
			Out of Dept.	Training	8.00	$196.16
			Overtime	OT 1.50 NS	34.00	$1,268.57
				OT 2.0 NS	1.00	$50.52
			Regular	Regular	1,826.75	$45,209.27
			Sick	Sick	64.00	$1,598.88
			Vacation	Vacation	80.00	$1,961.60
Camp, Debbie H.	CHAT-Production	Process Technician	Float holiday	Float Holidy	24.00	$607.52
			Holiday	Hol 1.5 NS	56.00	$2,146.08
				Holiday	16.00	$397.92
			Other	Med w/ Pay	11.75	$294.74
				Pay Adjust	0.00	$8.88
			Overtime	OT 1.50 NS	81.25	$3,127.77
				OT 1.50 SCH	96.00	$3,631.32
				OT 2.0 NS	76.00	$3,884.28
			Regular	Regular	1,760.25	$44,525.04
			Sick	Sick	88.00	$2,218.24
			Vacation	Vacation	168.00	$4,190.80
Chrnalogar, Adam D.	CHAT-Production	Master M Mechanic	Float holiday	Float Holidy	16.25	$410.29
			Holiday	Holiday	72.00	$1,795.04
			Meal money	Meal Taxable	0.00	$21.00
			Other	Med w/ Pay	12.00	$297.94
			Out of Dept.	Training	16.00	$392.32
			Overtime	OT 1.50 NS	19.75	$738.34
				OT 2.0 NS	5.25	$259.31
			Regular	Regular	1,842.50	$45,605.64
			Sick	Sick	16.00	$392.32
			Vacation	Vacation	88.00	$2,169.60
Coates, J. David	CHAT-Production	Maintenance Mechanic	Float holiday	Float Holidy	16.00	$383.76
			Holiday	Holiday	72.00	$1,729.76
			Meal money	Meal Taxable	0.00	$10.50
			Other	Med w/ Pay	2.00	$47.26
			Overtime	OT 1.50 NS	24.00	$856.81
				OT 2.0 NS	8.00	$383.76
			Regular	Regular	1,710.00	$40,662.90
			Vacation	Vacation	280.00	$6,792.48
Collins, Steven L.	CHAT-Field Services	Truck Driver/Utility Worker	Float holiday	Float Holidy	8.00	$171.92
			Holiday	Holiday	72.00	$1,572.88
			Meal money	Meal Taxable	0.00	$52.50
			Other	Light Duty	104.00	$2,234.96
				Med w/ Pay	3.00	$66.39
			Out of Dept	Training	4.00	$85.96
				Union Bus	1.50	$33.20
			Overtime	OT 1.50 NS	23.50	$772.42
			Regular	Regular	1,375.50	$29,889.42

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					Data	
Employee Name	Home Business Unit	Job Title	Pay Category	Pay Description	Sum of Hours	Sum of Amount
Collins, Steven L.	CHAT-Field Services	Truck Driver/Utility Worker	Sick	Sick	16.00	$354.08
			Vacation	Vacation	240.00	$5,208.80
			Workmen's Compe	WC Paid	256.00	$5,501.44
Cordell, Terry L.	CHAT-Production	Process Technician	Float holiday	Float Holidy	24.00	$608.32
			Holiday	Hol 1.5 NS	32.00	$1,208.16
				Holiday	40.00	$1,022.80
			Other	Med w/ Pay	8.50	$213.72
				Pay Adjust	0.00	$18.69
			Overtime	OT 1.25 SCH	8.00	$250.50
				OT 1.50 NS	32.00	$1,239.12
				OT 1.50 SCH	96.00	$3,623.52
				OT 2.0 NS	53.00	$2,703.86
			Regular	Regular	1,498.50	$37,713.92
			Sick	Sick	288.00	$7,234.24
			Vacation	Vacation	240.00	$6,048.80
Crane, Scott E.	CHAT-Field Services	Truck Driver/Utility Worker	Float holiday	Float Holidy	8.50	$184.59
			Holiday	Holiday	72.00	$1,572.88
			Meal money	Meal Taxable	0.00	$388.50
			Other	Funeral	8.00	$177.04
			Overtime	OT 1.0 NS	0.50	$11.07
				OT 1.50 NS	154.50	$5,078.24
				OT 2.0 NS	32.00	$1,411.20
			Regular	Regular	1,759.50	$38,153.74
			Sick	Sick	32.00	$687.68
			Vacation	Vacation	200.00	$4,344.08
Crutchfield, Patrick W.	CHAT-Field Services	Truck Driver/Utility Worker	Float holiday	Float Holidy	14.00	$306.63
			Holiday	Holiday	72.00	$1,572.88
			Other	Med w/ Pay	4.50	$97.99
			Out of Dept.	Training	4.00	$85.96
			Overtime	OT 1.50 NS	3.00	$99.59
			Regular	Regular	1,769.50	$38,370.38
			Sick	Sick	56.00	$1,223.92
			Vacation	Vacation	160.00	$3,464.00
Cummings, Pamela B.	CHAT-Field Services	Supvr Field Operations	Float holiday	Float Holidy	32.00	$1,210.02
			Holiday	Holiday	72.00	$2,722.50
			Other	Funeral	32.00	$1,210.00
				Meeting	1.00	$37.81
			Out of Dept.	Training	34.00	$1,285.63
			Regular	Regular	1,781.00	$67,201.76
			Sick	Sick	24.00	$907.50
			Vacation	Vac Prior Yr	16.00	$605.00
				Vacation	88.00	$3,315.94
Dalton, Kimberly M.	CHAT-Admin & Gen	Specialist Communications	Float holiday	Float Holidy	32.00	$893.86
			Holiday	Holiday	72.00	$2,011.14
			Out of Dept.	Training	9.00	$251.39
			Regular	Regular	1,743.00	$48,565.65
			Sick	Sick	16.00	$446.92
				Sick Banked	0.00	$0.00
			Vacation	Vac Prior Yr	48.00	$1,300.36
				Vacation	160.00	$4,469.26
Davis, Bennie J.	CHAT-Production	Relief Process Tech in Train.	Float holiday	Float Holidy	2.00	$40.88
			Holiday	Holiday	32.00	$654.08
			Other	Med w/ Pay	3.25	$66.43
			Regular	Regular	538.75	$11,012.05
			Sick	Sick	408.00	$8,339.52
			Vacation	Vacation	440.00	$8,993.60
Dennison, Deborah R.	CHAT-Production	Guard	Other	Pay Adjust	0.00	$142.80
Derryberry, Jack S.	CHAT-Field Services	Heavy Equipment Operator	Float holiday	Float Holidy	13.00	$285.03
			Holiday	Holiday	72.00	$1,584.80
			Meal money	Meal Taxable	0.00	$220.50
			Other	Med w/ Pay	5.25	$113.67
			Out of Dept.	Training	4.00	$86.60
			Overtime	OT 1.50 NS	118.00	$3,890.08
				OT 2.0 NS	36.50	$1,600.93
			Regular	Regular	1,745.75	$38,174.14
			Sick	Sick	56.00	$1,212.40
			Vacation	Vacation	184.00	$3,999.20
Durham, Kimberly F.	CHAT-Production	Lab Analyst	Float holiday	Float Holidy	32.00	$692.35

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					Data	
Employee Name	Home Business Unit	Job Title	Pay Category	Pay Description	Sum of Hours	Sum of Amount
Durham, Kimberly F	CHAT-Production	Lab Analyst	Holiday	Holiday	64.00	$1,384.64
			Other	Med w/ Pay	7.65	$165.50
			Out of Dept.	Training	45.75	$989.81
			Regular	Regular	1,524.60	$32,984.03
			Sick	Sick	14.00	$302.89
			Vacation	Vac Prior Yr	32.00	$692.32
				Vacation	40.00	$865.40
Eady, R Glenn	CHAT-Customer Service	Field Service Person	Float holiday	Float Holidy	8.00	$201.36
			Holiday	Hol 2.5	56.00	$3,554.20
				Hol 3.0	16.00	$1,208.64
			Meal money	Meal Taxable	0.00	$10.50
			Out of Dept.	Training	2.00	$50.34
			Overtime	OT 1.50 NS	25.00	$949.06
				OT 2.0 NS	25.50	$1,284.41
			Regular	Regular	1,782.00	$45,001.42
			Vacation	Vacation	240.00	$6,095.04
Gamble, Robert A	CHAT-Field Services	Heavy Equipment Operator	Float holiday	Float Holidy	13.00	$283.75
			Holiday	Holiday	72.00	$1,584.80
			Meal money	Meal Taxable	0.00	$420.00
			Other	Med w/ Pay	8.00	$173.20
			Out of Dept.	Training	4.00	$86.60
			Overtime	OT 1.0 NS	3.50	$75.78
				OT 1.50 NS	161.50	$5,288.13
				OT 2.0 NS	37.00	$1,633.30
			Regular	Regular	1,831.00	$40,013.31
			Sick	Sick	72.00	$1,574.40
			Vacation	Vacation	80.00	$1,742.40
Grace, Renee R	CHAT-Field Services	Heavy Equipment Operator	Float holiday	Float Holidy	12.00	$264.03
			Holiday	Holiday	72.00	$1,584.80
			Other	Med w/ Pay	23.00	$504.62
			Out of Dept.	Training	4.00	$86.60
			Overtime	OT 1.50 NS	0.25	$8.36
			Regular	Regular	1,625.00	$35,503.18
			Sick	Sick	96.00	$2,125.20
			Vacation	Vacation	248.00	$5,390.00
Green, Joseph A	CHAT-Customer Service	Field Services Representative	Holiday	Holiday	40.00	$904.00
			Meal money	Meal Taxable	0.00	$10.50
			Out of Dept.	Training	4.00	$87.76
			Overtime	OT 1.50 NS	2.00	$116.61
			Regular	Regular	740.00	$17,289.92
			Sick	Sick	56.00	$1,265.60
			Vacation	Vacation	40.00	$904.00
	CHAT-Field Services	Field Services Representative	Regular	Regular	80.00	$1,755.20
Griffith, Michael J	CHAT-Customer Service	Field Services Representative	Float holiday	Float Holidy	16.00	$351.04
			Holiday	Holiday	32.00	$702.08
			Other	Med w/ Pay	6.50	$142.61
				Susp no pay	8.00	$0.00
			Regular	Regular	1,073.50	$23,552.59
			Sick	Sick	24.00	$526.56
			Vacation	Vacation	40.00	$877.60
	CHAT-Field Services	Truck Driver/Utility Worker	Float holiday	Float Holidy	0.50	$11.07
			Holiday	Holiday	40.00	$885.20
			Meal money	Meal Taxable	0.00	$178.50
			Other	Med w/ Pay	2.00	$44.26
			Out of Dept.	Training	4.00	$85.96
			Overtime	OT 1.50 NS	79.50	$2,636.64
			Regular	Regular	777.50	$17,090.88
			Sick	Sick	16.00	$354.08
			Vacation	Vacation	40.00	$859.60
Griffith, Vicki L	CHAT-Field Services	Sr Secretary (N)	Float holiday	Float Holidy	56.00	$1,155.00
			Holiday	Holiday	72.00	$1,485.00
			Regular	Regular	1,744.00	$35,912.50
			Sick	Sick	64.00	$1,300.79
			Vacation	Vacation	144.00	$2,970.03
Ha, Jason T	CHAT-Production	Master M Mechanic	Float holiday	Float Holidy	16.00	$398.61
			Holiday	Holiday	72.00	$1,795.04
			Meal money	Meal Taxable	0.00	$10.50
			Other	Med w/ Pay	9.00	$221.79

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Employee Name	Home Business Unit	Job Title	Pay Category	Pay Description	Sum of Hours	Sum of Amount
Ha, Jason T.	CHAT-Production	Master M Mechanic	Out of Dept.	Training	16.00	$392.32
			Overtime	OT 1.50 NS	17.75	$666.46
				OT 2.0 NS	5.25	$259.31
			Regular	Regular	1,844.75	$45,657.11
			Sick	Sick	48.00	$1,188.80
			Vacation	Vacation	72.00	$1,777.28
Haddock, Gerald L.	CHAT-Field Services	Truck Driver/Utility Worker	Float holiday	Float Holidy	12.50	$276.32
			Holiday	Holiday	72.00	$1,572.88
			Meal money	Meal Taxable	0.00	$294.00
			Other	Exc w/o Pay	2.00	$0.00
				Light Duty	24.00	$515.76
				Med w/ Pay	9.25	$202.00
			Out of Dept.	Training	4.00	$85.96
			Overtime	OT 1.0 NS	0.75	$16.60
				OT 1.50 NS	100.25	$3,282.48
				OT 2.0 NS	33.75	$1,473.62
			Regular	Regular	1,721.25	$37,323.78
			Sick	Sick	51.00	$1,123.51
			Vacation	Vacation	184.00	$3,974.64
Harris, Edward D.	CHAT-Field Services	Heavy Equipment Operator	Float holiday	Float Holidy	16.00	$346.40
			Holiday	Holiday	72.00	$1,584.80
			Meal money	Meal Taxable	0.00	$556.50
			Other	Med w/ Pay	9.50	$205.68
			Out of Dept.	Training	4.00	$86.60
			Overtime	OT 1.0 NS	2.25	$48.71
				OT 1.50 NS	215.00	$7,042.12
				OT 2.0 NS	16.25	$703.63
			Regular	Regular	1,746.50	$38,175.76
			Sick	Sick	24.00	$524.80
			Vacation	Vacation	208.00	$4,534.40
Hart, Michael R.	CHAT-Production	Guard	Other	Pay Adjust	0.00	$525.90
			Regular	Regular	37.40	$673.20
Harvey, Robbie G.	CHAT-Engineering	CAD Drafter	Float holiday	Float Holidy	17.50	$360.50
			Holiday	Holiday	72.00	$1,482.40
			Other	Jury Duty	15.75	$318.95
				Med w/ Pay	7.25	$146.82
			Overtime	OT 1.50 NS	143.25	$4,371.94
			Regular	Regular	1,685.50	$34,464.50
			Sick	Sick	34.00	$696.43
			Vacation	Vacation	240.00	$4,903.92
Haws, Erich S.	CHAT-Field Services	Truck Driver/Utility Worker	Float holiday	Float Holidy	16.00	$349.29
			Holiday	Holiday	72.00	$1,572.88
			Meal money	Meal Taxable	0.00	$262.50
			Other	Med w/ Pay	2.50	$55.33
			Out of Dept.	Training	4.00	$85.96
			Overtime	OT 1.50 NS	79.50	$2,578.32
				OT 2.0 NS	36.00	$1,573.85
			Regular	Regular	1,881.50	$40,784.82
			Sick	Sick	32.00	$708.16
			Vacation	Vacation	72.00	$1,562.64
Hays, Chris L.	CHAT-Field Services	Truck Driver/Utility Worker	Float holiday	Float Holidy	6.50	$140.97
			Holiday	Holiday	72.00	$1,572.88
			Meal money	Meal Taxable	0.00	$514.50
			Other	Med w/ Pay	9.50	$213.06
			Overtime	OT 1.50 NS	158.50	$5,170.00
				OT 2.0 NS	65.50	$2,837.28
			Regular	Regular	1,808.00	$40,513.70
			Vacation	Vacation	184.00	$4,073.20
Hays, Karen Denise	CHAT-Customer Service	Meter Reader	Float holiday	Float Holidy	19.00	$412.77
			Holiday	Holiday	72.00	$1,579.04
			Other	Light Duty	24.00	$517.68
				Med w/ Pay	18.00	$388.26
			Out of Dept.	Training	4.00	$86.28
			Overtime	OT 1.50 NS	7.75	$252.49
			Regular	Regular	1,727.00	$37,596.88
			Sick	Sick	56.00	$1,233.92
			Vacation	Vacation	160.00	$3,477.20
Hester, Herbert F.	CHAT-Customer Service	Field Services Representative	Float holiday	Float Holidy	16.50	$367.62

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Employee Name	Home Business Unit	Job Title	Pay Category	Pay Description	Sum of Hours	Sum of Amount
Hester, Herbert F.	CHAT-Customer Service	Field Services Representative	Holiday	Holiday	72.00	$1,606.08
			Out of Dept.	Training	8.00	$178.16
			Overtime	OT 1.50 NS	0.75	$24.94
			Regular	Regular	1,913.50	$42,375.22
			Sick	Sick	38.00	$839.00
			Vacation	Vacation	32.00	$702.08
Hicks Jr., Worn	CHAT-Customer Service	On & Off Man	Float holiday	Float Holidy	16.00	$350.93
			Holiday	Holiday	72.00	$1,590.56
			Other	Med w/ Pay	3.50	$76.05
			Out of Dept.	Training	4.00	$86.92
			Overtime	OT 1.50 NS	16.50	$545.62
				OT 2.0 NS	4.00	$173.84
			Regular	Regular	1,704.50	$37,363.14
			Sick	Sick	8.00	$173.84
			Vacation	Vacation	272.00	$5,983.36
Highsmith, Kevin B.	CHAT-Field Services	Supvr Field Operations	Holiday	Holiday	8.00	$238.46
			Regular	Regular	416.00	$12,237.34
			Vacation	Vac Prior Yr	24.00	$697.30
				Vacation	32.00	$953.84
	CHAT-Loss Control	Specialist Security	Float holiday	Float Holidy	32.00	$807.68
			Holiday	Holiday	64.00	$1,615.36
			Out of Dept.	Training	53.00	$1,337.72
			Regular	Regular	1,307.00	$32,989.28
			Vacation	Vac Prior Yr	16.00	$403.84
				Vacation	128.00	$3,230.72
Hindman, Roy C.	CHAT-Field Services	Truck Driver/Utility Worker	Float holiday	Float Holidy	13.50	$295.88
			Holiday	Holiday	72.00	$1,572.88
			Meal money	Meal Taxable	0.00	$10.50
			Other	Jury Duty	16.00	$343.84
				Med w/ Pay	6.25	$135.76
			Out of Dept.	Training	4.00	$85.96
			Overtime	OT 1.50 NS	11.75	$385.50
			Regular	Regular	1,888.25	$40,960.54
			Vacation	Vacation	80.00	$1,724.32
Holmes, Susan T.	CHAT-Production	Supvr Water Quality	Float holiday	Float Holidy	32.00	$1,233.40
			Holiday	Holiday	72.00	$2,776.14
			Other	Jury Duty	11.00	$424.13
				Lump Sum	0.00	$1,800.00
				Med w/ Pay	7.50	$289.20
			Out of Dept.	Training	70.75	$2,727.96
			Regular	Regular	1,662.75	$64,043.25
			Vacation	Vac Prior Yr	32.00	$1,226.11
				Vacation	192.00	$7,403.23
Hughes Jr., James T.	CHAT-Field Services	Heavy Equipment Operator	Float holiday	Float Holidy	11.00	$238.15
			Holiday	Holiday	72.00	$1,584.80
			Meal money	Meal Taxable	0.00	$231.00
			Other	Exc w/o Pay	2.00	$0.00
				Jury Duty	8.00	$178.40
				Med w/ Pay	1.00	$21.65
				Med WC	2.00	$43.30
			Out of Dept.	Training	4.00	$86.60
				Union Bus	17.50	$379.85
				UnionBus-NP	24.00	$0.00
			Overtime	OT 1.0 NS	0.25	$5.58
				OT 1.50 NS	88.00	$2,918.28
				OT 2.0 NS	15.50	$681.55
			Regular	Regular	1,586.50	$34,658.75
			Sick	Sick	112.00	$2,456.00
			Vacation	Vacation	240.00	$5,248.00
Hughes, Jane B.	CHAT-Field Services	Distribution Clerk	Float holiday	Float Holidy	13.50	$278.64
			Holiday	Holiday	72.00	$1,479.52
			Other	Exc w/o Pay	0.25	$0.00
				Jury Duty	22.25	$449.67
				Med w/ Pay	14.75	$304.08
			Out of Dept.	Training	3.50	$72.87
			Overtime	OT 1.50 NS	4.25	$132.51
			Regular	Regular	1,705.75	$34,771.55
			Vacation	Vacation	248.00	$5,075.52

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Employee Name	Home Business Unit	Job Title	Pay Category	Pay Description	Sum of Hours	Sum of Amount
Hughes, Kendall W.	CHAT-Production	Master M Mechanic	Float holiday	Float Holidy	8.50	$214.71
			Holiday	Holiday	72.00	$1,795.04
			Meal money	Meal Taxable	0.00	$52.50
			Other	Med w/ Pay	5.00	$122.60
			Out of Dept.	Training	16.00	$392.32
			Overtime	OT 1 50 NS	25.25	$948.14
				OT 2.0 NS	1.00	$50.52
			Regular	Regular	1,713.50	$42,345.43
			Sick	Sick	56.00	$1,373.12
			Vacation	Vacation	208.00	$5,218.56
Hutsell, Charlotte A.	CHAT-Production	Laborer/Relief Process Tech	Holiday	Holiday	24.00	$518.88
			Meal money	Meal Taxable	0.00	$21.00
			Regular	Regular	683.00	$14,766.46
			Sick	Sick	16.00	$345.92
			Vacation	Vacation	152.00	$3,286.24
		Process Technician	Holiday	Hol 1.5 NS	40.00	$1,526.16
				Holiday	8.00	$206.32
			Overtime	OT 1 50 NS	84.00	$3,184.14
				OT 1 50 SCH	72.00	$2,747.28
				OT 2.0 NS	41.00	$2,094.40
			Regular	Regular	1,189.00	$30,180.41
			Vacation	Vacation	16.00	$412.64
Irvin, Russell J.	CHAT-Production	Guard	Other	Pay Adjust	0.00	$216.00
Jenkins, Lamar O.	CHAT-Customer Service	Field Services Representative	Float holiday	Float Holidy	8.50	$189.13
			Holiday	Holiday	72.00	$1,606.08
			Other	Exc w/o Pay	8.00	$0.00
				Med w/ Pay	8.50	$190.78
			Out of Dept.	Training	4.00	$87.76
			Regular	Regular	1,883.00	$41,686.26
			Sick	Sick	32.00	$712.64
				Sick w/o Pay	16.00	$0.00
			Vacation	Vacation	48.00	$1,063.68
Jenkins, Sammy R.	CHAT-Field Services	Truck Driver/Utility Worker	Float holiday	Float Holidy	17.50	$376.10
			Holiday	Holiday	64.00	$1,395.84
			Other	Med w/ Pay	12.50	$268.64
			Overtime	OT 2.0 NS	7.75	$333.10
			Regular	Regular	962.00	$20,673.42
			Sick	Sick	232.00	$4,985.68
			Vacation	Vacation	480.00	$10,514.88
Johnson, Courtney D.	CHAT-Customer Service	Field Services Representative	Float holiday	Float Holidy	12.00	$265.92
			Holiday	Holiday	72.00	$1,606.08
			Other	Med w/ Pay	2.00	$45.20
			Out of Dept.	Training	20.00	$438.80
			Overtime	OT 1.50 NS	0.25	$8.23
			Regular	Regular	1,918.00	$42,472.96
			Vacation	Vacation	56.00	$1,239.20
Johnson, Edward L.	CHAT-Customer Service	Field Services Representative	Float holiday	Float Holidy	20.50	$462.64
			Holiday	Holiday	72.00	$1,606.08
			Other	Med w/ Pay	9.00	$197.46
			Out of Dept.	Training	4.00	$87.76
			Regular	Reg .35 Prm	8.00	$175.52
				Regular	1,758.50	$38,932.96
			Sick	Sick	56.00	$1,249.76
			Vacation	Vacation	152.00	$3,356.00
Jones, Jeffrey A.	CHAT-Customer Service	Field Services Representative	Float holiday	Float Holidy	16.00	$357.64
			Holiday	Holiday	72.00	$1,606.08
			Out of Dept.	Training	4.00	$87.76
			Overtime	OT 1.50 NS	4.25	$140.12
			Regular	Regular	1,870.00	$41,404.66
			Sick	Sick	46.00	$1,032.34
			Vacation	Vacation	72.00	$1,579.68
Justice, Matthew W.	CHAT-Customer Service	Field Services Representative	Float holiday	Float Holidy	9.50	$209.75
			Holiday	Holiday	72.00	$1,606.08
			Other	Jury Duty	3.50	$76.79
				Med w/ Pay	13.50	$300.49
			Out of Dept.	Training	4.00	$87.76
			Overtime	OT 1.50 NS	14.50	$477.72
			Regular	Regular	1,785.50	$39,532.59

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					Data	
Employee Name	Home Business Unit	Job Title	Pay Category	Pay Description	Sum of Hours	Sum of Amount
Justice, Matthew W.	CHAT-Customer Service	Field Services Representative	Sick	Sick	80.00	$1,776.32
			Vacation	Vacation	112.00	$2,478.40
Kelley, Myra V.	CHAT-Customer Service	Field Service Records Speciali	Float holiday	Float Holidy	13.00	$268.84
			Holiday	Holiday	72.00	$1,479.52
			Other	Med w/ Pay	5.75	$117.13
			Out of Dept.	Training	12.00	$247.40
			Overtime	OT 1.50 NS	163.00	$4,995.49
			Regular	Regular	1,777.25	$36,233.30
			Sick	Sick	48.00	$984.72
			Vacation	Vacation	152.00	$3,106.08
King, Elijah J.	CHAT-Field Services	Truck Driver/Utility Worker	Float holiday	Float Holidy	8.00	$171.92
			Holiday	Holiday	72.00	$1,572.88
			Meal money	Meal Taxable	0.00	$52.50
			Other	Med w/ Pay	4.75	$102.08
				Military	840.00	$18,445.84
			Overtime	OT 1.50 NS	29.50	$950.95
				OT 2.0 NS	9.00	$386.82
			Regular	Regular	987.25	$21,216.00
			Sick	Sick	32.00	$687.68
			Vacation	Vacation	136.00	$2,922.64
Knight, Stacy L.	CHAT-Customer Service	Field Services Representative	Float holiday	Float Holidy	16.50	$363.33
			Holiday	Holiday	72.00	$1,606.08
			Other	Exc w/o Pay	1.25	$0.00
				Med w/ Pay	3.25	$71.64
				Susp no pay	80.00	$0.00
			Out of Dept.	Training	8.00	$175.52
			Overtime	OT 1.50 NS	0.25	$8.23
			Regular	Regular	1,787.00	$39,521.12
			Sick	Sick	32.00	$712.64
			Vacation	Vacation	80.00	$1,781.60
Layne, Chase N.	CHAT-Customer Service	Field Services Representative	Float holiday	Float Holidy	16.00	$356.32
			Holiday	Hol w/o Pay	16.00	$0.00
				Holiday	48.00	$1,079.52
			Out of Dept.	Training	4.00	$87.76
			Overtime	OT 1.50 NS	1.25	$41.15
			Regular	Regular	1,716.00	$38,050.32
Mardis, Gregory H.	CHAT-Production	Guard	Other	Pay Adjust	0.00	$1,224.90
			Regular	Regular	60.00	$1,080.00
Markham, Brian J.	CHAT-Admin & Gen	Specialist Opns	Regular	Reg Override	0.00	$0.00
				Regular	40.00	$865.40
Martin JR, Charles	CHAT-Production	Guard	Other	Pay Adjust	0.00	$666.00
			Regular	Regular	52.84	$951.12
Martin, Tolly E.	CHAT-Field Services	Truck Driver/Utility Worker	Float holiday	Float Holidy	8.50	$184.91
			Holiday	Holiday	72.00	$1,572.88
			Meal money	Meal Taxable	0.00	$451.50
			Other	Med w/ Pay	17.00	$365.33
				Med WC	11.75	$260.03
			Out of Dept.	Training	4.00	$85.96
			Overtime	OT 1.50 NS	168.75	$5,503.79
				OT 2.0 NS	4.00	$171.92
			Regular	Regular	1,610.75	$34,973.91
			Sick	Sick	180.00	$3,878.44
			Vacation	Vacation	176.00	$3,797.60
Matthews, Larry H.	CHAT-Field Services	Truck Driver/Utility Worker	Float holiday	Float Holidy	16.00	$350.88
			Holiday	Holiday	72.00	$1,572.88
			Meal money	Meal Taxable	0.00	$735.00
			Other	Med w/ Pay	7.75	$166.55
			Out of Dept.	Training	4.00	$85.96
				Union Bus	1.50	$33.20
			Overtime	OT 1.0 NS	1.25	$27.67
				OT 1.50 NS	298.50	$9,767.65
				OT 2.0 NS	9.00	$393.22
			Regular	Regular	1,738.75	$37,726.40
			Vacation	Vacation	240.00	$5,183.20
McBay, David E.	SCUD-Admin & Gen	Specialist Opns	Float holiday	Float Holidy	32.00	$766.16
			Holiday	Holiday	72.00	$1,723.86
			Out of Dept.	Training	44.00	$1,053.47
			Regular	Regular	1,860.00	$44,363.56

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Employee Name	Home Business Unit	Job Title	Pay Category	Pay Description	Sum of Hours	Sum of Amount
McBay, David E.	SCUD-Admin & Gen	Specialist Opns	Vacation	Vacation	72.00	$1,723.85
McGhee, Brian S.	CHAT-Field Services	Utility Worker	Float holiday	Float Holidy	14.00	$298.40
			Holiday	Holiday	72.00	$1,552.00
			Meal money	Meal Taxable	0.00	$63.00
			Other	Med w/ Pay	3.50	$74.20
			Out of Dept.	Training	4.00	$84.80
			Overtime	OT 1 50 NS	34.25	$1,108 35
				OT 2.0 NS	14.75	$634.04
			Regular	Regular	1,914.50	$40,959.56
			Sick	Sick	40.00	$863.36
			Vacation	Vacation	32.00	$683.52
McLean, Wilbert	CHAT-Production	Guard	Other	Pay Adjust	0.00	$360.00
			Regular	Regular	22.92	$412.56
McNabb, David A.	CHAT-Field Services	Truck Driver/Utility Worker	Float holiday	Float Holidy	14.00	$302.47
			Holiday	Holiday	72.00	$1,572.88
			Meal money	Meal Taxable	0.00	$304.50
			Other	Med w/ Pay	6.50	$139.69
			Out of Dept.	Training	4.00	$85.96
			Overtime	OT 1 50 NS	144.75	$4,714 75
				OT 2.0 NS	28.75	$1,262.24
			Regular	Regular	1,851.50	$40,160.91
			Sick	Sick	60.00	$1,299.64
			Vacation	Vacation	72.00	$1,557.52
Melton, Brenda H.	CHAT-Customer Service	Meter Reader	Float holiday	Float Holidy	16.00	$350.32
			Holiday	Holiday	72.00	$1,579.04
			Other	Jury Duty	8 00	$172 56
				Med w/ Pay	4 00	$86 29
				Susp no pay	32.00	$0.00
			Out of Dept.	Training	4.00	$86.28
			Overtime	OT 1.50 NS	19.00	$620.84
			Regular	Regular	1,704.00	$37,134.89
			Vacation	Vacation	240.00	$5,192.40
Miller, Steve	CHAT-Production	Guard	Other	Pay Adjust	0.00	$1,007.10
			Regular	Regular	61.58	$1,108.44
Montijo, Joseph B.	CHAT-Production	Guard	Other	Pay Adjust	0.00	$289.50
			Regular	Regular	16.25	$292.50
Moorhouse, James S.	CHAT-Production	Supvr Production	Regular	Reg Override	0 00	$0 00
				Regular	200.00	$6,028.83
Morgan, Donald R.	CHAT-Field Services	Utility Worker	Float holiday	Float Holidy	14.50	$308.36
			Holiday	Holiday	72.00	$1,552.00
			Meal money	Meal Taxable	0.00	$116.00
			Other	Exc w/o Pay	4 00	$0 00
				Med w/ Pay	5.50	$116.60
			Out of Dept.	Training	4.00	$84.80
			Overtime	OT 1.50 NS	48.75	$1,569.93
			Regular	Regular	1,884.00	$40,316.16
			Sick	Sick	48.00	$1,027.84
			Vacation	Vacation	48.00	$1,022.72
Morrison, Leah T.	CHAT-Customer Service	Supvr Field Operations	Float holiday	Float Holidy	32.00	$981.52
			Holiday	Holiday	72.00	$2,208.42
			Out of Dept.	Training	38.00	$1,165.56
			Regular	Regular	1,594.00	$48,577.86
			Sick	Family Sick	8 00	$245.38
				Sick	88.00	$2,699 18
				Sick Banked	96.00	$2,944.56
			Vacation	Vac Prior Yr	32 00	$981 52
				Vacation	120.00	$3,680.70
Moses, Michael S.	CHAT-Field Services	Truck Driver/Utility Worker	Float holiday	Float Holidy	16.00	$345.79
			Holiday	Holiday	72.00	$1,572.88
			Meal money	Meal Taxable	0.00	$756.00
			Other	Med w/ Pay	13.00	$282.11
			Overtime	OT 1 0 NS	1.75	$37 93
				OT 1.50 NS	316 25	$10,369 35
				OT 1.50 SCH	4 00	$128 94
				OT 2.0 NS	18.75	$813.56
			Regular	Regular	1,739.00	$37,724.94
			Vacation	Vacation	240.00	$5,193.44
Mount, Jason D.	CHAT-Customer Service	Field Services Representative	Holiday	Holiday	24 00	$526 56

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Mount, Jason D.	CHAT-Customer Service	Field Services Representative	Other	Exc w/o Pay	0.50	$0.00
			Overtime	OT 1.50 NS	0.50	$16.46
			Regular	Regular	639.50	$14,030.63
			Sick	Sick	40.00	$877.60
				Sick w/o Pay	16.00	$0.00
			Vacation	Vacation	40.00	$877.60
Nartey, Kate S.	CHAT-Engineering	Engineer	Float holiday	Float Holidy	32.00	$795.36
			Holiday	Holiday	72.00	$1,789.65
			Out of Dept.	Training	40.00	$994.25
			Regular	Regular	1,814.50	$44,970.00
			Sick	Sick	89.50	$2,224.59
			Vacation	Vacation	32.00	$795.35
Norwood, R. Gary	CHAT-Field Services	Supvr Field Operations	Float holiday	Float Holidy	32.00	$1,052.32
			Holiday	Holiday	72.00	$2,367.72
			Out of Dept.	Training	32.00	$1,052.32
			Regular	Regular	1,696.00	$55,627.56
			Sick	Sick	24.00	$762.12
			Vacation	Vacation	224.00	$7,357.20
Odmann, Gary S.	CHAT-Production	Process Technician	Other	Pay Adjust	0.00	$15.36
O'Donnell, William T.	CHAT-Customer Service	Meter Repairer	Float holiday	Float Holidy	19.00	$420.51
			Holiday	Holiday	72.00	$1,592.40
			Other	Exc w/o Pay	0.25	$0.00
				Funeral	8.00	$179.28
				Med w/ Pay	10.75	$236.46
			Out of Dept.	Training	4.00	$87.00
			Overtime	OT 1.50 NS	12.50	$412.77
			Regular	Regular	1,866.25	$40,939.92
			Sick	Sick	19.75	$429.56
			Vacation	Vacation	80.00	$1,782.24
Partridge, Adrien L.	CHAT-Production	Lab Analyst	Float holiday	Float Holidy	32.00	$661.52
			Holiday	Holiday	72.00	$1,488.42
			Other	Med w/ Pay	2.00	$41.35
			Out of Dept.	Training	47.50	$981.95
			Regular	Regular	1,878.50	$38,834.53
			Vacation	Vacation	48.00	$992.33
Phillips, Chris K.	CHAT-Production	Guard	Other	Pay Adjust	0.00	$72.00
Pitman, Benjamin J.	CHAT-Production	Process Technician	Float holiday	Float Holidy	16.00	$398.32
			Holiday	Hol 1.5 NS	40.00	$1,521.36
				Holiday	32.00	$817.28
			Meal money	Meal Taxable	0.00	$10.50
			Other	Pay Adjust	0.00	$27.28
			Overtime	OT 1.50 NS	34.50	$1,296.13
				OT 1.50 SCH	104.00	$3,923.52
				OT 2.0 NS	32.00	$1,610.88
			Regular	Regular	1,408.00	$35,264.16
			Sick	Sick	496.00	$12,689.12
			Vacation	Vac Buy Out	0.00	$0.00
				Vac Payout	0.00	$825.28
				Vacation	160.00	$3,979.76
Robinson, C. Greg	CHAT-Customer Service	Field Service Person	Float holiday	Float Holidy	16.00	$402.72
			Holiday	Hol 2.5	64.50	$4,110.66
				Hol 3.0	24.00	$1,848.24
			Meal money	Meal Taxable	0.00	$31.50
			Other	Med w/ Pay	1.75	$44.05
			Overtime	OT 1.50 NS	34.00	$1,300.90
				OT 2.0 NS	8.00	$402.72
			Regular	Regular	1,829.25	$46,515.08
			Sick	Sick	1.00	$25.91
			Vacation	Vacation	200.00	$5,045.84
Russell, Brian S.	CHAT-Production	Guard	Other	Pay Adjust	0.00	$144.00
			Regular	Regular	8.00	$144.00
Russell, Linda H.	CHAT-Field Services	Distribution Clerk	Float holiday	Float Holidy	23.50	$480.75
			Holiday	Holiday	72.00	$1,479.52
			Other	Exc w/o Pay	8.00	$0.00
				Med w/ Pay	3.25	$66.00
			Out of Dept.	Training	4.00	$80.84
				Union Bus	1.50	$31.23
			Regular	Regular	1,687.75	$34,405.00

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Employee Name	Home Business Unit	Job Title	Pay Category	Pay Description	Sum of Hours	Sum of Amount
Russell, Linda H.	CHAT-Field Services	Distribution Clerk	Sick	Sick	40.00	$818.16
			Vacation	Vacation	240.00	$4,913.84
Satterfield, L. Donette	CHAT-Customer Service	Field Service Records Speciali	Float holiday	Float Holidy	15.50	$315.71
			Holiday	Holiday	72.00	$1,479.52
			Other	Med w/ Pay	3.25	$66.15
			Out of Dept.	Training	4.00	$80.84
			Overtime	OT 1.50 NS	97.50	$2,999.21
			Regular	Regular	1,849.25	$37,721.82
			Sick	Sick	8.00	$161.68
			Vacation	Vacation	128.00	$2,611.28
Scealf, Virginia B	CHAT-Field Services	Exec Asst	Float holiday	Float Holidy	32.00	$886.92
			Holiday	Holiday	72.00	$1,995.57
			Out of Dept.	Training	16.00	$443.45
			Regular	Regular	1,736.00	$47,936.60
			Vacation	Vac Prior Yr	8.00	$221.73
				Vacation	216.00	$5,977.33
Schleifer, Ronald C.	CHAT-Admin & Gen	Supvr NRW	Other	Jury Duty	23.00	$825.99
			Out of Dept.	Training	8.00	$287.30
			Regular	Regular	201.00	$7,218.65
			Vacation	Vacation	8.00	$287.30
Scruggs, Arthur L.	CHAT-Production	Laborer/Relief Process Tech	Float holiday	Float Holidy	28.00	$611.21
			Holiday	Holiday	72.00	$1,582.64
			Meal money	Meal Taxable	0.00	$10.50
			Other	Med w/ Pay	9.00	$199.78
			Overtime	OT 1.50 NS	14.00	$462.55
				OT 2.0 NS	4.00	$172.96
			Regular	Regular	1,771.00	$38,647.17
			Sick	Sick	24.00	$529.28
			Vacation	Vacation	176.00	$3,825.92
Seebeck, Jurgen D.	CHAT-Field Services	Truck Driver/Utility Worker	Float holiday	Float Holidy	7.50	$161.82
			Holiday	Holiday	72.00	$1,572.88
			Meal money	Meal Taxable	0.00	$252.00
			Other	Funeral	8.00	$171.92
			Out of Dept.	Training	4.00	$85.96
			Overtime	OT 1.50 NS	92.25	$3,004.88
				OT 2.0 NS	25.50	$1,102.40
			Regular	Regular	1,820.50	$39,480.34
			Sick	Sick	88.00	$1,901.36
			Vacation	Vacation	80.00	$1,744.80
Skiles, Rick J.	CHAT-Customer Service	Meter Repairer	Float holiday	Float Holidy	14.00	$304.51
			Holiday	Holiday	72.00	$1,592.40
			Other	Exc w/o Pay	12.00	$0.00
				Med w/ Pay	1.50	$32.97
				Med WC	1.00	$21.75
			Out of Dept.	Training	4.00	$87.00
			Overtime	OT 1.50 NS	17.25	$568.23
			Regular	Regular	1,833.75	$40,275.96
			Sick	Sick	21.75	$487.42
			Vacation	Vacation	120.00	$2,610.00
Springs, James P.	CHAT-Customer Service	On & Off Man	Float holiday	Float Holidy	16.00	$356.78
			Holiday	Holiday	72.00	$1,590.56
			Other	Funeral	8.00	$179.04
				Med w/ Pay	5.00	$109.63
			Overtime	OT 1.50 NS	24.25	$794.33
				OT 2.0 NS	4.00	$179.04
			Regular	Regular	1,384.50	$30,366.32
			Sick	Sick	322.50	$7,007.93
			Vacation	Vacation	272.00	$6,014.56
Stafford, Jeffrey R.	CHAT-Customer Service	Field Services Representative	Float holiday	Float Holidy	22.50	$506.85
			Holiday	Holiday	72.00	$1,606.08
			Other	Med w/ Pay	10.00	$221.06
			Out of Dept.	Training	8.00	$178.16
			Regular	Regular	1,853.50	$41,011.31
			Sick	Sick	32.00	$717.92
			Vacation	Vacation	80.00	$1,781.60
Stanley, Ralph J.	CHAT-Field Services	Truck Driver/Utility Worker	Float holiday	Float Holidy	16.00	$354.08
			Holiday	Holiday	72.00	$1,572.88
			Meal money	Meal Taxable	0.00	$126.00

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Stanley, Ralph J.	CHAT-Field Services	Truck Driver/Utility Worker	Out of Dept.	Training	4.00	$85.96
			Overtime	OT 1.50 NS	56.75	$1,873.04
			Regular	Regular	1,868.00	$40,511.96
			Vacation	Vacation	120.00	$2,594.16
Steed, Cynthia A.	CHAT-Customer Service	Field Services Representative	Float holiday	Float Holidy	15.50	$349.97
			Holiday	Holiday	72.00	$1,606.08
			Other	Exc w/o Pay	1.00	$0.00
				Med w/ Pay	0.50	$10.97
			Out of Dept.	Training	8.00	$178.16
			Overtime	OT 1.50 NS	1.00	$33.41
			Regular	Regular	1,791.00	$39,672.06
			Sick	Sick	32.00	$702.08
			Vacation	Vacation	160.00	$3,526.24
Stephens, Ricky E.	CHAT-Field Services	Truck Driver/Utility Worker	Float holiday	Float Holidy	16.00	$352.16
			Holiday	Holiday	72.00	$1,572.88
			Other	Med w/ Pay	16.00	$343.85
			Overtime	OT 1.50 NS	2.75	$91.05
			Regular	Regular	1,800.00	$39,048.40
			Sick	Sick	40.00	$859.60
			Vacation	Vacation	136.00	$2,943.12
Stone, Heather J.	CHAT-Production	Guard	Other	Pay Adjust	0.00	$576.00
			Regular	Regular	36.00	$648.00
Talley, Dustin L.	CHAT-Customer Service	Field Services Representative	Float holiday	Float Holidy	9.00	$197.46
			Holiday	Hol w/o Pay	16.00	$0.00
				Holiday	56.00	$1,255.04
			Other	Exc w/o Pay	9.00	$0.00
			Out of Dept.	Training	4.00	$87.76
			Overtime	OT 1.50 NS	0.50	$16.46
			Regular	Regular	1,786.00	$39,590.74
Taylor, Morris	CHAT-Field Services	Truck Driver/Utility Worker	Float holiday	Float Holidy	17.00	$368.53
			Holiday	Holiday	72.00	$1,572.88
			Meal money	Meal Taxable	0.00	$430.50
			Other	Med w/ Pay	16.00	$343.86
			Out of Dept.	Training	4.00	$85.96
			Overtime	OT 1.50 NS	160.00	$5,211.40
				OT 2.0 NS	28.25	$1,230.83
			Regular	Regular	1,731.00	$37,564.69
			Sick	Sick	96.00	$2,068.16
			Vacation	Vacation	144.00	$3,115.04
Taylor, Randal D.	CHAT-Engineering	Engineering Project Manager	Holiday	Holiday	72.00	$2,869.65
			Regular	Regular	1,792.00	$71,248.12
			Sick	Sick	8.00	$318.85
			Vacation	Vacation	208.00	$8,259.50
Thornton, Rebecca L.	CHAT-Human Resources	Sr HR Generalist	Float holiday	Float Holidy	32.00	$1,154.64
			Holiday	Holiday	72.00	$2,597.94
			Other	Meeting	32.00	$1,154.52
			Out of Dept.	Training	33.00	$1,190.72
			Regular	Regular	1,783.00	$64,060.64
			Sick	Sick	56.00	$2,020.56
			Vacation	Vacation	72.00	$2,597.94
Timmons, Lucas P.	CHAT-Production	Guard	Other	Pay Adjust	0.00	$72.00
			Regular	Regular	4.00	$72.00
Tucker, Shirley A.	CHAT-Engineering	Engineering Clerk	Float holiday	Float Holidy	16.00	$332.37
			Holiday	Holiday	72.00	$1,479.52
			Other	Med w/ Pay	10.25	$208.09
			Overtime	OT 1.50 NS	113.00	$3,425.66
			Regular	Regular	1,717.75	$35,032.80
			Sick	Sick	64.00	$1,298.32
			Vacation	Vacation	200.00	$4,085.92
Turley, D. Mark	CHAT-Field Services	Specialist Opns	Float holiday	Float Holidy	27.00	$758.73
			Holiday	Holiday	72.00	$2,023.29
			Out of Dept.	Training	16.50	$463.66
			Regular	Regular	1,716.50	$48,118.36
			Sick	Sick	8.00	$224.81
			Vacation	Vacation	240.00	$6,738.15
Upshaw, Barbara J.	CHAT-Production	Laboratory Worker	Float holiday	Float Holidy	16.00	$333.76
			Holiday	Holiday	72.00	$1,482.40
			Other	Med w/ Pay	1.00	$20.25

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					Data	
Employee Name	Home Business Unit	Job Title	Pay Category	Pay Description	Sum of Hours	Sum of Amount
Upshaw, Barbara J.	CHAT-Production	Laboratory Worker	Regular	Regular	1,567.00	$32,029.43
			Sick	Sick	152.00	$3,078.00
			Vacation	Vacation	272.00	$5,566.56
Vaughn, Dianna L.	CHAT-Production	Production Clerk	Float holiday	Float Holidy	12.00	$247.41
			Holiday	Holiday	72.00	$1,479.52
			Meal money	Meal Taxable	0.00	$52.50
			Other	Med w/ Pay	4.00	$80.85
			Overtime	OT 1.50 NS	18.00	$545.68
				OT 1.50 SCH	1.00	$30.32
			Regular	Regular	1,688.00	$34,436.58
			Sick	Sick	56.00	$1,141.52
			Vacation	Vacation	248.00	$5,051.12
Walden, Herman F.	CHAT-Field Services	Heavy Equipment Operator	Float holiday	Float Holidy	16.00	$356.80
			Holiday	Holiday	72.00	$1,584.80
			Meal money	Meal Taxable	0.00	$546.00
			Other	AIP PO - BD	0.00	-$10.50
				Exc w/o Pay	1.75	$0.00
				Med w/ Pay	9.25	$200.29
			Out of Dept.	Training	4.00	$86.60
			Overtime	OT 1.50 NS	242.00	$7,966.29
				OT 2.0 NS	14.00	$614.00
			Regular	Regular	1,681.00	$36,709.75
			Sick	Sick	56.00	$1,212.40
			Vacation	Vacation	240.00	$5,268.80
Walker, Melvin B.	CHAT-Production	Master M Mechanic	Float holiday	Float Holidy	16.00	$403.61
			Holiday	Holiday	72.00	$1,795.04
			Meal money	Meal Taxable	0.00	$21.00
			Other	Funeral	24.00	$606.24
			Out of Dept.	Training	16.00	$392.32
			Overtime	OT 1.50 NS	15.00	$557.82
				OT 2.0 NS	12.00	$600.32
			Regular	Regular	1,784.00	$44,123.12
			Sick	Sick	48.00	$1,188.80
			Vacation	Vacation	120.00	$2,977.92
Watson, John S.	CHAT-Field Services	General Manager States	Float holiday	Float Holidy	32.00	$1,825.36
			Holiday	Holiday	72.00	$4,107.06
			Other	Meeting	92.00	$5,247.91
			Out of Dept.	Training	7.00	$399.30
			Regular	Regular	1,701.00	$96,677.58
			Sick	Sick	8.00	$456.34
			Vacation	Vac Prior Yr	56.00	$3,155.23
				Vacation	112.00	$6,388.88
Watts, Daniel L.	CHAT-Field Services	Heavy Equipment Operator	Float holiday	Float Holidy	24.00	$524.81
			Holiday	Holiday	72.00	$1,584.80
			Meal money	Meal Taxable	0.00	$273.00
			Other	Med w/ Pay	10.00	$217.48
			Out of Dept.	Training	4.00	$86.60
			Overtime	OT 1.0 NS	2.50	$54.13
				OT 1.50 NS	115.25	$3,774.71
				OT 2.0 NS	31.50	$1,369.15
			Regular	Regular	1,834.25	$40,079.92
			Sick	Sick	56.00	$1,228.00
			Vacation	Vacation	80.00	$1,742.40
Weathers, Edward E.	CHAT-Production	Maintenance Mechanic	Float holiday	Float Holidy	16.00	$387.33
			Holiday	Holiday	72.00	$1,729.76
			Meal money	Meal Taxable	0.00	$42.00
			Other	Med w/ Pay	14.50	$349.39
			Overtime	OT 1.50 NS	27.50	$989.65
				OT 2.0 NS	5.00	$237.72
			Regular	Regular	1,646.75	$39,276.60
			Sick	Sick	97.75	$2,355.27
			Vacation	Vacation	232.00	$5,493.52
Welch, Billy J.	CHAT-Field Services	Heavy Equipment Operator	Float holiday	Float Holidy	16.00	$351.60
			Holiday	Holiday	72.00	$1,584.80
			Meal money	Meal Taxable	0.00	$126.00
			Out of Dept.	Training	4.00	$86.60
			Overtime	OT 1.50 NS	58.00	$1,929.90
			Regular	Regular	1,888.00	$41,270.40

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Employee Name	Home Business Unit	Job Title	Pay Category	Pay Description	Sum of Hours	Sum of Amount
Welch, Billy J.	CHAT-Field Services	Heavy Equipment Operator	Sick	Sick	20.00	$433.00
			Vacation	Vacation	80.00	$1,732.00
Wiertel, Steven A.	CHAT-Production	Guard	Other	Pay Adjust	0.00	$289.20
			Regular	Regular	12.00	$216.00
Williams, Derick D.	CHAT-Customer Service	Field Services Representative	Float holiday	Float Holidy	32.00	$712.64
			Holiday	Holiday	72.00	$1,606.08
			Other	Med w/ Pay	2.00	$43.88
			Out of Dept.	Training	4.00	$87.76
			Overtime	OT 1.50 NS	0.25	$8.48
			Regular	Regular	1,850.00	$40,985.00
			Sick	Sick	40.00	$877.60
			Vacation	Vac PO NoPen	0.00	$0.00
				Vacation	80.00	$1,755.20
Williams, Faye J.	CHAT-Engineering	Engineering Clerk	Float holiday	Float Holidy	8.00	$162.00
			Holiday	Holiday	72.00	$1,479.52
			Other	Jury Duty	40.00	$808.40
				Med w/ Pay	12.50	$253.24
			Overtime	OT 1.50 NS	105.50	$3,201.02
			Regular	Regular	1,747.50	$35,647.93
			Sick	Sick	40.00	$823.04
			Vacation	Vacation	160.00	$3,258.00
Wilson Jr , V. Keith	CHAT-Field Services	Truck Driver/Utility Worker	Float holiday	Float Holidy	16.00	$351.52
			Holiday	Holiday	72.00	$1,572.88
			Meal money	Meal Taxable	0.00	$325.50
			Other	Funeral	32.00	$687.68
				Med w/ Pay	2.00	$43.62
			Out of Dept.	Training	4.00	$85.96
			Overtime	OT 1.0 NS	0.75	$16.60
				OT 1.50 NS	83.25	$2,717.89
				OT 2.0 NS	62.75	$2,704.68
			Regular	Regular	1,618.00	$35,074.84
			Sick	Sick	96.00	$2,098.88
			Vacation	Vacation	240.00	$5,213.92
			Workmen's Compe	WC Paid	0.00	-$10.24
Worrell, David T.	CHAT-Production	Process Technician	Holiday	Hol 1.5 NS	24.00	$902.40
				Holiday	40.00	$1,019.92
			Other	Pay Adjust	0.00	$21.62
			Overtime	OT 1.50 NS	26.75	$1,005.73
				OT 1.50 SCH	88.00	$3,325.80
				OT 2.0 NS	31.00	$1,548.94
			Regular	Regular	1,257.00	$31,438.49
			Sick	Sick	8.00	$200.80
			Vacation	Vacation	512.00	$13,019.04
Wortham, Deborah S.	CHAT-Engineering	Engineering Clerk	Float holiday	Float Holidy	23.50	$482.26
			Holiday	Holiday	80.00	$1,641.20
			Other	Med w/ Pay	2.50	$52.05
			Regular	Reg Override	0.00	$0.00
				Regular	582.00	$11,987.62
			Sick	Sick w/o Pay	1,096.00	$0.00
			Vacation	Vacation	296.00	$6,123.68
Zinnanti, Mark J.	CHAT-Production	Supt Production	Holiday	Holiday	40.00	$1,730.75
			Regular	Regular	600.00	$25,961.49
			Vacation	Vacation	80.00	$3,461.62
		Supvr Production	Float holiday	Float Holidy	32.00	$1,235.36
			Holiday	Holiday	32.00	$1,235.40
			Regular	Regular	1,160.00	$44,659.73
			Sick	Sick	16.00	$617.66
			Vacation	Vacation	120.00	$4,632.59
Grand Total					230,935.62	$5,709,203.00

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Atkins, Kelly L	CHAT-Customer Service	Field Services Representative	Float holiday	Float Holidy	8.50	$191.77
			Holiday	Holiday	80.00	$1,786.88
			Other	Med w/ Pay	5.75	$127.64
			Out of Dept.	Training	4.00	$87.76
			Overtime	OT 1.50 NS	0.25	$8.48
			Regular	Regular	1,933.75	$42,900.19
			Sick	Sick	8.00	$175.52
			Vacation	Vacation	40.00	$904.00
Autry, Freddie L	CHAT-Field Services	Heavy Equipment Operator	Float holiday	Float Holidy	3.50	$76.43
			Holiday	Holiday	80.00	$1,763.20
			Meal money	Meal Taxable	0.00	$126.00
			Other	Med w/ Pay	4.50	$97.43
			Out of Dept.	Training	4.00	$86.60
			Overtime	OT 1.50 NS	67.50	$2,222.30
				OT 2.0 NS	21.00	$918.08
			Regular	Regular	1,796.00	$39,348.20
			Sick	Sick	16.00	$356.80
			Vacation	Vacation	176.00	$3,831.20
Banks, Kathleen A	CHAT-Production	Specialist Water Quality	Float holiday	Float Holidy	32.00	$935.36
			Holiday	Holiday	80.00	$2,338.50
			Regular	Regular	1,776.00	$51,913.82
			Sick	Sick	40.00	$1,169.21
			Vacation	Vacation	152.00	$4,443.07
Bartley, Rachel M	CHAT-Customer Service	Supvr Field Operations	Float holiday	Float Holidy	24.00	$1,004.43
			Holiday	Holiday	80.00	$3,348.10
			Other	Funeral	32.00	$1,339.24
				Lump Sum	0.00	$3,033.00
			Out of Dept.	Training	42.00	$1,757.74
			Regular	Regular	1,694.00	$70,895.51
			Vacation	Vac Prior Yr	40.00	$1,674.05
				Vacation	168.00	$7,031.01
Bednarski, Richard P	CHAT-Field Services	Truck Driver/Utility Worker	Float holiday	Float Holidy	4.00	$88.52
			Holiday	Holiday	80.00	$1,749.92
			Meal money	Meal Taxable	0.00	$136.50
			Out of Dept.	Training	4.00	$85.96
			Overtime	OT 1.50 NS	53.75	$1,765.52
				OT 2.0 NS	10.75	$470.68
			Regular	Regular	1,904.00	$41,375.24
			Sick	Sick	16.00	$354.08
			Vacation	Vacation	72.00	$1,567.76
Beets, James E	CHAT-Production	Laborer/Relief Process Tech	Holiday	Holiday	32.00	$702.24
			Meal money	Meal Taxable	0.00	$21.00
			Regular	Regular	584.00	$12,636.48
		Process Technician	Holiday	Hol 1.5 NS	24.00	$929.64
				Holiday	16.00	$400.96
			Other	Med w/ Pay	1.50	$37.58
			Overtime	OT 1.50 NS	16.00	$610.32
				OT 1.50 SCH	64.00	$2,436.84
				OT 2.0 NS	43.00	$2,202.18
			Regular	Regular	1,151.50	$29,102.02
Bennette, Michael J	CHAT-Field Services	Supvr Field Operations	Float holiday	Float Holidy	32.00	$1,099.24
			Holiday	Holiday	72.00	$2,473.29
			Other	Funeral	32.00	$1,099.24
			Out of Dept.	Training	44.00	$1,511.45
			Regular	Regular	1,692.00	$58,121.80
			Vacation	Vacation	208.00	$7,145.06
Betty, Steven W	CHAT-Production	Specialist Water Quality	Float holiday	Float Holidy	32.00	$843.84
			Holiday	Holiday	80.00	$2,109.60
			Other	Funeral	8.00	$210.96
			Regular	Regular	1,688.00	$44,513.08
			Sick	Sick	16.00	$421.92
			Vacation	Vacation	256.00	$6,750.72
Billups, Brian D	CHAT-Customer Service	Field Services Representative	Float holiday	Float Holidy	23.00	$509.24
			Holiday	Holiday	80.00	$1,786.88
			Other	Exc w/o Pay	12.25	$0.00
				Med w/ Pay	7.50	$166.53
			Out of Dept.	Training	4.00	$87.76
			Overtime	OT 1.50 NS	1.00	$32.92

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					Data	
Employee Name	Home Business Unit	Job Title	Pay Category	Pay Description	Sum of Hours	Sum of Amount
Billups, Brian D.	CHAT-Customer Service	Field Services Representative	Regular	Regular	1,859.25	$41,280.52
			Sick	Sick	54.00	$1,195.32
			Vacation	Vacation	40.00	$877.60
Bishop, Monty L.	CHAT-Field Services	Supt Field Operations	Float holiday	Float Holidy	32.00	$1,554.64
			Holiday	Holiday	80.00	$3,886.60
			Other	Meeting	104.00	$5,052.52
			Out of Dept.	Training	34.00	$1,651.81
			Regular	Regular	1,622.00	$78,799.61
			Sick	Sick	24.00	$1,165.98
			Vacation	Vac Prior Yr	24.00	$1,165.98
				Vacation	160.00	$7,772.90
Blankenship, Sheila M.	CHAT-Production	Guard	Other	Pay Adjust	0.00	$214.50
Blevins, Marvin R.	CHAT-Field Services	Supvr Field Operations	Float holiday	Float Holidy	26.00	$725.01
			Holiday	Holiday	64.00	$1,784.64
			Out of Dept.	Training	20.00	$557.70
			Regular	Regular	1,426.00	$39,763.38
			Sick	Family Sick	32.00	$892.32
			Vacation	Vacation	80.00	$2,230.80
		Supvr Opns II	Holiday	Holiday	8.00	$223.08
			Regular	Regular	104.00	$2,900.01
		Truck Driver/Utility Worker	Float holiday	Float Holidy	3.00	$64.47
			Holiday	Holiday	8.00	$171.92
			Meal money	Meal Taxable	0.00	$21.00
			Overtime	OT 1.50 NS	2.75	$88.66
				OT 2.0 NS	9.25	$397.57
			Regular	Regular	293.00	$6,296.57
			Vacation	Vacation	16.00	$343.84
Blevins, Timothy B.	CHAT-Customer Service	Field Services Representative	Float holiday	Float Holidy	19.50	$436.41
			Holiday	Holiday	80.00	$1,786.88
			Other	Med w/ Pay	4.50	$101.70
			Out of Dept.	Training	8.00	$175.52
			Overtime	OT 1.50 NS	9.25	$308.46
			Regular	Regular	1,904.00	$42,258.53
			Vacation	Vacation	64.00	$1,414.72
Blevins, Waylon T.	CHAT-Field Services	Truck Driver/Utility Worker	Float holiday	Float Holidy	9.50	$210.24
			Holiday	Holiday	80.00	$1,749.92
			Meal money	Meal Taxable	0.00	$378.00
			Out of Dept.	Training	4.00	$85.96
			Overtime	OT 1.50 NS	152.50	$5,014.55
			Regular	Regular	1,930.50	$41,961.66
			Sick	Sick	16.00	$343.84
			Vacation	Vacation	40.00	$869.84
Blevins, William L.	CHAT-Customer Service	Field Services Representative	Float holiday	Float Holidy	17.50	$390.22
			Holiday	Hol w/o Pay	16.00	$0.00
				Holiday	56.00	$1,260.32
			Other	Exc w/o Pay	3.00	$0.00
			Out of Dept.	Training	4.00	$87.76
			Regular	Regular	1,895.50	$42,087.88
Borders, Stephen A.	CHAT-Field Services	Truck Driver/Utility Worker	Float holiday	Float Holidy	19.50	$424.18
			Holiday	Holiday	80.00	$1,749.92
			Other	Exc w/o Pay	9.00	$0.00
				Funeral	64.00	$1,375.36
				Med w/ Pay	15.75	$341.68
			Out of Dept.	Training	4.00	$85.96
			Overtime	OT 1.50 NS	1.00	$33.20
			Regular	Regular	1,609.75	$34,991.95
			Sick	Sick	110.00	$2,417.66
			Vacation	Vacation	168.00	$3,635.92
Bowling, Stanley E.	CHAT-Field Services	Heavy Equipment Operator	Float holiday	Float Holidy	8.00	$173.20
			Holiday	Holiday	80.00	$1,763.20
			Meal money	Meal Taxable	0.00	$210.00
			Other	Med w/ Pay	16.00	$351.60
			Out of Dept.	Training	4.00	$86.60
			Overtime	OT 1.0 NS	0.75	$16.73
				OT 1.50 NS	91.50	$3,011.73
			Regular	Regular	1,674.00	$36,604.81
			Sick	Sick	90.00	$2,001.80
			Vacation	Vacation	208.00	$4,581.20

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					Data	
Employee Name	Home Business Unit	Job Title	Pay Category	Pay Description	Sum of Hours	Sum of Amount
Boyer, John B.	CHAT-Customer Service	Field Services Representative	Float holiday	Float Holidy	17.00	$376.94
			Holiday	Holiday	80.00	$1,786.88
			Other	Funeral	32.00	$723.20
				Med w/ Pay	5.50	$121.67
			Out of Dept.	Training	4.00	$87.76
			Overtime	OT 1.50 NS	8.00	$265.09
			Regular	Regular	1,829.50	$40,583.09
			Sick	Sick	16.00	$351.04
			Vacation	Vacation	96.00	$2,143.20
Bradley, Chad	CHAT-Production	Guard	Other	Pay Adjust	0.00	$72.00
Bratcher, Neil F.	CHAT-Production	Supvr Production	Float holiday	Float Holidy	32.00	$1,001.57
			Holiday	Holiday	80.00	$2,503.80
			Other	Funeral	32.00	$1,001.52
			Regular	Regular	1,752.00	$54,834.27
			Sick	Sick	16.00	$500.76
			Vacation	Vacation	168.00	$5,258.18
Bryden, Jeffrey C.	CHAT-Production	Guard	Other	Pay Adjust	0.00	$360.00
			Regular	Regular	21.38	$384.84
Burrell, Dale R.	CHAT-Production	Master M Mechanic	Float holiday	Float Holidy	14.50	$361.83
			Holiday	Holiday	80.00	$1,997.12
			Meal money	Meal Taxable	0.00	$42.00
			Other	Med w/ Pay	13.75	$339.00
			Out of Dept.	Training	8.00	$196.16
			Overtime	OT 1.50 NS	34.00	$1,273.01
				OT 2.0 NS	1.00	$50.52
			Regular	Regular	1,834.75	$45,511.99
			Sick	Sick	64.00	$1,598.88
			Vacation	Vacation	64.00	$1,575.20
Camp, Debbie H.	CHAT-Production	Process Technician	Float holiday	Float Holidy	24.00	$607.52
			Holiday	Hol 1.5 NS	64.00	$2,455.56
				Holiday	16.00	$397.92
			Other	Med w/ Pay	11.00	$275.95
				Pay Adjust	0.00	$8.88
			Overtime	OT 1.50 NS	88.00	$3,390.96
				OT 1.50 SCH	96.00	$3,640.20
				OT 2.0 NS	68.00	$3,489.24
			Regular	Regular	1,713.00	$43,400.63
			Sick	Sick	96.00	$2,448.24
			Vacation	Vacation	208.00	$5,222.40
Chrnalogar, Adam D.	CHAT-Production	Master M Mechanic	Float holiday	Float Holidy	16.25	$410.29
			Holiday	Holiday	80.00	$1,997.12
			Meal money	Meal Taxable	0.00	$21.00
			Other	Med w/ Pay	12.00	$297.94
			Out of Dept.	Training	16.00	$392.32
			Overtime	OT 1.50 NS	27.75	$1,041.46
				OT 2.0 NS	5.25	$259.31
			Regular	Regular	1,814.50	$45,016.76
			Sick	Sick	36.00	$897.52
			Vacation	Vacation	88.00	$2,169.60
Coates, J. David	CHAT-Production	Maintenance Mechanic	Float holiday	Float Holidy	16.00	$389.44
			Holiday	Holiday	80.00	$1,924.48
			Meal money	Meal Taxable	0.00	$21.00
			Other	Med w/ Pay	2.00	$47.26
			Overtime	OT 1.50 NS	31.75	$1,139.76
				OT 2.0 NS	16.00	$773.20
			Regular	Regular	1,702.00	$40,576.10
			Vacation	Vacation	280.00	$6,792.48
Collins, Steven L.	CHAT-Field Services	Truck Driver/Utility Worker	Float holiday	Float Holidy	8.00	$171.92
			Holiday	Holiday	80.00	$1,749.92
			Meal money	Meal Taxable	0.00	$52.50
			Other	Light Duty	104.00	$2,234.96
				Med w/ Pay	3.00	$66.39
			Out of Dept.	Training	4.00	$85.96
				Union Bus	1.50	$33.20
			Overtime	OT 1.50 NS	23.50	$772.42
			Regular	Regular	1,415.50	$30,846.30
			Sick	Sick	16.00	$354.08
			Vacation	Vacation	192.00	$4,177.28

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					Data	
Employee Name	Home Business Unit	Job Title	Pay Category	Pay Description	Sum of Hours	Sum of Amount
Collins, Steven L.	CHAT-Field Services	Truck Driver/Utility Worker	Workmen's Compe	WC Paid	256.00	$5,501.44
Cordell, Terry L.	CHAT-Production	Process Technician	Float holiday	Float Holidy	16.00	$407.52
			Holiday	Hol 1 5 NS	40.00	$1,517.64
				Holiday	40.00	$1,022.80
			Other	Med w/ Pay	8.50	$213.72
				Pay Adjust	0.00	$18.69
			Overtime	OT 1 25 SCH	8.00	$250.50
				OT 1 50 NS	40.00	$1,548.60
				OT 1 50 SCH	96.00	$3,631.80
				OT 2.0 NS	61.00	$3,116.50
			Regular	Regular	1,522.50	$38,393.60
			Sick	Sick	288.00	$7,234.24
			Vacation	Vacation	224.00	$5,680.32
Crane, Scott E.	CHAT-Field Services	Truck Driver/Utility Worker	Float holiday	Float Holidy	16.50	$361.63
			Holiday	Holiday	80.00	$1,749.92
			Meal money	Meal Taxable	0.00	$388.50
			Other	Funeral	8.00	$177.04
			Overtime	OT 1.0 NS	0.50	$11.07
				OT 1.50 NS	151.50	$4,981.53
				OT 2.0 NS	38.00	$1,676.76
			Regular	Regular	1,727.50	$37,548.03
			Sick	Sick	48.00	$1,041.76
			Vacation	Vacation	200.00	$4,344.08
Crutchfield, Patrick W.	CHAT-Field Services	Truck Driver/Utility Worker	Float holiday	Float Holidy	12.00	$264.29
			Holiday	Holiday	80.00	$1,749.92
			Other	Med w/ Pay	5.75	$125.65
			Out of Dept.	Training	4.00	$85.96
			Overtime	OT 1.50 NS	3.00	$99.59
			Regular	Regular	1,754.25	$38,128.25
			Sick	Sick	72.00	$1,578.00
			Vacation	Vacation	152.00	$3,292.08
Cummings, Pamela B.	CHAT-Field Services	Supvr Field Operations	Float holiday	Float Holidy	32.00	$1,210.02
			Holiday	Holiday	80.00	$3,025.00
			Other	Funeral	32.00	$1,210.00
				Meeting	1.00	$37.81
			Out of Dept.	Training	34.00	$1,285.63
			Regular	Regular	1,785.00	$67,495.31
			Sick	Sick	24.00	$907.50
			Vacation	Vac Prior Yr	16.00	$605.00
				Vacation	76.00	$2,873.73
Dalton, Kimberly M.	CHAT-Admin & Gen	Specialist Communications	Float holiday	Float Holidy	32.00	$893.86
			Holiday	Holiday	80.00	$2,234.60
			Other	Meeting	8.00	$223.46
			Out of Dept.	Training	9.00	$251.39
			Regular	Regular	1,751.00	$48,910.25
			Sick	Sick	16.00	$446.92
				Sick Banked	0.00	$0.00
			Vacation	Vac Prior Yr	24.00	$670.38
				Vacation	160.00	$4,469.26
Davis, Bennie J.	CHAT-Production	Relief Process Tech in Train	Float holiday	Float Holidy	2.00	$40.88
			Holiday	Holiday	32.00	$654.08
			Regular	Regular	382.00	$7,808.08
			Sick	Sick	408.00	$8,339.52
			Vacation	Vacation	440.00	$8,993.60
Dennison, Deborah R.	CHAT-Production	Guard	Other	Pay Adjust	0.00	$142.80
Derryberry, Jack S.	CHAT-Field Services	Heavy Equipment Operator	Float holiday	Float Holidy	11.00	$241.73
			Holiday	Holiday	80.00	$1,763.20
			Meal money	Meal Taxable	0.00	$220.50
			Other	Med w/ Pay	5.25	$113.67
			Out of Dept.	Training	4.00	$86.60
			Overtime	OT 1 50 NS	118.00	$3,890.08
				OT 2.0 NS	36.50	$1,600.93
			Regular	Regular	1,691.75	$37,062.23
			Sick	Sick	56.00	$1,222.80
			Vacation	Vacation	232.00	$5,069.60
Durham, Kimberly F.	CHAT-Production	Lab Analyst	Float holiday	Float Holidy	32.00	$692.35
			Holiday	Holiday	72.00	$1,557.72
			Other	Med w/ Pay	7.65	$165.50

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					Data	
Employee Name	Home Business Unit	Job Title	Pay Category	Pay Description	Sum of Hours	Sum of Amount
Durham, Kimberly F	CHAT-Production	Lab Analyst	Out of Dept.	Training	45.75	$989.81
			Regular	Regular	1,676.60	$36,272.49
			Sick	Sick	14.00	$302.89
			Vacation	Vac Prior Yr	32.00	$692.32
				Vacation	40.00	$865.40
Eady, R Glenn	CHAT-Customer Service	Field Service Person	Holiday	Hol 2.5	56.00	$3,554.20
				Hol 3.0	24.00	$1,821.84
			Meal money	Meal Taxable	0.00	$10.50
			Overtime	OT 1.50 NS	26.50	$1,006.55
				OT 2.0 NS	25.50	$1,284.41
			Regular	Regular	1,792.00	$45,371.52
			Vacation	Vacation	240.00	$6,095.04
Gamble, Robert A	CHAT-Field Services	Heavy Equipment Operator	Float holiday	Float Holidy	11.00	$241.10
			Holiday	Holiday	80.00	$1,763.20
			Meal money	Meal Taxable	0.00	$409.50
			Other	Med w/ Pay	8.00	$173.20
			Out of Dept.	Training	4.00	$86.60
			Overtime	OT 1.0 NS	3.50	$75.78
				OT 1.50 NS	156.50	$5,134.04
				OT 2.0 NS	37.00	$1,633.30
			Regular	Regular	1,865.00	$40,847.56
			Sick	Sick	56.00	$1,228.00
			Vacation	Vacation	56.00	$1,222.80
Grace, Renee R	CHAT-Field Services	Heavy Equipment Operator	Float holiday	Float Holidy	10.00	$220.73
			Holiday	Holiday	80.00	$1,763.20
			Other	Med w/ Pay	25.00	$549.22
			Out of Dept.	Training	4.00	$86.60
			Overtime	OT 1.50 NS	0.25	$8.36
			Regular	Regular	1,609.00	$35,249.08
			Sick	Sick	96.00	$2,125.20
			Vacation	Vacation	256.00	$5,568.40
Green, Joseph A	CHAT-Customer Service	Field Services Representative	Holiday	Holiday	48.00	$1,084.80
			Meal money	Meal Taxable	0.00	$10.50
			Out of Dept.	Training	4.00	$87.76
			Overtime	OT 1.50 NS	2.00	$116.61
			Regular	Regular	892.00	$20,725.12
			Sick	Sick	56.00	$1,265.60
			Vacation	Vacation	40.00	$904.00
	CHAT-Field Services	Field Services Representative	Regular	Regular	80.00	$1,755.20
Griffith, Michael J	CHAT-Customer Service	Field Services Representative	Float holiday	Float Holidy	16.00	$351.04
			Holiday	Holiday	32.00	$702.08
			Other	Med w/ Pay	6.50	$142.61
				Susp no pay	8.00	$0.00
			Regular	Regular	913.50	$20,042.19
			Sick	Sick	24.00	$526.56
			Vacation	Vacation	40.00	$877.60
	CHAT-Field Services	Truck Driver/Utility Worker	Float holiday	Float Holidy	0.50	$11.07
			Holiday	Holiday	48.00	$1,062.24
			Meal money	Meal Taxable	0.00	$178.50
			Other	Med w/ Pay	2.00	$44.26
			Out of Dept.	Training	4.00	$85.96
			Overtime	OT 1.50 NS	81.00	$2,686.43
			Regular	Regular	913.50	$20,100.56
			Sick	Sick	32.00	$708.16
			Vacation	Vacation	40.00	$859.60
Griffith, Vicki L	CHAT-Field Services	Sr Secretary (N)	Float holiday	Float Holidy	64.00	$1,320.00
			Holiday	Holiday	80.00	$1,650.00
			Regular	Regular	1,768.00	$36,465.23
			Sick	Sick	24.00	$495.00
			Vacation	Vacation	144.00	$2,970.03
Ha, Jason T	CHAT-Production	Master M Mechanic	Float holiday	Float Holidy	16.00	$398.61
			Holiday	Holiday	80.00	$1,997.12
			Meal money	Meal Taxable	0.00	$10.50
			Other	Med w/ Pay	8.00	$197.27
			Out of Dept.	Training	16.00	$392.32
			Overtime	OT 1.50 NS	21.75	$767.50
				OT 2.0 NS	5.25	$259.31
			Regular	Regular	1,821.75	$45,193.79

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					Data	
Employee Name	Home Business Unit	Job Title	Pay Category	Pay Description	Sum of Hours	Sum of Amount
Ha, Jason T.	CHAT-Production	Master M Mechanic	Sick	Sick	48.00	$1,188.80
			Vacation	Vacation	88.00	$2,181.44
Haddock, Gerald L.	CHAT-Field Services	Truck Driver/Utility Worker	Float holiday	Float Holidy	12.50	$276.32
			Holiday	Holiday	80.00	$1,749.92
			Meal money	Meal Taxable	0.00	$304.50
			Other	Exc w/o Pay	2.00	$0.00
				Light Duty	24.00	$515.76
				Med w/ Pay	12.75	$279.46
			Out of Dept.	Training	4.00	$85.96
			Overtime	OT 1.0 NS	0.75	$16.60
				OT 1.50 NS	106.25	$3,482.60
				OT 2.0 NS	33.75	$1,473.62
			Regular	Regular	1,709.75	$37,171.68
			Sick	Sick	51.00	$1,123.51
			Vacation	Vacation	184.00	$3,974.64
Harris, Edward D.	CHAT-Field Services	Heavy Equipment Operator	Float holiday	Float Holidy	16.00	$346.40
			Holiday	Holiday	80.00	$1,763.20
			Meal money	Meal Taxable	0.00	$535.50
			Other	Med w/ Pay	6.50	$140.73
			Out of Dept.	Training	4.00	$86.60
			Overtime	OT 1.0 NS	2.25	$48.71
				OT 1.50 NS	206.50	$6,769.01
				OT 2.0 NS	16.25	$703.63
			Regular	Regular	1,725.50	$37,799.10
			Sick	Sick	24.00	$524.80
			Vacation	Vacation	224.00	$4,901.60
Hart, Michael R.	CHAT-Production	Guard	Other	Pay Adjust	0.00	$525.90
			Regular	Regular	37.40	$673.20
Harvey, Robbie G.	CHAT-Engineering	CAD Drafter	Float holiday	Float Holidy	18.50	$381.36
			Holiday	Holiday	80.00	$1,649.28
			Other	Jury Duty	15.75	$318.95
				Med w/ Pay	6.50	$131.63
			Overtime	OT 1.50 NS	137.25	$4,189.69
			Regular	Regular	1,701.25	$34,860.27
			Sick	Sick	34.00	$696.43
			Vacation	Vacation	224.00	$4,579.92
Haws, Erich S.	CHAT-Field Services	Truck Driver/Utility Worker	Float holiday	Float Holidy	16.50	$360.36
			Holiday	Holiday	80.00	$1,749.92
			Meal money	Meal Taxable	0.00	$220.50
			Other	Med w/ Pay	2.50	$55.33
			Out of Dept.	Training	4.00	$85.96
			Overtime	OT 1.50 NS	63.25	$2,054.49
				OT 2.0 NS	36.00	$1,573.85
			Regular	Regular	1,849.00	$40,167.99
			Sick	Sick	32.00	$708.16
			Vacation	Vacation	96.00	$2,093.76
Hays, Chris L.	CHAT-Field Services	Truck Driver/Utility Worker	Float holiday	Float Holidy	5.50	$119.48
			Holiday	Holiday	80.00	$1,749.92
			Meal money	Meal Taxable	0.00	$525.00
			Other	Med w/ Pay	9.00	$202.95
			Overtime	OT 1.50 NS	160.50	$5,242.39
				OT 2.0 NS	65.25	$2,834.54
			Regular	Regular	1,793.50	$40,283.35
			Sick	Sick	24.00	$531.12
			Vacation	Vacation	168.00	$3,729.36
Hays, Karen Denise	CHAT-Customer Service	Meter Reader	Float holiday	Float Holidy	12.00	$262.43
			Holiday	Holiday	80.00	$1,756.80
			Other	Light Duty	24.00	$517.68
				Med w/ Pay	18.00	$388.26
			Out of Dept.	Training	4.00	$86.28
			Overtime	OT 1.50 NS	7.00	$228.46
			Regular	Regular	1,710.00	$37,317.94
			Sick	Sick	56.00	$1,233.92
			Vacation	Vacation	176.00	$3,832.72
Hester, Herbert F.	CHAT-Customer Service	Field Services Representative	Float holiday	Float Holidy	16.50	$367.62
			Holiday	Holiday	80.00	$1,786.88
			Out of Dept.	Training	8.00	$178.16
			Overtime	OT 1.50 NS	0.50	$16.71

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Employee Name	Home Business Unit	Job Title	Pay Category	Pay Description	Sum of Hours	Sum of Amount
Hester, Herbert F.	CHAT-Customer Service	Field Services Representative	Regular	Regular	1,897.50	$42,119.22
			Sick	Sick	38.00	$839.00
			Vacation	Vacation	40.00	$882.88
Hicks Jr., Worn	CHAT-Customer Service	On & Off Man	Float holiday	Float Holidy	8.00	$177.09
			Holiday	Holiday	80.00	$1,769.60
			Other	Med w/ Pay	3.25	$70.62
			Out of Dept.	Training	4.00	$86.92
			Overtime	OT 1.50 NS	16.50	$549.52
				OT 2.0 NS	4.00	$173.84
			Regular	Regular	1,704.75	$37,467.37
			Sick	Sick	8.00	$173.84
			Vacation	Vacation	272.00	$5,983.36
Highsmith, Kevin B.	CHAT-Field Services	Supvr Field Operations	Holiday	Holiday	8.00	$238.46
			Regular	Regular	272.00	$8,107.72
			Vacation	Vac Prior Yr	8.00	$238.46
				Vacation	32.00	$953.84
	CHAT-Loss Control	Specialist Security	Float holiday	Float Holidy	32.00	$807.68
			Holiday	Holiday	72.00	$1,817.28
			Out of Dept.	Training	53.00	$1,337.72
			Regular	Regular	1,443.00	$36,421.98
			Vacation	Vac Prior Yr	32.00	$807.68
				Vacation	128.00	$3,230.72
Hindman, Roy C.	CHAT-Field Services	Truck Driver/Utility Worker	Float holiday	Float Holidy	13.50	$295.88
			Holiday	Holiday	80.00	$1,749.92
			Meal money	Meal Taxable	0.00	$10.50
			Other	Jury Duty	8.00	$171.92
				Med w/ Pay	5.25	$114.27
			Out of Dept.	Training	4.00	$85.96
			Overtime	OT 1.50 NS	11.75	$385.50
			Regular	Regular	1,889.25	$41,079.30
			Vacation	Vacation	80.00	$1,724.32
Holmes, Susan T.	CHAT-Production	Supvr Water Quality	Float holiday	Float Holidy	31.00	$1,195.32
			Holiday	Holiday	80.00	$3,084.60
			Other	Jury Duty	11.00	$424.13
				Lump Sum	0.00	$1,800.00
				Med w/ Pay	8.50	$327.76
			Out of Dept.	Training	70.75	$2,727.96
			Regular	Regular	1,662.75	$64,112.00
			Vacation	Vac Prior Yr	16.00	$616.92
				Vacation	200.00	$7,711.69
Hughes Jr., James T.	CHAT-Field Services	Heavy Equipment Operator	Float holiday	Float Holidy	17.00	$373.90
			Holiday	Holiday	80.00	$1,763.20
			Meal money	Meal Taxable	0.00	$220.50
			Other	Exc w/o Pay	2.00	$0.00
				Jury Duty	8.00	$178.40
				Med w/ Pay	1.00	$21.65
			Out of Dept.	Training	4.00	$86.60
				Union Bus	3.00	$66.90
				UnionBus-NP	24.00	$0.00
			Overtime	OT 1.0 NS	0.25	$5.58
				OT 1.50 NS	85.50	$2,837.09
				OT 2.0 NS	15.50	$681.55
			Regular	Regular	1,581.00	$34,621.25
			Sick	Sick	112.00	$2,456.00
			Vacation	Vacation	248.00	$5,431.60
Hughes, Jane B.	CHAT-Field Services	Distribution Clerk	Float holiday	Float Holidy	13.50	$278.64
			Holiday	Holiday	80.00	$1,646.08
			Other	Exc w/o Pay	0.25	$0.00
				Jury Duty	22.25	$449.67
				Med w/ Pay	15.25	$314.49
			Out of Dept.	Training	3.50	$72.87
			Overtime	OT 1.50 NS	4.25	$132.51
			Regular	Regular	1,697.25	$34,687.30
			Vacation	Vacation	248.00	$5,080.40
Hughes, Kendall W.	CHAT-Production	Master M Mechanic	Float holiday	Float Holidy	8.50	$214.71
			Holiday	Holiday	80.00	$1,997.12
			Meal money	Meal Taxable	0.00	$42.00
			Other	Med w/ Pay	5.00	$122.60

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Employee Name	Home Business Unit	Job Title	Pay Category	Pay Description	Sum of Hours	Sum of Amount
Hughes, Kendall W.	CHAT-Production	Master M Mechanic	Out of Dept.	Training	16.00	$392.32
			Overtime	OT 1 50 NS	22.75	$856.18
				OT 2.0 NS	1.00	$50.52
			Regular	Regular	1,705.50	$42,261.75
			Sick	Sick	56.00	$1,373.12
			Vacation	Vacation	208.00	$5,218.56
Hutsell, Charlotte A.	CHAT-Production	Laborer/Relief Process Tech	Holiday	Holiday	24.00	$518.88
			Regular	Regular	603.00	$13,036.86
			Sick	Sick	16.00	$345.92
			Vacation	Vacation	144.00	$3,113.28
		Process Technician	Float holiday	Float Holidy	8.00	$203.44
			Holiday	Hol 1.5 NS	48.00	$1,831.32
				Holiday	8.00	$206.32
			Overtime	OT 1.50 NS	68.00	$2,587.26
				OT 1 50 SCH	72.00	$2,751.24
				OT 2.0 NS	41.00	$2,094.40
			Regular	Regular	1,141.00	$28,983.93
			Vacation	Vac Buy Out	0.00	$1,220.64
				Vacation	144.00	$3,667.68
Irvin, Russell J.	CHAT-Production	Guard	Other	Pay Adjust	0.00	$216.00
Jenkins, Lamar O.	CHAT-Customer Service	Field Services Representative	Float holiday	Float Holidy	25.00	$562.03
			Holiday	Holiday	80.00	$1,786.88
			Other	Exc w/o Pay	8.00	$0.00
				Med w/ Pay	8.50	$190.78
			Out of Dept.	Training	4.00	$87.76
			Regular	Regular	1,858.50	$41,232.88
			Sick	Sick	48.00	$1,068.96
			Vacation	Vacation	48.00	$1,063.68
Jenkins, Sammy R.	CHAT-Field Services	Truck Driver/Utility Worker	Float holiday	Float Holidy	17.50	$376.10
			Holiday	Holiday	64.00	$1,395.84
			Other	Med w/ Pay	12.50	$268.64
			Overtime	OT 2.0 NS	7.75	$333.10
			Regular	Regular	802.00	$17,235.02
			Sick	Sick	232.00	$4,985.68
			Vacation	Vacation	480.00	$10,514.88
Johnson, Courtney D.	CHAT-Customer Service	Field Services Representative	Float holiday	Float Holidy	12.00	$265.92
			Holiday	Holiday	80.00	$1,786.88
			Other	Med w/ Pay	2.00	$45.20
			Out of Dept.	Training	20.00	$438.80
			Overtime	OT 1.50 NS	0.25	$8.23
			Regular	Regular	1,902.00	$42,216.96
			Vacation	Vacation	64.00	$1,420.00
Johnson, Edward L.	CHAT-Customer Service	Field Services Representative	Float holiday	Float Holidy	20.50	$462.64
			Holiday	Holiday	80.00	$1,786.88
			Out of Dept.	Training	4.00	$87.76
			Regular	Reg .35 Prm	8.00	$175.52
				Regular	1,815.50	$40,278.56
			Sick	Sick	32.00	$723.20
			Vacation	Vacation	120.00	$2,659.20
Jones, Jeffrey A.	CHAT-Customer Service	Field Services Representative	Float holiday	Float Holidy	16.00	$357.64
			Holiday	Holiday	80.00	$1,786.88
			Out of Dept.	Training	4.00	$87.76
			Overtime	OT 1.50 NS	4.25	$140.12
			Regular	Regular	1,865.00	$41,395.28
			Sick	Sick	43.00	$966.52
			Vacation	Vacation	72.00	$1,579.68
Justice, Matthew W.	CHAT-Customer Service	Field Services Representative	Float holiday	Float Holidy	9.50	$209.75
			Holiday	Holiday	80.00	$1,786.88
			Other	Jury Duty	3.50	$76.79
				Med w/ Pay	12.00	$267.58
			Out of Dept.	Training	4.00	$87.76
			Overtime	OT 1.50 NS	14.25	$469.49
			Regular	Regular	1,803.00	$40,016.86
			Sick	Sick	64.00	$1,425.28
			Vacation	Vacation	104.00	$2,302.88
Kelley, Myra V.	CHAT-Customer Service	Field Service Records Speciali	Float holiday	Float Holidy	13.50	$279.25
			Holiday	Holiday	80.00	$1,646.08
			Other	Med w/ Pay	5.75	$117.13

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					Data	
Employee Name	Home Business Unit	Job Title	Pay Category	Pay Description	Sum of Hours	Sum of Amount
Kelley, Myra V.	CHAT-Customer Service	Field Service Records Speciali	Out of Dept.	Training	12.00	$247.40
			Overtime	OT 1.50 NS	163.25	$5,021.62
			Regular	Regular	1,776.75	$36,315.61
			Sick	Sick	48.00	$984.72
			Vacation	Vacation	144.00	$2,944.40
King, Elijah J.	CHAT-Field Services	Truck Driver/Utility Worker	Float holiday	Float Holidy	8.00	$171.92
			Holiday	Holiday	80.00	$1,749.92
			Meal money	Meal Taxable	0.00	$52.50
			Other	Med w/ Pay	4.75	$102.08
				Military	992.00	$21,809.60
			Overtime	OT 1.50 NS	27.50	$886.47
				OT 2.0 NS	9.00	$386.82
			Regular	Regular	843.25	$18,121.44
			Sick	Sick	32.00	$687.68
			Vacation	Vacation	120.00	$2,578.80
Knight, Stacy L.	CHAT-Customer Service	Field Services Representative	Float holiday	Float Holidy	23.50	$522.52
			Holiday	Holiday	80.00	$1,786.88
			Other	Exc w/o Pay	1.25	$0.00
				Med w/ Pay	3.25	$71.64
				Susp no pay	80.00	$0.00
			Out of Dept.	Training	8.00	$175.52
			Overtime	OT 1.50 NS	0.25	$8.23
			Regular	Regular	1,796.00	$39,802.73
			Sick	Sick	48.00	$1,074.24
			Vacation	Vacation	40.00	$904.00
Layne, Chase N.	CHAT-Customer Service	Field Services Representative	Float holiday	Float Holidy	16.00	$356.32
			Holiday	Hol w/o Pay	16.00	$0.00
				Holiday	56.00	$1,260.32
			Out of Dept.	Training	4.00	$87.76
			Overtime	OT 1.50 NS	1.25	$41.15
			Regular	Regular	1,868.00	$41,485.52
Mardis, Gregory H.	CHAT-Production	Guard	Other	Pay Adjust	0.00	$1,224.90
			Regular	Regular	60.00	$1,080.00
Markham, Brian J.	CHAT-Admin & Gen	Specialist Opns	Holiday	Holiday	8.00	$173.08
			Regular	Reg Override	0.00	$0.00
				Regular	192.00	$4,153.86
Martin JR, Charles	CHAT-Production	Guard	Other	Pay Adjust	0.00	$666.00
			Regular	Regular	52.84	$951.12
Martin, Tolly E.	CHAT-Field Services	Truck Driver/Utility Worker	Float holiday	Float Holidy	11.00	$240.24
			Holiday	Holiday	80.00	$1,749.92
			Meal money	Meal Taxable	0.00	$430.50
			Other	Med w/ Pay	17.00	$365.33
				Med WC	23.25	$514.53
			Out of Dept.	Training	4.00	$85.96
			Overtime	OT 1.50 NS	160.50	$5,240.50
				OT 2.0 NS	4.00	$171.92
			Regular	Regular	1,596.75	$34,730.65
			Sick	Sick	180.00	$3,888.68
			Vacation	Vacation	168.00	$3,646.16
Matthews, Larry H.	CHAT-Field Services	Truck Driver/Utility Worker	Float holiday	Float Holidy	16.00	$350.88
			Holiday	Holiday	80.00	$1,749.92
			Meal money	Meal Taxable	0.00	$714.00
			Other	Med w/ Pay	6.50	$139.69
			Out of Dept.	Training	4.00	$85.96
				Union Bus	6.00	$132.79
			Overtime	OT 1.0 NS	1.25	$27.67
				OT 1.50 NS	285.75	$9,361.44
				OT 2.0 NS	15.25	$669.85
			Regular	Regular	1,727.50	$37,579.03
			Vacation	Vacation	240.00	$5,183.20
McBay, David E.	SCUD-Admin & Gen	Specialist Opns	Float holiday	Float Holidy	32.00	$766.16
			Holiday	Holiday	80.00	$1,915.40
			Out of Dept.	Training	44.00	$1,053.47
			Regular	Regular	1,836.00	$43,958.18
			Vacation	Vac Prior Yr	16.00	$383.08
				Vacation	72.00	$1,723.85
McGhee, Brian S.	CHAT-Field Services	Utility Worker	Float holiday	Float Holidy	14.00	$298.40
			Holiday	Holiday	80.00	$1,726.72

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					Data	
Employee Name	Home Business Unit	Job Title	Pay Category	Pay Description	Sum of Hours	Sum of Amount
McGhee, Brian S.	CHAT-Field Services	Utility Worker	Meal money	Meal Taxable	0.00	$63.00
			Other	Med w/ Pay	3.50	$74.20
			Out of Dept.	Training	4.00	$84.80
			Overtime	OT 1.50 NS	33.25	$1,076.55
				OT 2.0 NS	14.75	$634.04
			Regular	Regular	1,914.50	$41,056.84
			Sick	Sick	40.00	$863.36
			Vacation	Vacation	24.00	$513.92
McLean, Wilbert	CHAT-Production	Guard	Other	Pay Adjust	0.00	$360.00
			Regular	Regular	22.92	$412.56
McNabb, David A.	CHAT-Field Services	Truck Driver/Utility Worker	Float holiday	Float Holidy	11.50	$249.38
			Holiday	Holiday	80.00	$1,749.92
			Meal money	Meal Taxable	0.00	$304.50
			Other	Med w/ Pay	8.50	$183.95
			Out of Dept.	Training	4.00	$85.96
			Overtime	OT 1.50 NS	144.75	$4,714.75
				OT 2.0 NS	28.75	$1,262.24
			Regular	Regular	1,836.00	$39,907.81
			Sick	Sick	44.00	$955.80
			Vacation	Vacation	96.00	$2,088.64
Melton, Brenda H.	CHAT-Customer Service	Meter Reader	Float holiday	Float Holidy	16.00	$350.32
			Holiday	Holiday	80.00	$1,756.80
			Other	Med w/ Pay	4.00	$86.29
				Susp no pay	32.00	$0.00
			Out of Dept.	Training	4.00	$86.28
			Overtime	OT 1.50 NS	17.00	$556.12
			Regular	Regular	1,696.00	$37,050.73
			Vacation	Vacation	248.00	$5,375.36
Miller, Steve	CHAT-Production	Guard	Other	Pay Adjust	0.00	$1,007.10
			Regular	Regular	61.58	$1,108.44
Montijo, Joseph B.	CHAT-Production	Guard	Other	Pay Adjust	0.00	$289.50
			Regular	Regular	16.25	$292.50
Moorhouse, James S.	CHAT-Production	Supvr Production	Holiday	Holiday	8.00	$241.15
			Regular	Reg Override	0.00	$0.00
				Regular	352.00	$10,610.76
Morgan, Donald R.	CHAT-Field Services	Utility Worker	Float holiday	Float Holidy	13.50	$287.16
			Holiday	Holiday	80.00	$1,726.72
			Meal money	Meal Taxable	0.00	$126.50
			Other	Exc w/o Pay	4.00	$0.00
				Med w/ Pay	2.50	$53.00
			Out of Dept.	Training	4.00	$84.80
			Overtime	OT 1.50 NS	52.75	$1,700.97
				OT 2.0 NS	6.00	$262.08
			Regular	Regular	1,880.00	$40,328.64
			Sick	Sick	48.00	$1,027.84
			Vacation	Vacation	48.00	$1,022.72
Morrison, Leah T.	CHAT-Customer Service	Supvr Field Operations	Float holiday	Float Holidy	32.00	$981.52
			Holiday	Holiday	80.00	$2,453.80
			Out of Dept.	Training	38.00	$1,165.56
			Regular	Regular	1,530.00	$46,930.22
			Sick	Family Sick	8.00	$245.38
				Sick	88.00	$2,699.18
				Sick Banked	144.00	$4,416.84
			Vacation	Vac Prior Yr	40.00	$1,226.90
				Vacation	120.00	$3,680.70
Moses, Michael S.	CHAT-Field Services	Truck Driver/Utility Worker	Float holiday	Float Holidy	13.00	$281.32
			Holiday	Holiday	80.00	$1,749.92
			Meal money	Meal Taxable	0.00	$735.00
			Other	Med w/ Pay	13.00	$282.11
			Overtime	OT 1.0 NS	1.75	$37.93
				OT 1.50 NS	303.75	$9,969.75
				OT 1.50 SCH	4.00	$128.94
				OT 2.0 NS	18.75	$813.56
			Regular	Regular	1,686.00	$36,652.53
			Vacation	Vacation	288.00	$6,255.68
Mount, Jason D.	CHAT-Customer Service	Field Services Representative	Holiday	Holiday	24.00	$526.56
			Other	Exc w/o Pay	0.50	$0.00
			Overtime	OT 1.50 NS	0.50	$16.46

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Employee Name	Home Business Unit	Job Title	Pay Category	Pay Description	Sum of Hours	Sum of Amount
Mount, Jason D.	CHAT-Customer Service	Field Services Representative	Regular	Regular	495.50	$10,871.27
			Sick	Sick	40.00	$877.60
			Vacation	Vacation	40.00	$877.60
Nartey, Kate S.	CHAT-Engineering	Engineer	Float holiday	Float Holidy	32.00	$795.36
			Holiday	Holiday	80.00	$1,988.50
			Out of Dept.	Training	40.00	$994.25
			Regular	Regular	1,806.50	$44,901.91
			Sick	Sick	89.50	$2,224.59
			Vacation	Vacation	32.00	$795.35
Norwood, R. Gary	CHAT-Field Services	Supvr Field Operations	Float holiday	Float Holidy	32.00	$1,052.32
			Holiday	Holiday	80.00	$2,630.80
			Out of Dept.	Training	32.00	$1,052.32
			Regular	Regular	1,680.00	$55,246.02
			Sick	Sick	24.00	$789.24
			Vacation	Vacation	232.00	$7,629.32
Odmann, Gary S.	CHAT-Production	Process Technician	Other	Pay Adjust	0.00	$15.36
O'Donnell, William T.	CHAT-Customer Service	Meter Repairer	Float holiday	Float Holidy	19.00	$420.51
			Holiday	Holiday	80.00	$1,771.68
			Other	Exc w/o Pay	0.25	$0.00
				Funeral	8.00	$179.28
				Med w/ Pay	12.00	$264.47
			Out of Dept.	Training	4.00	$87.00
			Overtime	OT 1.50 NS	12.50	$412.77
			Regular	Regular	1,849.00	$40,658.95
			Sick	Sick	27.75	$608.84
			Vacation	Vacation	80.00	$1,782.24
Partridge, Adrien L.	CHAT-Production	Lab Analyst	Float holiday	Float Holidy	36.00	$744.21
			Holiday	Holiday	80.00	$1,653.80
			Other	Med w/ Pay	2.00	$41.35
			Out of Dept.	Training	46.50	$961.28
			Regular	Regular	1,851.50	$38,276.37
			Vacation	Vac Prior Yr	16.00	$330.76
				Vacation	48.00	$992.33
Phillips, Chris K.	CHAT-Production	Guard	Other	Pay Adjust	0.00	$72.00
Pitman, Benjamin J.	CHAT-Production	Process Technician	Float holiday	Float Holidy	16.00	$398.32
			Holiday	Hol 1.5 NS	40.00	$1,521.36
				Holiday	40.00	$1,024.00
			Other	Pay Adjust	0.00	$27.28
			Overtime	OT 1.50 NS	26.50	$1,004.41
				OT 1.50 SCH	132.00	$5,021.10
				OT 2.0 NS	64.00	$3,263.44
			Regular	Regular	1,412.00	$35,533.12
			Sick	Sick	480.00	$12,294.08
			Vacation	Vac Buy Out	0.00	$0.00
				Vac Payout	0.00	$825.28
				Vacation	160.00	$3,979.76
Robinson, C. Greg	CHAT-Customer Service	Field Service Person	Float holiday	Float Holidy	16.00	$402.72
			Holiday	Hol 2.5	72.50	$4,628.86
				Hol 3.0	24.00	$1,848.24
			Meal money	Meal Taxable	0.00	$31.50
			Other	Med w/ Pay	1.75	$44.60
			Overtime	OT 1.50 NS	33.00	$1,263.14
			Regular	Regular	1,821.25	$46,425.65
			Sick	Sick	1.00	$25.91
			Vacation	Vacation	200.00	$5,045.84
Russell, Brian S.	CHAT-Production	Guard	Other	Pay Adjust	0.00	$144.00
			Regular	Regular	8.00	$144.00
Russell, Linda H.	CHAT-Field Services	Distribution Clerk	Float holiday	Float Holidy	15.50	$319.07
			Holiday	Holiday	80.00	$1,646.08
			Other	Exc w/o Pay	8.00	$0.00
				Med w/ Pay	3.25	$66.00
			Out of Dept.	Training	4.00	$80.84
				Union Bus	3.00	$62.46
			Regular	Regular	1,722.25	$35,191.61
			Sick	Sick	20.00	$416.40
			Vacation	Vacation	224.00	$4,590.48
Satterfield, L. Donette	CHAT-Customer Service	Field Service Records Speciali	Float holiday	Float Holidy	17.50	$357.35
			Holiday	Holiday	80.00	$1,646.08

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Employee Name	Home Business Unit	Job Title	Pay Category	Pay Description	Sum of Hours	Sum of Amount
Satterfield, L. Donette	CHAT-Customer Service	Field Service Records Speciali	Other	Med w/ Pay	3.25	$66.15
			Out of Dept.	Training	4.00	$80.84
			Overtime	OT 1.50 NS	93.50	$2,878.18
			Regular	Regular	1,831.25	$37,425.14
			Sick	Sick	8.00	$161.68
			Vacation	Vacation	136.00	$2,797.36
Scealf, Virginia B.	CHAT-Field Services	Exec Asst	Float holiday	Float Holidy	32.00	$886.92
			Holiday	Holiday	80.00	$2,217.30
			Out of Dept.	Training	16.00	$443.45
			Regular	Regular	1,720.00	$47,672.17
			Vacation	Vac Prior Yr	16.00	$443.46
				Vacation	216.00	$5,986.76
Schleifer, Ronald C.	CHAT-Admin & Gen	Supvr NRW	Holiday	Holiday	8.00	$287.30
			Other	Jury Duty	23.00	$825.99
			Out of Dept.	Training	8.00	$287.30
			Regular	Regular	345.00	$12,390.21
			Vacation	Vacation	16.00	$574.60
Scruggs, Arthur L.	CHAT-Production	Laborer/Relief Process Tech	Float holiday	Float Holidy	33.50	$735.32
			Holiday	Holiday	80.00	$1,760.80
			Meal money	Meal Taxable	0.00	$10.50
			Other	Med w/ Pay	9.00	$199.78
			Overtime	OT 1.50 NS	22.75	$754.84
				OT 2.0 NS	12.00	$529.28
			Regular	Regular	1,749.50	$38,270.74
			Sick	Sick	24.00	$529.28
			Vacation	Vacation	184.00	$4,004.08
Seebeck, Jurgen D.	CHAT-Field Services	Truck Driver/Utility Worker	Float holiday	Float Holidy	5.00	$108.09
			Holiday	Holiday	80.00	$1,749.92
			Meal money	Meal Taxable	0.00	$231.00
			Other	Funeral	8.00	$171.92
				Med w/ Pay	3.00	$66.39
			Out of Dept.	Training	4.00	$85.96
			Overtime	OT 1.50 NS	88.75	$2,896.87
				OT 2.0 NS	19.25	$833.77
			Regular	Regular	1,820.00	$39,564.94
			Sick	Sick	88.00	$1,901.36
			Vacation	Vacation	72.00	$1,572.88
Skiles, Rick J.	CHAT-Customer Service	Meter Repairer	Float holiday	Float Holidy	14.00	$304.51
			Holiday	Holiday	80.00	$1,771.68
			Other	Exc w/o Pay	12.00	$0.00
				Med w/ Pay	1.50	$32.97
				Med WC	1.00	$21.75
			Out of Dept.	Training	4.00	$87.00
			Overtime	OT 1.50 NS	17.50	$576.63
			Regular	Regular	1,825.75	$40,202.28
			Sick	Sick	21.75	$487.42
			Vacation	Vacation	120.00	$2,610.00
Springs, James P.	CHAT-Customer Service	On & Off Man	Float holiday	Float Holidy	14.00	$313.32
			Holiday	Holiday	80.00	$1,769.60
			Other	Funeral	8.00	$179.04
				Med w/ Pay	5.00	$109.63
			Overtime	OT 1.50 NS	24.25	$798.23
				OT 2.0 NS	4.00	$179.04
			Regular	Regular	1,381.00	$30,389.06
			Sick	Sick	320.00	$6,953.60
			Vacation	Vacation	272.00	$6,014.56
Stafford, Jeffrey R.	CHAT-Customer Service	Field Services Representative	Float holiday	Float Holidy	22.50	$506.85
			Holiday	Holiday	80.00	$1,786.88
			Other	Med w/ Pay	10.00	$221.06
			Out of Dept.	Training	8.00	$178.16
			Regular	Regular	1,845.50	$40,936.11
			Sick	Sick	32.00	$717.92
			Vacation	Vacation	80.00	$1,781.60
Stanley, Ralph J.	CHAT-Field Services	Truck Driver/Utility Worker	Float holiday	Float Holidy	16.00	$354.08
			Holiday	Holiday	80.00	$1,749.92
			Meal money	Meal Taxable	0.00	$115.50
			Out of Dept.	Training	4.00	$85.96
			Overtime	OT 1.50 NS	53.75	$1,776.33

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Employee Name	Home Business Unit	Job Title	Pay Category	Pay Description	Sum of Hours	Sum of Amount
Stanley, Ralph J.	CHAT-Field Services	Truck Driver/Utility Worker	Regular	Regular	1,860.00	$40,437.32
			Vacation	Vacation	120.00	$2,594.16
Steed, Cynthia A.	CHAT-Customer Service	Field Services Representative	Float holiday	Float Holidy	15.50	$349.97
			Holiday	Holiday	80.00	$1,786.88
			Other	Exc w/o Pay	1.00	$0.00
				Med w/ Pay	0.50	$10.97
			Out of Dept.	Training	8.00	$178.16
			Overtime	OT 1.50 NS	1.00	$33.41
			Regular	Regular	1,799.00	$39,947.90
			Sick	Sick	16.00	$351.04
			Vacation	Vacation	160.00	$3,526.24
Stephens, Ricky E.	CHAT-Field Services	Truck Driver/Utility Worker	Float holiday	Float Holidy	20.00	$440.68
			Holiday	Holiday	80.00	$1,749.92
			Other	Med w/ Pay	16.00	$343.85
			Overtime	OT 1.50 NS	2.75	$91.05
			Regular	Regular	1,788.00	$38,864.80
			Sick	Sick	40.00	$874.96
			Vacation	Vacation	136.00	$2,948.24
Stone, Heather J.	CHAT-Production	Guard	Other	Pay Adjust	0.00	$576.00
			Regular	Regular	36.00	$648.00
Talley, Dustin L.	CHAT-Customer Service	Field Services Representative	Float holiday	Float Holidy	9.00	$197.46
			Holiday	Hol w/o Pay	16.00	$0.00
				Holiday	64.00	$1,435.84
			Other	Exc w/o Pay	9.00	$0.00
			Out of Dept.	Training	4.00	$87.76
			Overtime	OT 1.50 NS	0.50	$16.46
			Regular	Regular	1,938.00	$43,025.94
Taylor, Morris	CHAT-Field Services	Truck Driver/Utility Worker	Float holiday	Float Holidy	12.00	$262.36
			Holiday	Holiday	80.00	$1,749.92
			Meal money	Meal Taxable	0.00	$430.50
			Other	Med w/ Pay	16.00	$343.86
			Out of Dept.	Training	4.00	$85.96
			Overtime	OT 1.50 NS	159.00	$5,182.05
				OT 2.0 NS	28.25	$1,230.83
			Regular	Regular	1,728.00	$37,580.84
			Sick	Sick	96.00	$2,068.16
			Vacation	Vacation	144.00	$3,130.40
Taylor, Randal D.	CHAT-Engineering	Engineering Project Manager	Holiday	Holiday	80.00	$3,188.50
			Regular	Regular	1,800.00	$71,740.24
			Sick	Sick	8.00	$318.85
			Vacation	Vacation	192.00	$7,652.37
Thornton, Rebecca L.	CHAT-Human Resources	Sr HR Generalist	Float holiday	Float Holidy	32.00	$1,154.64
			Holiday	Holiday	80.00	$2,886.60
			Other	Meeting	32.00	$1,154.52
			Out of Dept.	Training	33.00	$1,190.72
			Regular	Regular	1,775.00	$64,045.06
			Sick	Sick	56.00	$2,020.56
			Vacation	Vacation	72.00	$2,597.94
Timmons, Lucas P.	CHAT-Production	Guard	Other	Pay Adjust	0.00	$72.00
			Regular	Regular	4.00	$72.00
Tucker, Shirley A.	CHAT-Engineering	Engineering Clerk	Float holiday	Float Holidy	24.00	$498.93
			Holiday	Holiday	80.00	$1,646.08
			Other	Med w/ Pay	8.75	$177.77
			Overtime	OT 1.50 NS	102.25	$3,099.76
			Regular	Regular	1,719.25	$35,146.07
			Sick	Sick	64.00	$1,298.32
			Vacation	Vacation	184.00	$3,767.44
Turley, D. Mark	CHAT-Field Services	Specialist Opns	Float holiday	Float Holidy	27.00	$758.73
			Holiday	Holiday	80.00	$2,248.10
			Out of Dept.	Training	16.50	$463.66
			Regular	Regular	1,716.50	$48,235.29
			Sick	Sick	8.00	$224.81
			Vacation	Vacation	232.00	$6,519.49
Upshaw, Barbara J.	CHAT-Production	Laboratory Worker	Float holiday	Float Holidy	16.00	$333.76
			Holiday	Holiday	80.00	$1,649.28
			Other	Med w/ Pay	1.00	$20.25
			Regular	Regular	1,671.00	$34,213.51
			Sick	Sick	16.00	$324.00

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Employee Name	Home Business Unit	Job Title	Pay Category	Pay Description	Sum of Hours	Sum of Amount
Upshaw, Barbara J.	CHAT-Production	Laboratory Worker	Vacation	Vacation	296.00	$6,067.20
Vaughn, Dianna L.	CHAT-Production	Production Clerk	Float holiday	Float Holidy	9.50	$196.88
			Holiday	Holiday	80.00	$1,646.08
			Other	Med w/ Pay	14.00	$289.05
			Overtime	OT 1.50 SCH	1.00	$30.32
			Regular	Regular	1,680.50	$34,366.74
			Sick	Sick	56.00	$1,141.52
			Vacation	Vacation	240.00	$4,894.32
Walden, Herman F.	CHAT-Field Services	Heavy Equipment Operator	Float holiday	Float Holidy	16.00	$356.80
			Holiday	Holiday	80.00	$1,763.20
			Meal money	Meal Taxable	0.00	$504.00
			Other	Exc w/o Pay	1.75	$0.00
				Med w/ Pay	10.00	$217.34
			Out of Dept.	Training	4.00	$86.60
			Overtime	OT 1.50 NS	230.50	$7,597.70
				OT 2.0 NS	14.00	$614.00
			Regular	Regular	1,672.25	$36,618.29
			Sick	Sick	56.00	$1,212.40
			Vacation	Vacation	240.00	$5,268.80
Walker, Melvin B.	CHAT-Production	Master M Mechanic	Float holiday	Float Holidy	16.00	$403.61
			Holiday	Holiday	80.00	$1,997.12
			Meal money	Meal Taxable	0.00	$21.00
			Other	Funeral	24.00	$606.24
			Out of Dept.	Training	16.00	$392.32
			Overtime	OT 1.50 NS	20.00	$750.32
				OT 2.0 NS	12.00	$600.32
			Regular	Regular	1,792.00	$44,431.76
			Sick	Sick	32.00	$796.48
			Vacation	Vacation	120.00	$2,977.92
Watson, John S.	CHAT-Field Services	General Manager States	Float holiday	Float Holidy	32.00	$1,825.36
			Holiday	Holiday	80.00	$4,563.40
			Other	Meeting	132.00	$7,529.73
			Out of Dept.	Training	7.00	$399.30
			Regular	Regular	1,669.00	$95,205.19
			Sick	Sick	8.00	$456.34
			Vacation	Vac Prior Yr	40.00	$2,281.76
				Vacation	112.00	$6,388.88
Watts, Daniel L.	CHAT-Field Services	Heavy Equipment Operator	Float holiday	Float Holidy	12.00	$265.00
			Holiday	Holiday	80.00	$1,763.20
			Meal money	Meal Taxable	0.00	$252.00
			Other	Med w/ Pay	10.00	$217.48
			Out of Dept.	Training	4.00	$86.60
			Overtime	OT 1.0 NS	2.50	$54.13
				OT 1.50 NS	109.50	$3,588.46
				OT 2.0 NS	25.00	$1,087.70
			Regular	Regular	1,830.25	$40,086.91
			Sick	Sick	56.00	$1,228.00
			Vacation	Vacation	88.00	$1,920.80
Weathers, Edward E.	CHAT-Production	Maintenance Mechanic	Float holiday	Float Holidy	16.00	$387.33
			Holiday	Holiday	80.00	$1,924.48
			Meal money	Meal Taxable	0.00	$42.00
			Other	Med w/ Pay	14.50	$349.39
			Overtime	OT 1.50 NS	27.50	$989.65
				OT 2.0 NS	1.00	$48.68
			Regular	Regular	1,654.75	$39,567.88
			Sick	Sick	81.75	$1,977.19
			Vacation	Vacation	232.00	$5,493.52
Welch, Billy J.	CHAT-Field Services	Heavy Equipment Operator	Float holiday	Float Holidy	16.00	$351.60
			Holiday	Holiday	80.00	$1,763.20
			Meal money	Meal Taxable	0.00	$115.50
			Out of Dept.	Training	4.00	$86.60
			Overtime	OT 1.50 NS	55.00	$1,832.47
			Regular	Regular	1,880.00	$41,196.00
			Sick	Sick	20.00	$433.00
			Vacation	Vacation	80.00	$1,732.00
Wiertel, Steven A.	CHAT-Production	Guard	Other	Pay Adjust	0.00	$289.20
			Regular	Regular	12.00	$216.00
Williams, Derick D.	CHAT-Customer Service	Field Services Representative	Float holiday	Float Holidy	32.00	$712.64

Tennessee American Water Company
Docket No. 08-00039
CAPD DR 1 Part 4 Question 18

12 months ending March 2008

					Data	
Employee Name	Home Business Unit	Job Title	Pay Category	Pay Description	Sum of Hours	Sum of Amount
Williams, Derick D	CHAT-Customer Service	Field Services Representative	Holiday	Holiday	80.00	$1,786.88
			Out of Dept.	Training	4.00	$87.76
			Overtime	OT 1.50 NS	0.25	$8.48
			Regular	Regular	1,836.00	$40,772.88
			Sick	Sick	48.00	$1,058.40
			Vacation	Vac PO NoPen	0.00	$0.00
				Vacation	80.00	$1,755.20
Williams, Faye J	CHAT-Engineering	Engineering Clerk	Float holiday	Float Holidy	5.50	$112.69
			Holiday	Holiday	80.00	$1,646.08
			Other	Jury Duty	40.00	$808.40
				Med w/ Pay	12.50	$253.24
			Overtime	OT 1.50 NS	105.50	$3,201.02
			Regular	Regular	1,718.00	$35,109.07
			Sick	Sick	56.00	$1,156.16
			Vacation	Vacation	168.00	$3,444.08
Wilson Jr., V Keith	CHAT-Field Services	Truck Driver/Utility Worker	Float holiday	Float Holidy	16.00	$351.52
			Holiday	Holiday	80.00	$1,749.92
			Meal money	Meal Taxable	0.00	$315.00
			Other	Funeral	32.00	$687.68
				Med w/ Pay	2.00	$43.62
			Out of Dept.	Training	4.00	$85.96
			Overtime	OT 1.0 NS	0.75	$16.60
				OT 1.50 NS	80.25	$2,621.18
				OT 2.0 NS	62.75	$2,704.68
			Regular	Regular	1,618.00	$35,151.64
			Sick	Sick	56.00	$1,239.28
			Vacation	Vacation	272.00	$5,922.08
			Workmen's Compe	WC Paid	0.00	-$10.24
Worrell, David T	CHAT-Production	Process Technician	Holiday	Hol 1.5 NS	24.00	$902.40
				Holiday	40.00	$1,019.92
			Other	Pay Adjust	0.00	$21.62
			Overtime	OT 1.50 NS	26.00	$977.55
				OT 1.50 SCH	80.00	$3,025.20
				OT 2.0 NS	16.00	$796.64
			Regular	Regular	1,104.00	$27,611.60
			Sick	Sick	8.00	$200.80
			Vacation	Vacation	512.00	$13,019.04
Wortham, Deborah S	CHAT-Engineering	Engineering Clerk	Float holiday	Float Holidy	25.50	$523.90
			Holiday	Holiday	88.00	$1,807.76
			Other	Med w/ Pay	5.50	$114.51
			Regular	Reg Override	0.00	$0.00
				Regular	729.00	$15,048.16
			Sick	Sick w/o Pay	936.00	$0.00
			Vacation	Vacation	296.00	$6,123.68
Zinnanti, Mark J	CHAT-Production	Supt Production	Holiday	Holiday	48.00	$2,076.90
			Regular	Regular	752.00	$32,538.42
			Vacation	Vacation	80.00	$3,461.62
		Supvr Production	Float holiday	Float Holidy	32.00	$1,235.36
			Holiday	Holiday	32.00	$1,235.40
			Regular	Regular	1,000.00	$38,605.89
			Sick	Sick	16.00	$617.66
			Vacation	Vacation	120.00	$4,632.59
Grand Total					231,713.37	$5,750,382.99

TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 08-00039
FIRST DISCOVERY REQUEST OF THE
CONSUMER ADVOCATE AND PROTECTION DIVISION

Responsible Witness: Sheila Miller

PART IV: QUESTIONS & REQUESTS REGARDING REVENUES, EXPENSES, TAXES, RATE BASE & MISCELLANEOUS

Question: EXPENSES

19. Provide a mapping of all amounts Per Books 12 Months ended 11/30/2007, Company's Accounting Exhibit No. 2, Schedule 3, Lines 1 through 35 by line totaling $20,820,445 to the November 30, 2007 TRA 3.06 Surveillance Report 12 months to date for this year lines 6 through 11 by line by NARUC account.

Response:

See attached reconciliation. Also attached are corrected copies of the TRA 3.06 reports for July 2007 and November 2007. In July the segregation of expenses by function was incorrect. Also, the detail of the November report had incorrect amounts for the AG expenses from January 2007 thru April 1007 which resulted in an incorrect year to date amount for the administrative and general expense.

Tennessee American Water Company
CAPD 1 Part 4 Question 19

	Description	NARUC	LINE	OBJECT	SUB	12 Month Actual	Exhibit 2 Sch 3 balance	Exh 2 Sch 3 Description	SS	P&WT	T&D Oper	T&D Main	CA	AG
12	Labor Oper P	B6011	P08	501200	12	1,256,435				1,256,435				
13	Labor Oper WT	B6013	P08	501200	13	385				385				
14	Labor Oper TD	B6015	P08	501200	14	135,287					135,287			
1405	Labor Oper TD Super/Eng	B6015	P08	501200	1405	108,483					108,483			
1420	Labor Oper TD Meter	B6015	P08	501200	1420	283,688					283,688			
2405	Labor Maint TD Super/Eng	B6016	P08	501200	2405	62,327						62,327		
2420	Labor Maint TD Mains	B6016	P08	501200	2420	644,570						644,570		
2430	Labor Maint TD Services	B6016	P08	501200	2430	269,439						269,439		
2435	Labor Maint TD Meters	B6016	P08	501200	2435	94,708						94,708		
2440	Labor Maint TD Hydrants	B6016	P08	501200	2440	80,391						80,391		
15	Labor Oper CA	B6017	P08	501200	15	163							163	
1510	Labor Oper CA Mtr Read	B6017	P08	501200	1510	425,113							425,113	
16	Labor Oper AG	B6018	P08	501200	16	1,176,467								1,176,467
	IP-Off-Annual-P/R JE	B6018	P08	501711		104,004	4,641,460	O & M Labor						104,004
11	Purchased Water-Outside	B6101	P09	510100	11	58,216	58,216	Purchased water	58,216					
12	Purch Power P	B6151	P10	515100	12	2,269,819				2,269,819				
14	Purch Power TD	B6155	P10	515100	14	3,223					3,223			
11	Fuel for Power Prod SS	B6161	P10	515200	11	1,826	2,274,868	Fuel & Power	1,826					
13	Chemicals WT	B6183	P11	518000	13	987,759				987,759				
13	Chemicals WT Carbon Lease	B6183	P11	518001	13	87,413	1,075,171	Chemicals		87,413				
13	Waste Disposal Exp WT	B6753	P12	511100	13	161,721	161,721	waste disposal		161,721				
16	Mgmt Fees-Bus Chg Costs	B6348	P13	534214	16	-								
16	Mmgt Fees-Corporate	B6358	P13	534600	16	2,972,460								2,972,460
16	Mmgt Fees Bsn Change-Corp	B6358	P13	534620	16	17,106								17,106
16	Mmgt Fees P13880-Corp	B6358	P13	534650	16	707,582								707,582
16	Mmgt Fees-Region	B6358	P13	534700	16	1,087,248								1,087,248
16	Mmgt Fees P13880-Region	B6358	P13	534750	16	5,205	4,789,601	Management fees						5,205
16	Group Ins Oper AG	B6048	P14	504100	16	897,034								897,034
16	PBOP Oper AG	B6048	P14	505100	16	699,371	1,596,405	Group Insurance						699,371
16	Pension Oper AG	B6048	P15	506100	16	726,428	726,428	Pensions						726,428
16	Reg Comm Amort Rate Case	B6668	P16	566100	16	191,361								191,361
16	Reg Comm Amort Depr Study	B6678	P16	566200	16	8,608								8,608
16	Reg Comm Other Oper AG	B6678	P16	566700	16	308,160	508,129	Regulatory Exp						308,160
16	Ins Gen Liab Oper AG	B6578	P17	557000	16	345,328								345,328
16	Ins Work Comp AG	B6588	P17	558000	16	140,123								140,123
16	Ins Other Oper AG	B6598	P17	559000	16	74,204	559,655	Insurance other						74,204
15	M & S Oper CA	B6207	P18	520100	15	2,072							2,072	
15	Uncollectible Accounts	B6707	P18	570100	15	417,335							417,335	
16	Uncollectible Accts-MI's	B6707	P18	570100	16	(58)								(58)
15	Misc Oper CA	B6757	P18	575000	15	-							-	
15	Bank Service Charges CA	B6757	P18	575100	15	247,959							247,959	
15	Collection Agencies CA	B6757	P18	575200	15	22,239							22,239	
15	Electricity CA	B6757	P18	575320	15	-							-	
15	Forms CA	B6757	P18	575420	15	103,448							103,448	
15	Janitorial CA	B6757	P18	575500	15	-							-	
15	Office & Admin Supplies CA	B6757	P18	575620	15	-							-	
15	Postage CA	B6757	P18	575660	15	311,949							311,949	
15	Telephone CA	B6757	P18	575740	15	7							7	
15	Wireless Serv 1st CA	B6757	P18	575743	15	11,554		Customer Accounting					11,554	
15	Uniforms CA	B6757	P18	575820	15	5,133	1,121,639	Uncollectibles					5,133	
14	Rents-Real Prop Oper TD	B6415	P19	541000	14	375					375			
16	Rents-Real Prop Oper AG	B6418	P19	541000	16	1,451								1,451
15	Rents-Equipment Oper CA	B6427	P19	541400	15	2,794							2,794	

Tennessee American Water Company
CAPD 1 Part 4 Question 19

	Description	NARUC	LINE	OBJECT	SUB	12 Month Actual	Exhibit 2 Sch 3 balance	Exh 2 Sch 3 Description	SS	P&WT	T&D Oper	T&D Main	CA	AG
16	Rents-Equipment Oper AG	B6428	P19	541400	16	25,417	30,037	Rents						25,417
16	M & S Oper AG	B6208	P20	520100	16	8,103								8,103
16	Misc General Office	B6758	P20	575002	16	273								273
16	Bank Service Charges AG	B6758	P20	575100	16	3,482								3,482
16	Credit Line Fees	B6758	P20	575260	16	1,027								1,027
AW46	Credit Line Fees AW46	B6758	P20	575261	AW46	37,954								37,954
16	Credit Line Fees In	B6758	P20	575261	16	7,378								7,378
16	Dues/Membership Deduct	B6758	P20	575280	16	2,428								2,428
16	Electricity AG	B6758	P20	575320	16	26,033								26,033
16	Employee Expenses AG	B6758	P20	575340	16	28,710								28,710
16	Empl Exp Conf/Registration AG	B6758	P20	575342	16	877								877
16	Meals Deduct	B6758	P20	575350	16	4,760								4,760
16	Meals Non Deduct	B6758	P20	575351	16	3,845								3,845
16	Heat - Oil/Gas AG	B6758	P20	575480	16	3,799								3,799
16	Janitorial AG	B6758	P20	575500	16	6,073								6,073
16	Office & Admin Supplies AG	B6758	P20	575620	16	4,384								4,384
16	Postage AG	B6758	P20	575660	16	3,118								3,118
16	Telephone AG	B6758	P20	575740	16	52,705								52,705
16	Cell Phone AG	B6758	P20	575741	16	34,209								34,209
16	Trash Removal AG	B6758	P20	575780	16	504								504
16	Wtr & Waste Wtr Exp AG	B6758	P20	575830	16	4,179								4,179
16	Misc Charges - P13880	B6758	P20	575880	16	-								-
16	Misc Chrgs - STEP W/O P13880	B6758	P20	575881	16	11,124	244,966	General Office						11,124
16	Other Welf Oper AG	B6048	P21	504500	16	19,127								19,127
16	Employee Awards AG	B6048	P21	504610	16	5,570								5,570
16	Employee Physical Exam AG	B6048	P21	504620	16	2,808								2,808
16	Safety Incentive	B6048	P21	504640	16	-								-
16	Tuition Aid AG	B6048	P21	504660	16	9,871								9,871
16	Training AG	B6048	P21	504670	16	6,526								6,526
16	401k Oper AG	B6048	P21	507100	16	87,627								87,627
16	EIP Oper AG	B6048	P21	508100	16	-								-
16	DCP Oper AG	B6048	P21	508101	16	70,567								70,567
16	Retiree Med Oper AG	B6048	P21	508102	16	6,259								6,259
12	M & S Oper P	B6201	P21	520100	12	-				-				
13	M & S Oper WT	B6203	P21	520100	13	49,901				49,901				
14	M & S Oper TD	B6205	P21	520100	14	19,424					19,424			
13	Contract Svc-Eng Oper WT	B6313	P21	531000	13	-				-				
15	Contr Svc-Acctg Oper CA	B6327	P21	532000	15	-							-	
16	Contr Svc-Acctg Oper AG	B6328	P21	532000	16	69,094								69,094
14	Contr Svc-Legal Oper TD	B6335	P21	533000	14	-						-		
16	Contr Svc-Legal Oper AG	B6338	P21	533000	16	68,304								68,304
13	Contr Svc-Other Oper WT	B6353	P21	535000	13	42,402				42,402				
14	Contr Svc-Other Oper TD	B6355	P21	535000	14	106,648					106,648			
15	Contr Svc-Other Oper CA	B6357	P21	535000	15	-							-	
16	Contr Svc-Other Oper AG	B6358	P21	535000	16	56,384								56,384
21	Transport Maint SS	B6502	P21	550000	21	-				-				
13	Trans Oper WT	B6503	P21	550000	13	-				-				
14	Trans Oper TD	B6505	P21	550000	14	11					11			
24	Transport Maint TD	B6506	P21	550000	24	5,379						5,379		
15	Trans Oper CA	B6507	P21	550000	15	440							440	
16	Trans Oper AG	B6508	P21	550000	16	(52,603)								(52,603)
16	Trans Oper AG Lease Cost	B6508	P21	550001	16	39,647								39,647
16	Trans Oper AG Lease Fuel	B6508	P21	550002	16	224,630								224,630
16	Trans Oper AG Lease Maint	B6508	P21	550003	16	229,752								229,752
16	Advertising	B6608	P21	575030	16	55,808								55,808
16	PCard Undistributed	B6751	P21	575998	16	(104)								(104)
13	Misc Oper WT	B6753	P21	575000	13	13,623				13,623				
13	Electricity WT	B6753	P21	575320	13	44,344				44,344				
13	Heat - Oil/Gas WT	B6753	P21	575480	13	5,462				5,462				
13	Janitorial WT	B6753	P21	575500	13	9,570				9,570				
13	Lab Supplies WT	B6753	P21	575545	13	22,806				22,806				

Tennessee American Water Company
CAPD 1 Part 4 Question 19

	Description	NARUC	LINE	OBJECT	SUB	12 Month Actual	Exhibit 2 Sch 3 balance	Exh 2 Sch 3 Description	SS	P&WT	T&D Oper	T&D Main	CA	AG
13	Office & Admin Supplies WT	B6753	P21	575620	13	91				91				
13	Telephone WT	B6753	P21	575740	13	38,550				38,550				
13	Trash Removal WT	B6753	P21	575780	13	4,413				4,413				
13	Uniforms WT	B6753	P21	575820	13	6,136				6,136				
14	Misc Oper TD	B6755	P21	575000	14	40,127					40,127			
14	Electricity TD	B6755	P21	575320	14	16,535					16,535			
14	Heat - Oil/Gas TD	B6755	P21	575480	14	3,334					3,334			
14	Janitorial TD	B6755	P21	575500	14	4,785					4,785			
14	Office & Admin Supplies TD	B6755	P21	575620	14	3,148					3,148			
14	Telephone TD	B6755	P21	575740	14	24,822					24,822			
14	Cell Phone TD	B6755	P21	575741	14	-					-			
14	Wireless Serv 1st TD	B6755	P21	575743	14	-					-			
14	Trash Removal TD	B6755	P21	575780	14	1,279					1,279			
14	Uniforms TD	B6755	P21	575820	14	208					208			
16	Misc Oper AG	B6758	P21	575000	16	21,956								21,956
16	Brochures and Handouts	B6758	P21	575130	16	793								793
16	Co Dues/Membership Deduct	B6758	P21	575240	16	21,335								21,335
16	Co Dues Deduct AWWA	B6758	P21	575242	16	10,426								10,426
16	Directors Fees	B6758	P21	575270	16	11,500								11,500
16	Directors Expenses	B6758	P21	575271	16	-								-
16	Discounts Available	B6758	P21	575275	16	(4,199)								(4,199)
16	Discounts Lost	B6758	P21	575276	16	16								16
16	Bus Servies Proj Exp	B6758	P21	575400	16	134,872								134,872
16	Injuries and Damages	B6758	P21	575490	16	13,402								13,402
16	Lobbying Expenses	B6758	P21	575560	16	15,601								15,601
16	Overnight Shipping AG	B6758	P21	575625	16	3,252								3,252
16	Penalties Nondeduct	B6758	P21	575640	16	124,992								124,992
16	Research & Development Exp	B6758	P21	575680	16	11,653								11,653
16	Security Service AG	B6758	P21	575710	16	195,391								195,391
16	Software Licenses & Support	B6758	P21	575715	16	3,620								3,620
16	Trustee Fees AG	B6758	P21	575790	16	3,728	1,931,046	Miscellaneous Expense						3,728
26	Maint Exp ARO/Net Neg Sal AG	B403	P25	675110	26	367,615								367,615
21	Mat and Sup Maint SS	B6202	P25	620000	21	143,462			143,462					
23	Mat and Sup Maint WT	B6204	P25	620000	23	87,217				87,217				
24	Mat and Sup Maint TD	B6206	P25	620000	24	291,728						291,728		
26	Mat and Sup Maint AG	B6208	P25	620000	26	71								71
23	Contr Svc-Other Maint WT	B6354	P25	635000	23	7,820				7,820				
24	Contr Svc-Other Maint TD	B6356	P25	635000	24	2,142						2,142		
26	Contr Svc-Other Maint AG	B6358	P25	635000	26	6,572								6,572
23	Misc Maint WT	B6754	P25	675000	23	2,209				2,209				
24	Misc Maint TD	B6756	P25	675000	24	2,702						2,702		
2410	Misc Maint TD Struct & Imp	B6756	P25	675000	2410	-						-		
2435	Misc Maint TD Meters	B6756	P25	675000	2435	8,519						8,519		
24	Paving/Backfill TD	B6756	P25	675650	24	198,179						198,179		
26	Misc Maint AG	B6758	P25	675000	26	93,369								93,369
26	Comp Equip Hardware AG	B6758	P25	675250	26	-								-
26	Office Equipment AG	B6758	P25	675450	26	-	1,211,604	Other Maintenance Expense						-
						20,930,945			203,504	5,098,076	751,378	1,660,083	1,550,207	11,667,696
AFUDC						(110,499)	(110,499)							
	Expenses per rate filing					20,820,445	20,820,445	per 3.06 TRA report	203,504	5,098,077	751,378	1,662,734	1,550,207	11,665,046
									0	(1)	(0)	(2,651)	0	2,650

B6358	Cont Serv Other AG	2,650	P25	635000	26	B6358	2,650	charged on TRA report to TD maint and should be AG

MONTHLY REPORT OF REVENUES, EXPENSES AND INVESTMENTS
WATER COMPANIES

PSC--3.06

Company Name: Tennessee-American Water Co.
Month of Report: July 2007-original

(a)	Amount for this Month This Year (b)	Amount for this Month Last Year (c)	Year-To-Date This Year (d)	Year-To-Date Last Year (e)	12 Months-To-Date This Year (f)	12 Months-To-Date Last Year (g)
Operating Revenues						
1. Residential Sales	1,510,364	1,170,510	8,659,139	7,688,244	14,565,312	13,375,254
2. Commercial Sales	1,065,670	794,475	6,138,019	5,733,428	10,626,529	10,023,884
3. Industrial Sales	340,277	252,101	2,095,595	1,993,713	3,778,878	3,452,209
4. Other Sales	616,217	492,566	3,822,709	3,529,131	6,799,260	6,008,367
5. Total Operating Revenues (Item 1-4)	3,532,528	2,709,652	20,715,462	18,944,516	35,769,979	32,859,714
Operating Expenses						
6. Source of Supply Expense	3,355	19,975	78,014	99,319	170,867	208,001
7. Pumping and Water Treatment Expense	128,518	592,056	2,560,451	2,749,162	4,691,014	4,465,752
8. Transmission and Distribution-Operation	59,187	58,160	417,128	451,312	725,932	723,678
9. Transmission and Distribution-Maintenance	93,155	107,392	939,032	821,108	1,572,128	1,347,447
10. Customer Accounts and Sales Expense	150,776	148,405	936,122	960,475	1,711,913	1,736,844
11. Administrative and General Expense	1,331,325	853,773	6,750,066	6,032,406	11,687,569	10,631,588
12. Depreciation and Amortization	393,707	544,345	2,658,861	2,668,150	4,444,772	4,357,330
13. Taxes Other Than Income Taxes	308,647	280,723	2,235,469	2,019,876	3,881,348	3,472,680
14. Income Taxes	334,355	45,597	871,950	679,517	1,173,815	1,958,580
15. Total Operating Expenses (Item 6-14)	2,803,025	2,650,426	17,447,093	16,481,325	30,059,358	28,901,900
16. Net Operating Income (Item 5 less 15)	729,503	59,226	3,268,369	2,463,191	5,710,621	3,957,814
17. Other Income	2,760	(146)	74,007	6,480	71,877	0
18. Miscellaneous Income Deductions	9,272	4,209	52,555	24,058	57,354	31,062
19. Interest Charges	311,567	264,424	2,224,139	1,855,802	3,677,432	3,082,604
20. Net Income	411,423	(209,553)	1,065,682	589,811	2,047,712	844,148

	Balance at End of Month This Year (h)	Balance at End of Month Last Year (i)	Aver. for 12 Mo.-To-Date This Year (j)	Aver. for 12 Mo.-To-Date Last Year (k)
21. Utility Plant In Service (1)	193,232,000	177,551,267	187,397,247	170,936,786
22. Construction Work in Progress	2,774,842	1,493,254	2,253,732	2,848,211
23. Utility Plant Acquisition Adjustment	0	0	0	0
24. Property Held for Future Use	0	0	0	0
25. Accumulated Depreciation and Amort. (1)	56,102,356	51,726,866	54,021,335	50,401,508
26. Materials and Supplies	275,053	276,805	327,322	299,887
27. Unamortized Investment Credit	1,148,084	1,224,452	1,183,086	1,265,821
28. Deferred Income Tax	18,900,677	17,463,466	17,958,112	17,229,950
29. Contributions in Aid of Construction	8,322,093	7,269,797	7,939,436	7,061,382
30. Customer Advances for Construction	5,918,084	4,759,433	5,647,458	4,682,129
31. Preferred Stock	1,381,600	1,382,100	1,381,683	1,382,100
32. Common Stock	13,754,235	13,754,235	13,754,235	13,754,235
33. Premium on Capital Stock and Other Capital	8,288,918	4,788,768	7,122,214	4,788,768
34. Retained Earnings	20,466,365	19,630,599	19,819,555	19,552,443
35. Long Term Debt (1)	53,792,306	39,932,230	45,783,983	40,247,871

(1) Includes Capital Lease

TENNESSEE-AMERICAN WATER COMPANY
BALANCE SHEET ITEMS July 2007 original

A/C	Line No.	Descnption	JAN '07	FEB '07	MAR '07	APR '07	MAY '07	JUN '07	JUL '07	AUG '06	SEP '06	OCT '06	NOV '06	DEC '06	Cumulative Total	12 Month Average
101 & 118	1	UPIS & Capital Leases	188,435,291	188,872,625	190,986,422	192,248,713	192,508,675	192,838,206	193,232,000	178,113,354	180,026,613	181,125,770	181,434,793	188,944,500	2,248,766,962	187,397,247
107	2	CWIP	2,353,071	2,219,487	1,578,516	930,414	1,878,222	2,730,672	2,774,842	1,815,581	2,690,507	3,023,591	3,469,458	1,580,421	27,044,784	2,253,732
114		UP Acquisition Adjustment	0	0	0	0	0	0	0	0	0	0	0	0	0	0
105		Property Held - Future Use	0	0	0	0	0	0	0	0	0	0	0	0	0	0
108,111 & 120	3	Accum. Deprec. & Amort.	53,916,586	54,241,236	54,492,688	54,897,149	55,307,243	55,705,683	56,102,356	52,062,568	52,407,426	52,762,903	52,960,183	53,399,996	648,256,016	54,021,335
154	17	Materials & Supplies	272,775	305,137	291,867	341,950	365,883	311,007	275,053	270,179	281,277	273,964	646,621	292,151	3,927,862	327,322
255	57	Unamortized ITC	1,186,268	1,179,904	1,173,540	1,167,176	1,160,812	1,154,448	1,148,084	1,218,088	1,211,724	1,205,360	1,198,996	1,192,632	14,197,032	1,183,086
282 & 283.17	56,58,26	Deferred Income Taxes	17,595,928	17,602,962	18,464,214	18,509,031	18,526,657	18,643,485	18,900,677	17,578,393	17,583,148	17,222,957	17,291,002	17,578,886	215,497,341	17,958,112
271	62	Contributions In Aid - Const.	8,238,889	8,239,059	8,234,959	8,236,196	8,280,380	8,285,789	8,322,093	7,284,370	7,291,432	7,287,070	7,312,160	8,260,830	95,273,228	7,939,436
252	55	Customer Advances	5,688,465	5,649,193	5,996,469	5,911,187	5,959,523	5,985,705	5,918,084	4,867,468	5,294,529	5,411,118	5,409,523	5,678,228	67,769,492	5,647,458
204	39	Preferred Stock	1,381,600	1,381,600	1,381,600	1,381,600	1,381,600	1,381,600	1,381,600	1,382,100	1,382,100	1,382,100	1,381,600	1,381,100	16,580,200	1,381,683
201	33	Common Stock	13,754,235	13,754,235	13,754,235	13,754,235	13,754,235	13,754,235	13,754,235	13,754,235	13,754,235	13,754,235	13,754,235	13,754,235	165,050,820	13,754,235
207 & 211	34	Other Capital	8,288,918	8,288,918	8,288,918	8,288,918	8,288,918	8,288,918	8,288,918	4,788,768	4,788,768	4,788,768	4,788,918	8,288,918	85,466,572	7,122,214
216	35 + Net Inc	Retained Earnings	19,351,690	19,236,497	19,270,362	19,456,682	19,399,957	20,103,503	20,466,365	19,905,802	20,184,104	20,355,677	20,663,222	19,440,795	237,834,655	19,819,555
221 & 230.9	40, 44	Long Term Debt	39,871,057	54,861,457	39,957,691	53,822,029	53,812,199	53,802,292	53,792,306	39,913,988	39,904,759	39,899,407	39,890,031	39,880,582	549,407,799	45,783,983
186.4 - 186.44	186401	Unamortized Painting	0	0	0	0	0	0	0	673	337	0	0	0	1,010	84
101		UPIS	186,844,791	187,282,125	189,395,922	190,658,213	190,918,175	191,247,706	191,641,500	176,522,854	178,436,113	179,535,270	179,844,293	187,354,000	2,229,680,962	185,806,747
118	304510	Capital Lease	1,590,500	1,590,500	1,590,500	1,590,500	1,590,500	1,590,500	1,590,500	1,590,500	1,590,500	1,590,500	1,590,500	1,590,500	19,086,000	1,590,500
131	10	Cash	347,204	310,949	322,955	515,643	300,080	301,606	563,716	284,874	395,611	231,347	589,056	535,337	4,698,377	391,531
108 & 111		Accumulated Depreciation	52,997,631	53,313,444	53,556,060	53,951,685	54,352,943	54,742,547	55,130,384	51,187,793	51,523,815	51,870,456	52,058,900	52,489,877	637,175,534	53,097,961
120	110110	Accum. Amort. - Lease	918,955	927,792	936,628	945,464	954,300	963,136	971,972	874,775	883,611	892,447	901,283	910,119	11,080,482	923,373
255.11	255101	Unamortized ITC - Pre '71	40,573	40,315	40,057	39,799	39,541	39,283	39,025	41,863	41,605	41,347	41,089	40,831	485,328	40,444
235		Customer Deposits	0	0	0	0	0	0	0	0	0	0	0	0	0	0
do not change		Unpaid Material & Supplies	66,200	42,800	72,819	37,813	44,500	41,302	54,837	51,015	80,838	52,586	18,040	38,256	601,006	50,084
do not change		Accounts Payable - Plant	500	22,700	44,028	15,160	9,460	3,930	37,834	0	22,944	21,586	10,668	380,500	569,310	47,443
do not change		Accounts Payable - CWIP	0	16,625	25,024	28,900	10,575	3,658	58,947	5,311	128,608	8,003	91,629	268,625	645,905	53,825
420	40 & 60	AFUDC	11,512	15,425	13,124	9,440	10,122	7,576	4,443	11,144	15,407	19,077	24,004	18,032	159,306	13,275
190.1		CIAC - DEF. FIT	284,282	284,282	284,282	284,282	284,282	284,282	284,282	334,487	334,487	334,487	334,487	334,487	3,662,409	305,201
190.2		CIAC - DEF. SIT	51,860	51,860	51,860	51,860	51,860	51,860	51,860	61,016	61,016	61,016	61,016	61,016	668,100	55,675

INCOME STATEMENT ITEMS

															12 Months Ended	Year- To- Date
		OPERATING REVENUES														
461100-461110		Residential Sales	1,052,870	966,123	1,027,431	1,212,792	1,149,546	1,740,012	1,510,364	1,145,328	1,577,388	936,497	1,254,177	992,783	14,565,312	8,659,139
461200-461210		Commercial Sales	714,480	714,781	808,716	867,267	829,051	1,138,053	1,065,670	900,054	1,115,565	757,765	946,770	768,357	10,626,529	6,138,019
461300-461310		Industrial Sales	243,964	280,876	284,242	306,391	259,654	380,191	340,277	395,639	379,264	316,038	303,222	289,121	3,778,878	2,095,595
462000-474100	2+4	Other Sales	438,927	468,359	495,193	543,243	561,584	699,185	616,217	606,797	699,592	453,372	691,656	525,135	6,799,260	3,822,709
		Total	2,450,241	2,430,139	2,615,581	2,929,694	2,799,836	3,957,442	3,532,528	3,047,817	3,771,808	2,463,671	3,195,825	2,575,397	35,769,979	20,715,462
		OPERATING EXPENSES														
602000-616200		Source of Supply	12,832	12,718	11,285	8,283	17,103	12,437	3,355	18,224	36,365	2,912	24,039	11,314	170,867	78,014
620200-652300		Water Treatment & Pump	381,634	377,083	388,277	404,060	417,545	463,335	128,518	485,363	534,412	367,723	399,818	343,248	4,691,014	2,560,451
660000-665300		Trans. & Distrib. Operation	66,847	71,886	59,129	48,803	53,282	57,993	59,187	58,502	76,491	52,225	65,556	56,030	725,932	417,128
670000-678100		Trans. & Distrib. Maint.	143,614	239,160	115,286	106,596	130,463	110,758	93,155	111,083	153,986	99,580	90,649	177,799	1,572,128	939,032
902100-907100		Customer Acctg. & Sales	108,565	125,329	128,672	89,051	223,430	110,299	150,776	101,596	155,234	161,805	230,706	126,450	1,711,913	936,122
910110-932300		Admin. & General Expense	913,611	777,708	859,694	917,801	1,022,785	927,141	1,331,325	868,726	863,614	944,618	1,050,744	1,209,801	11,687,569	6,750,066
403000-404430	27+28	Depreciation & Amortization	362,403	360,683	365,080	391,987	392,356	392,645	393,707	356,567	360,782	351,938	350,489	366,136	4,444,772	2,658,861
408100-408220	29	Taxes - Other	305,371	296,069	403,323	305,419	309,924	306,716	308,647	279,687	454,098	326,544	299,365	286,185	3,881,348	2,235,469
409100-412230	30,31,32	Income Taxes	(63,147)	(59,422)	(2,704)	156,491	(34,097)	540,474	334,355	212,882	38,527	(284,796)	104,162	231,089	1,173,815	871,950
		Total Operating Expense	2,231,731	2,201,213	2,328,044	2,428,491	2,532,791	2,921,797	2,803,025	2,492,630	2,673,508	2,022,549	2,615,527	2,808,052	30,059,358	17,447,093
		Net Operating Income	218,510	228,926	287,537	501,203	267,045	1,035,645	729,503	555,187	1,098,300	441,122	580,298	(232,655)	5,710,621	3,268,369
415100-419500	45 minus 40	Other Income	6,990	467	572	(969)	(2,128)	66,315	2,760	(1,878)	3,844	(3,470)	1,237	(1,863)	71,877	74,007
421100-426420	46 thru 51	Misc. Income Deductions	3,413	890	3,200	12	7,577	28,191	9,272	0	(2,903)	5,188	(481)	2,996	57,354	52,555
427100-431200	56 thru 59	Interest Charges	305,041	292,174	309,985	314,905	318,425	372,043	311,567	283,493	286,224	281,211	292,716	309,650	3,677,432	2,224,139
		Net Income	(82,954)	(63,671)	(25,076)	185,317	(61,085)	701,727	411,424	269,817	818,824	151,254	289,299	(547,163)	2,047,712	1,065,682
VERIFY:		Net Inc plus AFUDC	(71,442)	(48,246)	(11,952)	194,757	(50,963)	709,303	415,867	280,961	834,231	170,331	313,303	(529,131)		1,137,323
		A of I Net Inc plus Dividends	(83,348)	(109,436)	39,622	192,077	(50,964)	709,303	415,867	280,961	834,230	170,332	313,303	(529,132)		
			11,906	61,191	(51,573)	2,680	0	0	1	(0)	1	(1)	(0)	0		
		YTD #'S	(71,442)	(119,688)	(131,640)	63,117	12,154	721,456	1,137,323	1,418,284	2,252,516	2,422,847	2,736,150	2,207,019		1,611,280
		PER INC. STE.	(71,441)	(119,686)	(131,638)	63,118	12,152	721,457	1,137,324	906,370	1,740,601	1,910,932	2,224,236	1,695,103		
			(1)	(2)	(2)	(1)	2	(1)	(1)	511,914	511,915	511,915	511,914	511,916		

MONTHLY REPORT OF REVENUES, EXPENSES AND INVESTMENTS
WATER COMPANIES

PSC--3.06

Company Name: Tennessee-American Water Co.
Month of Report: July 2007 revised

(a)	Amount for this Month This Year (b)	Amount for this Month Last Year (c)	Year-To-Date This Year (d)	Year-To-Date Last Year (e)	12 Months-To-Date This Year (f)	12 Months-To-Date Last Year (g)
Operating Revenues						
1. Residential Sales	1,510,364	1,170,510	8,659,139	7,688,244	14,565,312	13,375,254
2. Commercial Sales	1,065,670	794,475	6,138,019	5,733,428	10,626,529	10,023,884
3. Industrial Sales	340,277	252,101	2,095,595	1,993,713	3,778,878	3,452,209
4. Other Sales	616,217	492,566	3,822,709	3,529,131	6,799,260	6,008,367
5. Total Operating Revenues (Item 1-4)	3,532,528	2,709,652	20,715,462	18,944,516	35,769,979	32,859,714
Operating Expenses						
6. Source of Supply Expense	10,029	19,975	84,688	99,319	177,541	208,001
7. Pumping and Water Treatment Expense	511,028	592,056	2,942,960	2,749,162	5,073,524	4,465,752
8. Transmission and Distribution-Operation	78,322	58,160	436,263	451,312	745,067	723,678
9. Transmission and Distribution-Maintenance	190,002	107,392	1,035,880	821,108	1,668,976	1,347,447
10. Customer Accounts and Sales Expense	130,280	148,405	915,626	960,475	1,691,417	1,736,844
11. Administrative and General Expense	846,655	853,773	6,277,602	6,032,406	11,215,105	10,631,588
12. Depreciation and Amortization	393,707	544,345	2,658,861	2,668,150	4,444,772	4,357,330
13. Taxes Other Than Income Taxes	308,647	280,723	2,235,469	2,019,876	3,881,348	3,472,680
14. Income Taxes	334,355	45,597	871,950	679,517	1,173,815	1,958,580
15. Total Operating Expenses (Item 6-14)	2,803,025	2,650,426	17,459,299	16,481,325	30,071,565	28,901,900
16. Net Operating Income (Item 5 less 15)	729,503	59,226	3,256,163	2,463,191	5,698,414	3,957,814
17. Other Income	2,760	(146)	74,007	6,480	71,877	0
18. Miscellaneous Income Deductions	9,272	4,209	52,555	24,058	57,354	31,062
19. Interest Charges	311,567	264,424	2,224,139	1,855,802	3,677,432	3,082,604
20. Net Income	411,423	(209,553)	1,053,476	589,811	2,035,505	844,148

	Balance at End of Month This Year (h)	Balance at End of Month Last Year (i)	Aver. for 12 Mo.-To-Date This Year (j)	Aver. for 12 Mo.-To-Date Last Year (k)
21. Utility Plant In Service (1)	193,232,000	177,551,267	187,397,247	170,936,786
22. Construction Work in Progress	2,774,842	1,493,254	2,253,732	2,848,211
23. Utility Plant Acquisition Adjustment	0	0	0	0
24. Property Held for Future Use	0	0	0	0
25. Accumulated Depreciation and Amort. (1)	56,102,356	51,726,866	54,021,335	50,401,508
26. Materials and Supplies	275,053	276,805	327,322	299,887
27. Unamortized Investment Credit	1,148,084	1,224,452	1,183,086	1,265,821
28. Deferred Income Tax	18,900,677	17,463,466	17,958,112	17,229,950
29. Contributions in Aid of Construction	8,322,093	7,269,797	7,939,436	7,061,382
30. Customer Advances for Construction	5,918,084	4,759,433	5,647,458	4,682,129
31. Preferred Stock	1,381,600	1,382,100	1,381,683	1,382,100
32. Common Stock	13,754,235	13,754,235	13,754,235	13,754,235
33. Premium on Capital Stock and Other Capital	8,288,918	4,788,768	7,122,214	4,788,768
34. Retained Earnings	20,466,365	19,630,599	19,819,555	19,552,443
35. Long Term Debt (1)	53,792,306	39,932,230	45,783,983	40,247,871

(1) Includes Capital Lease

TENNESSEE-AMERICAN WATER COMPANY
BALANCE SHEET ITEMS **July revised**

A/C	Line No.	Description	JAN '07	FEB '07	MAR '07	APR '07	MAY '07	JUN '07	JUL '07	AUG '06	SEP '06	OCT '06	NOV '06	DEC '06	Cumulative Total	12 Month Average
101 & 118	1	UPIS & Capital Leases	188,435,291	188,872,625	190,986,422	192,248,713	192,508,675	192,838,206	193,232,000	178,113,354	180,026,613	181,125,770	181,434,793	188,944,500	2,248,766,962	187,397,247
107	2	CWIP	2,353,071	2,219,487	1,578,516	930,414	1,878,222	2,730,672	2,774,842	1,815,581	2,690,507	3,023,591	3,469,458	1,580,421	27,044,784	2,253,732
114		UP Acquisition Adjustment	0	0	0	0	0	0	0	0	0	0	0	0	0	0
105		Property Held - Future Use	0	0	0	0	0	0	0	0	0	0	0	0	0	0
108,111 & 120	3	Accum. Deprec. & Amort.	53,916,586	54,241,236	54,492,688	54,897,149	55,307,243	55,705,683	56,102,356	52,062,568	52,407,426	52,762,903	52,960,183	53,399,996	648,256,016	54,021,335
154	17	Materials & Supplies	272,775	305,137	291,867	341,950	365,883	311,007	275,053	270,179	281,277	273,964	646,621	292,151	3,927,862	327,322
255	57	Unamortized ITC	1,186,268	1,179,904	1,173,540	1,167,176	1,160,812	1,154,448	1,148,084	1,218,088	1,211,724	1,205,360	1,198,996	1,192,632	14,197,032	1,183,086
282 & 283.17	56,58,26	Deferred Income Taxes	17,595,928	17,602,962	18,464,214	18,509,031	18,526,657	18,643,485	18,900,677	17,578,393	17,583,148	17,222,957	17,291,002	17,578,886	215,497,341	17,958,112
271	62	Contributions In Aid - Const.	8,238,889	8,239,059	8,234,959	8,236,196	8,280,380	8,285,789	8,322,093	7,284,370	7,291,432	7,287,070	7,312,160	8,260,830	95,273,228	7,939,436
252	55	Customer Advances	5,688,465	5,649,193	5,996,469	5,911,187	5,959,523	5,985,705	5,918,084	4,867,468	5,294,529	5,411,118	5,409,523	5,678,228	67,769,492	5,647,458
204	39	Preferred Stock	1,381,600	1,381,600	1,381,600	1,381,600	1,381,600	1,381,600	1,381,600	1,382,100	1,382,100	1,382,100	1,381,600	1,381,100	16,580,200	1,381,683
201	33	Common Stock	13,754,235	13,754,235	13,754,235	13,754,235	13,754,235	13,754,235	13,754,235	13,754,235	13,754,235	13,754,235	13,754,235	13,754,235	165,050,820	13,754,235
207 & 211	34	Other Capital	8,288,918	8,288,918	8,288,918	8,288,918	8,288,918	8,288,918	8,288,918	4,788,768	4,788,768	4,788,768	4,788,918	8,288,918	85,466,572	7,122,214
216	35 + Net Inc	Retained Earnings	19,351,690	19,236,497	19,270,362	19,456,682	19,399,957	20,103,503	20,466,365	19,905,802	20,184,104	20,355,677	20,663,222	19,440,795	237,834,655	19,819,555
221 & 230.9	40, 44	Long Term Debt	39,871,057	54,861,457	39,957,691	53,822,029	53,812,199	53,802,292	53,792,306	39,913,988	39,904,759	39,899,407	39,890,031	39,880,582	549,407,799	45,783,983
186.4 - 186.44	186401	Unamortized Painting	0	0	0	0	0	0	0	673	337	0	0	0	1,010	84
101		UPIS	186,844,791	187,282,125	189,395,922	190,658,213	190,918,175	191,247,706	191,641,500	176,522,854	178,436,113	179,535,270	179,844,293	187,354,000	2,229,680,962	185,806,747
118	304510	Capital Lease	1,590,500	1,590,500	1,590,500	1,590,500	1,590,500	1,590,500	1,590,500	1,590,500	1,590,500	1,590,500	1,590,500	1,590,500	19,086,000	1,590,500
131	10	Cash	347,204	310,949	322,955	515,643	300,080	301,606	563,716	284,874	395,611	231,347	589,056	535,337	4,698,377	391,531
108 & 111		Accumulated Depreciation	52,997,631	53,313,444	53,556,060	53,951,685	54,352,943	54,742,547	55,130,384	51,187,793	51,523,815	51,870,456	52,058,900	52,489,877	637,175,534	53,097,961
120	110110	Accum. Amort. - Lease	918,955	927,792	936,628	945,464	954,300	963,136	971,972	874,775	883,611	892,447	901,283	910,119	11,080,482	923,373
255.11	255101	Unamortized ITC - Pre '71	40,573	40,315	40,057	39,799	39,541	39,283	39,025	41,863	41,605	41,347	41,089	40,831	485,328	40,444
235		Customer Deposits	0	0	0	0	0	0	0	0	0	0	0	0	0	0
do not change		Unpaid Material & Supplies	66,200	42,800	72,819	37,813	44,500	41,302	54,837	51,015	80,838	52,586	18,040	38,256	601,006	50,084
do not change		Accounts Payable - Plant	500	22,700	44,028	15,160	9,460	3,930	37,834	0	22,944	21,586	10,668	380,500	569,310	47,443
do not change		Accounts Payable - CWIP	0	16,625	25,024	28,900	10,575	3,658	58,947	5,311	128,608	8,003	91,629	268,625	645,905	53,825
420	40 & 60	AFUDC	11,512	15,425	13,124	9,440	10,122	7,576	4,443	11,144	15,407	19,077	24,004	18,032	159,306	13,275
190.1		CIAC - DEF. FIT	284,282	284,282	284,282	284,282	284,282	284,282	284,282	334,487	334,487	334,487	334,487	334,487	3,662,409	305,201
190.2		CIAC - DEF. SIT	51,860	51,860	51,860	51,860	51,860	51,860	51,860	61,016	61,016	61,016	61,016	61,016	668,100	55,675

INCOME STATEMENT ITEMS

															12 Months Ended	Year- To- Date
		OPERATING REVENUES														
461100-461110		Residential Sales	1,052,870	966,123	1,027,431	1,212,792	1,149,546	1,740,012	1,510,364	1,145,328	1,577,388	936,497	1,254,177	992,783	14,565,312	8,659,139
461200-461210		Commercial Sales	714,480	714,781	808,716	867,267	829,051	1,138,053	1,065,670	900,054	1,115,565	757,765	946,770	768,357	10,626,529	6,138,019
461300-461310		Industrial Sales	243,964	280,876	284,242	306,391	259,654	380,191	340,277	395,639	379,264	316,038	303,222	289,121	3,778,878	2,095,595
462000-474100	2+4	Other Sales	438,927	468,359	495,193	543,243	561,584	699,185	616,217	606,797	699,592	453,372	691,656	525,135	6,799,260	3,822,709
		Total	2,450,241	2,430,139	2,615,581	2,929,694	2,799,836	3,957,442	3,532,528	3,047,817	3,771,808	2,463,671	3,195,825	2,575,397	35,769,979	20,715,462
		OPERATING EXPENSES														
602000-616200		Source of Supply	12,832	12,718	11,285	8,283	17,103	12,437	10,029	18,224	36,365	2,912	24,039	11,314	177,541	84,688
620200-652300		Water Treatment & Pump	381,634	377,083	388,277	404,060	417,545	463,335	511,028	485,363	534,412	367,723	399,818	343,248	5,073,524	2,942,960
660000-665300		Trans. & Distrib. Operation	66,847	71,886	59,129	48,803	53,282	57,993	78,322	58,502	76,491	52,225	65,556	56,030	745,067	436,263
670000-678100		Trans. & Distrib. Maint.	143,614	239,160	115,286	106,596	130,463	110,758	190,002	111,083	153,986	99,580	90,649	177,799	1,668,976	1,035,880
902100-907100		Customer Acctg. & Sales	108,565	125,329	128,672	89,051	223,430	110,299	130,280	101,596	155,234	161,805	230,706	126,450	1,691,417	915,626
910110-932300		Admin. & General Expense	934,809	856,767	766,835	922,610	1,022,785	927,141	846,655	868,726	863,614	944,618	1,050,744	1,209,801	11,215,105	6,277,602
403000-404430	27+28	Depreciation & Amortization	362,403	360,683	365,080	391,987	392,356	392,645	393,707	356,567	360,782	351,938	350,489	366,136	4,444,772	2,658,861
408100-408220	29	Taxes - Other	305,371	296,069	403,323	305,419	309,924	306,716	308,647	279,687	454,098	326,544	299,365	286,185	3,881,348	2,235,469
409100-412230	30,31,32	Income Taxes	(63,147)	(59,422)	(2,704)	156,491	(34,097)	540,474	334,355	212,882	38,527	(284,796)	104,162	231,089	1,173,815	871,950
		Total Operating Expense	2,252,928	2,280,272	2,235,185	2,433,301	2,532,791	2,921,797	2,803,025	2,492,630	2,673,508	2,022,549	2,615,527	2,808,052	30,071,565	17,459,299
		Net Operating Income	197,313	149,867	380,396	496,393	267,045	1,035,645	729,503	555,187	1,098,300	441,122	580,298	(232,655)	5,698,414	3,256,163
415100-419500	45 minus 40	Other Income	6,990	467	572	(969)	(2,128)	66,315	2,760	(1,878)	3,844	(3,470)	1,237	(1,863)	71,877	74,007
421100-426420	46 thru 51	Misc. Income Deductions	3,413	890	3,200	12	7,577	28,191	9,272	0	(2,903)	5,188	(481)	2,996	57,354	52,555
427100-431200	56 thru 59	Interest Charges	305,041	292,174	309,985	314,905	318,425	372,043	311,567	283,493	286,224	281,211	292,716	309,650	3,677,432	2,224,139
		Net Income	(104,151)	(142,730)	67,783	180,507	(61,085)	701,727	411,424	269,817	818,824	151,254	289,299	(547,163)	2,035,505	1,053,476
VERIFY:		Net Inc plus AFUDC	(92,639)	(127,305)	80,907	189,947	(50,963)	709,303	415,867	280,961	834,231	170,331	313,303	(529,131)		1,125,116
		A of I Net Inc plus Dividends	(83,348)	(109,436)	39,622	192,077	(50,964)	709,303	415,867	280,961	834,230	170,332	313,303	(529,132)		
			(9,291)	(17,868)	41,286	(2,130)	0	0	1	(0)	1	(1)	(0)	0		
		YTD #'S	(92,639)	(219,944)	(139,037)	50,910	(53)	709,249	1,125,116	1,406,077	2,240,309	2,410,640	2,723,943	2,194,812		1,433,602
		PER INC. STE.	(71,441)	(119,686)	(131,638)	63,118	12,152	721,457	1,137,324	906,370	1,740,601	1,910,932	2,224,236	1,695,103		
			(21,198)	(100,258)	(7,399)	(12,208)	(12,205)	(12,208)	(12,208)	499,707	499,708	499,708	499,707	499,709		

MONTHLY REPORT OF REVENUES, EXPENSES AND INVESTMENTS
WATER COMPANIES

PSC--3.06

Company Name: Tennessee-American Water Co.
Month of Report: November 2007 original

(a)	Amount for this Month This Year (b)	Amount for this Month Last Year (c)	Year-To-Date This Year (d)	Year-To-Date Last Year (e)	12 Months-To-Date This Year (f)	12 Months-To-Date Last Year (g)
Operating Revenues						
1. Residential Sales	984,558	1,254,177	10,124,801	12,601,634	15,183,550	13,809,101
2. Commercial Sales	970,033	946,770	7,195,332	9,453,581	11,084,750	10,366,316
3. Industrial Sales	355,160	303,222	2,441,814	3,387,875	3,834,564	3,764,920
4. Other Sales	627,710	691,656	4,472,590	5,980,547	7,006,233	6,456,925
5. Total Operating Revenues (Item 1-4)	2,937,460	3,195,825	24,234,537	31,423,637	37,109,097	34,397,262
Operating Expenses						
6. Source of Supply Expense	20,388	24,039	163,181	180,858	196,830	194,977
7. Pumping and Water Treatment Expense	418,429	399,818	3,017,567	4,536,477	4,715,567	4,906,203
8. Transmission and Distribution-Operation	70,449	65,556	484,579	704,086	732,242	768,428
9. Transmission and Distribution-Maintenance	118,647	90,649	1,028,033	1,276,405	1,565,887	1,360,857
10. Customer Accounts and Sales Expense	124,535	230,706	1,052,240	1,609,816	1,570,703	1,790,587
11. Administrative and General Expense	949,912	1,050,744	7,756,220	9,760,107	12,137,509	11,074,110
12. Depreciation and Amortization	322,867	350,489	3,056,386	4,087,926	4,548,034	4,446,782
13. Taxes Other Than Income Taxes	379,057	299,365	2,560,865	3,379,570	4,123,274	3,731,907
14. Income Taxes	107,378	104,162	1,149,911	750,292	2,031,935	1,319,495
15. Total Operating Expenses (Item 6-14)	2,511,662	2,615,528	20,268,982	26,285,537	31,621,981	29,593,346
16. Net Operating Income (Item 5 less 15)	425,799	580,297	3,965,555	5,138,100	5,487,116	4,803,916
17. Other Income	1,978	1,237	73,911	6,213	79,250	4,822
18. Miscellaneous Income Deductions	5,929	(481)	52,771	25,862	71,817	24,944
19. Interest Charges	303,168	292,716	2,535,117	2,999,445	3,765,106	3,260,894
20. Net Income	118,680	289,299	1,451,578	2,119,006	1,729,443	1,522,900

	Balance at End of Month This Year (h)	Balance at End of Month Last Year (i)	Aver. for 12 Mo.-To-Date This Year (j)	Aver. for 12 Mo.-To-Date Last Year (k)
21. Utility Plant In Service (1)	197,159,678	181,434,793	192,721,881	176,765,200
22. Construction Work in Progress	2,829,032	3,469,458	2,072,795	1,836,902
23. Utility Plant Acquisition Adjustment	74,850	0	98,358	0
24. Property Held for Future Use	0	0	0	0
25. Accumulated Depreciation and Amort. (1)	57,436,980	52,960,183	55,446,113	51,336,132
26. Materials and Supplies	314,087	646,621	308,862	318,396
27. Unamortized Investment Credit	1,122,628	1,198,996	1,157,630	1,240,364
28. Deferred Income Tax	17,726,097	17,291,002	18,106,601	17,461,929
29. Contributions in Aid of Construction	8,258,501	7,312,160	8,279,637	7,227,494
30. Customer Advances for Construction	5,750,627	5,409,523	5,850,761	5,018,673
31. Preferred Stock	1,381,600	1,381,600	1,381,558	1,382,058
32. Common Stock	13,754,235	13,754,235	13,754,235	13,754,235
33. Premium on Capital Stock and Other Capital	8,288,918	4,788,918	8,288,918	4,788,781
34. Retained Earnings	21,291,805	20,663,222	20,083,593	19,632,195
35. Long Term Debt (1)	53,751,569	39,890,031	50,405,616	40,212,426

(1) Includes Capital Lease

TENNESSEE-AMERICAN WATER COMPANY
BALANCE SHEET ITEMS November original

A/C	Line No.	Description	JAN '07	FEB '07	MAR '07	APR '07	MAY '07	JUN '07	JUL '07	AUG '07	SEP '07	OCT '07	NOV '07	DEC '06	Cumulative Total	12 Month Average
101 & 118	1	UPIS & Capital Leases	188,435,291	188,872,625	190,986,422	192,248,713	192,508,675	192,838,206	193,232,000	194,822,092	196,046,079	196,568,293	197,159,678	188,944,500	2,312,662,573	192,721,881
107	2	CWIP	2,353,071	2,219,487	1,578,516	930,414	1,878,222	2,730,672	2,774,842	1,900,910	1,703,243	2,394,708	2,829,032	1,580,421	24,873,539	2,072,795
114	4	UP Acquisition Adjustment	122,143	121,117	0	0	123,170	123,170	123,170	123,170	123,170	123,170	74,850	123,170	1,180,301	98,358
105		Property Held - Future Use	0	0	0	0	0	0	0	0	0	0	0	0	0	0
108,111 & 120	3	Accum. Deprec. & Amort.	53,916,586	54,241,236	54,492,688	54,897,149	55,307,243	55,705,683	56,102,356	56,209,203	56,620,209	57,024,025	57,436,980	53,399,996	665,353,353	55,446,113
154	17	Materials & Supplies	272,775	305,137	291,867	341,950	365,883	311,007	275,053	283,745	355,016	297,679	314,087	292,151	3,706,349	308,862
255	57	Unamortized ITC	1,186,268	1,179,904	1,173,540	1,167,176	1,160,812	1,154,448	1,148,084	1,141,720	1,135,356	1,128,992	1,122,628	1,192,632	13,891,560	1,157,630
282 & 283.17	56,58,26	Deferred Income Taxes	17,595,928	17,602,962	18,464,214	18,509,031	18,526,657	18,643,485	18,900,677	18,037,718	17,994,517	17,699,043	17,726,097	17,578,886	217,279,216	18,106,601
271	62	Contributions In Aid - Const.	8,238,889	8,239,059	8,234,959	8,236,196	8,280,380	8,285,789	8,322,093	8,327,799	8,334,192	8,336,954	8,258,501	8,260,830	99,355,641	8,279,637
252	55	Customer Advances	5,688,465	5,649,193	5,996,469	5,911,187	5,959,523	5,985,705	5,918,084	5,829,309	5,971,310	5,871,038	5,750,627	5,678,228	70,209,138	5,850,761
204	39	Preferred Stock	1,381,600	1,381,600	1,381,600	1,381,600	1,381,600	1,381,600	1,381,600	1,381,600	1,381,600	1,381,600	1,381,600	1,381,100	16,578,700	1,381,558
201	33	Common Stock	13,754,235	13,754,235	13,754,235	13,754,235	13,754,235	13,754,235	13,754,235	13,754,235	13,754,235	13,754,235	13,754,235	13,754,235	165,050,820	13,754,235
207 & 211	34	Other Capital	8,288,918	8,288,918	8,288,918	8,288,918	8,288,918	8,288,918	8,288,918	8,288,918	8,288,918	8,288,918	8,288,918	8,288,918	99,467,022	8,288,918
216	35 + Net Inc	Retained Earnings	19,351,690	19,236,497	19,270,362	19,456,682	19,399,957	20,103,503	20,466,365	20,879,882	20,932,340	21,173,241	21,291,805	19,440,795	241,003,119	20,083,593
221 & 230.9	40, 44	Long Term Debt	39,871,057	54,861,457	39,957,691	53,822,029	53,812,199	53,802,292	53,792,306	53,782,242	53,772,098	53,761,874	53,751,569	39,880,582	604,867,395	50,405,616
186.4 - 186.44	186401	Unamortized Painting	0	0	0	0	0	0	0	0	0	0	0	0	0	0
101		UPIS	186,844,791	187,282,125	189,395,922	190,658,213	190,918,175	191,247,706	191,641,500	193,231,592	194,455,579	194,977,793	195,569,178	187,354,000	2,293,576,573	191,131,381
118	304510	Capital Lease	1,590,500	1,590,500	1,590,500	1,590,500	1,590,500	1,590,500	1,590,500	1,590,500	1,590,500	1,590,500	1,590,500	1,590,500	19,086,000	1,590,500
131	10	Cash	347,204	310,949	322,955	515,643	300,080	301,606	563,716	583,872	540,057	520,434	442,071	535,337	5,283,923	440,327
108 & 111		Accumulated Depreciation	52,997,631	53,313,444	53,556,060	53,951,685	54,352,943	54,742,547	55,130,384	55,228,394	55,630,565	56,025,544	56,429,664	52,489,877	653,848,738	54,487,395
120	110110	Accum. Amort. - Lease	918,955	927,792	936,628	945,464	954,300	963,136	971,972	980,808	989,644	998,480	1,007,317	910,119	11,504,615	958,718
255.11	255101	Unamortized ITC - Pre '71	40,573	40,315	40,057	39,799	39,541	39,283	39,025	38,767	38,509	38,251	37,993	40,831	472,944	39,412
235		Customer Deposits	0	0	0	0	0	0	0	0	0	0	0	0	0	0
do not change		Unpaid Material & Supplies	66,200	42,800	72,819	37,813	44,500	41,302	54,837	51,015	80,838	52,586	18,040	38,256	601,006	50,084
do not change		Accounts Payable - Plant	500	22,700	44,028	15,160	9,460	3,930	37,834	0	22,944	21,586	10,668	380,500	569,310	47,443
do not change		Accounts Payable - CWIP	0	16,625	25,024	28,900	10,575	3,658	58,947	5,311	128,608	8,003	91,629	268,625	645,905	53,825
420	40 & 60	AFUDC	11,512	15,425	13,124	9,440	10,122	7,576	4,443	4,033	5,223	5,930	5,641	18,032	110,499	9,208
190.1		CIAC - DEF. FIT	284,282	284,282	284,282	284,282	284,282	284,282	284,282	284,282	284,282	284,282	284,282	334,487	3,461,589	288,466
190.2		CIAC - DEF. SIT	51,860	51,860	51,860	51,860	51,860	51,860	51,860	51,860	51,860	51,860	51,860	61,016	631,476	52,623

INCOME STATEMENT ITEMS

															12 Months Ended	Year- To- Date
		OPERATING REVENUES														
461100-461110		Residential Sales	1,052,870	966,123	1,027,431	1,212,792	1,149,546	1,740,012	1,510,364	1,465,663	1,598,987	1,482,420	984,558	992,783	15,183,550	10,124,801
461200-461210		Commercial Sales	714,480	714,781	808,716	867,267	829,051	1,138,053	1,065,670	1,057,313	1,169,559	981,469	970,033	768,357	11,084,750	7,195,332
461300-461310		Industrial Sales	243,964	280,876	284,242	306,391	259,654	380,191	340,277	346,220	417,724	330,745	355,160	289,121	3,834,564	2,441,814
462000-474100	2+4	Other Sales	438,927	468,359	495,193	543,243	561,584	699,185	616,217	649,881	706,227	674,571	627,710	525,135	7,006,233	4,472,590
		Total	2,450,241	2,430,139	2,615,581	2,929,694	2,799,836	3,957,442	3,532,528	3,519,076	3,892,498	3,469,206	2,937,460	2,575,397	37,109,097	24,234,537
		OPERATING EXPENSES														
602000-616200		Source of Supply	12,832	12,718	11,285	8,283	17,103	12,437	3,355	85,167	(29,992)	31,939	20,388	11,314	196,830	163,181
620200-652300		Water Treatment & Pump	381,634	377,083	388,277	404,060	417,545	463,335	128,518	457,116	475,130	461,194	418,429	343,248	4,715,567	3,017,567
660000-665300		Trans. & Distrib. Operation	66,847	71,886	59,129	48,803	53,282	57,993	59,187	67,451	59,404	61,781	70,449	56,030	732,242	484,579
670000-678100		Trans. & Distrib. Maint.	143,614	239,160	115,286	106,596	130,463	110,758	93,155	89,001	126,526	114,882	118,647	177,799	1,565,887	1,028,033
902100-907100		Customer Acctg. & Sales	108,565	125,329	128,672	89,051	223,430	110,299	150,776	116,118	147,502	119,976	124,535	126,450	1,570,703	1,052,240
910110-932300		Admin. & General Expense	913,611	777,708	859,694	917,801	1,022,785	927,141	1,331,325	1,006,154	966,380	1,255,196	949,912	1,209,801	12,137,509	7,756,220
403000-404430	27+28	Depreciation & Amortization	362,403	360,683	365,080	391,987	392,356	392,645	393,707	397,524	402,206	400,441	322,867	366,136	4,548,034	3,056,386
408100-408220	29	Taxes - Other	305,371	296,069	403,323	305,419	309,924	306,716	308,647	325,396	571,768	325,399	379,057	286,185	4,123,274	2,560,865
409100-412230	30,31,32	Income Taxes	(63,147)	(59,422)	(2,704)	156,491	(34,097)	540,474	334,355	277,961	397,168	146,389	107,378	231,089	2,031,935	1,149,911
		Total Operating Expense	2,231,731	2,201,213	2,328,044	2,428,491	2,532,791	2,921,797	2,803,025	2,821,889	3,116,091	2,917,197	2,511,662	2,808,052	31,621,981	20,268,982
		Net Operating Income	218,510	228,926	287,537	501,203	267,045	1,035,645	729,503	697,187	776,407	552,009	425,798	(232,655)	5,487,116	3,965,555
415100-419500	45 minus 40	Other Income	6,990	467	572	(969)	(2,128)	66,315	2,760	(96)	(1,057)	6,281	1,978	(1,863)	79,250	73,911
421100-426420	46 thru 51	Misc. Income Deductions	3,413	890	3,200	12	7,577	28,191	9,272	216	2,778	7,344	5,929	2,996	71,817	52,771
427100-431200	56 thru 59	Interest Charges	305,041	292,174	309,985	314,905	318,425	372,043	311,567	310,978	306,953	310,218	303,168	309,650	3,765,106	2,535,117
		Net Income	(82,954)	(63,671)	(25,076)	185,317	(61,085)	701,727	411,424	385,896	465,619	240,728	118,679	(547,163)	1,729,443	1,451,578
VERIFY:		Net Inc plus AFUDC	(71,442)	(48,246)	(11,952)	194,757	(50,963)	709,303	415,867	389,929	470,842	246,658	124,320	(529,131)		1,527,252
		A of I Net Inc plus Dividends	(83,348)	(109,436)	39,622	192,077	(50,964)	709,303	415,867	389,931	470,842	246,658	124,321	(529,132)		
			11,906	61,191	(51,573)	2,680	0	0	1	(2)	1	0	(1)	0		
		YTD #'S	(71,442)	(119,688)	(131,640)	63,117	12,154	721,456	1,137,323	1,527,252	1,998,094	2,244,752	2,369,072	1,839,940		3,138,532
		PER INC. STE.	(71,441)	(119,686)	(131,638)	63,118	12,152	721,457	1,137,324	1,527,252	1,998,094	2,244,752	2,369,072	1,695,103		
			(1)	(2)	(2)	(1)	2	(1)	(1)	0	0	0	(0)	144,837		

MONTHLY REPORT OF REVENUES, EXPENSES AND INVESTMENTS
WATER COMPANIES

PSC--3.06

Company Name: Tennessee-American Water Co.
Month of Report: November 2007 revised

(a)	Amount for this Month This Year (b)	Amount for this Month Last Year (c)	Year-To-Date This Year (d)	Year-To-Date Last Year (e)	12 Months-To-Date This Year (f)	12 Months-To-Date Last Year (g)
Operating Revenues						
1. Residential Sales	984,558	1,254,177	10,124,801	12,601,634	15,183,550	13,809,101
2. Commercial Sales	970,033	946,770	7,195,332	9,453,581	11,084,750	10,366,316
3. Industrial Sales	355,160	303,222	2,441,814	3,387,875	3,834,564	3,764,920
4. Other Sales	627,710	691,656	4,472,590	5,980,547	7,006,233	6,456,925
5. Total Operating Revenues (Item 1-4)	2,937,460	3,195,825	24,234,537	31,423,637	37,109,097	34,397,262
Operating Expenses						
6. Source of Supply Expense	20,388	24,039	169,855	180,858	203,504	194,977
7. Pumping and Water Treatment Expense	418,429	399,818	3,400,076	4,536,477	5,098,077	4,906,203
8. Transmission and Distribution-Operation	70,449	65,556	503,714	704,086	751,378	768,428
9. Transmission and Distribution-Maintenance	118,647	90,649	1,124,881	1,276,405	1,662,734	1,360,857
10. Customer Accounts and Sales Expense	124,535	230,706	1,031,744	1,609,816	1,550,207	1,790,587
11. Administrative and General Expense	949,912	1,050,744	7,283,756	9,760,107	11,665,046	11,074,110
12. Depreciation and Amortization	322,867	350,489	3,056,386	4,087,926	4,548,034	4,446,782
13. Taxes Other Than Income Taxes	379,057	299,365	2,560,865	3,379,570	4,123,274	3,731,907
14. Income Taxes	107,378	104,162	1,149,911	750,292	2,031,935	1,319,495
15. Total Operating Expenses (Item 6-14)	2,511,662	2,615,528	20,281,188	26,285,537	31,634,189	29,593,346
16. Net Operating Income (Item 5 less 15)	425,799	580,297	3,953,349	5,138,100	5,474,908	4,803,916
17. Other Income	1,978	1,237	73,911	6,213	79,250	4,822
18. Miscellaneous Income Deductions	5,929	(481)	52,771	25,862	71,817	24,944
19. Interest Charges	303,168	292,716	2,535,117	2,999,445	3,765,106	3,260,894
20. Net Income	118,680	289,299	1,439,372	2,119,006	1,717,235	1,522,900

	Balance at End of Month This Year (h)	Balance at End of Month Last Year (i)	Aver. for 12 Mo.-To-Date This Year (j)	Aver. for 12 Mo.-To-Date Last Year (k)
21. Utility Plant In Service (1)	197,159,678	181,434,793	192,721,881	176,765,200
22. Construction Work in Progress	2,829,032	3,469,458	2,072,795	1,836,902
23. Utility Plant Acquisition Adjustment	74,850	0	98,358	0
24. Property Held for Future Use	0	0	0	0
25. Accumulated Depreciation and Amort. (1)	57,436,980	52,960,183	55,446,113	51,336,132
26. Materials and Supplies	314,087	646,621	308,862	318,396
27. Unamortized Investment Credit	1,122,628	1,198,996	1,157,630	1,240,364
28. Deferred Income Tax	17,726,097	17,291,002	18,106,601	17,461,929
29. Contributions in Aid of Construction	8,258,501	7,312,160	8,279,637	7,227,494
30. Customer Advances for Construction	5,750,627	5,409,523	5,850,761	5,018,673
31. Preferred Stock	1,381,600	1,381,600	1,381,558	1,382,058
32. Common Stock	13,754,235	13,754,235	13,754,235	13,754,235
33. Premium on Capital Stock and Other Capital	8,288,918	4,788,918	8,288,918	4,788,781
34. Retained Earnings	21,291,805	20,663,222	20,083,593	19,632,195
35. Long Term Debt (1)	53,751,569	39,890,031	50,405,616	40,212,426

(1) Includes Capital Lease

TENNESSEE-AMERICAN WATER COMPANY
BALANCE SHEET ITEMS **November revised**

A/C	Line No.	Description	JAN '07	FEB '07	MAR '07	APR '07	MAY '07	JUN '07	JUL '07	AUG '07	SEP '07	OCT '07	NOV '07	DEC '06	Cumulative Total	12 Month Average
101 & 118	1	UPIS & Capital Leases	188,435,291	188,872,625	190,986,422	192,248,713	192,508,675	192,838,206	193,232,000	194,822,092	196,046,079	196,568,293	197,159,678	188,944,500	2,312,662,573	192,721,881
107	2	CWIP	2,353,071	2,219,487	1,578,516	930,414	1,878,222	2,730,672	2,774,842	1,900,910	1,703,243	2,394,708	2,829,032	1,580,421	24,873,539	2,072,795
114	4	UP Acquisition Adjustment	122,143	121,117	0	0	123,170	123,170	123,170	123,170	123,170	123,170	74,850	123,170	1,180,301	98,358
105		Property Held - Future Use	0	0	0	0	0	0	0	0	0	0	0	0	0	0
108,111 & 120	3	Accum. Deprec. & Amort.	53,916,586	54,241,236	54,492,688	54,897,149	55,307,243	55,705,683	56,102,356	56,209,203	56,620,209	57,024,025	57,436,980	53,399,996	665,353,353	55,446,113
154	17	Materials & Supplies	272,775	305,137	291,867	341,950	365,883	311,007	275,053	283,745	355,016	297,679	314,087	292,151	3,706,349	308,862
255	57	Unamortized ITC	1,186,268	1,179,904	1,173,540	1,167,176	1,160,812	1,154,448	1,148,084	1,141,720	1,135,356	1,128,992	1,122,628	1,192,632	13,891,560	1,157,630
282 & 283.17	56,58,26	Deferred Income Taxes	17,595,928	17,602,962	18,464,214	18,509,031	18,526,657	18,643,485	18,900,677	18,037,718	17,994,517	17,699,043	17,726,097	17,578,886	217,279,216	18,106,601
271	62	Contributions In Aid - Const.	8,238,889	8,239,059	8,234,959	8,236,196	8,280,380	8,285,789	8,322,093	8,327,799	8,334,192	8,336,954	8,258,501	8,260,830	99,355,641	8,279,637
252	55	Customer Advances	5,688,465	5,649,193	5,996,469	5,911,187	5,959,523	5,985,705	5,918,084	5,829,309	5,971,310	5,871,038	5,750,627	5,678,228	70,209,138	5,850,761
204	39	Preferred Stock	1,381,600	1,381,600	1,381,600	1,381,600	1,381,600	1,381,600	1,381,600	1,381,600	1,381,600	1,381,600	1,381,600	1,381,100	16,578,700	1,381,558
201	33	Common Stock	13,754,235	13,754,235	13,754,235	13,754,235	13,754,235	13,754,235	13,754,235	13,754,235	13,754,235	13,754,235	13,754,235	13,754,235	165,050,820	13,754,235
207 & 211	34	Other Capital	8,288,918	8,288,918	8,288,918	8,288,918	8,288,918	8,288,918	8,288,918	8,288,918	8,288,918	8,288,918	8,288,918	8,288,918	99,467,022	8,288,918
216	35 + Net Inc	Retained Earnings	19,351,690	19,236,497	19,270,362	19,456,682	19,399,957	20,103,503	20,466,365	20,879,882	20,932,340	21,173,241	21,291,805	19,440,795	241,003,119	20,083,593
221 & 230.9	40, 44	Long Term Debt	39,871,057	54,861,457	39,957,691	53,822,029	53,812,199	53,802,292	53,792,306	53,782,242	53,772,098	53,761,874	53,751,569	39,880,582	604,867,395	50,405,616
186.4 - 186.44	186401	Unamortized Painting	0	0	0	0	0	0	0	0	0	0	0	0	0	0
101		UPIS	186,844,791	187,282,125	189,395,922	190,658,213	190,918,175	191,247,706	191,641,500	193,231,592	194,455,579	194,977,793	195,569,178	187,354,000	2,293,576,573	191,131,381
118	304510	Capital Lease	1,590,500	1,590,500	1,590,500	1,590,500	1,590,500	1,590,500	1,590,500	1,590,500	1,590,500	1,590,500	1,590,500	1,590,500	19,086,000	1,590,500
131	10	Cash	347,204	310,949	322,955	515,643	300,080	301,606	563,716	583,872	540,057	520,434	442,071	535,337	5,283,923	440,327
108 & 111		Accumulated Depreciation	52,997,631	53,313,444	53,556,060	53,951,685	54,352,943	54,742,547	55,130,384	55,228,394	55,630,565	56,025,544	56,429,664	52,489,877	653,848,738	54,487,395
120	110110	Accum. Amort. - Lease	918,955	927,792	936,628	945,464	954,300	963,136	971,972	980,808	989,644	998,480	1,007,317	910,119	11,504,615	958,718
255.11	255101	Unamortized ITC - Pre '71	40,573	40,315	40,057	39,799	39,541	39,283	39,025	38,767	38,509	38,251	37,993	40,831	472,944	39,412
235		Customer Deposits	0	0	0	0	0	0	0	0	0	0	0	0	0	0
do not change		Unpaid Material & Supplies	66,200	42,800	72,819	37,813	44,500	41,302	54,837	51,015	80,838	52,586	18,040	38,256	601,006	50,084
do not change		Accounts Payable - Plant	500	22,700	44,028	15,160	9,460	3,930	37,834	0	22,944	21,586	10,668	380,500	569,310	47,443
do not change		Accounts Payable - CWIP	0	16,625	25,024	28,900	10,575	3,658	58,947	5,311	128,608	8,003	91,629	268,625	645,905	53,825
420	40 & 60	AFUDC	11,512	15,425	13,124	9,440	10,122	7,576	4,443	4,033	5,223	5,930	5,641	18,032	110,499	9,208
190.1		CIAC - DEF. FIT	284,282	284,282	284,282	284,282	284,282	284,282	284,282	284,282	284,282	284,282	284,282	334,487	3,461,589	288,466
190.2		CIAC - DEF. SIT	51,860	51,860	51,860	51,860	51,860	51,860	51,860	51,860	51,860	51,860	51,860	61,016	631,476	52,623

INCOME STATEMENT ITEMS

															12 Months Ended	Year- To- Date
		OPERATING REVENUES														
461100-461110		Residential Sales	1,052,870	966,123	1,027,431	1,212,792	1,149,546	1,740,012	1,510,364	1,465,663	1,598,987	1,482,420	984,558	992,783	15,183,550	10,124,801
461200-461210		Commercial Sales	714,480	714,781	808,716	867,267	829,051	1,138,053	1,065,670	1,057,313	1,169,559	981,469	970,033	768,357	11,084,750	7,195,332
461300-461310		Industrial Sales	243,964	280,876	284,242	306,391	259,654	380,191	340,277	346,220	417,724	330,745	355,160	289,121	3,834,564	2,441,814
462000-474100	2+4	Other Sales	438,927	468,359	495,193	543,243	561,584	699,185	616,217	649,881	706,227	674,571	627,710	525,135	7,006,233	4,472,590
		Total	2,450,241	2,430,139	2,615,581	2,929,694	2,799,836	3,957,442	3,532,528	3,519,076	3,892,498	3,469,206	2,937,460	2,575,397	37,109,097	24,234,537
		OPERATING EXPENSES														
602000-616200		Source of Supply	12,832	12,718	11,285	8,283	17,103	12,437	10,029	85,167	(29,992)	31,939	20,388	11,314	203,504	169,855
620200-652300		Water Treatment & Pump	381,634	377,083	388,277	404,060	417,545	463,335	511,028	457,116	475,130	461,194	418,429	343,248	5,098,077	3,400,076
660000-665300		Trans. & Distrib. Operation	66,847	71,886	59,129	48,803	53,282	57,993	78,322	67,451	59,404	61,781	70,449	56,030	751,378	503,714
670000-678100		Trans. & Distrib. Maint.	143,614	239,160	115,286	106,596	130,463	110,758	190,002	89,001	126,526	114,882	118,647	177,799	1,662,734	1,124,881
902100-907100		Customer Acctg. & Sales	108,565	125,329	128,672	89,051	223,430	110,299	130,280	116,118	147,502	119,976	124,535	126,450	1,550,207	1,031,744
910110-932300		Admin. & General Expense	934,809	856,767	766,835	922,610	1,022,785	927,141	846,655	1,006,154	966,380	1,255,196	949,912	1,209,801	11,665,046	7,283,756
403000-404430	27+28	Depreciation & Amortization	362,403	360,683	365,080	391,987	392,356	392,645	393,707	397,524	402,206	400,441	322,867	366,136	4,548,034	3,056,386
408100-408220	29	Taxes - Other	305,371	296,069	403,323	305,419	309,924	306,716	308,647	325,396	571,768	325,399	379,057	286,185	4,123,274	2,560,865
409100-412230	30,31,32	Income Taxes	(63,147)	(59,422)	(2,704)	156,491	(34,097)	540,474	334,355	277,961	397,168	146,389	107,378	231,089	2,031,935	1,149,911
		Total Operating Expense	2,252,928	2,280,272	2,235,185	2,433,301	2,532,791	2,921,797	2,803,025	2,821,889	3,116,091	2,917,197	2,511,662	2,808,052	31,634,189	20,281,188
		Net Operating Income	197,313	149,867	380,396	496,393	267,045	1,035,645	729,503	697,187	776,407	552,009	425,798	(232,655)	5,474,908	3,953,349
415100-419500	45 minus 40	Other Income	6,990	467	572	(969)	(2,128)	66,315	2,760	(96)	(1,057)	6,281	1,978	(1,863)	79,250	73,911
421100-426420	46 thru 51	Misc. Income Deductions	3,413	890	3,200	12	7,577	28,191	9,272	216	2,778	7,344	5,929	2,996	71,817	52,771
427100-431200	56 thru 59	Interest Charges	305,041	292,174	309,985	314,905	318,425	372,043	311,567	310,978	306,953	310,218	303,168	309,650	3,765,106	2,535,117
		Net Income	(104,151)	(142,730)	67,783	180,507	(61,085)	701,727	411,424	385,896	465,619	240,728	118,679	(547,163)	1,717,235	1,439,372
VERIFY:		Net Inc plus AFUDC	(92,639)	(127,305)	80,907	189,947	(50,963)	709,303	415,867	389,929	470,842	246,658	124,320	(529,131)		1,515,045
		A of I Net Inc plus Dividends	(83,348)	(109,436)	39,622	192,077	(50,964)	709,303	415,867	389,931	470,842	246,658	124,321	(529,132)		
			(9,291)	(17,868)	41,286	(2,130)	0	0	1	(2)	1	0	(1)	0		
		YTD #'S	(92,639)	(219,944)	(139,037)	50,910	(53)	709,249	1,125,116	1,515,045	1,985,887	2,232,545	2,356,865	1,827,733		2,948,647
		PER INC. STE.	(71,441)	(119,686)	(131,638)	63,118	12,152	721,457	1,137,324	1,527,252	1,998,094	2,244,752	2,369,072	1,695,103		
			(21,198)	(100,258)	(7,399)	(12,208)	(12,205)	(12,208)	(12,208)	(12,207)	(12,207)	(12,207)	(12,207)	132,630		

TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 08-00039
FIRST DISCOVERY REQUEST OF THE
CONSUMER ADVOCATE AND PROTECTION DIVISION

Responsible Witness: John Watson/Sheila Miller

PART IV: QUESTIONS & REQUESTS REGARDING REVENUES, EXPENSES, TAXES, RATE BASE & MISCELLANEOUS

Question: EXPENSES

20. Provide the total salaries and wages by employee, total overtime hours by employee, and total capitalized salaries and wages for the twelve months ended February 2008.

Response:

TAWC objects to this request because it calls upon TAWC to create, categorize, manipulate, customize or otherwise organize data regarding timeframes outside of TAWC's historical test-year. TAWC objects to such a request because it is unduly burdensome, seeks to have TAWC create work product, and seeks information that is not relevant to this rate case.

Subject to and without waiving these objections, please see attached schedules.

Tennessee American Water Company
Docket No. 08-00039
Consumer Advocate and Protection Division
Question 20 attachment a - Total Wages

Employee #	Employee Name	Amount
50237926	Atkins, Kelly L.	46,076.64
26000049	Autry, Freddie L.	48,421.85
26000068	Baggett, James L.	702.08
26000137	Banks, Kathleen A.	61,506.60
26000028	Bartley, Rachel M.	96,092.79
50316116	Bednarski, Richard P.	47,926.23
50341466	Beets, James E.	42,734.34
26000107	Bennette, Michael J.	75,731.38
26000041	Betty, Steven W.	56,393.88
50267313	Billups, Brian D.	45,831.17
26000022	Bishop, Monty L.	111,009.06
50392989	Blankenship, Sheila M.	214.50
26000088	Blevins, Marvin R.	55,952.87
50108180	Blevins, Timothy B.	46,359.67
50191169	Blevins, Waylon T.	50,527.26
50341517	Blevins, William L.	40,210.18
26000133	Borders, Stephen A.	45,183.97
26000057	Bowling, Stanley E.	48,794.00
50195340	Boyer, John B.	46,341.50
50392955	Bradley, Chad	72.00
26000121	Bratcher, Neil F.	69,200.34
50392964	Bryden, Jeffrey C.	744.84
50069216	Burrell, Dale R.	52,822.87
26000162	Camp, Debbie H.	65,032.59
50107207	Chrnalogar, Adam D.	52,081.80
26000118	Coates, J. David	50,867.23
26000010	Collins, Steven L.	45,943.97
26000155	Cordell, Terry L.	61,885.65
26000033	Crane, Scott E.	52,009.02
26000172	Crutchfield, Patrick W.	45,221.35
26000144	Cummings, Pamela B.	83,771.12
26000005	Dalton, Kimberly M.	59,945.13
26000084	Davis, Bennie J.	29,106.56
50392965	Dennison, Deborah R.	142.80
26000039	Derryberry, Jack S.	51,167.35
26000109	Durham, Kimberly F.	38,076.94
26000150	Eady, R. Glenn	58,354.97
50116162	Gamble, Robert A.	52,875.67
26000061	Grace, Renee R.	45,466.79
18508611	Green, Joseph A	22,333.59
50240644	Griffith, Michael J.	48,298.67
26000045	Griffith, Vicki L.	42,823.32
50104651	Ha, Jason T.	52,367.22
26000131	Haddock, Gerald L.	50,141.55
26000127	Harris, Edward D.	53,809.40

Tennessee American Water Company
Docket No. 08-00039
Consumer Advocate and Protection Division
Question 20 attachment a - Total Wages

Employee #	Employee Name	Amount
50392966	Hart, Michael R.	1,199.10
26000171	Harvey, Robbie G.	46,745.46
50192381	Haws, Erich S.	49,533.75
26000153	Hays, Chris L.	55,035.59
26000149	Hays, Karen Denise	45,544.52
50262066	Hester, Herbert F.	46,093.10
26000081	Hicks Jr., Worn	46,344.26
26000108	Highsmith, Kevin B.	58,577.43
50195323	Hindman, Roy C.	45,515.18
26000186	Holmes, Susan T.	87,321.89
26000093	Hughes Jr., James T.	48,731.91
26000085	Hughes, Jane B.	42,564.36
26000164	Hughes, Kendall W.	52,512.94
26000169	Hutsell, Charlotte A.	59,289.85
50392967	Irvin, Russell J.	216.00
50270912	Jenkins, Lamar O.	45,536.33
26000128	Jenkins, Sammy R.	38,547.66
50315983	Johnson, Courtney D.	46,076.39
26000056	Johnson, Edward L.	46,068.18
50226412	Jones, Jeffrey A.	46,208.28
50193778	Justice, Matthew W.	46,545.90
26000112	Kelley, Myra V.	47,432.48
50191242	King, Elijah J.	46,509.31
50243218	Knight, Stacy L.	44,240.16
50341514	Layne, Chase N.	39,615.07
50392970	Mardis, Gregory H.	2,304.90
50397103	Markham, Brian J.	865.40
50392972	Martin JR, Charles	1,617.12
26000106	Martin, Tolly E.	51,246.27
26000082	Matthews, Larry H.	56,042.61
50206915	McBay, David E.	51,253.17
50279031	McGhee, Brian S.	46,321.23
50392975	McLean, Wilbert	772.56
50193781	McNabb, David A.	51,400.56
26000071	Melton, Brenda H.	45,222.62
50392963	Miller, Steve	2,115.54
50392978	Montijo, Joseph B.	582.00
50390540	Moorhouse, James S.	6,028.83
50274180	Morgan, Donald R.	46,114.41
26000078	Morrison, Leah T.	67,606.24
26000160	Moses, Michael S.	57,224.94
50271710	Mount, Jason D.	16,328.85
50300097	Nartey, Kate S.	52,048.46
26000031	Norwood, R. Gary	72,750.27
26000006	Odmann, Gary S.	15.36

Tennessee American Water Company
Docket No. 08-00039
Consumer Advocate and Protection Division
Question 20 attachment a - Total Wages

Employee #	Employee Name	Amount
50066140	O'Donnell, William T.	46,080.14
50304317	Partridge, Adrien L.	43,000.10
50392988	Phillips, Chris K.	72.00
26000120	Pitman, Benjamin J.	62,363.59
26000104	Robinson, C. Greg	59,727.62
50392979	Russell, Brian S.	288.00
26000119	Russell, Linda H.	42,275.34
26000163	Satterfield, L. Donette	45,436.21
26000083	Scealf, Virginia B.	59,478.13
26000141	Schleifer, Ronald C.	8,619.24
26000151	Scruggs, Arthur L.	46,042.01
50066038	Seebeck, Jurgen D.	49,478.36
26000984	Skiles, Rick J.	45,980.24
26000166	Springs, James P.	46,598.19
50238070	Stafford, Jeffrey R.	46,022.98
26000985	Stanley, Ralph J.	47,118.08
26000152	Steed, Cynthia A.	46,078.97
26000077	Stephens, Ricky E.	45,211.06
50392981	Stone, Heather J.	1,224.00
50339372	Talley, Dustin L.	41,147.46
26000110	Taylor, Morris	51,991.85
26000178	Taylor, Randal D.	88,166.16
50204091	Thornton, Rebecca L.	78,448.44
50392985	Timmons, Lucas P.	144.00
26000034	Tucker, Shirley A.	45,862.68
26000004	Turley, D. Mark	60,289.39
26000007	Upshaw, Barbara J.	42,510.40
26000158	Vaughn, Dianna L.	43,065.50
26000055	Walden, Herman F.	54,535.23
26001419	Walker, Melvin B.	52,666.19
27000060	Watson, John S.	133,498.91
50191188	Watts, Daniel L.	50,935.00
26000069	Weathers, Edward E.	50,861.24
50192499	Welch, Billy J.	47,514.30
50392987	Wiertel, Steven A.	505.20
50237996	Williams, Derick D.	46,076.64
26000117	Williams, Faye J.	45,633.15
26000132	Wilson Jr., V. Keith	50,883.73
26000136	Worrell, David T.	52,482.74
26000076	Wortham, Deborah S.	20,286.81
26000182	Zinnanti, Mark J.	88,940.31
	Total Wages	5,797,978.74

Tennessee American Water Company
Docket No. 08-00039
Consumer Advocate and Protection Division
Question 20 attachment b - Overtime Hours

Employee #	Employee Name	Hours
50237926	Atkins, Kelly L.	0.25
26000049	Autry, Freddie L.	82.00
50316116	Bednarski, Richard P.	77.00
50341466	Beets, James E.	71.00
50267313	Billups, Brian D.	1.00
26000088	Blevins, Marvin R.	27.00
50108180	Blevins, Timothy B.	8.75
50191169	Blevins, Waylon T.	153.00
26000133	Borders, Stephen A.	7.50
26000057	Bowling, Stanley E.	95.00
50195340	Boyer, John B.	8.25
50069216	Burrell, Dale R.	35.00
26000162	Camp, Debbie H.	253.25
50107207	Chrnalogar, Adam D.	25.00
26000118	Coates, J. David	32.00
26000010	Collins, Steven L.	23.50
26000155	Cordell, Terry L.	189.00
26000033	Crane, Scott E.	187.00
26000172	Crutchfield, Patrick W.	3.00
26000039	Derryberry, Jack S.	154.50
26000150	Eady, R. Glenn	50.50
50116162	Gamble, Robert A.	202.00
26000061	Grace, Renee R.	0.25
18508611	Green, Joseph A	2.00
50240644	Griffith, Michael J.	79.50
50104651	Ha, Jason T.	23.00
26000131	Haddock, Gerald L.	134.75
26000127	Harris, Edward D.	233.50
26000171	Harvey, Robbie G.	143.25
50192381	Haws, Erich S.	115.50
26000153	Hays, Chris L.	224.00
26000149	Hays, Karen Denise	7.75
50262066	Hester, Herbert F.	0.75
26000081	Hicks Jr., Worn	20.50
50195323	Hindman, Roy C.	11.75
26000093	Hughes Jr., James T.	103.75
26000085	Hughes, Jane B.	4.25
26000164	Hughes, Kendall W.	26.25
26000169	Hutsell, Charlotte A.	197.00
26000128	Jenkins, Sammy R.	7.75
50315983	Johnson, Courtney D.	0.25
50226412	Jones, Jeffrey A.	4.25
50193778	Justice, Matthew W.	14.50
26000112	Kelley, Myra V.	163.00
50191242	King, Elijah J.	38.50

Tennessee American Water Company
Docket No. 08-00039
Consumer Advocate and Protection Division
Question 20 attachment b - Overtime Hours

Employee #	Employee Name	Hours
50243218	Knight, Stacy L.	0.25
50341514	Layne, Chase N.	1.25
26000106	Martin, Tolly E.	172.75
26000082	Matthews, Larry H.	308.75
50279031	McGhee, Brian S.	49.00
50193781	McNabb, David A.	173.50
26000071	Melton, Brenda H.	19.00
50274180	Morgan, Donald R.	48.75
26000160	Moses, Michael S.	340.75
50271710	Mount, Jason D.	0.50
50066140	O'Donnell, William T.	12.50
26000120	Pitman, Benjamin J.	170.50
26000104	Robinson, C. Greg	42.00
26000163	Satterfield, L. Donette	97.50
26000151	Scruggs, Arthur L.	18.00
50066038	Seebeck, Jurgen D.	117.75
26000984	Skiles, Rick J.	17.25
26000166	Springs, James P.	28.25
26000985	Stanley, Ralph J.	56.75
26000152	Steed, Cynthia A.	1.00
26000077	Stephens, Ricky E.	2.75
50339372	Talley, Dustin L.	0.50
26000110	Taylor, Morris	188.25
26000034	Tucker, Shirley A.	113.00
26000158	Vaughn, Dianna L.	19.00
26000055	Walden, Herman F.	256.00
26001419	Walker, Melvin B.	27.00
50191188	Watts, Daniel L.	149.25
26000069	Weathers, Edward E.	32.50
50192499	Welch, Billy J.	58.00
50237996	Williams, Derick D.	0.25
26000117	Williams, Faye J.	105.50
26000132	Wilson Jr., V. Keith	146.75
26000136	Worrell, David T.	145.75
	Total Overtime Hours	6,162.00

Tennessee American Water Company
Docket No. 08-00039
Consumer Advocate and Protection Division
Question 20 attachment c - Capitalized Wages

Employee #	Employee Name	Amount
50237926	Atkins, Kelly L.	351.04
26000049	Autry, Freddie L.	41,264.08
50316116	Bednarski, Richard P.	44,891.76
26000107	Bennette, Michael J.	2,849.11
50267313	Billups, Brian D.	3,977.84
26000022	Bishop, Monty L.	29,861.92
26000088	Blevins, Marvin R.	5,823.40
50108180	Blevins, Timothy B.	526.56
50191169	Blevins, Waylon T.	11,550.74
50341517	Blevins, William L.	5,024.26
26000133	Borders, Stephen A.	859.60
26000057	Bowling, Stanley E.	3,634.32
50195340	Boyer, John B.	2,754.88
26000010	Collins, Steven L.	42,091.52
26000033	Crane, Scott E.	5,109.83
26000172	Crutchfield, Patrick W.	42,483.14
26000144	Cummings, Pamela B.	7,244.59
26000039	Derryberry, Jack S.	44,272.46
50116162	Gamble, Robert A.	6,425.97
26000061	Grace, Renee R.	43,794.31
18508611	Green, Joseph A	2,632.80
50240644	Griffith, Michael J.	5,862.31
26000131	Haddock, Gerald L.	10,237.12
26000127	Harris, Edward D.	7,283.76
26000171	Harvey, Robbie G.	46,745.46
50192381	Haws, Erich S.	9,129.80
26000153	Hays, Chris L.	3,962.19
50262066	Hester, Herbert F.	5,281.44
26000108	Highsmith, Kevin B.	6,846.86
50195323	Hindman, Roy C.	39,982.04
26000093	Hughes Jr., James T.	2,750.08
26000085	Hughes, Jane B.	17,018.66
50270912	Jenkins, Lamar O.	7,449.56
26000128	Jenkins, Sammy R.	687.68
50315983	Johnson, Courtney D.	14,247.84
26000056	Johnson, Edward L.	31,624.70
50226412	Jones, Jeffrey A.	15,156.46
50193778	Justice, Matthew W.	789.84
50191242	King, Elijah J.	2,634.73
50243218	Knight, Stacy L.	10,443.49
50341514	Layne, Chase N.	3,861.44
50397103	Markham, Brian J.	173.08
26000106	Martin, Tolly E.	4,799.33
26000082	Matthews, Larry H.	13,508.17

Tennessee American Water Company
Docket No. 08-00039
Consumer Advocate and Protection Division
Question 20 attachment c - Capitalized Wages

Employee #	Employee Name	Amount
50279031	McGhee, Brian S.	2,845.78
50193781	McNabb, David A.	46,078.58
50274180	Morgan, Donald R.	1,555.42
26000160	Moses, Michael S.	14,242.09
50300097	Nartey, Kate S.	51,569.20
26000031	Norwood, R. Gary	64,162.62
50066140	O'Donnell, William T.	8,686.98
26000119	Russell, Linda H.	16,944.84
50066038	Seebeck, Jurgen D.	9,661.53
26000984	Skiles, Rick J.	9,509.26
50238070	Stafford, Jeffrey R.	1,491.60
26000985	Stanley, Ralph J.	9,803.36
26000152	Steed, Cynthia A.	109.70
50339372	Talley, Dustin L.	3,685.92
26000110	Taylor, Morris	3,878.36
26000178	Taylor, Randal D.	82,696.12
26000034	Tucker, Shirley A.	45,862.68
26000004	Turley, D. Mark	3,135.04
26000055	Walden, Herman F.	16,017.18
27000060	Watson, John S.	45,021.87
50191188	Watts, Daniel L.	2,965.54
50192499	Welch, Billy J.	8,082.09
50237996	Williams, Derick D.	11,304.56
26000117	Williams, Faye J.	45,633.15
26000132	Wilson Jr., V. Keith	3,199.89
26000076	Wortham, Deborah S.	20,286.81
	Total Capitalized Wages	1,136,330.34

TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 08-00039
FIRST DISCOVERY REQUEST OF THE
CONSUMER ADVOCATE AND PROTECTION DIVISION

Responsible Witness: Michael Miller

PART IV: QUESTIONS & REQUESTS REGARDING REVENUES, EXPENSES, TAXES, RATE BASE & MISCELLANEOUS

Question: EXPENSES

21. Provide the Fuel and Power Expense for the **test year ended March 2008** in the format of TN-TRA-Q013-FUEL & POWER, pages 10-11 of 49.

Response:

The Company objects to this request on the grounds that it is unduly burdensome, in particular because the information requested is not readily available in the requested format and is very costly to gather and produce. The Company also objects to this request on the grounds that it detracts from the Company's ability to address and support its historical test-year data and the adjustments developed to arrive at a reasonable attrition year and is not required by the TRA's recognized rate case procedures.

The Company filed its petition, testimony, exhibits, and workpapers fully supporting its case based on a test year ending on November 30, 2007. Test year data and schedules were prepared specifically for the historical test year utilized in the Company's filing. This request seeks the compilation of data for the 12 months ended March 31, 2008, a test year that the CAPD has stated it intends to propose. It is burdensome and fundamentally unfair to require the Company to respond to a data request that, in essence, requires the Company to completely redo the data collection and analysis required to file its petition based on a test year, or multiple test years, proposed by an Intervenor, particularly

when that test year includes dates after the petition was filed. The re-creation of every aspect of its case for multiple historical test years is not required by TRA rules and is not necessary for the CAPD to assess the Company's petition.

Notwithstanding these objections, please see the attached schedule which provides the fuel and power expense for the twelve months ended March 2008. The Company has not recapped the hundreds of monthly power bills for December 2007 through March 2008 required to create the information in the requested format.

American Water Works Company
Tennessee American Water Company
Analysis of Income 12 Month
Power
For the Period Ending 05/31/2008

Description	April 2007	May 2007	June 2007	July 2007	August 2007	September 2007	October 2007	November 2007	December 2007	January 2008	February 2008	March 2008
00026 Tennessee-American Water Co.												
P10 Fuel & Power												
515100 Purch Power												
12 Purch Power P	186,721	166,586	223,054	209,160	207,960	239,410	234,035	196,201	170,693	175,496	169,623	186,277
14 Purch Power TD	206	256	283	277	222	259	329	169	215	161	248	200
00026 Tennessee-American Water Co.	186,927	166,842	223,337	209,437	208,182	239,669	234,364	196,370	170,908	175,657	169,871	186,477

TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 08-00039
FIRST DISCOVERY REQUEST OF THE
CONSUMER ADVOCATE AND PROTECTION DIVISION

Responsible Witness: Michael Miller/Sheila Miller

PART IV: QUESTIONS & REQUESTS REGARDING REVENUES, EXPENSES, TAXES, RATE BASE & MISCELLANEOUS

Question: EXPENSES

22. Provide the Fuel and Power Expense for the attrition year ended August 2009 in the format of TN-TRA-Q013-FUEL & POWER, pages 10-11 of 49 for only water sales volumes.

Response:

The Company objects to this question on the grounds that the requested information is not relevant to this proceeding, is not readily available in the format requested, and is not in compliance with the factor that is historically and customarily used to calculate fuel and power expense.

The Company's attrition year fuel and power expense on TN-TRA-Q013-FUEL & POWER is based on the gallons pumped (system delivery). The gallons pumped to and in the distribution system has always been the factor used by the Company (and, to the Company's knowledge, all other regulated water utilities) on which to base fuel and power costs. The calculations of fuel and power expense based on **water sales** as requested in this question, are not relevant to this case

TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 08-00039
FIRST DISCOVERY REQUEST OF THE
CONSUMER ADVOCATE AND PROTECTION DIVISION

Responsible Witness: Michael Miller/Sheila Miller

PART IV: QUESTIONS & REQUESTS REGARDING REVENUES, EXPENSES, TAXES, RATE BASE & MISCELLANEOUS

Question: EXPENSES

23. Provide the Chemicals Expense for the **test year ended March 2008** in the format of TN-TRA-Q013-CHEMICALS, page 3 of 7.

Response:

The Company objects to this request on the grounds that it is unduly burdensome, in particular because the information requested is not readily available in the requested format and is very costly to gather and produce. The Company also objects to this request on the grounds that it detracts from the Company's ability to address and support its historical test-year data and the adjustments developed to arrive at a reasonable attrition year and is not required by the TRA's recognized rate case procedures.

The Company filed its petition, testimony, exhibits, and workpapers fully supporting its case based on a test year ending on November 30, 2007. Test year data and schedules were prepared specifically for the historical test year utilized in the Company's filing. This request specifically seeks the compilation of data for the 12 months ending March 31, 2008, clearly demonstrating that the CAPD intends to propose a separate test year. It is burdensome and fundamentally unfair to require the Company to respond to a data request that, in essence, requires the Company to completely redo the data collection and analysis required to file its petition based on a test year, or multiple test years, proposed by an Intervenor, particularly when that test year includes dates after

the petition was filed. The re-creation of every aspect of its case for multiple historical test years is not required by TRA rules and is not necessary for the CAPD to assess the Company's petition.

With respect to this specific request, please see the attached schedule which includes the requested information for actual chemical expense and usage for the year and through March 2008.

Tennessee-American Water Company
CAPD DR 1 Part 4 Question 23
Chemical Usage and Costs:

Pounds	Apr-07	May-07	Jun-07	Jul-07	Aug-07	Sep-07	Oct-07	Nov-07	Dec-07	Jan-08	Feb-08	Mar-08	Total
Polyaluminum Chloride	**116,555**	**110,108**	**107,186**	**92,745**	**100,900**	**88,066**	**94,395**	**104,686**	**91,768**	**149,938**	**138,399**	**119,562**	1,314,308
Chlorine	**44,221**	**56,312**	**60,990**	**60,300**	**67,878**	**60,788**	**52,637**	**44,871**	**40,847**	**42,777**	**41,600**	**44,529**	617,750
Fluoride	**42,373**	**57,286**	**51,313**	**51,568**	**55,950**	**50,765**	**51,538**	**44,704**	**41,075**	**41,792**	**40,463**	**39,741**	568,568
Caustic	**20,369**	**63,383**	**93,929**	**56,222**	**31,114**	**26,977**	**3,073**		**4,255**	**10,549**	**35,884**	**57,539**	403,294
Corrosion Inhibitor	**44,453**	**49,118**	**56,160**	**52,742**	**57,531**	**50,411**	**55,705**	**39,501**	**31,510**	**30,924**	**30,454**	**28,516**	527,025
Filter Aid	**668**	**106**	-	-	-	**5**	**95**	**221**	**125**	**198**	**403**	**544**	2,365
Powdered Carbon	0	0	0	21101	11384	7615	0	0	0	0	0	0	40,100
GAC													

Cost													
Polyaluminum Chloride	$32,027	$30,538	$28,420	$23,923	$26,139	$19,217	$24,248	$26,485	$28,471	$41,070	$35,172	$44,892	$360,602
Chlorine	$12,937	$16,502	$17,296	$15,170	$19,734	$13,571	$14,092	$12,122	$11,044	$10,269	$9,688	$10,328	$162,753
Fluoride	$6,190	$8,260	$7,146	$7,120	$7,688	$6,990	$7,097	$6,156	$6,898	$7,834	$7,065	$7,317	$85,761
Caustic	$2,898	$8,534	$11,458	$7,549	$3,447	$2,090	$185	$0	$398	$1,364	$4,124	$5,908	$47,955
Corrosion Inhibitor	$16,130	$18,649	$20,038	$20,082	$20,711	$15,641	$20,080	$13,978	$10,753	$11,431	$11,162	$10,268	$188,923
Filter Aid	$774	$238	$0	$0	$0	$36	$79	$460	$393	$297	$920	$1,113	$4,310
Powdered Carbon				$10,514	$5,340	$2,876	$0	$0	$0	$0	$0	$0	$18,730
GAC	$22,438	$22,438	$22,438	$22,438	$22,438	$22,438	$22,438	$22,438	$22,438	$22,438	$22,438	$22,438	$269,251
Total	$93,394	$105,159	$106,796	$106,796	$105,497	$82,859	$88,218	$81,638	$80,395	$94,703	$90,569	$102,264	$1,138,285

Cost/Lb													Average Cost/lb
Polyaluminum Chloride	$0.2748	$0.2773	$0.2651	$0.2579	$0.2591	$0.2182	$0.2569	$0.2530	$0.3102	$0.2739	$0.2541	$0.3755	$0.2730
Chlorine	$0.2926	$0.2930	$0.2836	$0.2516	$0.2907	$0.2233	$0.2677	$0.2702	$0.2704	$0.2401	$0.2329	$0.2319	$0.2623
Fluoride	$0.1461	$0.1442	$0.1393	$0.1381	$0.1374	$0.1377	$0.1377	$0.1377	$0.1679	$0.1875	$0.1746	$0.1841	$0.1527
Caustic	$0.1423	$0.1346	$0.1220	$0.1343	$0.1108	$0.0775	$0.0602		$0.0935	$0.1293	$0.1149	$0.1027	$0.1111
Corrosion Inhibitor	$0.3629	$0.3797	$0.3568	$0.3808	$0.3600	$0.3103	$0.3605	$0.3539	$0.3413	$0.3696	$0.3665	$0.3601	$0.3585
Filter Aid	$1.1587	$2.2453				$7.2000	$0.8316	$2.0814	$3.1440	$1.5000	$2.2829	$2.0460	$2.4989
Powdered Carbon*				$0.4983	$0.4691	$0.3777							
GAC													

TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 08-00039
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CONSUMER ADVOCATE AND PROTECTION DIVISION

Responsible Witness: Michael Miller

PART IV: QUESTIONS & REQUESTS REGARDING REVENUES, EXPENSES, TAXES, RATE BASE & MISCELLANEOUS

Question: EXPENSES

24. Provide the Chemicals Expense for the attrition year ended August 2009 in the format of TN-TRA-Q013-CHEMICALS, page 6 of 7 for only water sales volumes.

Response:

The Company objects to this question on the grounds that the requested information is not relevant to this proceeding, is not readily available in the format requested, and is not in compliance with the factor that is historically and customarily used to calculate chemical expense.

The Company's attrition year chemical expense on TN-TRA-Q013-CHEMICALS is based on gallons pumped (system delivery). The gallons pumped to the distribution system has always been the factor used by the Company (and, to the Company's knowledge, all other regulated water utilities) on which to base chemical costs. The calculations of chemical expense based on **water sales** as requested in this question, are not relevant to this case

TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 08-00039
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CONSUMER ADVOCATE AND PROTECTION DIVISION

Responsible Witness: Sheila Miller/John Watson

PART IV: QUESTIONS & REQUESTS REGARDING REVENUES, EXPENSES, TAXES, RATE BASE & MISCELLANEOUS

Question: EXPENSES

25. Provide all Walden's Ridge operating expenses such as fuel and power expense, chemicals, etc. reported on the TRA 3.06 Surveillance Reports by month for the 17 months ended March 31, 2008 by NARUC account.

Response:

TAWC objects to this request because it calls upon TAWC to create, categorize, manipulate, customize or otherwise organize data regarding timeframes outside of TAWC's historical test-year. TAWC objects to such a request because it is unduly burdensome, seeks to have TAWC create work product, and seeks information that is not relevant to this rate case.

Subject to and without waiving these objections, please see attached schedules.

Tennessee American Water
Costs Associated with Walden's Ridge Water sales (Water Treatment Chemicals. WasteDisposal) ===> **$41,166.23**
CAPD DR 1 Part 4 Question 25

Citico Plant
Chemical Cost for Calendar Month

Service Period		Act. Chem Exp	Total Treated Water	Avg Cost/MG	Walden Ridge Water Sales	Water Sales Chemical Cost	
11/1/2006	11/30/2006	$ 97,469	1291.733	$ 75.46	23.152	$ 1,746.96	
12/1/2006	12/31/2006	$ 45,271	1014.2622	$ 44.63	20.422	$ 911.52	
1/1/2007	1/31/2007	$ 110,230	1155.132	$ 95.43	19.672	$ 1,877.23	
2/1/2007	2/28/2007	$ 62,620	1030.366	$ 60.77	22.264	$ 1,353.08	
3/1/2007	3/31/2007	$ 100,757	1139.696	$ 88.41	20.347	$ 1,798.82	
4/1/2007	4/30/2007	$ 79,181	1094.182	$ 72.37	26.571	$ 1,922.82	
5/1/2007	5/31/2007	$ 102,298	1207.821	$ 84.70	27.979	$ 2,369.72	
6/1/2007	6/30/2007	$ 96,128	1385.25	$ 69.39	39.918	$ 2,770.07	
7/1/2007	7/31/2007	$ 106,804	1289.629	$ 82.82	33.234	$ 2,752.36	
8/1/2007	8/31/2007	$ 106,354	1459.528	$ 72.87	37.183	$ 2,709.48	
9/1/2007	9/30/2007	$ 103,436	1354.21	$ 76.38	37.945	$ 2,898.28	
10/1/2007	10/31/2007	$ 77,588	1291.909	$ 60.06	36.652	$ 2,201.20	
11/1/2007	11/30/2007	$ 84,504	1168.246	$ 72.33	25.655	$ 1,855.73	
12/1/2007	12/31/2007	$ 61,606	1096.891	$ 56.16	25.416	$ 1,427.47	
1/1/2008	1/31/2008	$ 74,207	1136.527	$ 65.29	29.583	$ 1,931.56	
2/1/2008	2/29/2008	$ 76,550	1039.016	$ 73.68	26.388	$ 1,944.15	
3/1/2008	3/31/2008	$ 105,819	1079.749	$ 98.00	29.909	$ 2,931.18	
							$35,401.63

Tennesee American Water
Actual Waste Disposal Expense

Service Period		Actual Waste Disp.Exp.	Total Treated Water	Avg Cost/MG			
11/1/2006	11/30/2006	$ 12,816	1291.733	$ 9.92	23.152	$ 229.70	
12/1/2006	12/31/2006	$ 21,098	1014.262	$ 20.80	20.422	$ 424.80	
1/1/2007	1/31/2007	$ 22,797	1155.132	$ 19.74	19.672	$ 388.23	
2/1/2007	2/28/2007	$ 15,892	1030.366	$ 15.42	22.264	$ 343.39	
3/1/2007	3/31/2007	$ 13,011	1139.696	$ 11.42	20.347	$ 232.29	
4/1/2007	4/30/2007	$ 23,342	1094.182	$ 21.33	26.571	$ 566.83	
5/1/2007	5/31/2007	$ 13,728	1207.821	$ 11.37	27.979	$ 318.01	
6/1/2007	6/30/2007	$ 4,344	1385.25	$ 3.14	39.918	$ 125.18	
7/1/2007	7/31/2007	$ 17,013	1289.629	$ 13.19	33.234	$ 438.43	
8/1/2007	8/31/2007	$ 15,401	1459.528	$ 10.55	37.183	$ 392.36	
9/1/2007	9/30/2007	$ (25,367)	1354.21	$ (18.73)	37.945	$ (710.78)	
10/1/2007	10/31/2007	$ 29,732	1291.909	$ 23.01	36.652	$ 843.51	
11/1/2007	11/30/2007	$ 10,730	1168.246	$ 9.18	25.655	$ 235.63	
12/1/2007	12/31/2007	$ 10,701	1096.891	$ 9.76	25.416	$ 247.95	
1/1/2008	1/31/2008	$ 13,162	1136.527	$ 11.58	29.583	$ 342.60	
2/1/2008	2/29/2008	$ 13,088	1039.016	$ 12.60	26.388	$ 332.40	
3/1/2008	3/31/2008	$ 36,609	1079.749	$ 33.91	29.909	$ 1,014.07	
							$ 5,764.60

Tennessee American Water Company
CAPD DR 1 Part 4 Question 25
Fuel & Power Costs - Walden's Ridge

Facility	Account Number	Provider	Service To	Bill Date	Bus Unit #	Object #	Sub #	Current charges	Total Due
TNAWC - Walden's Ridge Interconnect	481309000	ELECTRIC POWER BOARD OF CHATTANOOGA	11/29/2006	12/29/2006	260201	515100	12	$ 11,990.81	$ 11,990.81
TNAWC - Walden's Ridge Interconnect	481309000	ELECTRIC POWER BOARD OF CHATTANOOGA	12/28/2006	1/31/2007	260201	515100	12	$ 11,915.79	$ 11,915.79
TNAWC - Walden's Ridge Interconnect	481309000	ELECTRIC POWER BOARD OF CHATTANOOGA	1/26/2007	2/28/2007	260201	515100	12	$ 11,624.01	$ 11,624.01
TNAWC - Walden's Ridge Interconnect	481309000	ELECTRIC POWER BOARD OF CHATTANOOGA	3/29/2007	4/2/2007	260201	515100	12	$ 11,765.00	$ 11,765.00
TNAWC - Walden's Ridge Interconnect	481309000	ELECTRIC POWER BOARD OF CHATTANOOGA	2/26/2007	3/30/2007	260201	515100	12	$ 12,696.06	$ 12,696.06
TNAWC - Walden's Ridge Interconnect	481309000	ELECTRIC POWER BOARD OF CHATTANOOGA	4/27/2007	5/1/2007	260201	515100	12	$ 12,678.50	$ 12,678.50
TNAWC - Walden's Ridge Interconnect	481309000	ELECTRIC POWER BOARD OF CHATTANOOGA	5/29/2007	6/1/2007	260201	515100	12	$ 15,565.27	$ 15,565.27
TNAWC - Walden's Ridge Interconnect	481309000	ELECTRIC POWER BOARD OF CHATTANOOGA	6/28/2007	7/2/2007	260201	515100	12	$ 17,219.63	$ 17,219.63
TNAWC - Walden's Ridge Interconnect	481309000	ELECTRIC POWER BOARD OF CHATTANOOGA	7/30/2007	8/1/2007	260201	515100	12	$ 15,680.88	$ 15,680.88
TNAWC - Walden's Ridge Interconnect	481309000	ELECTRIC POWER BOARD OF CHATTANOOGA	8/30/2007	9/4/2007	260201	515100	12	$ 18,454.08	$ 18,454.08
TNAWC - Walden's Ridge Interconnect	481309000	ELECTRIC POWER BOARD OF CHATTANOOGA	9/27/2007	10/1/2007	260201	515100	12	$ 17,144.56	$ 17,144.56
TNAWC - Walden's Ridge Interconnect	481309000	ELECTRIC POWER BOARD OF CHATTANOOGA	10/29/2007	11/1/2007	260201	515100	12	$ 17,435.29	$ 17,435.29
TNAWC - Walden's Ridge Interconnect	481309000	ELECTRIC POWER BOARD OF CHATTANOOGA	11/29/2007	12/3/2007	260201	515100	12	$ 15,002.07	$ 15,002.07
TNAWC - Walden's Ridge Interconnect	481309000	ELECTRIC POWER BOARD OF CHATTANOOGA	12/28/2007	1/9/2008	260201	515100	12	$ 19,443.02	$ 19,443.02
TNAWC - Walden's Ridge Interconnect	481309000	ELECTRIC POWER BOARD OF CHATTANOOGA	1/28/2008	2/1/2008	260201	515100	12	$ 20,360.31	$ 20,360.31
TNAWC - Walden's Ridge Interconnect	481309000	ELECTRIC POWER BOARD OF CHATTANOOGA	2/28/2008	3/6/2008	260201	515100	12	$ 20,704.30	$ 20,704.30
TNAWC - Walden's Ridge Interconnect	481309000	ELECTRIC POWER BOARD OF CHATTANOOGA	3/28/2008	4/1/2008	260201	515100	12	$ 15,033.19	$ 15,033.19
									$ 264,712.77

TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 08-00039
FIRST DISCOVERY REQUEST OF THE
CONSUMER ADVOCATE AND PROTECTION DIVISION

Responsible Witness: Sheila Miller

PART IV: QUESTIONS & REQUESTS REGARDING REVENUES, EXPENSES, TAXES, RATE BASE & MISCELLANEOUS

Question: EXPENSES

26. Provide the Chemicals Expense for Walden's Ridge for the attrition year ended August 2009 in the format of TN-TRA-Q013-CHEMICALS, page 6 of 7.

Response:

The Company eliminated any expenses for Walden's Ridge from the rate filing. Therefore, there is no chemical expense included in the attrition year ended August 2009 related to Walden's Ridge.

TENNESSEE AMERICAN WATER COMPANY
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CONSUMER ADVOCATE AND PROTECTION DIVISION

Responsible Witness: Sheila Miller

PART IV: QUESTIONS & REQUESTS REGARDING REVENUES, EXPENSES, TAXES, RATE BASE & MISCELLANEOUS

Question: EXPENSES

27. Provide the Fuel and Power Expense for Walden's Ridge for the attrition year ended August 2009 in the format of TN-TRA-Q013-FUEL & POWER, pages 10-11 of 49.

Response:

The Company did not include fuel and power expense for Walden's Ridge in this rate filing. Therefore there is no fuel and power expense included in the attrition year ended August 2009 related to Walden's Ridge.

TENNESSEE AMERICAN WATER COMPANY
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CONSUMER ADVOCATE AND PROTECTION DIVISION

Responsible Witness: Michael Miller

PART IV: QUESTIONS & REQUESTS REGARDING REVENUES, EXPENSES, TAXES, RATE BASE & MISCELLANEOUS

Question: EXPENSES

28. Provide the estimated amount by payee for the $550,000 cost of preparing and presenting the current rate filing.

Response:

Service Company – SSC Rate Department assistance	$61,129
Dr. Spitznagel – Weather Normalization	20,475
Paul Herbert – Cost of Service Study	21,841
Michael Vilbert – Cost of Capital	65,000
John Spanos – Depreciation Study	30,000
Bass, Berry, & Sims – Legal Expense	350,285
Miscellaneous expenses	1,270

These are the estimates that the Company utilized in the filing and are based on the assumption that the present case will proceed as a normal rate case. Based on the number of discovery requests submitted by the interveners to date, this estimate may significantly increase. The Intervenors' conduct directly affects the Company's costs to prepare and present the present rate case.

TENNESSEE AMERICAN WATER COMPANY
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Responsible Witness: Michael Miller

PART IV: QUESTIONS & REQUESTS REGARDING REVENUES, EXPENSES, TAXES, RATE BASE & MISCELLANEOUS

Question: EXPENSES

29. Provide the amounts for the STEP Project, the STAR project, the Business Change project, the Divestiture, and the implementation costs related to Sarbanes Oxley compliance by NARUC account, by month, by project for the seventeen months ended March 31, 2008. See M. Miller's direct testimony, page 11, lines 7-9.

Response:

The Company objects to this request on the grounds that it is unduly burdensome, in particular because the information requested is not readily available in the requested format and is very costly to gather and produce. The Company also objects to this request on the grounds that it detracts from the Company's ability to address and support its historical test-year data and the adjustments developed to arrive at a reasonable attrition year and is not required by the TRA's recognized rate case procedures.

The Company filed its petition, testimony, exhibits and workpapers fully supporting its case based on a test year ending November 30, 2007. Test year data and schedules were prepared specifically for the historical test year utilized in the Company's filing. This request seeks the compilation of data for the 12 months ended March 31, 2008, a test year that the CAPD has stated it intends to propose. It is burdensome and fundamentally unfair to require the Company to

respond to a data request that, in essence, requires the Company to completely redo the data collection and analysis required to file its petition based on a test year, or multiple test years, proposed by an Intervenor, particularly when that test year includes dates after the petition was filed. The re-creation of every aspect of its case for multiple historical test years is not required by TRA rules and is not necessary for the CAPD to assess the Company's petition.

Notwithstanding these objections, the Company notes that it eliminated all expenses related the STEP Project, STAR Project, Business Change Project, Divestiture and implementation costs related to Sarbanes Oxley compliance from the historical test year ended November 30, 2007. Please refer to the working papers attached to the response to first TRA data request, Question 13, to find those working papers at TN-TRA-01-Q013-MANAGEMENT FEES Page 2 of 4. Therefore, the attrition year does not include any of those expenses.

Please see the attached schedule for the requested information.

TENNESSE AMERICAN
17 MONTHS ENDED MARCH 2008
CONSUMER ADVOCATE QUESTION 29 & 44
Operation and Maintenance, NO capital (excludes all regions except Southeast)
NARUC Account 6348

FORMULADESCRIPTION	Nov2006	Dec2006	Jan2007	Feb2007	Mar2007	Apr2007	May2007	Jun2007	Jul2007	Aug2007	Sep2007	Oct2007	Nov2007	Dec2007	Jan2008	Feb2008	Mar2008	Grand Total
REVIEW OF POLICIES AU0428		$4	($4)															($1)
SEVERANCE - CORPORATE		$15,314	$1,442	($1,441)		$380	$200	$141	$123			$75	$271	($2,786)	$14,171	$878	$579	$29,347
BUS CHNG- HR ACTION PLAN		$593		$9														$602
AF DIVESTITURE SUPPORT RECOVER	$3,548	$1,194	$3,351	$3,351	$3,351	$3,351	$3,351	$3,351	$3,351	$3,351	$538	$3,217	$3,217	($382)	$3,081	$3,081	$4,433	$48,740
SSC & STEP RENT WRITE-OFF		($10,602)							($2,290)									($12,892)
AF SARBANES-OXLEY IAS-REG/NONR	$27,490	$42,357	$38,516	$76,804	$71,253	$60,735	$78,880	$41,492	$62,316	$37,669	$68,375	$39,591	$54,349	$35,581	$45,714	$40,332	$35,634	$857,088
AF DIVESTITURE SUPPORT - SER	$2,547	$2,547	$2,547	$2,547	$2,547	$2,547	$2,547	$2,547	$2,547	$2,547	($25,941)	$1,190	$1,190	$1,190	$1,202	$1,202	$1,450	$6,950
OH-BENEFITS OVERHEAD	$798	$1,050	$781	$290	$650	$401	$663	$451	$857	$508	$526	$475	$402	$451	$55	$44	$516	$8,918
OH-GENERAL OVERHEAD	$569	$964	$664	$1,148	$516	$1,142	$1,040	$755	$1,964	$990	$986	$924	$679	$930	$69	$81	$1,042	$14,461
Grand Total	$34,951	$53,420	$47,297	$82,708	$78,316	$68,556	$86,682	$48,737	$68,867	$45,065	$44,484	$45,473	$60,108	$34,985	$64,292	$45,618	$43,654	$953,213

TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 08-00039
FIRST DISCOVERY REQUEST OF THE
CONSUMER ADVOCATE AND PROTECTION DIVISION

Responsible Witness: Michael Miller/Robert A. Shiltz

PART IV: QUESTIONS & REQUESTS REGARDING REVENUES, EXPENSES, TAXES, RATE BASE & MISCELLANEOUS

Question: EXPENSES

30. Provide the amounts, payees, and business reasons for penalties and lobbying expense by NARUC account, by month for the 17 months ended March 31, 2008. See R. Shiltz's direct testimony, page 5, lines 21-22.

Response:

The Company objects to this request on the grounds that it is unduly burdensome, in particular because the information requested is not readily available in the requested format and is very costly to gather and produce. The Company also objects to this request on the grounds that it detracts from the Company's ability to address and support its historical test-year data and the adjustments developed to arrive at a reasonable attrition year and is not required by the TRA's recognized rate case procedures.

The Company filed its petition, testimony, exhibits and workpapers fully supporting its case based on a test year ending November 30, 2007. Test year data and schedules were prepared specifically for the historical test year utilized in the Company's filing. This request seeks the compilation of data for the 12 months ended March 31, 2008, a test year that the CAPD has stated it intends to propose. It is burdensome and fundamentally unfair to require the Company to respond to a data request that, in essence, requires the Company to completely redo the data collection and analysis required to file its petition based on a test year, or multiple test years, proposed by an Intervenor, particularly when that test year includes dates after the petition was filed. The re-creation of every aspect

of its case for multiple historical test years is not required by TRA rules and is not necessary for the CAPD to assess the Company's petition.

With respect to this specific request, the Company eliminated all expenses related the penalties and lobbying from the historical test year ended November 30, 2007. Please refer to the working papers attached to the response to first TRA data request, Question 13, Page 7 of 15, to find those working papers at Tn_TRA-01-Q013-MISC EXPENSES.

Please see tables below.

NARUC Acct. 675.8
JDE Acct. 575560

DATE	LOBBYING	BUSINESS REASON
Nov-06	0.00	
Dec-06	0.00	
Jan-07	0.00	
Feb-07	0.00	
Mar-07	0.00	
Apr-07	15,601.20	Pmt made to Baker Donelson for Legislative monitoring of 2007 Session
May-07	0.00	
Jun-07	0.00	
Jul-07	0.00	
Aug-07	0.00	
Sep-07	0.00	
Oct-07	0.00	
Nov-07	0.00	
Dec-07	0.00	
Jan-08	0.00	
Feb-08	0.00	
Mar-08	300.00	Payment made to TN Ethics Commission to register two lobbyists.

NARUC Acct. 675.8
JDE Acct. 575640

DATE	PENALTIES	BUSINESS REASON
Nov-06	0.00	
Dec-06	40,530.80	Pmt to Tennessee Dept of Revenue for utility tax penalty late payment
	29,419.00	Pmt to Tennessee Dept of Revenue for sales & use tax penalty late payment
	2,559.00	Employee expenses charged to incorrect account.
Jan-07	0.00	
Feb-07	24,585.00	Sales & use tax penalty
Mar-07	2,160.00	USEPA Penalty – RMP
	60.00	Virginia Dept of taxation pmt made incorrectly
Apr-07	9,644.07	Accrual for tax penalty-sales & use tax
May-07	20.00	Late payment finance charge to Netalliant Technologies LLC
Jun-07	0.00	
July-07	0.00	
Aug-07	28,911.00	Gross Receipts Tax penalty late payment
Sep-07	1,050.00	IRS penalty – 1099 filing
Oct-07	0.00	
Nov-07	13,056.00	Sales & use tax penalty 10-07
Dec-07	-18,244.00	Reversal of tax penalty accrual
Jan-08	0.00	
Feb-08	15,460.93	Accrual for tax penalties – franchise tax
Mar-08	0.00	

TENNESSEE AMERICAN WATER COMPANY
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CONSUMER ADVOCATE AND PROTECTION DIVISION

Responsible Witness: Michael Miller

PART IV: QUESTIONS & REQUESTS REGARDING REVENUES, EXPENSES, TAXES, RATE BASE & MISCELLANEOUS

Question: EXPENSES

31. Provide the amount for net negative salvage expense by JDE account, by month for the 17 months ended March 31, 2008. See R. Shiltz's direct testimony, page 6, lines 1-2.

Response:

The Company objects to this request on the grounds that it is unduly burdensome, in particular because the information requested is not readily available in the requested format and is very costly to gather and produce. The Company also objects to this request on the grounds that it detracts from the Company's ability to address and support its historical test-year data and the adjustments developed to arrive at a reasonable attrition year and is not required by the TRA's recognized rate case procedures.

The Company filed its petition, testimony, exhibits and workpapers fully supporting its case based on a test year ending November 30, 2007. Test year data and schedules were prepared specifically for the historical test year utilized in the Company's filing. This request seeks the compilation of data for the 12 months ended March 31, 2008, a test year that the CAPD has stated it intends to propose. It is burdensome and fundamentally unfair to require the Company to respond to a data request that, in essence, requires the Company to completely redo the data collection and analysis required to file its petition based on a test

year, or multiple test years, proposed by an Intervenor, particularly when that test year includes dates after the petition was filed. The re-creation of every aspect of its case for multiple historical test years is not required by TRA rules and is not necessary for the CAPD to assess the Company's petition.

With respect to this specific request, as described in Mr. Shiltz's testimony, for financial statement presentation the Company reclassifies to maintenance expense a portion of the depreciation expense related to rate recovery of NNS included in the Company's depreciation rates approved by the TRA to comply with SFAS143. Mr. Shiltz appropriately eliminated this reclassification from maintenance expense in the Company's historical test-year filing. The Company then calculates the depreciation expense for the filing using the approved depreciation rates, which includes the NNS component reclassified for SFAS143 presentation. The impact on the Company's historical test-year expenses is **zero**. In addition, please refer the responses to Part II, Question 34, Part II, Question 35, and Part II, Question 63.

Please see the table below which shows the amount of NNS reclassified from depreciation expense to maintenance expense for financial reporting purposes only.

Account 675110

Date		Net Negative Salvage
Nov-06		32,150.68
Dec-06		32,494.79
Jan-07		46,218.87
Feb-07		32,727.69
Mar-07		32,821.31
Apr-07		27,864.90
May-07		27,908.02
Jun-07		27,812.20
Jul-07		27,795.39
Aug-07		27,808.30
Sep-07		27,984.04
Oct-07		28,041.39
Nov-07		28,138.25
Dec-07		77,899.34
Jan-08		33,522.03
Feb-08		33,895.57
Mar-08		33,825.35

TENNESSEE AMERICAN WATER COMPANY
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CONSUMER ADVOCATE AND PROTECTION DIVISION

Responsible Witness: Michael Miller

PART IV: QUESTIONS & REQUESTS REGARDING REVENUES, EXPENSES, TAXES, RATE BASE & MISCELLANEOUS

Question: EXPENSES

32. Provide the "total amount of charges subject to allocation to all affiliates "from the Company's Corporate Office, Shared Services Center ("SSC"), Southeast Region, and other affiliated utility service companies by month for the 15 months ended March 2008 by month, by affiliated entity, by NARUC account.

Response:

TAWC objects to this request because it calls upon TAWC to create, categorize, manipulate, customize or otherwise organize data regarding timeframes outside of TAWC's historical test-year. TAWC objects to such a request because it is unduly burdensome, seeks to have TAWC create work product, and seeks information that is not relevant to this rate case.

Subject to and without waiving these objections, please see attached schedules.

TENNESSEE AMERICAN
12 MONTHS ENDED DECEMBER 2007
CAPD DR 1 Part 4 Question 32
Total Service Company Charges Subject to Allocation

OFFICE	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Grand Total
Belleville Lab	$303,530	$475,554	$395,722	$470,097	$452,582	$354,716	$416,956	$399,245	$370,537	$446,938	$369,368	$382,791	$4,838,036
Call Center	$3,761,964	$3,739,694	$3,605,220	$3,822,553	$3,935,089	$3,719,927	$3,767,770	$3,951,312	$3,436,528	$3,624,202	$3,576,076	$3,532,308	$44,472,644
Central Region	$2,147,298	$2,122,965	$2,317,645	$2,107,285	$2,248,798	$1,961,026	$2,208,607	$2,210,465	$1,989,824	$2,247,474	$2,176,718	$2,267,811	$26,005,918
Corporate	$6,545,705	$6,810,432	$4,441,915	$5,989,071	$7,904,894	$6,411,612	$7,917,827	$6,525,831	$8,086,783	$7,043,327	$7,605,410	$6,696,115	$81,978,920
ITS	$2,535,855	$2,540,344	$2,423,025	$2,857,031	$2,707,338	$2,281,976	$2,178,394	$2,281,314	$2,227,741	$2,610,725	$2,454,201	$3,146,692	$30,244,635
Northeast Region	$1,048,075	$985,764	$1,048,716	$958,898	$965,465	$925,307	$1,047,444	$964,535	$975,092	$1,027,235	$983,668	$1,109,036	$12,039,236
Shared Services	$1,275,533	$1,412,521	$1,275,279	$1,264,327	$1,615,326	$1,407,538	$1,418,762	$1,553,135	$1,355,367	$1,590,276	$1,558,669	$1,581,290	$17,308,023
Southeast Region	$1,675,462	$1,635,597	$1,744,876	$1,606,136	$1,670,119	$1,543,719	$1,646,499	$1,631,854	$1,187,489	$1,665,852	$1,562,929	$1,251,731	$18,822,261
Supply Chain	$308,421	$346,035	$213,232	$352,228	$355,014	$357,535	$363,251	$383,492	$337,296	$388,855	$394,105	$418,042	$4,217,505
Western Region	$1,327,973	$1,129,611	$1,278,486	$1,220,202	$1,138,365	$1,191,351	$1,117,961	$1,099,127	$1,131,838	$1,049,487	$1,313,764	$1,007,310	$14,005,477
Grand Total	$20,929,817	$21,198,516	$18,744,117	$20,647,827	$22,992,990	$20,154,707	$22,083,472	$21,000,310	$21,098,495	$21,694,370	$21,994,908	$21,393,127	$253,932,656

TENNESSEE AMERICAN
2008 thru MARCH
CAPD DR 1 Part 4 Question 32
Total Service Company Charges Subject to Allocation

OFFICE	Jan	Feb	Mar	Grand Total
Belleville Lab	$ 404,709	$ 442,662	$ 596,809	$ 1,444,180
Call Center	$ 4,048,594	$ 3,808,142	$ 4,010,309	$ 11,867,045
Central Region	$ 1,893,139	$ 1,729,599	$ 1,782,081	$ 5,404,819
Corporate	$ 7,264,944	$ 6,308,948	$ 6,952,398	$ 20,526,290
ITS	$ 2,916,487	$ 3,155,982	$ 3,151,970	$ 9,224,438
Northeast Region	$ 844,703	$ 859,672	$ 904,742	$ 2,609,117
Shared Services	$ 1,568,716	$ 1,572,585	$ 1,629,979	$ 4,771,281
Southeast Region	$ 1,290,922	$ 1,248,029	$ 1,495,197	$ 4,034,149
Supply Chain	$ 312,971	$ 381,696	$ 368,324	$ 1,062,991
Western Region	$ 943,336	$ 966,809	$ 995,606	$ 2,905,752
Grand Total	$ 21,488,522	$ 20,474,124	$ 21,887,416	$ 63,850,062

TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 08-00039
FIRST DISCOVERY REQUEST OF THE
CONSUMER ADVOCATE AND PROTECTION DIVISION

Responsible Witness: Michael Miller

PART IV: QUESTIONS & REQUESTS REGARDING REVENUES, EXPENSES, TAXES, RATE BASE & MISCELLANEOUS

Question: EXPENSES

33. Provide the "total amount of allocated charges to TAWC" from the Company's Corporate Office, Shared Services Center ("SSC"), Southeast Region, and other affiliated utility service companies by month for the 15 months ended March 31, 2008 by NARUC account, by affiliated entity.

Response:

TAWC objects to this request because it calls upon TAWC to create, categorize, manipulate, customize or otherwise organize data regarding timeframes outside of TAWC's historical test-year. TAWC objects to such a request because it is unduly burdensome, seeks to have TAWC create work product, and seeks information that is not relevant to this rate case.

Subject to and without waiving these objections, please see the attached schedules for the total amount allocated to TAWC from all the Offices by the NARUC account 634 "Contractual Services – Management Fees" and account 100 "Utility Plant" for 15 months ended March 2008.

TENNESSE AMERICAN
15 MONTHS ENDED MARCH 2008
CONSUMER ADVOCATE QUESTION 33 & 36
Operation and Maintenance and Capital
NARUC Account 634 "Contractual Services - Management Fees" for O&M
NARUC Account 100 "Utility Plant" for CAPITAL

	Jan2007	Feb2007	Mar2007	Apr2007	May2007	Jun2007	Jul2007	Aug2007	Sep2007	Oct2007	Nov2007	Dec2007	Jan2008	Feb2008	Mar2008	Grand Total
Belleville Lab	$6,836	$10,845	$8,828	$10,505	$10,244	$8,050	$9,511	$9,101	$8,349	$10,148	$8,173	$8,437	$8,984	$10,259	$13,829	$142,098
Call Center																
ALTON	$61,956	$63,221	$51,827	$61,014	$59,631	$60,071	$56,966	$62,163	$54,203	$56,252	$55,842	$53,381	$65,877	$61,000	$63,246	$886,651
PENSACOLA	$23,686	$22,310	$30,188	$27,204	$30,811	$25,171	$26,393	$27,758	$24,252	$24,756	$25,574	$25,213	$27,213	$26,666	$28,355	$395,549
Central Region	$421	$772	$2,664	$502	$791	$601	$831	$623	$882	$698	$585	$1,085	$798	$709	$1,017	$12,979
Corporate	$126,477	$144,050	$88,189	$116,062	$159,531	$128,677	$154,694	$130,487	$158,413	$137,679	$148,492	$137,050	$155,171	$131,156	$143,458	$2,059,585
ITS	$43,482	$57,695	$47,594	$52,370	$55,881	$47,619	$45,533	$45,177	$44,004	$51,344	$48,330	$68,196	$57,702	$61,802	$62,390	$789,117
Northeast Region	$3,774	$1,678	$2,410	$2,604	$1,707	$2,391	$5,164	$4,441	$4,316	$6,004	$4,257	$7,703	$5,337	$4,945	$10,755	$67,484
Shared Services	$26,646	$37,493	$34,008	$28,734	$31,903	$26,702	$26,358	$29,983	$26,511	$30,301	$27,867	$35,959	$46,682	$35,149	$33,693	$477,990
Southeast Region	$100,179	$118,462	$117,307	$110,043	$104,685	$85,918	$99,227	$88,435	$53,755	$96,829	$89,071	$67,430	$106,051	$102,022	$116,546	$1,455,959
Supply Chain	$6,645	$6,945	$4,261	$7,122	$7,478	$7,433	$7,459	$7,743	$6,617	$7,742	$7,975	$8,710	$6,870	$8,389	$8,934	$110,322
Western Region	$134	$166	$154	$936	$641	($26)	$96	$124	$14	$369	$265	$570	$226	($177)	$302	$3,792
Grand Total	$400,237	$463,636	$387,429	$417,095	$463,302	$392,606	$432,232	$406,034	$381,315	$422,120	$416,430	$413,734	$480,911	$441,919	$482,525	$6,401,526

TENNESSE AMERICAN
15 MONTHS ENDED MARCH 2008
CONSUMER ADVOCATE QUESTION 33 & 36
CAPITAL ONLY
NARUC Account 634 "Contractual Services - Management Fees" for O&M
NARUC Account 100 "Utility Plant" for CAPITAL

	Jan2007	Feb2007	Mar2007	Apr2007	May2007	Jun2007	Jul2007	Aug2007	Sep2007	Oct2007	Nov2007	Dec2007	Jan2008	Feb2008	Mar2008	Grand Total
Call Center										$0			$0	$28		$29
Central Region	$56	$12	$4	$13	$8	$0		$13	$15	$11	$1	$2	$1	$13	$6	$155
Corporate	$3,052	$8,214	$9,303	$5,098	$6,773	$4,164	$5,507	$6,768	$3,984	$4,488	$4,291	$7,206	$12,022	$6,569	$7,474	$94,914
ITS	$1,306	$3,888	$967	$3,159	$2,644	$693	$14	$1,113	$607	$602	$439	$806		$2,703	$1,247	$20,187
Northeast Region	$3,001	$1,214	$1,798	$1,842	$1,283	$1,612	$1,848	$1,654	$1,115	$1,666	$1,256	$3,268	$4,445	$4,468	$9,763	$40,233
Shared Services		$8,774	$6,288	$2,813			$655		$421	$693		$6,318	$17,381	$3,946	$2,508	$49,796
Southeast Region	$11,685	$6,851	$7,961	$8,047	$10,302	$9,204	$8,376	$9,187	$6,708	$7,485	$7,169	$406	$920	$801	$937	$96,038
Supply Chain	$1,771	$3,453	$2,377	$2,794	$2,600	$2,844	$3,866	$2,845	$2,652	$2,754	$3,133	$4,549	$2,332	$4,092	$4,276	$46,338
Grand Total	$20,870	$32,406	$28,698	$23,766	$23,610	$18,518	$20,266	$21,579	$15,501	$17,699	$16,289	$22,554	$37,101	$22,621	$26,211	$347,689

TENNESSE AMERICAN
15 MONTHS ENDED MARCH 2008
CONSUMER ADVOCATE QUESTION 33 & 36
Operations and Maintenance ONLY
NARUC Account 634 "Contractual Services - Management Fees" for O&M
NARUC Account 100 "Utility Plant" for CAPITAL

Belleville Lab	$6,836	$10,845	$8,828	$10,505	$10,244	$8,050	$9,511	$9,101	$8,349	$10,148	$8,173	$8,437	$8,984	$10,259	$13,829	$142,098
Call Center	$85,642	$85,531	$82,015	$88,217	$90,442	$85,242	$83,360	$89,921	$78,455	$81,008	$81,416	$78,594	$93,090	$87,637	$91,601	$1,282,171
Central Region	$365	$760	$2,660	$489	$782	$601	$831	$610	$867	$687	$584	$1,084	$797	$696	$1,011	$12,825
Corporate	$123,425	$135,836	$78,886	$110,963	$152,758	$124,513	$149,187	$123,719	$154,429	$133,191	$144,201	$129,844	$143,149	$124,587	$135,984	$1,964,671
ITS	$42,176	$53,807	$46,627	$49,211	$53,237	$46,927	$45,520	$44,064	$43,397	$50,741	$47,890	$67,390	$57,702	$59,099	$61,143	$768,930
Northeast Region	$773	$464	$611	$762	$425	$778	$3,316	$2,787	$3,201	$4,337	$3,001	$4,435	$892	$478	$991	$27,251
Shared Services	$26,646	$28,719	$27,721	$25,921	$31,903	$26,702	$25,703	$29,983	$26,090	$29,608	$27,867	$29,641	$29,301	$31,203	$31,186	$428,193
Southeast Region	$88,495	$111,611	$109,345	$101,996	$94,382	$76,714	$90,851	$79,248	$47,047	$89,344	$81,902	$67,024	$105,131	$101,222	$115,609	$1,359,921
Supply Chain	$4,875	$3,492	$1,885	$4,328	$4,877	$4,589	$3,593	$4,898	$3,965	$4,988	$4,841	$4,161	$4,538	$4,297	$4,658	$63,984
Western Region	$134	$166	$154	$936	$641	($26)	$96	$124	$14	$369	$265	$570	$226	($177)	$302	$3,792
Grand Total	$379,366	$431,231	$358,731	$393,329	$439,692	$374,089	$411,966	$384,455	$365,815	$404,421	$400,140	$391,181	$443,810	$419,298	$456,314	$6,053,838

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TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 08-00039
FIRST DISCOVERY REQUEST OF THE
CONSUMER ADVOCATE AND PROTECTION DIVISION

Responsible Witness: Michael Miller

PART IV: QUESTIONS & REQUESTS REGARDING REVENUES, EXPENSES, TAXES, RATE BASE & MISCELLANEOUS

Question: EXPENSES

34. Provide the "forecasted total amount of charges subject to allocation" from the Company's Corporate Office, Shared Services Center ("SSC"), Southeast Region, and other affiliated utility service companies by month for the period ending August 31, 2009, by NARUC month, by affiliated entity.

Response:

Please refer to the attached schedule for the 12 months ended August 2009 Business Plan - Management Fees including the total Business Plan and TAWC's allocated charges.

AMERICAN WATER WORKS SERVICE COMPANY, INC.
Business Plan - Management Fees
CAPD DR 1 Part 4 Question 34 & 35
NARUC Account 634 "Contractual Services - Management Fees"

	Jan-09	Feb-09	Mar-09	Apr-09	May-09	Jun-09	Jul-09	Aug-09	Sep-08	Oct-08	Nov-08	Dec-08	Total
Corporate Center													
Total Budget	6,046,916	5,791,366	6,132,976	5,359,627	5,135,568	5,119,330	4,526,912	4,340,294	4,523,685	4,638,038	4,437,349	4,484,186	60,536,248
Allocated to: TENNESSEE-AMERICAN	79,646	73,930	79,061	76,906	75,184	76,756	72,850	69,793	73,414	75,102	71,868	72,157	896,667
SSC													
Total Budget	1,705,665	1,595,918	1,617,523	1,723,304	1,600,199	1,634,469	1,719,500	1,513,069	1,702,160	1,717,840	1,548,832	1,767,651	19,846,131
Allocated to: TENNESSEE-AMERICAN	31,796	29,777	30,200	32,152	29,698	30,472	32,016	28,065	31,736	31,983	28,870	32,935	369,700
CSC													
Total Budget	4,332,357	4,075,186	4,162,100	4,251,821	4,369,193	4,512,388	4,446,328	4,396,384	4,373,418	4,471,684	4,146,791	4,203,859	51,741,509
Allocated to: TENNESSEE-AMERICAN	98,696	92,835	94,815	96,861	99,537	102,796	101,295	100,156	99,632	101,873	94,467	95,770	1,178,733
Lab													
Total Budget	435,215	447,034	455,811	481,944	500,234	496,857	500,212	463,524	472,046	487,154	431,539	439,137	5,610,705
Allocated to: TENNESSEE-AMERICAN	9,850	10,117	10,316	10,907	11,321	11,245	11,321	10,490	10,683	11,025	9,767	9,939	126,981
Supply Chain													
Total Budget	367,304	348,347	346,260	390,599	380,077	377,030	402,790	359,131	377,914	403,834	352,747	389,586	4,495,619
Allocated to: TENNESSEE-AMERICAN	4,105	3,870	3,863	4,381	4,249	4,215	4,515	4,005	4,255	4,531	3,935	4,375	50,299
ITS													
Total Budget	3,248,355	3,110,389	3,200,062	3,328,126	3,357,736	3,468,214	3,381,399	3,244,262	3,353,761	3,497,273	3,223,991	3,536,294	39,949,862
Allocated to: TENNESSEE-AMERICAN	56,874	54,730	56,248	58,533	58,924	60,612	59,395	57,041	58,959	61,465	56,761	62,399	701,941
SE Region													
Total Budget	1,741,592	1,741,592	1,741,592	1,741,592	1,741,592	1,741,592	1,741,592	1,741,592	1,658,251	1,693,986	1,630,237	1,727,554	20,642,764
Allocated to: TENNESSEE-AMERICAN	114,890	114,890	114,890	114,890	114,890	114,890	114,890	114,890	109,474	111,758	107,468	112,671	1,360,491

TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 08-00039
FIRST DISCOVERY REQUEST OF THE
CONSUMER ADVOCATE AND PROTECTION DIVISION

Responsible Witness: Michael Miller

PART IV: QUESTIONS & REQUESTS REGARDING REVENUES, EXPENSES, TAXES, RATE BASE & MISCELLANEOUS

Question: EXPENSES

35. Provide the "forecasted total amount of allocated charges to TAWC" from the Company's Corporate Office, Shared Services Center ("SSC"), Southeast Region, and other affiliated utility service companies by month for the period ending August 31, 2009, by NARUC month, by affiliated entity.

Response:

Please refer to the Company's response to Part IV, Question 34 for TAWC's forecasted allocated management fees for 12 months ended August 2009.

TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 08-00039
FIRST DISCOVERY REQUEST OF THE
CONSUMER ADVOCATE AND PROTECTION DIVISION

Responsible Witness: Michael Miller

PART IV: QUESTIONS & REQUESTS REGARDING REVENUES, EXPENSES, TAXES, RATE BASE & MISCELLANEOUS

Question: EXPENSES

36. Provide the "total operating expenses charged to Tennessee American for all Call Centers, Alton/Pensacola" for the year ended December 2007 and the test year ended March 2008 by NARUC account, by month, by Call Center.

Response:

TAWC objects to this question in that it calls for information for the **test year** ended March 2008. March 2008 is neither the historical test-year nor the attrition year in this case. TAWC objects to this request because it calls upon TAWC to create, categorize, manipulate, customize or otherwise organize data regarding timeframes outside of TAWC's historical test-year. Accordingly, TAWC objects to such requests because it is unduly burdensome, seeks to have TAWC create work product, and seeks information that is not relevant to this rate case.

Subject to and without waiving these objections, please refer to the response to Question 33 for Total operating expenses charged to Tennessee American for the Alton and Pensacola Call centers from December 2007 through March 2008.

TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 08-00039
FIRST DISCOVERY REQUEST OF THE
CONSUMER ADVOCATE AND PROTECTION DIVISION

Responsible Witness: Michael Miller

PART IV: QUESTIONS & REQUESTS REGARDING REVENUES, EXPENSES, TAXES, RATE BASE & MISCELLANEOUS

Question: EXPENSES

37. Provide the "total amount of charges subject to allocation to all affiliates from the Call Centers, Alton/Pensacola" for the year ended December 2007 and the test year ended March 2008 by NARUC account, by month, by call center.

Response:

TAWC objects to this request to the extent that it calls for information for the **test year** ended March 2008. March 2008 is neither the historical test-year nor the attrition year in this case. TAWC objects to this request because it calls upon TAWC to create, categorize, manipulate, customize or otherwise organize data regarding timeframes outside of TAWC's historical test-year. Accordingly, such a request is unduly burdensome, seeks to have TAWC create work product, and seeks information that is not relevant to this rate case.

Subject to and without waiving these objections, please refer to the response to Question 32 for Total operating expenses charged to TAWC for the Alton and Pensacola Call centers from December 2007 thru March 2008. Also please refer to the attachment detailing the Alton and Pensacola Call Center costs allocated to all affiliates for 15 months ended March 2008.

TENNESSE AMERICAN
15 MONTHS ENDED MARCH 2008
CONSUMER ADVOCATE QUESTION 37
Operation and Maintenance and Capital
NARUC Account 634 "Contractual Services - Management Fees" for O&M
NARUC Account 100 "Utility Plant" for CAPITAL

	Jan2007	Feb2007	Mar2007	Apr2007	May2007	Jun2007	Jul2007	Aug2007	Sep2007	Oct2007	Nov2007	Dec2007	Jan2008	Feb2008	Mar2008	Grand Total
Call Center																
ALTON	$61,956	$63,221	$51,827	$61,014	$59,631	$60,071	$56,966	$62,163	$54,203	$56,252	$55,842	$53,381	$65,877	$61,000	$63,246	$886,651
PENSACOLA	$23,686	$22,310	$30,188	$27,204	$30,811	$25,171	$26,393	$27,758	$24,252	$24,756	$25,574	$25,213	$27,213	$26,666	$28,355	$395,549
CAPITAL ONLY																
Call Center										$0			$0	$28		$29
Operations and Maintenance ONLY																
Call Center	$85,642	$85,531	$82,015	$88,217	$90,442	$85,242	$83,360	$89,921	$78,455	$81,008	$81,416	$78,594	$93,090	$87,637	$91,601	$1,282,171

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TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 08-00039
FIRST DISCOVERY REQUEST OF THE
CONSUMER ADVOCATE AND PROTECTION DIVISION

Responsible Witness: Michael Miller

PART IV: QUESTIONS & REQUESTS REGARDING REVENUES, EXPENSES, TAXES, RATE BASE & MISCELLANEOUS

Question: EXPENSES

38. Provide the actual FAS 87 pension expense amount for the seventeen months ended March 2008 by month, by NARUC account. Also, provide the forecasted FAS 87 pension expense amount included in the Company's filing for the twelve months ended August 31, 2009.

Response:

Please see the table below for the pension expense under FAS 87 for TAWC for the period November 2006 - March 2008. Please note that the TRA has historically regulated TAWC using the ERISA contributions (cash basis contributions). Consequently, on its income statement, TAWC records pension expense under ERISA to recognize that expense in accordance with the approved regulatory recovery. Additionally, on TAWC's balance sheet, there is a Regulatory Liability/Asset to disclose the timing difference between the ERISA contributions recovered in rates and the FAS 87 (accrual basis) expense in order to comply with U.S. GAAP.

Please note that the attrition year has no FAS 87 expense, but instead the attrition year reflects the federally mandated minimum ERISA pension expense based on the latest actuarial report from TowersPerin. Please see the testimony of Mr. Miller, including Exhibit MAM-6.

Also please note that TAWC would be willing to discuss adopting FAS 87 for pension expense recovery in rates. That discussion would have to include an appropriate amortization of the pension regulatory liability currently on the books of TAWC, similar to the requirements dictated by the adoption of FAS 106 related to OPEB expense.

	FAS 87 Expense
2006	
Nov	58,811.58
Dec	58,811.62
2007	
Jan	53,582.00
Feb	53,582.00
Mar	53,582.00
Apr	53,582.00
May	53,582.00
Jun	53,582.00
Jul	53,582.00
Aug	53,582.00
Sep	53,582.00
Oct	53,582.00
Nov	53,582.00
Dec	53,582.00
2008	
Jan	56,136.83
Feb	56,136.83
Mar	56,136.83
Apr	56,136.83

TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 08-00039
FIRST DISCOVERY REQUEST OF THE
CONSUMER ADVOCATE AND PROTECTION DIVISION

Responsible Witness: Michael Miller

PART IV: QUESTIONS & REQUESTS REGARDING REVENUES, EXPENSES, TAXES, RATE BASE & MISCELLANEOUS

Question: EXPENSES

39. Provide the actual ERISA pension contributions amount for the 17 months ended March 2008 by month. Also, provide the forecasted ERISA pension contributions amount included in the Company's filing for the twelve months ended August 31, 2009 by month.

Response:

Please see the table below. Also please refer to the work papers provided in response to TN-TRA-01-Q013-Labor, page 44 of 102.

	ERISA
2006	
Nov	107,106.83
Dec	107,106.83
2007	
Jan	71,291.00
Feb	71,291.00
Mar	71,291.00
Apr	71,291.00
May	71,291.00
Jun	71,291.00
Jul	71,291.00
Aug	71,291.00
Sep	71,291.00
Oct	71,291.00
Nov	71,291.00
Dec	71,291.00

2008		
Jan	121,373.00	
Feb	121,373.00	
Mar	121,373.00	
Apr	121,373.00	
Attrition Year	1,456,476.00	$121,373 per month per Feb 2008 actuarial study

TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 08-00039
FIRST DISCOVERY REQUEST OF THE
CONSUMER ADVOCATE AND PROTECTION DIVISION

Responsible Witness: Michael Miller

PART IV: QUESTIONS & REQUESTS REGARDING REVENUES, EXPENSES, TAXES, RATE BASE & MISCELLANEOUS

Question: EXPENSES

40. Provide a schedule of OPEB expenses charged to or paid by TAWC by calendar year for the years 2003 through 2007.

Response:

2003	$663,919.64
2004	713,084.45
2005	849,386.25
2006	715,170.31
2007	696,868.11

TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 08-00039
FIRST DISCOVERY REQUEST OF THE
CONSUMER ADVOCATE AND PROTECTION DIVISION

Responsible Witness: Sheila Miller

PART IV: QUESTIONS & REQUESTS REGARDING REVENUES, EXPENSES, TAXES, RATE BASE & MISCELLANEOUS

Question: EXPENSES

41. Provide all NARUC accounts 601-through 675 by month, by account and show the actual or forecasted gross amount and net expense after deducting salaries and wages for the 34 months ended August 2009.

Response:

Please see the attached schedule. The Company did not calculate each attrition year adjustment by month. Therefore, the monthly attrition year amounts are not available in the format requested. For the attrition year, please refer to the response provided to TN-TRA-01-Q028.

Tennessee American Water Company
Expenses after Salaries & Wages CAPD#4Q41

Account	Description	December 2005	January 2006	February 2006	March 2006	April 2006	May 2006	June 2006	July 2006	August 2006	September 2006	October 2006	November 2006
B6011	Salaries-Empl Oper SS	74,771	109,800	67,816	70,202	77,664	134,866	90,827	93,289	90,776	135,228	91,442	90,394
B6013	Salaries-Empl Oper WT				8		184			190			
B6015	Salaries-Empl Oper TD	45,328	63,501	38,053	41,825	39,803	56,142	39,936	40,249	39,355	57,548	41,110	48,920
B6016	Salaries-Empl Maint TD	72,282	132,885	73,159	66,949	58,205	97,450	69,531	73,354	68,280	114,587	82,550	77,478
B6017	Salaries-Empl CA	35,009	55,548	37,359	35,810	36,699	50,662	31,379	27,319	30,327	43,754	36,529	34,771
B6018	Salaries-Empl AG	80,141	2,509	81,477	122,928	92,030	-13,129	167,552	101,038	89,429	71,367	87,126	177,364
B6048	Empl Pens & Ben AG	180,344	180,538	292,379	205,875	221,896	210,268	243,731	232,676	233,687	215,407	243,093	240,117
B6101	Purchased Water Oper SS	3,767	2,524	10,042	4,676	2,492	2,779	4,062	3,692	4,414	3,834	1,797	9,717
B6151	Purch Power Oper SS	170,737	123,169	149,888	179,090	146,882	120,250	167,821	352,514	255,184	216,594	166,977	175,824
B6153	Purch Power Oper WT	-182	142	16	-67	30	-120						
B6155	Purch Power Oper TD	168	194	198	166	166	231	222	609	244	234	272	224
B6161	Purch Fuel Oper SS	34	1,258		496	447		262	2,009	1,073	252		271
B6183	Chemicals Oper WT	55,180	80,508	74,009	61,276	78,317	91,063	106,638	95,094	69,762	111,359	78,847	97,469
B6201	M&S Oper SS					-2,391	2,715						
B6202	M&S Maint SS	10,319	13,421	11,741	3,969	8,895	10,370	1,898	14,274	12,737	32,279	1,114	14,050
B6203	M&S Oper WT	1,324	6,511	1,737	8,522	2,515	1,242	6,398	2,411	42,717	5,726	1,599	4,141
B6204	M&S Maint WT	3,143	3,751	2,697	7,556	2,985	3,417	33,464	1,669	-177	36,742	3,543	-1,459
B6205	M&S Oper TD	2,892	3,736	2,715	1,192	2,412	-1,644	846	845	1,174	1,279	1,249	1,533
B6206	M&S Maint TD	11,432	42,402	-5,908	15,864	31,144	9,194	13,922	31,144	26,500	22,728	10,760	4,707
B6207	M&S CA	435	-207	578	-284	549	-511					457	35
B6208	M&S AG	2,982	-198	1,173	531	2,202	1,010	1,054	536	1,118	1,084	383	925
B6313	Cont Serv Eng Oper WT							2,115					
B6327	Cont Serv Acct CA	2,766	-1,206										
B6328	Cont Serv Acct AG	8,699	8,455	2,019	1,626	1,516	-4,558	6,685	1,938	2,151	8,978	4,119	5,475
B6335	Cont Serv Legal Oper TD	168	1,428	195	-840	373	-1,502						
B6338	Cont Serv Legal AG	3,519	-88	1,069	418	-474	1,033	12,923	309	3,259	2,255	5,234	-4,419
B6348	Cont Serv Mgmt Fee AG	9,342									-7,313	7,313	
B6353	Cont Serv Other Oper WT	-491	-48	-205	1,101	47	6,428	334	12,674	3,826	4,514	4,514	4,514
B6354	Cont Serv Other Maint W	465	197	-659	1,577	8,492	-777						145
B6355	Cont Serv Other Oper TD	4,214	27,379	8,602	4,540	10,257	8,129	9,501	9,068	8,161	8,098	3,312	10,608
B6356	Cont Serv Other Maint T	249	734	626							1,948		
B6357	Cont Serv Other CA	22,620	10,394	-15,372	-2,650	1,917	-4,737	2,260					
B6358	Cont Serv Other AG	497,225	209,946	355,697	339,850	319,078	371,269	435,542	325,536	307,736	478,360	364,842	383,018
B6415	Rents-Real Prop Oper TD		82		75			75			75		
B6418	Rents-Real Prop AG		115	505	529				148		26		
B6427	Rents-Equipment CA		254	210		249		497			268		
B6428	Rents-Equipment AG	2,847	2,868	2,890	2,868	2,869	2,847	2,891	2,869	2,869	3,541	2,868	2,868
B6502	Transportation Maint SS					12							
B6503	Transportation Oper WT				29		19	24					
B6505	Transportation Oper TD						200		220				
B6506	Transportation Maint TD	419	1,138	1,160	-98	531	1,554	1,201	167	945	826	1,601	-445
B6508	Transportation AG	39,124	25,472	40,794	29,133	27,115	22,427	25,676	28,424	27,790	31,020	31,833	33,820
B6578	Ins Gen Liab AG	19,108	19,108	25,889	22,779	73,583	23,368	-2,979	22,880	22,880	-63,349	22,880	22,880
B6588	Ins Work Comp AG	13,602	13,485	13,655	13,481	12,935	10,753	13,500	13,377	12,735	10,739	13,828	13,236
B6598	Ins Other AG	7,374	4,336	11,527	4,034	11,457	8,189	7,866	5,326	5,326	5,326	5,326	8,740
B6608	Advertising AG	1,662	-951	2,193	8,387	-713	4,009	2,101	243	911	4,841	1,990	313
B6668	Reg Exp-Rate Case	23,822	23,822	23,822	23,822	23,822	23,876	23,827	23,827	10,274	5,110	10,002	10,002
B6678	Reg Exp-Other AG	514	514	514	514	514	514	514	514	514	514	514	514
B6707	Bad Debt Expense	77,517	18,338	15,586	64,713	52,500	28,286	49,692	63,107	17,183	34,329	51,495	140,365
B6751	Misc Exp Oper SS	-79	-3,546	-785	4,331	96	238	76	122	11	427	-775	-90
B6753	Misc Exp Oper WT	64,780	18,348	19,968	20,337	19,520	20,573	28,288	34,406	23,084	24,248	20,800	28,791
B6755	Misc Exp Oper TD	11,573	1,449	9,034	7,147	5,452	6,397	5,487	7,168	9,568	9,257	6,282	4,270
B6756	Misc Exp Maint TD	70	151	41,422	6,823	14,150	23,835	15,693	2,728	15,358	13,896	4,669	8,909
B6757	Misc Exp CA	42,423	30,867	72,195	25,385	59,443	85,687	69,980	57,979	54,086	76,883	73,325	55,535
B6758	Misc Exp AG	391,609	64,505	93,251	93,568	71,705	47,577	95,276	60,289	114,358	61,310	110,060	123,828
	Total Expense	1,995,247	1,299,538	1,564,931	1,500,063	1,519,388	1,462,073	1,788,588	1,746,041	1,609,815	1,786,129	1,594,880	1,829,358
	Deduct Salaries	307,531	364,243	297,864	337,722	304,401	326,175	399,225	335,249	318,357	422,484	338,757	428,927
	Total	1,687,716	935,295	1,267,067	1,162,341	1,214,987	1,135,898	1,389,363	1,410,792	1,291,458	1,363,645	1,256,123	1,400,431

Tennessee American Water Company
Expenses after Salaries & Wages CAPD#4Q41

Account	Description	January 2007	Feruary 2007	March 2007	April 2007	May 2007	June 2007	July 2007	August 2007	September 2007	October 2007	November 2007	December 2007
B6011	Salaries-Empl Oper SS	85,737	139,233	93,625	94,426	99,934	101,294	150,776	101,033	99,973	98,721	98,502	158,547
B6013	Salaries-Empl Oper WT			189				196					
B6015	Salaries-Empl Oper TD	34,404	59,574	37,067	36,411	37,875	40,733	62,860	42,836	42,770	45,009	50,378	62,152
B6016	Salaries-Empl Maint TD	91,042	170,678	69,835	82,809	79,882	87,562	131,108	84,850	82,325	88,520	81,458	137,583
B6017	Salaries-Empl CA	34,114	47,625	32,160	34,704	34,367	30,502	47,439	32,715	31,634	30,575	32,954	45,442
B6018	Salaries-Empl AG	168,207	-33,080	91,099	115,165	147,147	115,752	15,463	150,383	108,212	154,750	132,821	2,343
B6048	Empl Pens & Ben AG	207,380	217,107	135,081	218,175	221,981	223,043	206,434	223,192	222,828	198,067	191,693	140,324
B6101	Purchased Water Oper SS	3,361	3,423	2,454	2,236	3,073	4,168	3,362	10,817	1,540	13,697	6,994	-1,774
B6151	Purch Power Oper SS	138,625	138,416	161,025	186,721	166,586	223,054	209,160	207,960	239,410	234,035	196,201	170,693
B6155	Purch Power Oper TD	283	81	584	206	256	283	277	222	259	329	169	215
B6161	Purch Fuel Oper SS		1,377			24	259		165				
B6183	Chemicals Oper WT	110,230	62,620	100,757	79,181	102,298	96,128	106,804	106,354	103,436	77,588	84,504	61,606
B6202	M&S Maint SS	9,471	7,918	8,832	6,047	14,006	8,010	6,667	74,185	-31,531	18,242	13,394	11,231
B6203	M&S Oper WT	3,127	2,210	3,066	1,780	2,980	2,775	6,567	7,499	6,504	4,035	6,279	5,397
B6204	M&S Maint WT	4,975	1,936	3,042	7,889	8,503	16,649	1,315	5,108	31,239	1,433	4,283	3,698
B6205	M&S Oper TD	1,847	-134	2,236	1,478	1,659	1,345	1,091	1,922	886	1,909	3,759	2,140
B6206	M&S Maint TD	37,406	26,779	25,837	10,307	39,286	5,365	49,307	-5,818	31,081	9,377	19,644	28,428
B6207	M&S CA	30		321			175	167		375	421	135	10
B6208	M&S AG	228	1,184	229	372	1,110	131	168	1,346	-285	1,029	1,100	483
B6328	Cont Serv Acct AG	2,916	2,989	3,248	2,989	4,775	11,830	9,937	8,711	3,615	10,478	3,736	7,791
B6338	Cont Serv Legal AG	13,744	7,617	9,409	-4,221	-1,880	-774	5,355	3,091	312	6,229	5,485	13,061
B6348	Cont Serv Mgmt Fee AG												
B6353	Cont Serv Other Oper WT	334	396	792	272	15,345	396	6,916	4,318	6,809	4,280	2,545	1,701
B6354	Cont Serv Other Maint W					4,357	473			2,945			318
B6355	Cont Serv Other Oper TD	23,096	5,449	9,246	4,515	8,540	5,961	6,973	13,690	7,055	7,416	6,456	6,237
B6356	Cont Serv Other Maint T			877	1,110								
B6358	Cont Serv Other AG	376,594	437,143	365,111	397,804	444,227	378,197	416,110	389,310	371,131	408,851	406,790	395,857
B6415	Rents-Real Prop Oper TD			75	75			75			75		
B6418	Rents-Real Prop AG		595	529		29	298						
B6427	Rents-Equipment CA			662	1,054	-1,407	1,268	180		845	175	16	480
B6428	Rents-Equipment AG	-747	2,873	3,150	2,842	5,742	2,857	2,879	-2,818	595			
B6505	Transportation Oper TD			11									
B6506	Transportation Maint TD	111	216	250	70	88	153	182	222	495	1,024	1,353	5
B6507	Transportation CA	429										11	
B6508	Transportation AG	25,962	54,448	27,606	26,569	47,052	22,448	28,600	32,642	37,053	42,321	34,883	26,360
B6578	Ins Gen Liab AG	28,860	27,178	-7,843	27,772	27,332	24,371	27,772	27,772	32,887	27,772	27,772	34,387
B6588	Ins Work Comp AG	12,200	10,426	6,297	11,645	11,510	11,900	10,282	11,679	11,751	14,557	14,509	12,530
B6598	Ins Other AG	5,509	8,453	5,949	8,410	4,697	5,820	5,928	6,028	5,928	5,928	5,928	9,369
B6608	Advertising AG	6,641	2,231	10,223	5,877	1,461	2,732	2,350	12,116	2,010	1,200	4,849	2,240
B6668	Reg Exp-Rate Case	10,002	10,002	10,002	10,002	10,002	23,797	23,797	23,797	84,599	-46,533	21,891	21,891
B6678	Reg Exp-Other AG	514	514	514	514	514	800	800	800	800	308,960	1,521	920
B6707	Bad Debt Expense	4,862	19,635	40,523	2,600	127,912	17,397	26,925	26,056	47,451	26,515	28,274	46,379
B6751	Misc Exp Oper SS			10	-10		30	-30	229	179	-407		135
B6753	Misc Exp Oper WT	38,607	32,271	25,780	33,789	17,542	20,567	29,230	24,497	-14,984	41,102	26,114	21,277
B6754	Misc Exp Maint WT						1,999	65	145				
B6755	Misc Exp Oper TD	7,217	6,917	9,910	6,119	4,951	9,670	7,045	8,781	8,434	7,043	9,688	6,237
B6756	Misc Exp Maint TD	15,056	41,487	18,487	12,301	11,207	17,678	9,405	9,747	12,624	15,961	13,542	23,666
B6757	Misc Exp CA	53,851	57,640	55,006	50,693	62,558	59,758	58,756	60,382	60,823	62,291	63,145	64,561
B6758	Misc Exp AG	45,859	74,787	73,398	70,839	69,178	77,028	59,829	87,234	62,952	93,952	71,447	62,007
	Total Expense	1,602,084	1,650,214	1,436,661	1,551,537	1,836,699	1,653,882	1,738,522	1,793,198	1,716,965	2,016,927	1,674,223	1,585,927
	Deduct Salaries	413,504	384,030	323,975	363,515	399,205	375,843	407,842	411,817	364,914	417,575	396,113	406,067
	Total	1,188,580	1,266,184	1,112,686	1,188,022	1,437,494	1,278,039	1,330,680	1,381,381	1,352,051	1,599,352	1,278,110	1,179,860

TN-CAPD-01-PART IV-Q041-ATTACHMENT
Page 2 of 2

TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 08-00039
FIRST DISCOVERY REQUEST OF THE
CONSUMER ADVOCATE AND PROTECTION DIVISION

Responsible Witness: Michael Miller

PART IV: QUESTIONS & REQUESTS REGARDING REVENUES, EXPENSES, TAXES, RATE BASE & MISCELLANEOUS

Question: EXPENSES

42. Provide a voucher summary for any expense amount paid by TAWC or charged to TAWC by Corporate Office, Shared Services Center ("SSC"), Southeast Region, and other affiliated utility service companies exceeding $1,000 for the period from January 1, 2006 through March 31, 2008 in the following format:

(1)	(2)	(3)	(4)	(5)	(6)
Month	**Year**	**Payee**	**Amount**	**USOA Account**	**Business Reason**

Response:

The Company objects to this request on the grounds that it is over broad, unduly burdensome, requests information that is neither readily available nor exists in the format requested, and, in part, is not relevant to the current proceeding.

Subject to and without waiving its objections, please see the attached document that recaps AWWSC vouchers on which TAWC was charged amounts exceeding $1,000. The file containing the TAWC voucher summary is included on the enclosed CD and labeled as TN-CAPD-01-Part IV-Q042 attachment.xls. Also, please note that the attached list of vouchers includes costs associated with non-recurring items, which are explained in the Company's response to TN-CAPD-01- Part IV-Q029.

	A	B	C
1			Tennessee An
2			Payments
3			For the pe
4			
5	Account	Address	
6	26.280999		
7	26.280999		
8	26.280999		
9	26.280999		
10	26.280999		
11	260200.105125.21	26000316	City of Chattanooga
12	260200.105125.21	26000316	City of Chattanooga
13	260200.105125.21	26000316	City of Chattanooga
14	260200.105125.21	26000316	City of Chattanooga
15	260200.105125.21	26000316	City of Chattanooga
16	260200.105125.21	26000316	City of Chattanooga
17	260200.105125.21	26000316	City of Chattanooga
18	260200.105125.21	26000316	City of Chattanooga
19	260200.105125.21	26000316	City of Chattanooga
20	260200.105125.21	26000316	City of Chattanooga
21	260200.105125.21	26000316	City of Chattanooga
22	260200.105125.21	26000316	City of Chattanooga
23	260200.105125.21	26000316	City of Chattanooga
24	260200.105125.21	26000316	City of Chattanooga
25	260200.105125.21	26000316	City of Chattanooga
26	260200.105125.21	26000316	City of Chattanooga
27	260200.105125.21	26002663	City of East Ridge - Sewer Payment
28	260200.105150.21	26000424	Hydra-Shield Manufacturing Inc
29	260200.105150.21	26000509	Piping Supply Co
30	260200.105150.21	26000509	Piping Supply Co
31	260200.105150.21	26003914	Georgia Metal Craft Enterprises Inc
32	260200.105150.21	26003922	Pierce Welding & Machine Inc
33	260200.105150.21	26003922	Pierce Welding & Machine Inc
34	260200.105150.21	26003922	Pierce Welding & Machine Inc
35	260200.105150.21	26003922	Pierce Welding & Machine Inc
36	260200.105150.21	26003922	Pierce Welding & Machine Inc
37	260200.105150.21	26003922	Pierce Welding & Machine Inc
38	260200.105150.21	26003922	Pierce Welding & Machine Inc
39	260200.105150.21	26003922	Pierce Welding & Machine Inc
40	260200.105150.21	26003922	Pierce Welding & Machine Inc
41	260200.105150.21	26003922	Pierce Welding & Machine Inc
42	260200.105150.21	26003922	Pierce Welding & Machine Inc
43	260200.105150.21	26003922	Pierce Welding & Machine Inc
44	260200.105150.21	26003922	Pierce Welding & Machine Inc
45	260200.105150.21	26003922	Pierce Welding & Machine Inc
46	260200.105150.21	26003922	Pierce Welding & Machine Inc
47	260200.105150.21	26003922	Pierce Welding & Machine Inc
48	260200.105150.21	26003922	Pierce Welding & Machine Inc
49	260200.105150.21	26003922	Pierce Welding & Machine Inc
50	260200.105150.21	26003922	Pierce Welding & Machine Inc

	D	E	F	G	H
1	herican Water Company				
2	that exceed $1,000				
3	riod 1/1/06 - 3/31/08				
4					
5	G/L	Explanation	Do	Document	Doc
6	1/18/2006		AE	41233201	0
7	3/28/2006		AE	41278286	0
8	3/31/2006		AE	41281131	0
9	2/1/2007		AE	41507423	0
10	2/12/2007		AE	41515669	0
11	4/24/2007	TNAWC	PV	41571342	26
12	7/31/2007	TNAW	PV	41655343	26
13	7/31/2007	TNAW	PV	41655343	26
14	7/31/2007	TNAW	PV	41655354	26
15	7/31/2007	TNAW	PV	41655354	26
16	8/14/2007	72307	PV	41667942	26
17	8/14/2007	72307	PV	41667942	26
18	10/19/2007	STREET CUT PERM	PV	41729061	26
19	10/22/2007	wv aw 09/07/07	PV	41730860	26
20	10/22/2007	tnaw 10/02/07	PV	41730874	26
21	10/22/2007	tnaw 10/02/07	PV	41730874	26
22	10/22/2007	tnaw 10/02/07	PV	41730874	26
23	2/7/2008	inv 020108	PV	41829179	26
24	2/7/2008	inv 020108	PV	41829179	26
25	2/7/2008	inv 020108	PV	41829179	26
26	2/7/2008	inv 020108	PV	41829179	26
27	12/28/2007	STREET CUT PERMITS	PV	41792802	26
28	6/29/2007	205235	PV	41630231	26
29	9/27/2007	inv s1038945.002	PV	41708987	26
30	2/21/2008	S1050977001	PV	41840997	26
31	4/24/2007	TNAWC	PV	41571380	26
32	8/31/2007	Project# 13004	PV	41685955	26
33	8/31/2007	13012	PV	41685956	26
34	9/12/2007	13022/13014	PV	41694993	26
35	9/18/2007	inv 13050	PV	41700069	26
36	9/27/2007	13062	PV	41709667	26
37	10/22/2007	inv 13094	PV	41730882	26
38	10/22/2007	inv 13160	PV	41730883	26
39	10/23/2007	13097	PV	41731368	26
40	11/30/2007	13240	PV	41765376	26
41	11/30/2007	13159	PV	41765378	26
42	11/30/2007	13293	PV	41765385	26
43	12/31/2007	13298	PV	41795275	26
44	12/31/2007	13294	PV	41795280	26
45	1/30/2008	13384	PV	41822331	26
46	1/30/2008	13392	PV	41822332	26
47	1/30/2008	13401	PV	41822333	26
48	1/31/2008	13322	PV	41823594	26
49	2/15/2008	13441	PV	41836395	26
50	2/18/2008	13414	PV	41838153	26

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60	260200.105150.21	27003156	Neptune Technology Group Inc
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94	260200.105150.21	27003156	Neptune Technology Group Inc
95	260200.105150.21	27003156	Neptune Technology Group Inc
96	260200.105150.21	27003156	Neptune Technology Group Inc
97	260200.105150.21	50069012	TNT Concrete
98	260200.105150.21	50094609	APAC Midsouth Inc
99	260200.105150.21	50223277	Damron Plbg LLC
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51	2/21/2008	13293B	PV	41840988	26
52	2/21/2008	13305	PV	41840990	26
53	3/3/2008	13450	PV	41850229	26
54	3/5/2008	13448	PV	41851949	26
55	3/20/2008	13525	PV	41864583	26
56	3/20/2008	13494	PV	41864584	26
57	3/21/2008	13512	PV	41865561	26
58	3/31/2008	13548	PV	41874271	26
59	3/31/2008	13564	PV	41874272	26
60	4/30/2007	3158900	PV	41576150	26
61	5/15/2007	SALES S143066	PV	41588167	26
62	5/18/2007	3158900	PV	41591501	26
63	5/31/2007	3158900	PV	41602379	26
64	5/31/2007	CUST# 03158900	PV	41602548	26
65	5/31/2007	3158900	PV	41602558	26
66	5/31/2007	3158900	PV	41602583	26
67	6/5/2007	3158900	PV	41605763	26
68	6/29/2007	CUST 03158900	PV	41630016	26
69	6/29/2007	CUST# 03158900	PV	41630083	26
70	6/29/2007	n154860	PV	41630108	26
71	7/11/2007	N156473	PV	41638475	26
72	8/2/2007	N157353	PV	41659573	26
73	8/31/2007	N159162	PV	41684687	26
74	8/31/2007	N159158	PV	41684691	26
75	8/31/2007	N159457	PV	41685283	26
76	8/31/2007	N159457	PV	41685283	26
77	8/31/2007	3158900	PV	41685961	26
78	9/12/2007	3158900	PV	41694999	26
79	9/12/2007	3158900	PV	41695067	26
80	9/18/2007	inv n162213	PV	41700037	26
81	9/18/2007	inv n161942	PV	41700070	26
82	9/18/2007	inv n162615	PV	41700073	26
83	9/27/2007	N161513	PV	41709650	26
84	9/28/2007	MATERIAL	PV	41710331	26
85	9/28/2007	MATERIAL	PV	41710331	26
86	10/4/2007	N164331	PV	41716021	26
87	10/9/2007	N163738	PV	41719586	26
88	1/30/2008	n173938	PV	41822334	26
89	2/7/2008	inv n174951	PV	41829198	26
90	2/7/2008	inv n174881	PV	41829200	26
91	2/29/2008	3158900	PV	41848409	26
92	3/17/2008	N177672	PV	41860624	26
93	3/17/2008	n178372	PV	41861184	26
94	3/21/2008	n177429	PV	41865569	26
95	3/21/2008	n172710	PV	41865572	26
96	3/31/2008	n179932	PV	41874270	26
97	6/29/2007	LAKEVIEW DRIVE	PV	41630283	26
98	12/17/2007	234880	PV	41781555	26
99	5/15/2007	INV 3322	PV	41588218	26
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101	260200.105150.21	50276701	Osborne Cabinet & Appliance Inc
102	260200.105150.21	50276718	Thielsch Engineering Inc
103	260200.105150.21	50355351	TSS Company Inc
104	260200.105150.21	50355351	TSS Company Inc
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106	260200.105150.31	17001001	E H Wachs Co
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113	260200.105150.31	18523002	Automotive Rentals Inc
114	260200.105150.31	18523002	Automotive Rentals Inc
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117	260200.105150.31	18523002	Automotive Rentals Inc
118	260200.105150.31	18567945	Industrial Controls Distributors LLC
119	260200.105150.31	18642546	Bristol Inc
120	260200.105150.31	19000165	Bristol Inc
121	260200.105150.31	22000372	Applied Ind Technologies
122	260200.105150.31	26000292	Chattanooga Armature Works Inc
123	260200.105150.31	26000485	Nabco Electric Company Inc
124	260200.105150.31	26000485	Nabco Electric Company Inc
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127	260200.105150.31	26000485	Nabco Electric Company Inc
128	260200.105150.31	26000487	Nichols Fleet Equipment Inc
129	260200.105150.31	26000585	Roto Rooter Sewer & Drain Service
130	260200.105150.31	26001381	Batteries Plus
131	260200.105150.31	28002098	IDEXX Distribution Inc
132	260200.105150.31	28003466	Terramite Corp
133	260200.105150.31	50002767	Automotive Rentals Inc
134	260200.105150.31	50002767	Automotive Rentals Inc
135	260200.105150.31	50009851	Industrial Controls Distributors Inc
136	260200.105150.31	50012361	Chemical Feed Systems Inc
137	260200.105150.31	50101733	Sulzer Pumps (US) Inc
138	260200.105150.31	50140724	Electric Motor Sales & Supply
139	260200.105150.31	50148631	Insight Direct
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147	260200.105150.31	50187431	Beeler Impression
148	260200.105150.31	50191115	Mark Cubberley
149	260200.105150.31	50220202	W H Painting
150	260200.105150.31	50249030	Herman Miller OP Spectrum

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101	8/24/2007	3634	PV	41676011	26
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104	7/31/2007	Old Lakeview Rd	PV	41655239	26
105	8/2/2007	363	PV	41659556	26
106	12/3/2007	INV031744	PV	41767537	26
107	5/2/2007	PO 50127006	PV	41578096	26
108	7/19/2007	42444900	PV	41645158	26
109	9/21/2007	w16977	PV	41703173	26
110	10/8/2007	42913562	PV	41717893	26
111	5/15/2007	ACCT 043178-001	PV	41588262	26
112	9/24/2007	inv 5254853	PV	41704820	26
113	11/1/2007	N50033	PV	41743063	26
114	1/9/2008	n53264	PV	41804268	26
115	1/22/2008	n53266	PV	41814415	26
116	1/22/2008	n53261	PV	41814418	26
117	1/22/2008	n53266	PV	41814757	26
118	10/31/2007	5406320	PV	41739805	26
119	9/27/2007	208379RI	PV	41709640	26
120	8/31/2007	203221RI	PV	41685807	26
121	6/29/2007	2637454	PV	41630214	26
122	3/13/2008	66840	PV	41858810	26
123	7/6/2007	60923	PV	41634366	26
124	7/31/2007	Electrical Work	PV	41655244	26
125	10/23/2007	61551	PV	41731270	26
126	11/1/2007	61594	PV	41743052	26
127	3/21/2008	62443	PV	41865548	26
128	6/29/2007	FORD F-450	PV	41630408	26
129	6/29/2007	1003 RIVERSIDE	PV	41629724	26
130	11/15/2007	367105815	PV	41753681	26
131	3/13/2008	229501108	PV	41858814	26
132	4/30/2007	165955	PV	41576123	26
133	9/28/2007	inv n46760	PV	41710806	26
134	10/19/2007	CLIENT CODE # 5	PV	41729034	26
135	9/27/2007	inv 5399459	PV	41709350	26
136	5/31/2007	TN AM	PV	41602697	26
137	12/3/2007	50936302	PV	41767465	26
138	5/31/2007	106	PV	41602446	26
139	6/5/2007	9412968	PV	41605884	26
140	6/22/2007	9545116	PV	41622714	26
141	9/21/2007	1627282\9774173	PV	41703175	26
142	9/21/2007	1627282\9774173	PV	41703176	26
143	9/21/2007	1627282\1437417	PV	41703185	26
144	9/21/2007	1627282\9774191	PV	41703188	26
145	2/29/2008	1437311/1627282	PV	41848496	26
146	3/31/2008	inv 202708963	PV	41872504	26
147	11/9/2007	2581840	PV	41749639	26
148	12/3/2007	111007	PV	41767522	26
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150	5/2/2007	ORDER 16745001	PV	41578019	26

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151	260200.105150.31	50263335	Black Box Universal Solutions Inc
152	260200.105150.31	50282621	Trench Shoring Services
153	260200.105150.31	50295493	Hagler & Associates LLC
154	260200.105150.31	50335986	Grainger
155	260200.105150.31	50335986	Grainger
156	260200.105150.31	50348586	Calence LLC
157	260200.105150.31	50348586	Calence LLC
158	260200.105175.21	26001027	Baker Donelson Bearman & Caldwell Berkow
159	260200.105175.21	26001027	Baker Donelson Bearman & Caldwell Berkow
160	260200.105275.21	10001826	GRW Engineers Inc
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172	260200.105275.21	10001826	GRW Engineers Inc
173	260200.105275.21	10002674	Tank Industry Consultants Inc
174	260200.105275.21	12007827	TENNESSEE-AMERICAN WATER COMPANY
175	260200.105275.21	12007827	TENNESSEE-AMERICAN WATER COMPANY
176	260200.105275.21	12007827	TENNESSEE-AMERICAN WATER COMPANY
177	260200.105275.21	12007827	TENNESSEE-AMERICAN WATER COMPANY
178	260200.105275.21	17009179	Camp Dresser & McKee Inc
179	260200.105275.21	26000237	Bass Berry & Sims PLC
180	260200.105275.21	26000269	ARCADIS Geraghty & Miller Inc
181	260200.105275.21	26000269	ARCADIS Geraghty & Miller Inc
182	260200.105275.21	26000321	Consolidated Technologies Inc
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184	260200.105275.21	26000321	Consolidated Technologies Inc
185	260200.105275.21	26000376	Eslinger Contracting Co
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158	5/15/2007	CLIENT/MATTER 2	PV	41588148	26
159	11/1/2007	6940643	PV	41743108	26
160	5/31/2007	TN AM	PV	41602032	26
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162	6/29/2007	769705	PV	41630034	26
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164	8/2/2007	20741	PV	41659589	26
165	8/14/2007	20742	PV	41667952	26
166	9/12/2007	07697-06	PV	41695042	26
167	9/27/2007	inv 0021273	PV	41709413	26
168	9/27/2007	inv 0021272	PV	41709421	26
169	11/27/2007	21670	PV	41762052	26
170	12/12/2007	21992	PV	41776024	26
171	2/25/2008	22551	PV	41842352	26
172	3/5/2008	22676	PV	41852158	26
173	10/22/2007	inv 21376	PV	41730899	26
174	5/4/2007	12147	PV	41579449	26
175	5/4/2007	12146	PV	41579463	26
176	5/4/2007	12144	PV	41579503	26
177	5/4/2007	12145	PV	41579508	26
178	8/31/2007	802614552	PV	41684414	26
179	9/28/2007	297665	PV	41710653	26
180	12/19/2007	206150	PV	41782918	26
181	12/19/2007	202724	PV	41782921	26
182	7/6/2007	c03024 03 35	PV	41634241	26
183	8/2/2007	C030240336	PV	41659582	26
184	9/27/2007	inv c0302403-38	PV	41709407	26
185	4/24/2007	TNAWC	PV	41571405	26
186	4/30/2007	12132	PV	41576311	26
187	5/2/2007	PROJECT E. 3RD	PV	41578147	26
188	5/15/2007	TNAWC C05009-5	PV	41588482	26
189	5/15/2007	TNAWC C05009-5	PV	41588487	26
190	5/18/2007	12152	PV	41591251	26
191	5/31/2007	TN AM	PV	41602078	26
192	5/31/2007	TN AM	PV	41602559	26
193	6/5/2007	12166	PV	41605683	26
194	6/13/2007	12146	PV	41614464	26
195	6/13/2007	12145	PV	41614465	26
196	6/13/2007	12168	PV	41614476	26
197	6/22/2007	tnawc	PV	41622708	26
198	6/25/2007	GLOVERKNOLL DR	PV	41624349	26
199	6/25/2007	1ST STREET	PV	41624352	26
200	6/29/2007	kawc	PV	41629767	12

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203	6/29/2007	12183	PV	41630144	26
204	7/3/2007	12175	PV	41632903	12
205	7/3/2007	12167	PV	41633276	26
206	7/5/2007	12159	PV	41634064	26
207	7/6/2007	12205	PV	41634247	26
208	7/6/2007	12206	PV	41634253	26
209	7/6/2007	12207	PV	41634256	26
210	7/6/2007	12210	PV	41634265	26
211	7/6/2007	12208	PV	41634274	26
212	7/10/2007	Horse Creek Farms	PV	41637542	26
213	7/23/2007	12217	PV	41647835	26
214	7/23/2007	12218	PV	41647845	26
215	8/2/2007	12165	PV	41659579	26
216	8/24/2007	12237	PV	41676056	26
217	8/24/2007	12232	PV	41676064	26
218	8/24/2007	12240	PV	41676067	26
219	8/31/2007	12250	PV	41685129	26
220	8/31/2007	12252	PV	41685180	26
221	8/31/2007	12253	PV	41685187	26
222	9/12/2007	12267	PV	41694931	26
223	9/12/2007	12263	PV	41695044	26
224	9/12/2007	12262	PV	41695046	26
225	9/12/2007	12261	PV	41695049	26
226	9/12/2007	12259	PV	41695054	26
227	9/12/2007	12268	PV	41695071	26
228	9/12/2007	12269	PV	41695075	26
229	9/12/2007	12265	PV	41695080	26
230	9/12/2007	12287	PV	41695156	26
231	9/12/2007	12286	PV	41695157	26
232	9/12/2007	12284	PV	41695161	26
233	9/27/2007	inv 12258 tnaw	PV	41709269	26
234	9/27/2007	inv 12310	PV	41709426	26
235	9/27/2007	inv 12301	PV	41709439	26
236	9/27/2007	inv 12306	PV	41709444	26
237	9/27/2007	inv 12309	PV	41709466	26
238	10/4/2007	12324	PV	41716034	26
239	10/4/2007	12270	PV	41716035	26
240	10/5/2007	Relocate Hygrant H-590	PV	41717399	26
241	10/8/2007	12302	PV	41717907	26
242	10/8/2007	12325	PV	41717911	26
243	10/8/2007	12322	PV	41717915	26
244	10/31/2007	12353	PV	41740224	26
245	10/31/2007	12361	PV	41740232	26
246	10/31/2007	12358	PV	41740240	26
247	10/31/2007	12346	PV	41740249	26
248	10/31/2007	12352	PV	41740264	26
249	11/12/2007	SHORTPAID IN 12324	PV	41751767	26
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225	6,625.22	P
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279	260200.105275.21	26000545	Mayse Construction Co
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281	260200.105275.21	26001027	Baker Donelson Bearman & Caldwell Berkow
282	260200.105275.21	26001027	Baker Donelson Bearman & Caldwell Berkow
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284	260200.105275.21	26001027	Baker Donelson Bearman & Caldwell Berkow
285	260200.105275.21	26002109	East Tennessee Grading Co Inc
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287	260200.105275.21	26002109	East Tennessee Grading Co Inc
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296	260200.105275.21	26002109	East Tennessee Grading Co Inc
297	260200.105275.21	26003249	Earthworx LLC
298	260200.105275.21	50002178	Talley Constr Co.
299	260200.105275.21	50027845	B&B Plumbing & Heating Inc
300	260200.105275.21	50027845	B&B Plumbing & Heating Inc

	D	E	F	G	H
251	12/3/2007	12388	PV	41767563	26
252	12/3/2007	12384	PV	41767574	26
253	12/12/2007	12396	PV	41776027	26
254	12/12/2007	12391	PV	41776028	26
255	12/17/2007	12392	PV	41781604	26
256	12/18/2007	12383	PV	41782056	26
257	12/24/2007	12403	PV	41787704	26
258	12/24/2007	12402	PV	41787706	26
259	12/24/2007	12401	PV	41787707	26
260	2/4/2008	12425	PV	41826658	26
261	2/13/2008	12432	PV	41834558	26
262	3/5/2008	12416	PV	41852121	26
263	3/5/2008	12446	PV	41852124	26
264	3/5/2008	12448	PV	41852127	26
265	3/5/2008	12440	PV	41852131	26
266	3/5/2008	12439	PV	41852132	26
267	3/5/2008	12438	PV	41852143	26
268	3/5/2008	12437	PV	41852147	26
269	3/5/2008	12445	PV	41852162	26
270	3/5/2008	12455	PV	41852172	26
271	3/5/2008	12453	PV	41852216	26
272	3/5/2008	12454	PV	41852231	26
273	3/11/2008	12449	PV	41856789	26
274	3/31/2008	12472	PV	41874214	26
275	3/31/2008	12470	PV	41874269	26
276	3/31/2008	12476	PV	41874274	26
277	3/31/2008	12471	PV	41874275	26
278	3/31/2008	12478	PV	41874277	26
279	6/29/2007	107	PV	41630159	26
280	9/12/2007	471	PV	41695165	26
281	5/2/2007	CLIENT MATTER 2	PV	41577969	26
282	5/31/2007	easements	PV	41602719	26
283	7/5/2007	6906804	PV	41634071	26
284	7/31/2007	C# 2014353000007	PV	41655881	26
285	7/6/2007	9265	PV	41634232	26
286	7/23/2007	9283	PV	41647597	26
287	8/31/2007	9284	PV	41685876	26
288	10/8/2007	BILLING 9	PV	41717917	26
289	10/22/2007	inv 9327	PV	41730901	26
290	10/23/2007	9337	PV	41731358	26
291	10/31/2007	9271	PV	41740287	26
292	12/3/2007	9301	PV	41767519	26
293	12/3/2007	9346	PV	41767547	26
294	12/24/2007	9365	PV	41787724	26
295	3/20/2008	9404	PV	41864494	26
296	3/31/2008	9402	PV	41874268	26
297	10/31/2007	71141	PV	41740211	26
298	7/23/2007	GR6515	PV	41648004	26
299	5/9/2007	Rossville Hydrants	PV	41583138	26
300	6/25/2007	willingham rd	PV	41624337	26

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304	260200.105275.21	50188730	Mitchell Shelton Construction Co Inc
305	260200.105275.21	50223277	Damron Plbg LLC
306	260200.105275.21	50265078	American Fire Sprinklers
307	260200.105275.21	50275010	American Fire Sprinklers, Inc
308	260200.105275.31	9012923	Black & Veatch Corporation
309	260200.105275.31	9012923	Black & Veatch Corporation
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315	260200.105275.31	10002674	Tank Industry Consultants Inc
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	D	E	F	G	H
301	9/14/2007	6 Fire Hydrants	PV	41697402	26
302	5/2/2007	INV 10286	PV	41578140	26
303	9/12/2007	62207	PV	41695043	26
304	6/13/2007	3021	PV	41614472	26
305	2/25/2008	3643	PV	41842307	26
306	2/25/2008	2210	PV	41842345	26
307	3/17/2008	Pro# D184607	PV	41862285	26
308	4/23/2007	CLIENT 145895	PV	41570176	26
309	5/15/2007	PROJECT 145895	PV	41588152	26
310	6/29/2007	145895	PV	41630334	26
311	7/3/2007	1018973	PV	41633274	26
312	8/24/2007	1022746	PV	41675995	26
313	9/27/2007	inv 1025354 tnaw	PV	41708972	26
314	2/19/2008	inv 1028811	PV	41838943	26
315	5/15/2007	CLIENT H985 PRO	PV	41588325	26
316	8/31/2007	21080	PV	41685236	26
317	9/27/2007	inv 21229	PV	41709258	26
318	9/27/2007	inv 21277	PV	41709469	26
319	9/27/2007	21295	PV	41709649	26
320	10/8/2007	21342	PV	41717967	26
321	10/31/2007	21401	PV	41740025	26
322	10/31/2007	21434	PV	41740276	26
323	11/27/2007	21480	PV	41762032	26
324	11/27/2007	21453	PV	41762050	26
325	11/27/2007	21523	PV	41762054	26
326	12/3/2007	21541	PV	41767555	26
327	12/5/2007	21575	PV	41770385	26
328	12/17/2007	21605	PV	41781611	26
329	12/19/2007	21631	PV	41782887	26
330	2/21/2008	21828	PV	41841020	26
331	2/25/2008	21831	PV	41842309	26
332	2/25/2008	21830	PV	41842310	26
333	9/12/2007	52070-57145	PV	41694897	26
334	9/12/2007	52070-57145	PV	41694897	26
335	9/12/2007	802583591	PV	41694902	26
336	10/19/2007	PROJECT # 57146	PV	41728980	26
337	10/19/2007	PROJECT # 52070	PV	41728983	26
338	10/31/2007	802663676	PV	41739801	26
339	10/31/2007	802663771	PV	41739803	26
340	12/31/2007	802700529	PV	41796787	26
341	3/5/2008	802614637	PV	41851951	26
342	3/17/2008	802741831	PV	41860488	26
343	3/20/2008	8027521110	PV	41864483	26
344	3/26/2008	8027908912	PV	41868833	26
345	3/26/2008	5	PV	41868835	26
346	4/23/2007	TNAWC	PV	41570172	26
347	6/22/2007	tawc	PV	41622710	26
348	11/19/2007	C05009121	PV	41755344	26
349	12/20/2007	code# c0500912a	PV	41784477	26
350	1/10/2008	c0500912revised	PV	41805334	26

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303	92,686.46	P
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314	5,250.03	P
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316	1,908.63	P
317	3,677.38	P
318	3,436.05	P
319	2,414.77	P
320	2,048.52	P
321	2,556.28	P
322	2,881.59	P
323	2,702.36	P
324	2,888.57	P
325	4,684.01	P
326	3,966.76	P
327	3,493.91	P
328	1,964.45	P
329	1,479.61	P
330	2,518.00	P
331	1,615.00	P
332	1,615.00	P
333	13,750.00	P
334	31,250.00	P
335	38,043.85	P
336	18,979.33	P
337	1,540.00	P
338	8,820.00	P
339	41,500.00	P
340	21,160.50	P
341	4,010.00	P
342	27,830.25	P
343	102,664.33	P
344	99,992.56	P
345	50,094.45	P
346	1,950.00	P
347	2,270.85	P
348	12,376.82	P
349	4,491.20	P
350	26,400.00	P

	A	B	C
351	260200.105275.31	26000321	Consolidated Technologies Inc
352	260200.105275.31	26000485	Nabco Electric Company Inc
353	260200.105275.31	50110721	ADT Security Services
354	260200.105275.31	50110721	ADT Security Services
355	260200.105275.31	50110721	ADT Security Services
356	260200.105275.31	50110721	ADT Security Services
357	260200.105275.31	50110721	ADT Security Services
358	260200.105275.31	50110721	ADT Security Services
359	260200.105275.31	50110721	ADT Security Services
360	260200.105275.31	50110721	ADT Security Services
361	260200.105275.31	50110721	ADT Security Services
362	260200.105275.31	50110721	ADT Security Services
363	260200.105275.31	50191186	Underwater Construction Corp
364	260200.105275.31	50233842	Crom Corp
365	260200.105275.31	50280579	Sys-Tech Inc
366	260200.105275.31	50325095	Consolidated Technologies Inc
367	260200.105275.31	50331044	Superior Industrial Maintenance Co
368	260200.105275.31	50331044	Superior Industrial Maintenance Co
369	260200.105300.21	50069012	TNT Concrete
370	260200.105300.21	50069012	TNT Concrete
371	260200.105300.21	50069012	TNT Concrete
372	260200.105300.21	50069012	TNT Concrete
373	260200.105300.21	50069012	TNT Concrete
374	260200.105300.21	50069012	TNT Concrete
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399	260200.105300.21	50069012	TNT Concrete
400	260200.105300.21	50069012	TNT Concrete

	D	E	F	G	H
351	3/26/2008	c06053053	PV	41868993	26
352	7/6/2007	60924	PV	41634365	26
353	5/14/2007	1.4001E+12	PV	41587299	3
354	7/19/2007	49115676	PV	41645160	26
355	10/12/2007	1.4001E+12	PV	41723207	3
356	10/15/2007	1.4001E+12	PV	41724504	3
357	11/9/2007	54411780	PV	41749723	26
358	12/19/2007	1.4001E+12	PV	41783426	3
359	12/26/2007	62796141	PV	41790084	26
360	12/28/2007	62987256	PV	41792225	26
361	3/11/2008	62872712	PV	41856763	26
362	3/11/2008	64474614	PV	41856769	26
363	12/31/2007	73831	PV	41795302	26
364	7/5/2007	3/6/2007	PV	41634067	26
365	8/31/2007	700157	PV	41685082	26
366	1/7/2008	inv 56955	PV	41803099	26
367	12/27/2007	job# S07130	PV	41790793	26
368	12/27/2007	TNAW	PV	41791190	26
369	5/8/2007	Asphalt Repairs	PV	41581797	26
370	5/8/2007	Asphalt Repairs	PV	41581797	26
371	5/8/2007	Asphalt Repairs	PV	41581797	26
372	5/18/2007	2315	PV	41591489	26
373	5/18/2007	2315	PV	41591489	26
374	6/5/2007	TNAWC	PV	41606365	26
375	6/5/2007	TNAWC	PV	41606365	26
376	6/5/2007	TNAWC	PV	41606370	26
377	6/5/2007	TNAWC	PV	41606370	26
378	6/5/2007	TNAWC	PV	41606370	26
379	6/29/2007	2369	PV	41630003	26
380	6/29/2007	2369	PV	41630003	26
381	6/29/2007	2369	PV	41630003	26
382	6/29/2007	2369	PV	41630003	26
383	7/6/2007	2397	PV	41634310	26
384	7/6/2007	2397	PV	41634310	26
385	7/23/2007	2423	PV	41647239	26
386	7/31/2007	Asphalt	PV	41655422	26
387	8/31/2007	2448	PV	41684655	26
388	8/31/2007	Tn american	PV	41685942	26
389	8/31/2007	Tn american	PV	41685942	26
390	9/21/2007	Tennessee Amwat	PV	41703209	26
391	9/21/2007	Tennessee Amwat	PV	41703209	26
392	9/21/2007	Tennessee Amwat	PV	41703209	26
393	10/4/2007	2540	PV	41716019	26
394	10/9/2007	50069012	PV	41719588	26
395	10/9/2007	50069012	PV	41719588	26
396	10/31/2007	2590	PV	41739879	26
397	10/31/2007	2590	PV	41739879	26
398	11/27/2007	2637	PV	41762087	26
399	11/27/2007	2637	PV	41762087	26
400	12/4/2007	ASPHALT/CONCRET	PV	41769853	26

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352	1,564.20	P
353	1,306.01	P
354	1,269.49	P
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356	3,157.85	P
357	3,544.07	P
358	2,612.02	P
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360	93,478.41	P
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363	63,645.82	P
364	91,375.00	P
365	29,036.40	P
366	7,429.00	P
367	90,960.47	P
368	79,312.50	P
369	1,372.50	P
370	6,676.98	P
371	1,995.00	P
372	4,456.64	P
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374	1,205.63	P
375	1,800.00	P
376	1,108.13	P
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379	2,722.75	P
380	1,139.88	P
381	2,463.38	P
382	1,273.13	P
383	1,240.00	P
384	2,700.00	P
385	2,032.25	P
386	1,987.50	P
387	1,245.00	P
388	5,448.75	P
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393	2,087.51	P
394	1,773.75	P
395	2,702.88	P
396	1,960.00	P
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398	2,191.50	P
399	7,200.00	P
400	1,656.13	P

	A	B	C
401	260200.105300.21	50069012	TNT Concrete
402	260200.105300.21	50069012	TNT Concrete
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417	260200.105300.21	50069012	TNT Concrete
418	260200.105300.21	50228004	Hudson Material Co
419	260200.105300.21	50228004	Hudson Material Co
420	260200.185125.21	26000316	City of Chattanooga
421	260200.185150.21	26000370	Eastside Utility District
422	260200.1853	26000376	Eslinger Contracting Co
423	260200.1853	26000376	Eslinger Contracting Co
424	260200.1853	26000376	Eslinger Contracting Co
425	260200.185275.21	12007827	TENNESSEE-AMERICAN WATER COMPANY
426	260200.185275.21	26000376	Eslinger Contracting Co
427	260200.185275.21	50116365	Thompson Engineering
428	260200.185275.31	50331044	Superior Industrial Maintenance Co
429	260200.185275.31	50331044	Superior Industrial Maintenance Co
430	260200.1853	50069012	TNT Concrete
431	260200.2522	50382067	Urban Renaissance Group LLC
432	260200.2523	50382067	Urban Renaissance Group LLC
433	260201.504100.16	26000059	Beth A. Ortega
434	260201.510100.11	26000370	Eastside Utility District
435	260201.510100.11	26000370	Eastside Utility District
436	260201.510100.11	26000370	Eastside Utility District
437	260201.510100.11	26000370	Eastside Utility District
438	260201.510100.11	26000370	Eastside Utility District
439	260201.510100.11	26000370	Eastside Utility District
440	260201.510100.11	26000370	Eastside Utility District
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442	260201.510100.11	26000370	Eastside Utility District
443	260201.510100.11	26000370	Eastside Utility District
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448	260201.510100.11	26000370	Eastside Utility District
449	260201.510100.11	26000370	Eastside Utility District
450	260201.510100.11	26000370	Eastside Utility District

	D	E	F	G	H
401	12/4/2007	ASPHALT/CONCRET	PV	41769853	26
402	12/17/2007	2662	PV	41781592	26
403	12/17/2007	2662	PV	41781592	26
404	12/17/2007	2662	PV	41781592	26
405	12/17/2007	2662	PV	41781592	26
406	1/3/2008	2686	PV	41799436	26
407	1/3/2008	2686	PV	41799436	26
408	1/3/2008	2686	PV	41799436	26
409	1/10/2008	2737	PV	41805338	26
410	1/10/2008	2737	PV	41805338	26
411	1/30/2008	2755	PV	41822329	26
412	2/11/2008	2800	PV	41831329	26
413	2/11/2008	2800	PV	41831329	26
414	2/29/2008	2826	PV	41848476	26
415	2/29/2008	2826	PV	41848476	26
416	3/17/2008	2850	PV	41860549	26
417	3/28/2008	concrete/asphalt	PV	41871456	26
418	11/9/2007	2614	PV	41749519	26
419	11/9/2007	2614	PV	41749519	26
420	7/31/2007	TNAW	PV	41655354	26
421	1/10/2008	10208	PV	41805337	26
422	5/31/2007	E 3rd STREET	PV	41602354	26
423	7/23/2007	12219	PV	41647995	26
424	10/8/2007	12323	PV	41717913	26
425	5/4/2007	12141	PV	41579444	26
426	12/5/2007	12376	PV	41770386	26
427	5/15/2007	JOB NO 06-4030	PV	41588162	26
428	12/27/2007	job# S07130	PV	41790793	26
429	12/27/2007	TNAW	PV	41791190	26
430	5/8/2007	Asphalt Repairs	PV	41581797	26
431	2/11/2008	adjust to actual	PS	41845967	26
432	2/11/2008	adjust to actual	PS	41845967	26
433	12/13/2006	medical refund	PS	41469539	26
434	2/6/2006	ACCT 33-001304-	PV	41243804	26
435	2/6/2006	3300130401 TN Amer Water	PV	41243812	26
436	3/3/2006	TENN AW 33-001304-01	PV	41262078	26
437	5/1/2006	Tenn Amer Water 3300130401	PV	41301935	26
438	5/31/2006	3300130401	PV	41321935	26
439	7/5/2006	3300130401	PV	41348462	26
440	8/2/2006	3300130401	PV	41368660	26
441	9/12/2006	3300130401	PV	41398511	26
442	10/2/2006	3300130401	PV	41413576	26
443	11/8/2006	3300130401	PV	41444136	26
444	8/3/2007	3300130401	PV	41660165	26
445	9/13/2007	3300130401	PV	41696478	26
446	9/28/2007	acct 3300130401	PV	41710574	26
447	11/9/2007	3300130401	PV	41749531	26
448	11/30/2007	3300130401	PV	41765369	26
449	12/4/2007	3300130401	PV	41769982	26
450	12/31/2007	3300130401	PV	41795307	26

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402	4,109.25	P
403	5,236.63	P
404	28,883.20	P
405	1,485.00	P
406	2,722.50	P
407	1,849.50	P
408	1,592.50	P
409	1,037.50	P
410	1,470.00	P
411	2,960.50	P
412	1,687.88	P
413	3,795.00	P
414	1,104.00	P
415	2,472.00	P
416	1,200.00	P
417	2,271.00	P
418	1,656.13	P
419	5,800.00	P
420	2,650.00	P
421	3,074.42	P
422	10,380.00	P
423	3,125.00	P
424	28,250.00	P
425	10,380.00	P
426	1,422.34	P
427	9,630.68	P
428	30,829.60	P
429	75,816.00	P
430	5,220.00	P
431	1,515.09	P
432	2,350.64	P
433	1,091.40	P
434	3,154.28	P
435	4,793.88	P
436	2,240.98	P
437	2,376.71	P
438	1,821.19	P
439	1,911.07	P
440	1,893.09	P
441	1,550.61	P
442	1,797.39	P
443	1,551.52	P
444	5,714.02	P
445	2,219.04	P
446	3,478.99	P
447	3,999.84	P
448	3,917.99	P
449	3,254.85	P
450	1,630.03	P

	A	B	C
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452	260201.511100.13	26000315	City of Chattanooga
453	260201.511100.13	50049461	City of Chattanooga Sewer Revenue Fund
454	260201.511100.13	50049461	City of Chattanooga Sewer Revenue Fund
455	260201.511100.13	50049461	City of Chattanooga Sewer Revenue Fund
456	260201.511100.13	50049461	City of Chattanooga Sewer Revenue Fund
457	260201.511100.13	50049461	City of Chattanooga Sewer Revenue Fund
458	260201.511100.13	50049461	City of Chattanooga Sewer Revenue Fund
459	260201.511100.13	50049461	City of Chattanooga Sewer Revenue Fund
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461	260201.511100.13	50049461	City of Chattanooga Sewer Revenue Fund
462	260201.511100.13	50049461	City of Chattanooga Sewer Revenue Fund
463	260201.511100.13	50049461	City of Chattanooga Sewer Revenue Fund
464	260201.511100.13	50049461	City of Chattanooga Sewer Revenue Fund
465	260201.511100.13	50049461	City of Chattanooga Sewer Revenue Fund
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467	260201.511100.13	50049461	City of Chattanooga Sewer Revenue Fund
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470	260201.511100.13	50049461	City of Chattanooga Sewer Revenue Fund
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472	260201.511100.13	50049461	City of Chattanooga Sewer Revenue Fund
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477	260201.511100.13	50049461	City of Chattanooga Sewer Revenue Fund
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500	260201.511100.13	50049461	City of Chattanooga Sewer Revenue Fund

	D	E	F	G	H
451	11/16/2007	18644	PV	41754724	26
452	11/19/2007	18672	PV	41755346	26
453	1/9/2006	SEWER CHARGES 1	PV	41225100	26
454	1/9/2006	PERMIT# 0074	PV	41225103	26
455	2/2/2006	CUST# 655	PV	41242081	26
456	2/2/2006	PER# 0074	PV	41242082	26
457	3/16/2006	PERMIT# 0074	PV	41271097	26
458	3/16/2006	CUST#655	PV	41271098	26
459	4/1/2006	CUST# 655	PV	41282131	26
460	4/27/2006	ORD# 11728	PV	41299792	26
461	5/19/2006	PER# 0074	PV	41314253	26
462	6/29/2006	ORDER# 11581	PV	41344654	26
463	6/29/2006	ORD11344	PV	41344656	26
464	6/29/2006	CUST# 655	PV	41344668	26
465	7/14/2006	REF# ORD11581	PV	41353283	26
466	7/24/2006	ORD 11581 TNAWC	PV	41360395	26
467	8/4/2006	CUST#665 MAR06 SEWER SER	PV	41370372	26
468	8/14/2006	CUST# 655 TNAWC	PV	41376785	26
469	8/17/2006	CUST#655 JULY06	PV	41379755	26
470	9/20/2006	TNAWC REF#ORD11728	PV	41403922	26
471	9/27/2006	SERVICE	PV	41410069	26
472	10/26/2006	REF# ORD11728	PV	41436917	26
473	11/7/2006	CUST 655 SEPT S	PV	41443145	26
474	12/21/2006	TNAWC ORD 11848	PV	41476397	26
475	1/5/2007	NOV06 SEWER CHARGE TNAWC	PV	41487671	26
476	1/15/2007	ord 11884 TNAW	PV	41494805	26
477	1/15/2007	TNAWC REF ORD.11884	PV	41494962	26
478	1/15/2007	TNAWC ORD 11728	PV	41494965	26
479	1/18/2007	REF# ORD1884	PV	41497028	26
480	1/31/2007	SEWER SVC CHARG	PV	41507620	26
481	2/28/2007	11884	PV	41528182	26
482	3/8/2007	JAN07 SEWER CHARGE	PV	41534298	26
483	3/30/2007	FEB07 SEWER SERVICE CHAR	PV	41553274	26
484	4/30/2007	11884	PV	41575675	26
485	5/31/2007	CHARGE FOR APRIL 2007	PV	41602022	26
486	6/29/2007	MAY 2007 SEWER	PV	41629938	26
487	7/31/2007	ord# 11884	PV	41655307	26
488	8/24/2007	18320	PV	41675992	26
489	9/27/2007	inv 18437 tn aw	PV	41708935	26
490	10/19/2007	REF # ORD11884	PV	41729037	26
491	10/19/2007	REF # ORD11884	PV	41729056	26
492	11/1/2007	18567	PV	41743059	26
493	12/24/2007	18780	PV	41787667	26
494	12/28/2007	REF# 12023	PV	41792807	26
495	1/14/2008	ref# 12023	PV	41808376	26
496	1/22/2008	18883	PV	41814762	26
497	2/6/2008	inv 18955	PV	41828680	26
498	2/13/2008	18989	PV	41834535	26
499	3/20/2008	19112	PV	41864497	26
500	3/26/2008	19180	PV	41869057	26

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503	5/9/2007	paying difference #10001	PV	41583141	26
504	1/5/2006	CHEMICALS	PR	41212120	26
505	1/5/2006	Aldrich units 1&3/Tenn A	PR	41212129	26
506	2/5/2006	CHEMICALS	PR	41238907	26
507	2/5/2006	Aldrich units 1&3/Tenn A	PR	41238914	26
508	1/21/2006	Units 2-5-7 (7-12) TNAW	PR	41238922	26
509	4/13/2006	376208 889095 TNAW	PV	41290110	26
510	4/13/2006	376208 591070 889095 TN	PV	41290118	26
511	4/13/2006	376208 591072 892461 TN	PV	41290120	26
512	4/13/2006	376208 591071 TNAW	PV	41290124	26
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521	5/1/2006	TNAW AGREEMNT 072	PR	41298424	26
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523	6/1/2006	TNAW AGREEMNT 091	PR	41320831	26
524	6/1/2006	TNAW AGREEMNT 072	PR	41320832	26
525	7/1/2006	TNAW AGREEMNT 083	PR	41345756	26
526	7/1/2006	TNAW AGREEMNT 091	PR	41345757	26
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528	8/1/2006	TNAW AGREEMNT 083	PR	41366859	26
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534	10/1/2006	TNAW AGREEMNT 083	PR	41412990	26
535	10/1/2006	TNAW AGREEMNT 091	PR	41412991	26
536	10/1/2006	TNAW AGREEMNT 072	PR	41412992	26
537	11/1/2006	TNAW AGREEMNT 083	PR	41439059	26
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540	12/1/2006	TNAW AGREEMNT 083	PR	41455736	26
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581	260201.520100.13	50007449	Cagle's Tree Specialist
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572	1/31/2008	36 months	PV	41824298	26
573	2/20/2008	Agreement# 116	PV	41840120	26
574	2/20/2008	Agreement# 83	PV	41840121	26
575	2/20/2008	Agreement# 72	PV	41840122	26
576	3/5/2008	3465	PV	41852258	26
577	3/5/2008	3466	PV	41852260	26
578	3/5/2008	3467	PV	41852262	26
579	3/5/2008	3468	PV	41852263	26
580	8/31/2006	CUST# 312346 TENN AMERIC	PV	41391174	26
581	3/16/2006	REMOVED TREES	PV	41271177	26
582	5/25/2006	TENN AMERICAN WATER	PV	41319279	26
583	7/14/2006	MOWING	PV	41353287	26
584	7/27/2006	service	PV	41365816	26
585	8/23/2006	TNAWC	PV	41384969	26
586	9/28/2006	TENN AMERICAN WATER	PV	41411301	26
587	10/26/2006	3756	PV	41436568	26
588	11/30/2006	LAWN SERVICE	PV	41460128	26
589	5/31/2007	LM070013	PV	41602447	26
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591	6/29/2007	70635	PV	41630195	26
592	7/31/2007	PRO# LM070013	PV	41655898	26
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598	5/15/2007	ACCT 043178-001	PV	41588262	26
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609	260201.575740.13	50348247	AT&T
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626	260201.620000.21	19000165	Bristol Inc
627	260201.620000.21	19000165	Bristol Inc
628	260201.620000.21	19000165	Bristol Inc
629	260201.620000.21	24017462	Siemens Water Technologies
630	260201.620000.21	26000292	Chattanooga Armature Works Inc
631	260201.620000.21	26000396	GE Supply
632	260201.620000.21	26001743	Callahan Service Co., LLC
633	260201.620000.21	26001743	Callahan Service Co., LLC
634	260201.620000.21	26001743	Callahan Service Co., LLC
635	260201.620000.21	26001743	Callahan Service Co., LLC
636	260201.620000.21	27001849	Ross Valve Manufacturing Co Inc
637	260201.620000.21	50009851	Industrial Controls Distributors Inc
638	260201.620000.21	50012361	Chemical Feed Systems Inc
639	260201.620000.21	50012361	Chemical Feed Systems Inc
640	260201.620000.21	50012361	Chemical Feed Systems Inc
641	260201.620000.21	50012361	Chemical Feed Systems Inc
642	260201.620000.21	50101733	Sulzer Pumps (US) Inc
643	260201.620000.21	50115041	Ferguson Enterprises Inc
644	260201.620000.21	50266094	Grainger
645	260201.620000.21	50295493	Hagler & Associates LLC
646	260201.620000.21	50295493	Hagler & Associates LLC
647	260201.620000.21	50295493	Hagler & Associates LLC
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650	260201.620000.21	50295493	Hagler & Associates LLC

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601	2/29/2008	6344	PV	41848514	26
602	3/11/2008	240816	PV	41856780	26
603	3/13/2008	241072	PV	41858813	26
604	3/20/2008	241454	PV	41864575	26
605	3/27/2008	241669	PV	41870913	26
606	1/4/2006	60 hr12/19 - 23 & 25 -30	PS	41222854	26
607	3/1/2006	CUST #014001310	PV	41260447	0
608	10/2/2006	01400 131003472	PV	41413012	3
609	6/29/2007	ACCT 423 M09 94	PV	41629616	26
610	8/4/2006	CHATTANOOGA TNAWC	PV	41370378	26
611	2/15/2008	202998601	PV	41836440	26
612	11/10/2006	TNAWC	PV	41444935	26
613	12/14/2006	TNAWC	PV	41470109	26
614	9/24/2007	inv 5263495	PV	41704790	26
615	9/28/2006	CUST# 315755	PV	41412238	26
616	1/31/2007	ORDER 2496370	PV	41507606	26
617	7/23/2007	5376373	PV	41646991	26
618	10/31/2007	5406767	PV	41739808	26
619	10/31/2007	5406919	PV	41739811	26
620	10/26/2007	209704RI	PV	41736491	26
621	10/11/2006	ORDER# 129941	PV	41420129	26
622	1/31/2007	313496	PV	41508495	26
623	6/29/2007	313496	PV	41630170	26
624	8/31/2007	206380RI	PV	41685217	26
625	12/13/2007	212568RI	PV	41777077	26
626	1/24/2008	214726RI	PV	41817337	26
627	2/7/2008	369676	PV	41829064	26
628	2/18/2008	216024ri	PV	41838156	26
629	9/12/2007	62632	PV	41695081	26
630	12/24/2007	65353	PV	41787672	26
631	1/3/2007	294347 TNAWC	PV	41486170	26
632	6/29/2006	13813	PV	41344600	26
633	7/27/2006	WORK ORDER ID 14052	PV	41365807	26
634	7/31/2007	ORDER# 17015	PV	41655948	26
635	12/13/2007	15335	PV	41777068	26
636	11/30/2007	IN01019770	PV	41766626	26
637	9/24/2007	inv 5397132 tnaw	PV	41704847	26
638	10/13/2006	CUST# 13825	PV	41421501	26
639	12/14/2006	TNAWC	PV	41470118	26
640	3/14/2007	TNAWC	PV	41539259	26
641	9/24/2007	inv 0000105800 tnaw	PV	41704835	26
642	12/13/2007	17902132	PV	41777072	26
643	9/24/2007	inv 0155689	PV	41704852	26
644	12/14/2006	801505496	PV	41470114	26
645	3/30/2007	TNAWC	PV	41553410	26
646	10/23/2007	15924	PV	41731274	26
647	10/26/2007	15983	PV	41736526	26
648	10/31/2007	16024	PV	41740195	26
649	10/31/2007	16017	PV	41740324	26
650	10/31/2007	16033	PV	41740544	26

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650	2,458.36	P

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651	260201.620000.21	50301316	Master Machine Inc
652	260201.620000.21	50301316	Master Machine Inc
653	260201.620000.21	50301316	Master Machine Inc
654	260201.620000.21	50301316	Master Machine Inc
655	260201.620000.21	50335986	Grainger
656	260201.620000.21	50335986	Grainger
657	260201.620000.23	17005014	Sealing Specialists Inc
658	260201.620000.23	17009574	Siemens Water Technologies
659	260201.620000.23	24001090	Chemtrac Systems
660	260201.620000.23	24017462	Siemens Water Technologies
661	260201.620000.23	26000292	Chattanooga Armature Works Inc
662	260201.620000.23	26000292	Chattanooga Armature Works Inc
663	260201.620000.23	26000585	Roto Rooter Sewer & Drain Service
664	260201.620000.23	26000585	Roto Rooter Sewer & Drain Service
665	260201.620000.23	26001743	Callahan Service Co., LLC
666	260201.620000.23	26002231	Stowers Machinery Corporation
667	260201.620000.23	26002231	Stowers Machinery Corporation
668	260201.620000.23	50007449	Cagle's Tree Specialist
669	260201.620000.23	50012361	Chemical Feed Systems Inc
670	260201.620000.23	50012361	Chemical Feed Systems Inc
671	260201.620000.23	50012361	Chemical Feed Systems Inc
672	260201.620000.23	50175087	EMS Inc
673	260201.620000.23	50191186	Underwater Construction Corp
674	260201.620000.23	50191186	Underwater Construction Corp
675	260201.620000.23	50295493	Hagler & Associates LLC
676	260201.620000.23	50301316	Master Machine Inc
677	260201.620000.23	50301316	Master Machine Inc
678	260201.620000.23	50301316	Master Machine Inc
679	260201.620000.23	50379397	Wilson Tree Cutting
680	260201.635000.23	10002674	Tank Industry Consultants Inc
681	260201.635000.23	10002674	Tank Industry Consultants Inc
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685	260201.635000.23	10002674	Tank Industry Consultants Inc
686	260201.635000.23	10002674	Tank Industry Consultants Inc
687	260201.635000.23	26002746	Ingersoll Rand Company
688	260203.535000.15	5000948	CheckFreePay Corporation
689	260203.535000.15	26001232	SUNTRUST BANK,CHATTA ANALYSIS PROCESSING
690	260203.535000.15	26001232	SUNTRUST BANK,CHATTA ANALYSIS PROCESSING
691	260203.575100.15	5000948	CheckFreePay Corporation
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700	260203.575100.15	5000948	CheckFreePay Corporation

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652	11/7/2006	CUST AMEWAT	PV	41443113	26
653	5/2/2007	SALES 0016844 0	PV	41578003	26
654	2/25/2008	18760	PV	41842315	26
655	10/31/2007	9479094246	PV	41740218	26
656	1/24/2008	9546381717	PV	41817341	26
657	6/29/2007	TAWC	PV	41630293	26
658	7/14/2006	CON# V063447	PV	41353274	26
659	11/30/2006	TNAMER	PV	41460089	26
660	3/13/2007	CONTRACT V07-0684	PV	41537950	26
661	7/14/2006	ORDER# J528110	PV	41353276	26
662	2/21/2008	66367	PV	41840882	26
663	4/27/2006	RIVERSIDE DR	PV	41299801	26
664	6/13/2007	187795	PV	41614480	26
665	6/29/2006	WORK ORDER ID 13690	PV	41344612	26
666	6/11/2007	CUST 134140	PV	41612050	26
667	6/29/2007	2920	PV	41630216	26
668	6/29/2006	REMOVED TREE	PV	41344648	26
669	10/11/2006	CUST# 13825	PV	41420135	26
670	4/24/2007	CUST 13825	PV	41571384	26
671	11/1/2007	105832	PV	41743057	26
672	12/10/2007	12345	PV	41773225	26
673	9/28/2006	TNAW	PV	41411357	26
674	9/24/2007	inv 071038 tn aw	PV	41704827	26
675	2/28/2007	tawc	PV	41528165	26
676	7/6/2007	17959	PV	41634356	26
677	1/31/2008	18624	PV	41823650	26
678	2/7/2008	AMEWAT	PV	41829065	26
679	12/10/2007	161361	PV	41773224	26
680	4/20/2006	PRO# 06031	PV	41294820	26
681	4/20/2006	PRO# 06031	PV	41294823	26
682	4/20/2006	PRO# 06031	PV	41294824	26
683	5/2/2007	CLIENT ID H985	PV	41578168	26
684	10/4/2007	21318	PV	41716032	26
685	2/15/2008	21832	PV	41836435	26
686	2/15/2008	21833	PV	41836438	26
687	2/29/2008	3259	PV	41848424	26
688	1/9/2006	cust# 907891	PV	41225099	26
689	1/17/2006	0035956 TNAW ending Nov	PV	41231819	26
690	2/13/2006	TNAW 35956 Dec 2005	PV	41248497	26
691	2/16/2006	CUST# 907891	PV	41254490	26
692	3/23/2006	ID # 907891	PV	41277169	26
693	9/28/2006	cust# 907891	PV	41412725	26
694	11/7/2006	CUST 907891	PV	41443073	26
695	12/8/2006	CUST# 907891	PV	41465482	26
696	1/18/2007	CUST# 907891	PV	41496957	26
697	1/31/2007	CUST ID# 907891	PV	41509037	26
698	3/8/2007	907891	PV	41534284	26
699	3/30/2007	CUST# 907891	PV	41552588	26
700	4/24/2007	TNAWC	PV	41571372	26

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703	260203.575100.15	5000948	CheckFreePay Corporation
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709	260203.575100.15	5000948	CheckFreePay Corporation
710	260203.575100.15	5000948	CheckFreePay Corporation
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712	260203.575100.15	26001232	SUNTRUST BANK,CHATTA ANALYSIS PROCESSING
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733	260203.575200.15	50191235	Phillips & Cohen Assoc Ltd
734	260203.575200.15	50191235	Phillips & Cohen Assoc Ltd
735	260203.575420.15	50028278	Workflow One
736	260203.575420.15	50153724	Cenveo
737	260203.575420.15	50245481	AT & T Billing Operations External Ser
738	260203.575420.15	50245481	AT & T Billing Operations External Ser
739	260203.575420.15	50245481	AT & T Billing Operations External Ser
740	260203.575420.15	50245481	AT & T Billing Operations External Ser
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748	260203.575420.15	50245481	AT & T Billing Operations External Ser
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750	260203.575420.15	50325076	Regulus Integrated Solutions LLC

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702	6/29/2007	CUST ID# 907891	PV	41629505	26
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704	8/31/2007	90172391	PV	41684621	26
705	9/27/2007	inv 90176652	PV	41709354	26
706	10/26/2007	90181041	PV	41736449	26
707	11/30/2007	90185622	PV	41766462	26
708	12/28/2007	CUST# 907891	PV	41792773	26
709	1/22/2008	90194436	PV	41815231	26
710	2/21/2008	90198585	PV	41840831	26
711	3/20/2008	90204247	PV	41864491	26
712	3/23/2006	ACCT# 0000000035956	PV	41276491	26
713	5/17/2006	ACCT# 0000000035956	PV	41312868	26
714	5/22/2006	0000000035956 T	PV	41316533	26
715	6/26/2006	ACCT#0000000035956	PV	41339040	26
716	8/31/2006	0000000035956 TNAWC JUNE	PV	41391166	26
717	8/31/2006	0000000035956 TNAWC JULY	PV	41391167	26
718	10/11/2006	ACCT# 0000000035956	PV	41420120	26
719	11/7/2006	ACCT 0000000035	PV	41443084	26
720	11/30/2006	ACCT# 0000000035956	PV	41460037	26
721	12/21/2006	35956	PV	41475559	26
722	2/15/2007	0000000035956 TNAWC	PV	41518326	26
723	3/21/2007	35956	PV	41543699	26
724	9/28/2007	0707024495 tnaw	PV	41710588	26
725	9/28/2007	inv 0607024207	PV	41710592	26
726	10/19/2007	INV # 080702474	PV	41729027	26
727	11/9/2007	907025066	PV	41749632	26
728	11/30/2007	1007025364	PV	41765397	26
729	2/6/2008	35956	PV	41827586	26
730	2/6/2008	1207025967	PV	41827613	26
731	2/27/2008	35956	PV	41845573	26
732	5/1/2006	CLIENT 710	PV	41301790	3
733	3/12/2007	Client 710	PV	41536674	3
734	9/7/2007	710	PV	41690736	3
735	1/18/2006	CUST #1710851	PV	41233004	3
736	2/3/2006	inv 336-400598	PV	41242696	3
737	5/5/2006	400-00016	PV	41304247	3
738	5/5/2006	400-00016	PV	41304282	3
739	5/19/2006	cust # 400 00016	PV	41313768	3
740	5/22/2006	acct# 400-00016	PV	41316640	3
741	5/31/2006	CUST # 400-00016	PV	41321237	3
742	8/24/2006	JUNE BILLING	PV	41387492	3
743	9/5/2006	JULY 2006 BILLING	PV	41394360	3
744	9/25/2006	May 2006 Billing	PV	41406386	3
745	10/18/2006	August Billing 2006	PV	41424108	3
746	11/1/2006	Sept 2006 Billing	PV	41439647	3
747	11/30/2006	October Billing	PV	41458451	3
748	12/23/2006	November billing	PV	41477642	3
749	1/22/2007	1140000	PV	41499974	3
750	2/12/2007	DEC 2006 BILLING 1140000	PV	41515121	3

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751	260203.575420.15	50325076	Regulus Integrated Solutions LLC
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771	260203.575660.15	26004252	CMRS POC
772	260203.575740.15	50099144	BellSouth
773	260203.575740.15	50099144	BellSouth
774	260203.575743.15	18735048	Verizon Wireless
775	260203.575830.16	50008299	Tenn American Water Co
776	260205.131326.002	26003643	Suntrust Bank
777	260205.131998.002	50320546	Shoppes @ Atrium LLC
778	260205.131998.002	50385851	Shoppes @ Atrium LLC
779	260205.142	50260149	Shoppes @ Atrium LLC
780	260205.142	50266012	Chattanooga Housing Authority
781	260205.142	50270268	Chattanooga Housing Authority
782	260205.142	50270269	Chattanooga Housing Authority
783	260205.142	50278046	Chattanooga Housing Authority
784	260205.142	50293225	Chattanooga Housing Authority
785	260205.142	50327816	Chattanooga Housing Authority
786	260205.142	50332667	Chattanooga Housing Authority
787	260205.142	50333771	Chattanooga Housing Authority
788	260205.142	50335702	Chattanooga Housing Authority
789	260205.142	50337674	Chattanooga Housing Authority
790	260205.142	50346247	Chattanooga Housing Authority
791	260205.142	50348002	Chattanooga Housing Authority
792	260205.142	50350062	Chattanooga Housing Authority
793	260205.142	50359331	Chattanooga Housing Authority
794	260205.142	50362412	Monique Miller
795	260205.142	50376688	Monique Miller
796	260205.142	50376696	Monique Miller
797	260205.142	50383108	Monique Miller
798	260205.142	50387953	Mcbrien Rd Assoc Ltd
799	260205.142	50391630	Roger Talley
800	260205.142	50391636	Roger N Talley

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754	6/8/2007	1140000	PV	41608616	3
755	7/12/2007	1140000	PV	41639643	3
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757	7/23/2007	1140000	PV	41648610	3
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759	8/29/2007	1140000	PV	41680783	3
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761	10/18/2007	1140000	PV	41728408	3
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763	11/15/2007	1140000	PV	41753820	3
764	11/15/2007	1140000	PV	41753823	3
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770	3/17/2008	1140000	PV	41862427	3
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772	1/17/2006	423M0994332511861	PV	41232132	26
773	2/21/2006	Tennessee Amer Water	PV	41256018	26
774	7/31/2007	2.19896E+12	PV	41656469	26
775	10/10/2006	2600163162	PV	41418999	26
776	3/20/2006	To cover NSF-Suntrust BK	PS	41274584	26
777	8/7/2007	CREDIT REFUND CK 80	PS	41662565	3
778	12/19/2007	cant loc ck 10513	PS	41783353	3
779	1/23/2006	TN CREDIT REFUND	PV	41237127	26
780	2/24/2006	TN CREDIT REFUND	PV	41259037	26
781	3/27/2006	TN CREDIT REFUND	PV	41278837	26
782	7/14/2006	TN CREDIT REFUND	PV	41353903	26
783	5/12/2006	TN CREDIT REFUND	PV	41309737	26
784	8/4/2006	TN CREDIT REFUND	PV	41371328	26
785	1/12/2007	TN CREDIT REFUND	PV	41494695	26
786	2/16/2007	TN CREDIT REFUND	PV	41519849	26
787	2/23/2007	TN CREDIT REFUND	PV	41524748	26
788	3/5/2007	TN CREDIT REFUND	PV	41532735	26
789	3/16/2007	TN CREDIT REFUND	PV	41541561	26
790	5/11/2007	TN CREDIT REFUND	PV	41585879	26
791	5/18/2007	TN CREDIT REFUND	PV	41592981	26
792	6/1/2007	TN CREDIT REFUND	PV	41604266	26
793	7/13/2007	TN CREDIT REFUND	PV	41640933	26
794	10/19/2007	TN CREDIT REFUND	PV	41730590	26
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797	11/26/2007	TN CREDIT REFUND	PV	41762168	26
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801	260205.142	50398810	Cne Morrison Spring Apts
802	260205.142	50403075	Nick Crabtree
803	260205.1651	26000018	Tennessee Department of Revenue
804	260205.1651	26000924	Tennessee Regulatory Authority
805	260205.1652	50094718	Marsh USA Inc
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840	260205.1652	50135583	RWE Rhenas GMBH
841	260205.1652	50201212	RWE Aktiengesellschaft
842	260205.1652	50220154	Marsh Limited
843	260205.1652	50220154	Marsh Limited
844	260205.1652	50328046	Marsh Global Markets Bermuda Limited
845	260205.1653	26000923	Tennessee Dept of Revenue
846	260205.1653	26000924	Tennessee Regulatory Authority
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849	260205.1655	14008006	Price WaterhouseCoopers LLP
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802	3/21/2008	TN CREDIT REFUND	PV	41867341	26
803	9/21/2006	Gross Receipts Tax	PS	41404578	26
804	3/29/2006	TN TRA FOR 2005	PS	41279746	26
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806	2/24/2006	602328	PV	41257757	3
807	2/24/2006	602328	PV	41257827	3
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809	3/29/2006	602328	PV	41279534	3
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813	3/31/2006	602328	PV	41281131	3
814	3/31/2006	602328	PV	41281533	3
815	6/29/2006	602328	PV	41345216	3
816	10/3/2006	CLIENT #602328	PV	41414911	3
817	1/26/2007	602328	PV	41502764	3
818	1/26/2007	75490	PV	41502785	3
819	1/26/2007	602328	PV	41502790	3
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821	1/31/2007	602328	PV	41508945	3
822	1/31/2007	insurance	PV	41508953	3
823	2/12/2007	602328	PV	41515669	3
824	2/13/2007	602328	PV	41516095	3
825	3/8/2007	602328	PV	41534311	3
826	6/13/2007	3rd qtr 2007	PV	41614515	3
827	10/3/2007	602328	PV	41715503	3
828	2/7/2008	CLIENT#602328	PV	41829916	3
829	2/12/2008	CLIENT#602328	PV	41833239	3
830	2/12/2008	CLIENT#602328	PV	41833269	3
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833	1/31/2007	policy	PV	41508929	3
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835	2/5/2008	ACCT#427663	PV	41827446	3
836	2/27/2008	ACCT#427663	PV	41845267	3
837	2/15/2006	CUST 1097	PV	41251518	3
838	2/24/2006	1097	PV	41257845	3
839	1/30/2007	liability insurance	PV	41507423	3
840	2/8/2007	44573	PV	41513495	3
841	3/18/2008	CUST# 9623-10690	PV	41863981	3
842	2/24/2006	20202681	PV	41257843	3
843	2/12/2008	ACCT#C4729602X	PV	41833210	3
844	2/12/2008	CLIENT#075490	PV	41833205	3
845	8/13/2007	TN GR REC GRO 209 08/07	PS	41666068	26
846	3/30/2007	TN Gross Recpt 2007	PS	41553631	26
847	8/9/2007	TN GR REC GRO 209 8/07	PS	41664137	26
848	3/17/2008	TN Gross Receipts 2008	PS	41860856	26
849	2/3/2006	#1030436402-8 3rd Instal	PS	41243016	3
850	4/13/2006	#1030483823-7 4th Instal	PS	41289679	3

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863	260205.1655	50013349	JP Morgan Chase Bank
864	260205.1655	50067362	AWWA Research Foundation
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884	260205.1655	50148631	Insight Direct
885	260205.1655	50149934	Cravath, Swaine & Moore LLP
886	260205.1655	50291861	RWE Systems AG
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891	260205.182	14004385	Baryenbruch & Company LLC
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853	12/13/2006	#1030683440-8 2nd Instal	PS	41469514	3
854	1/24/2007	#1030718984-4 3rd Instal	PS	41501307	3
855	3/20/2007	#1030765812-4 4th Instal	PS	41543308	3
856	5/30/2007	#1030822652-0 Apr/May	PS	41600218	3
857	6/22/2007	#1030850098-1 Jun18 Prog	PS	41622727	3
858	10/19/2007	2007 audit	PV	41728893	3
859	12/11/2007	10309668779	PV	41775517	3
860	2/8/2008	2007 AUDIT	PV	41830993	3
861	3/24/2008	CLIENT ACCT#7132	PV	41867178	3
862	8/31/2007	INV000000000794	PV	41685069	26
863	9/22/2006	CLOSING INV FEE	PV	41404951	3
864	7/27/2006	16	PV	41366448	3
865	8/24/2006	ID 0016416 3rd QTR	PV	41386964	3
866	10/26/2006	4TH QTR	PV	41435476	3
867	1/16/2007	ID#0016416 1ST	PV	41496308	3
868	4/30/2007	2007 2ND QTR	PV	41575185	3
869	7/31/2007	1/07-12/07	PV	41656890	3
870	10/31/2007	4th qtr	PV	41740560	3
871	1/21/2008	16416	PV	41814364	3
872	2/12/2007	adt	PV	41515406	3
873	5/14/2007	1.40013E+12	PV	41587283	3
874	5/14/2007	1.40013E+12	PV	41587373	3
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881	12/19/2007	1.4001E+12	PV	41783426	3
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884	11/30/2007	30074083	PV	41765810	3
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886	8/16/2006	AGREEMENT RENEW	PV	41379135	3
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888	5/30/2007	1640079 agreeme	PV	41599994	3
889	11/30/2007	1640079	PV	41766865	3
890	9/22/2006	CLIENT #01321 MATTER 009	PV	41404839	3
891	11/30/2006	2006 SERVICE CO	PV	41460062	26
892	2/14/2007	SVS CO MARKET C	PV	41517494	26
893	5/31/2007	TN AM	PV	41602765	26
894	7/31/2007	May-07	PV	41656497	26
895	11/30/2006	C# 064554170	PV	41459965	26
896	1/18/2007	# 064554170	PV	41496959	26
897	3/8/2007	TNAWC	PV	41534510	26
898	4/12/2007	client matter 064554 000	PV	41561515	26
899	4/19/2007	TNAWC CLIENT 06	PV	41567747	26
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890	3,406.77	P
891	24,530.00	P
892	1,012.50	P
893	10,680.30	P
894	1,411.00	P
895	4,557.30	P
896	15,156.67	P
897	43,102.85	P
898	4,602.50	P
899	99,664.36	P
900	158,366.25	P

	A	B	C
901	260205.182	26000237	Bass Berry & Sims PLC
902	260205.182	26000237	Bass Berry & Sims PLC
903	260205.182	26000237	Bass Berry & Sims PLC
904	260205.182	26000237	Bass Berry & Sims PLC
905	260205.182	26000237	Bass Berry & Sims PLC
906	260205.182	26000237	Bass Berry & Sims PLC
907	260205.182	26001380	Moriah Group
908	260205.182	26003879	The Chattanoogan
909	260205.182	27002850	Gannett Fleming Companies
910	260205.182	27002850	Gannett Fleming Companies
911	260205.182	27002850	Gannett Fleming Companies
912	260205.182	50093241	James E Salser
913	260205.182	50093241	James E Salser
914	260205.182	50093241	James E Salser
915	260205.182	50093241	James E Salser
916	260205.182	50138008	Brattle Group
917	260205.182	50138008	Brattle Group
918	260205.182	50138008	Brattle Group
919	260205.182	50138008	Brattle Group
920	260205.182	50138008	Brattle Group
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922	260205.182	50138008	Brattle Group
923	260205.182	50138008	Brattle Group
924	260205.182	50138008	Brattle Group
925	260205.182	50220109	Booz Allen Hamilton
926	260205.182	50284036	Gannett Fleming Companies
927	260205.1841	10017302	Bentley Systems Inc
928	260205.1841	10017302	Bentley Systems Inc
929	260205.1841	10017302	Bentley Systems Inc
930	260205.1841	14006687	Heath Consultants Inc
931	260205.1841	14006687	Heath Consultants Inc
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939	260205.1841	14006687	Heath Consultants Inc
940	260205.1841	26000256	David Boyd
941	260205.1841	26000256	David Boyd
942	260205.1841	26000316	City of Chattanooga
943	260205.1841	26000316	City of Chattanooga
944	260205.1841	26000316	City of Chattanooga
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950	260205.1841	26000316	City of Chattanooga

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901	7/3/2007	291120	PV	41633272	26
902	7/30/2007	c# 064554170	PV	41654934	26
903	8/31/2007	264423	PV	41684426	26
904	8/31/2007	295434	PV	41685978	26
905	1/18/2008	304223	PV	41812358	26
906	3/21/2008	308224	PV	41865545	26
907	3/10/2006	JOB# 06AWT027	PV	41266315	26
908	5/31/2007	TN AM	PV	41602680	26
909	11/30/2006	PRO# 047208	PV	41459997	26
910	11/30/2006	ACCT#5003165655	PV	41460055	26
911	1/3/2007	PROJECT 047208	PV	41486007	26
912	10/12/2006	TENNESSEE AMERI	PV	41420868	26
913	10/25/2006	CONSULTING SVCS	PV	41434895	26
914	11/30/2006	CONSULTING SERV	PV	41460017	26
915	5/31/2007	CONSULTING SERV	PV	41602724	26
916	10/12/2006	TNAWC PROJECT C	PV	41420891	26
917	11/30/2006	PRO# CL01966	PV	41460043	26
918	12/21/2006	PROJECT CL-0196	PV	41476286	26
919	1/22/2007	TNAWC	PV	41499623	26
920	1/31/2007	CL01966	PV	41507527	26
921	3/22/2007	TNAWC CL 01966	PV	41544689	26
922	7/11/2007	9821	PV	41638458	26
923	3/26/2008	11975	PV	41869019	26
924	3/27/2008	12303	PV	41870907	26
925	6/29/2007	SERV 04/01 TO 0	PV	41630411	26
926	6/29/2007	ACCT 5003165655	PV	41629673	26
927	1/31/2007	4102928	PV	41507549	26
928	1/31/2007	4102928	PV	41507562	26
929	3/21/2007	TNAWC	PV	41543637	26
930	3/10/2006	CUST# 746200	PV	41266129	26
931	3/31/2006	cust# 746200	PV	41281168	26
932	4/19/2006	746200 TNAW	PV	41293236	26
933	4/28/2006	CUST# 746200	PV	41300411	26
934	5/17/2006	CUST# 746200	PV	41312867	26
935	5/22/2006	CUST#746200	PV	41316496	26
936	8/23/2006	CUST#746200	PV	41383958	26
937	8/31/2006	CUST# 746200	PV	41391492	26
938	5/31/2007	746200	PV	41602523	26
939	6/29/2007	CUST 746200	PV	41629984	26
940	1/13/2006	TNAW	PV	41230009	26
941	6/2/2006	TENNESSEE AMERI	PV	41323413	26
942	1/3/2006	108 STREET	PV	41221649	26
943	4/4/2006	222 STREET CUT FEB PEMIT	PV	41283265	26
944	8/23/2006	TNAWC MAY/JUNE/	PV	41384615	26
945	8/23/2006	TNAWC	PV	41384681	26
946	8/23/2006	TNAWC APRIL PER	PV	41384708	26
947	12/14/2006	TNAWC OCT06 PER	PV	41469844	26
948	12/21/2006	TNAWC	PV	41475545	26
949	1/31/2007	PERMITS DECEMBE	PV	41507965	26
950	3/14/2007	TNAWC	PV	41539245	26

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903	10,408.11	P
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912	3,607.34	P
913	3,029.43	P
914	1,211.87	P
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926	7,207.68	P
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929	2,994.76	P
930	1,125.07	P
931	1,045.97	P
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933	1,148.35	P
934	1,099.53	P
935	1,056.65	P
936	1,035.30	P
937	1,048.95	P
938	1,002.57	P
939	1,022.70	P
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941	1,485.00	P
942	6,676.25	P
943	13,284.25	P
944	4,310.25	P
945	3,848.25	P
946	3,269.00	P
947	10,664.50	P
948	3,106.25	P
949	3,732.75	P
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	A	B	C
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952	260205.1841	26000316	City of Chattanooga
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956	260205.1841	26000316	City of Chattanooga
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960	260205.1841	26000316	City of Chattanooga
961	260205.1841	26000376	Eslinger Contracting Co
962	260205.1841	26000457	Hamilton County Trustee
963	260205.1841	26000457	Hamilton County Trustee
964	260205.1841	26000457	Hamilton County Trustee
965	260205.1841	26000457	Hamilton County Trustee
966	260205.1841	26002663	City of East Ridge - Sewer Payment
967	260205.1841	26002663	City of East Ridge - Sewer Payment
968	260205.1841	26002663	City of East Ridge - Sewer Payment
969	260205.1841	50069012	TNT Concrete
970	260205.1841	50069012	TNT Concrete
971	260205.1841	50069012	TNT Concrete
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	D	E	F	G	H
951	4/24/2007	TNAWC	PV	41571342	26
952	6/29/2007	REPAIRS	PV	41629998	26
953	7/31/2007	TNAW	PV	41655354	26
954	10/19/2007	STREET CUT PERM	PV	41729061	26
955	10/22/2007	wv aw 09/07/07	PV	41730860	26
956	10/22/2007	tnaw 10/02/07	PV	41730874	26
957	11/9/2007	110107	PV	41749646	26
958	12/17/2007	120407	PV	41781587	26
959	2/7/2008	inv 020108	PV	41829179	26
960	3/17/2008	30308	PV	41860528	26
961	3/5/2008	12446	PV	41852124	26
962	6/21/2006	TNAWC	PV	41335896	26
963	8/29/2006	TENNESSEE AMERICAN WATER	PV	41388907	26
964	12/15/2006	Jul 1 2006 thru Jun 30 2	PV	41471334	26
965	6/29/2007	7348	PV	41630167	26
966	6/7/2006	REF#STREET CUT	PV	41326440	26
967	12/21/2006	STREET CUT PERMIT	PV	41476583	26
968	12/28/2007	STREET CUT PERMITS	PV	41792802	26
969	1/12/2006	Tenn Amer Water	PV	41229319	26
970	2/2/2006	ASPHALT/CONCRET	PV	41242018	26
971	3/13/2006	TNAW	PV	41266896	26
972	3/27/2006	Tenn American Water	PV	41277691	26
973	4/28/2006	ASPHALT/CONCRETE REPAIRS	PV	41300409	26
974	4/28/2006	REPAIRS	PV	41300413	26
975	5/17/2006	ASPHALT REPAIRS	PV	41312896	26
976	5/31/2006	TENN AMERICAN WATER	PV	41322547	26
977	6/21/2006	TNAWC	PV	41335934	26
978	6/26/2006	TENN AMERICAN WATER	PV	41339024	26
979	8/14/2006	TENNESSEE AMERI	PV	41376740	26
980	8/14/2006	TENNESSEE AMERI	PV	41376782	26
981	9/27/2006	SERVICE	PV	41409934	26
982	9/27/2006	SERVICE	PV	41410027	26
983	10/25/2006	SERVICES	PV	41434881	26
984	11/7/2006	TNAWC	PV	41443088	26
985	12/7/2006	TNAW	PV	41464735	26
986	12/14/2006	TNAWC	PV	41469839	26
987	12/19/2006	TNAWC	PV	41473905	26
988	12/27/2006	TNAWC	PV	41480447	26
989	1/18/2007	TNAW	PV	41496995	26
990	1/31/2007	JANUARY INSURAN	PV	41508609	26
991	2/28/2007	675650 24	PV	41528349	26
992	3/14/2007	TNAWC	PV	41539242	26
993	3/22/2007	TNAWC	PV	41544684	26
994	4/24/2007	TNAWC	PV	41571354	26
995	5/8/2007	Asphalt Repairs	PV	41581797	26
996	5/18/2007	2315	PV	41591489	26
997	6/5/2007	TNAWC	PV	41606365	26
998	6/5/2007	TNAWC	PV	41606370	26
999	6/29/2007	2369	PV	41630003	26
1000	7/6/2007	2397	PV	41634310	26

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953	5,603.50	P
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956	2,665.25	P
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963	10,375.00	P
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965	18,461.50	P
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968	1,998.50	P
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970	12,325.47	P
971	9,101.75	P
972	8,040.29	P
973	4,296.34	P
974	4,024.83	P
975	3,581.20	P
976	1,603.87	P
977	3,007.29	P
978	2,695.22	P
979	4,543.23	P
980	2,325.22	P
981	3,739.46	P
982	3,433.94	P
983	2,457.79	P
984	4,432.23	P
985	2,929.50	P
986	5,171.96	P
987	4,517.24	P
988	3,669.80	P
989	5,203.24	P
990	2,722.17	P
991	1,381.80	P
992	4,629.28	P
993	6,938.54	P
994	9,123.64	P
995	3,118.73	P
996	2,667.71	P
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998	1,586.73	P
999	2,680.48	P
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1002	260205.1841	50069012	TNT Concrete
1003	260205.1841	50069012	TNT Concrete
1004	260205.1841	50069012	TNT Concrete
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1018	260205.1841	50069012	TNT Concrete
1019	260205.1841	50116365	Thompson Engineering
1020	260205.1841	50116365	Thompson Engineering
1021	260205.1841	50116365	Thompson Engineering
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1024	260205.1841	50116365	Thompson Engineering
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1048	260205.1841	50168875	David Boyd
1049	260205.1841	50228004	Hudson Material Co
1050	260205.1864	17001673	RIA

	D	E	F	G	H
1001	7/23/2007	2423	PV	41647239	26
1002	7/31/2007	Asphalt	PV	41655422	26
1003	8/31/2007	2448	PV	41684655	26
1004	8/31/2007	Tn american	PV	41685942	26
1005	9/21/2007	Tennessee Amwat	PV	41703209	26
1006	10/4/2007	2540	PV	41716019	26
1007	10/9/2007	50069012	PV	41719588	26
1008	10/31/2007	2590	PV	41739879	26
1009	11/27/2007	2637	PV	41762087	26
1010	12/4/2007	ASPHALT/CONCRET	PV	41769853	26
1011	12/17/2007	2662	PV	41781592	26
1012	1/3/2008	2686	PV	41799436	26
1013	1/10/2008	2737	PV	41805338	26
1014	1/30/2008	2755	PV	41822329	26
1015	2/11/2008	2800	PV	41831329	26
1016	2/29/2008	2826	PV	41848476	26
1017	3/17/2008	2850	PV	41860549	26
1018	3/28/2008	concrete/asphalt	PV	41871456	26
1019	1/13/2006	Dec 2005 TNAW	PV	41230011	26
1020	2/2/2006	project# 044030	PV	41242017	26
1021	3/13/2006	0440300004 TNAW	PV	41267018	26
1022	3/23/2006	PRO# 0440300004	PV	41276475	26
1023	3/23/2006	SERVICES	PV	41277160	26
1024	5/17/2006	pro# 0440300004	PV	41312859	26
1025	6/5/2006	PROJECT#0440300004 TNAWC	PV	41325274	26
1026	6/15/2006	TNAW PROJECT#0440300004	PV	41332119	26
1027	7/19/2006	TNAW PROJECT#0440300004	PV	41357728	26
1028	8/23/2006	TNAWC	PV	41384048	26
1029	9/27/2006	PROJ# 0440300004	PV	41410108	26
1030	10/26/2006	BILLING# 25	PV	41436527	26
1031	11/30/2006	BILLING#26	PV	41460077	26
1032	12/14/2006	TNAWC	PV	41470196	26
1033	1/18/2007	PROFESSIONAL SERVICES	PV	41497021	26
1034	2/15/2007	TNAWC	PV	41518491	26
1035	3/15/2007	TNAWC	PV	41540024	26
1036	4/13/2007	946136	PV	41562152	26
1037	5/18/2007	440300004	PV	41591280	26
1038	6/29/2007	948107	PV	41630030	26
1039	7/23/2007	949105	PV	41647828	26
1040	9/27/2007	inv 951139	PV	41709235	26
1041	10/22/2007	inv 952112	PV	41730894	26
1042	11/19/2007	953114	PV	41755353	26
1043	12/12/2007	950136	PV	41776023	26
1044	12/17/2007	954108	PV	41781613	26
1045	1/10/2008	955107	PV	41805392	26
1046	2/13/2008	956108	PV	41834538	26
1047	3/20/2008	957109	PV	41864493	26
1048	9/8/2006	TNAWC	PV	41395873	26
1049	11/9/2007	2614	PV	41749519	26
1050	2/21/2007	ACCT#1MC4	PV	41521861	3

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1009	4,455.73	P
1010	3,744.39	P
1011	2,317.17	P
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1013	2,989.53	P
1014	3,463.69	P
1015	2,754.76	P
1016	5,717.65	P
1017	1,333.15	P
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1026	21,037.55	P
1027	25,984.03	P
1028	18,504.89	P
1029	17,626.67	P
1030	26,259.32	P
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1032	22,361.29	P
1033	25,239.22	P
1034	21,184.57	P
1035	23,518.16	P
1036	28,649.96	P
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1038	30,259.27	P
1039	30,307.46	P
1040	21,083.10	P
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1043	23,208.77	P
1044	22,809.16	P
1045	18,765.55	P
1046	20,266.65	P
1047	25,459.01	P
1048	1,859.40	P
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1052	260205.1864	50284036	Gannett Fleming Companies
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1056	260205.1864	50284036	Gannett Fleming Companies
1057	260205.1865	50220109	Booz Allen Hamilton
1058	260205.1865	50385748	Booz Allen Hamilton Inc
1059	260205.2323	26000914	Tallen Holdings Co
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1085	260205.2341		Tallen Holdings Co
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1100	260205.2341		Tallen Holdings Co

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1051	3/23/2006	A/C #1MC4	PV	41276604	3
1052	3/26/2008	4894764	PV	41868832	26
1053	3/26/2008	4894726	PV	41869271	26
1054	9/28/2006	TNAWC	PV	41412084	26
1055	3/14/2007	PROJECT 047208	PV	41539249	26
1056	3/26/2008	4926629	PV	41868831	26
1057	3/17/2008	22004067	PV	41860474	26
1058	2/4/2008	222003838	PV	41826657	26
1059	1/5/2006	1101 Broad St. Lease	PS	41223942	26
1060	2/2/2006	1101 Broad St. Lease	PS	41242133	26
1061	2/22/2006	1101 Broad St Lease	PS	41256672	26
1062	3/31/2006	1101 Broad St. Lease	PS	41281518	26
1063	5/8/2006	1101 Broad St. Ledase	PS	41304727	26
1064	6/21/2006	1101 Broad St Lease	PS	41336689	26
1065	8/8/2006	1101 Broad St. Lease	PS	41373498	26
1066	9/5/2006	1101 Broad St Lease	PS	41394024	26
1067	10/4/2006	1101 Broad St Lease	PS	41415460	26
1068	11/1/2006	1101 Broad St. Lease	PS	41439545	26
1069	12/11/2006	1101 Broad St Leasse	PS	41467742	26
1070	1/18/2007	1101 Broad St. Lease 07	PS	41497488	26
1071	2/8/2007	1101 Broad St Lease	PS	41513407	26
1072	3/19/2007	1101 Broad St Lease	PS	41542518	26
1073	5/1/2007	1101 Broad St Lse-Apr 07	PS	41577657	26
1074	5/1/2007	1101 Broad St Lse-May 07	PS	41577658	26
1075	6/18/2007	1101 Broad St Lease	PS	41618269	26
1076	7/23/2007	1101 Broad St Lease	PS	41648684	26
1077	8/3/2007	1101 Broad St Lease	PS	41660194	26
1078	9/4/2007	1101 Broad St Lease	PS	41687448	26
1079	10/18/2007	1101 Broad St Lease	PS	41728334	26
1080	11/7/2007	1101 Broad St Lease	PS	41747739	26
1081	12/14/2007	1101 Broad St Lease	PS	41777943	26
1082	1/4/2008	1101 Broad St Lease	PS	41801433	26
1083	2/13/2008	1101 Broad St Lease	PS	41834871	26
1084	3/26/2008	1080301	PV	41869006	26
1085	2/17/2006		AE	3608780	0
1086	4/21/2006		AE	3653223	0
1087	4/21/2006		AE	3678222	0
1088	4/21/2006		AE	3688501	0
1089	12/31/2006		AE	3727559	0
1090	8/25/2006		AE	3756978	0
1091	9/29/2006		AE	3783816	0
1092	12/1/2006		AE	3811717	0
1093	12/31/2006		AE	3837691	0
1094	12/31/2006		AE	3849080	0
1095	1/31/2007		AE	3866754	0
1096	2/28/2007		AE	3874433	0
1097	2/28/2007		AE	3882698	0
1098	3/31/2007		AE	3908337	0
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1100	5/31/2007		AE	3942218	0

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1080	10,305.16	P
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1143	260205.2341	50227367	SourceNet Solutions Inc
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1101	5/31/2007		AE	3942263	0
1102	7/31/2007		AE	3946220	0
1103	7/31/2007		AE	3963717	0
1104	7/31/2007		AE	3972810	0
1105	8/31/2007		AE	3998156	0
1106	10/31/2007		AE	4040063	0
1107	1/31/2008		AE	4056308	0
1108	11/30/2007		AE	4060232	0
1109	12/31/2007		AE	4077231	0
1110	1/31/2008		AE	4085259	0
1111	2/29/2008		AE	4086127	0
1112	1/31/2008		AE	4100030	0
1113	3/31/2008		AE	4118712	0
1114	3/31/2008		AE	4125373	0
1115	1/5/2006	P-Card Payment 005-13-05	PS	41223996	3
1116	1/30/2006	P-Card Payment 005-13-05	PS	41240812	3
1117	2/28/2006	P-Card Payment 005-13-05	PS	41259731	3
1118	3/29/2006	P-Card Payment 005-13-05	PS	41279564	3
1119	4/26/2006	P-Card Payment 005-13-05	PS	41298660	3
1120	6/2/2006	P-Card Payment 005-13-05	PS	41323446	3
1121	6/28/2006	P-Card Payment 005-13-05	PS	41341636	3
1122	7/26/2006	P-Card Payment 005-13-05	PS	41365087	3
1123	9/1/2006	P-Card Payment 005-13-05	PS	41391696	3
1124	9/28/2006	P-Card Payment 005-13-05	PS	41411736	3
1125	10/30/2006	P-Card Payment 005-13-05	PS	41437352	3
1126	11/28/2006	P-Card Payment 005-13-05	PS	41455177	3
1127	12/28/2006	P-Card Payment 005-13-05	PS	41482998	3
1128	2/6/2007	P-Card Payment 005-13-05	PS	41511532	3
1129	2/27/2007	P-Card Payment 005-13-05	PS	41525813	3
1130	3/29/2007	P-Card Payment 005-13-05	PS	41550356	3
1131	4/26/2007	P-Card Payment 005-13-05	PS	41573353	3
1132	5/29/2007	P-Card Payment 005-13-05	PS	41598256	3
1133	6/26/2007	P-Card Payment 005-13-05	PS	41625439	3
1134	7/27/2007	P-Card Payment 005-13-05	PS	41652051	3
1135	8/28/2007	PCrd Pymnt 005-13-0582-9	PS	41679907	3
1136	9/27/2007	PCrd Pymnt 005-13-0582-9	PS	41708439	3
1137	10/29/2007	PCrd Pymnt 005-13-0582-9	PS	41737561	3
1138	11/27/2007	PCrd Pymnt 005-13-0582-9	PS	41762390	3
1139	12/27/2007	PCrd Pymnt 005-13-0582-9	PS	41791943	3
1140	1/28/2008	PCrd Pymnt 005-13-0582-9	PS	41818657	3
1141	2/25/2008	PCrd Pymnt 005-13-0582-9	PS	41843707	3
1142	3/26/2008	PCrd Pymnt 005-13-0582-9	PS	41869331	3
1143	1/4/2006	EEM Funding File 1/04/06	PV	41223172	3
1144	1/9/2006	EEM Funding File 1/09/06	PV	41227142	3
1145	1/11/2006	EEM Funding File 011006	PV	41227955	3
1146	1/24/2006	EEM FUNDING FILE 012006	PV	41237473	3
1147	1/24/2006	EEM FUNDING FILE 012306	PV	41237474	3
1148	2/1/2006	EEM FUNDING FILE 013106	PV	41241892	3
1149	2/6/2006	EEM Funding File 2/06/06	PV	41244334	3
1150	2/8/2006	EEM FUNDING FILE 2/8/06	PV	41246236	3

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1103	6,557.46	P
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1108	261,368.36	P
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1110	1,606.44	P
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1113	6,075.00	P
1114	25,259.85	P
1115	32,461.84	P
1116	26,993.04	P
1117	39,155.57	P
1118	63,912.28	P
1119	33,057.15	P
1120	35,268.94	P
1121	48,733.72	P
1122	53,744.08	P
1123	38,614.28	P
1124	27,799.62	P
1125	28,264.01	P
1126	29,888.22	P
1127	24,930.98	P
1128	16,742.42	P
1129	19,066.41	P
1130	17,461.94	P
1131	18,892.70	P
1132	20,510.58	P
1133	18,771.73	P
1134	16,067.75	P
1135	21,372.83	P
1136	17,436.18	P
1137	33,233.66	P
1138	23,442.76	P
1139	23,413.63	P
1140	15,187.73	P
1141	23,556.20	P
1142	19,766.37	P
1143	1,020.03	P
1144	38,395.31	P
1145	108,929.54	P
1146	1,832.54	P
1147	1,119.99	P
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1149	1,325.02	P
1150	145,091.41	P

	A	B	C
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1151	2/10/2006	EEM FUNDING FILE 2/10/06	PV	41247090	3
1152	2/22/2006	EEM FUNDING FILE 2/21/06	PV	41256615	3
1153	3/8/2006	EEM Funding File 3/08/06	PV	41265285	3
1154	3/9/2006	EEM Funding File	PV	41265726	3
1155	3/27/2006	eem funding file	PV	41278286	24
1156	3/28/2006	EEM FUNDING FILE 3/27/06	PV	41278352	3
1157	3/30/2006	eem file	PV	41280913	3
1158	4/6/2006	EEM FUNDING FILE 4/6/06	PV	41285326	3
1159	5/8/2006	EEM Funding File 05/08/06	PV	41305986	3
1160	6/8/2006	EEM FUNDING FILE 6/8/06	PV	41327697	3
1161	6/9/2006	eem funding 06-09-06	PV	41328583	3
1162	7/10/2006	EEM FUNDING 7/10/06	PV	41352135	3
1163	7/11/2006	EEM FUNDING FILE	PV	41352706	3
1164	8/14/2006	EEM FUNDING 8/11/06	PV	41376937	3
1165	8/14/2006	EEM FUNDING FILE 8-14-06	PV	41377215	3
1166	9/11/2006	EEM FUNDING FILE 9-11-06	PV	41398011	3
1167	10/3/2006	EEM FUNDING FILE 10-3-06	PV	41414921	3
1168	11/14/2006	SERVICES	PV	41447773	3
1169	12/12/2006	FUNDING 121106	PV	41468696	3
1170	12/14/2006	FUNDING 121306	PV	41470504	3
1171	1/3/2007	FUNDING 010207	PV	41486345	3
1172	1/23/2007	funding 1/23/07	PV	41500650	3
1173	1/30/2007	funding for 1/30/07	PV	41505655	3
1174	2/12/2007	funding for 2/12/07	PV	41515761	3
1175	3/5/2007	Funding for 3/2/07	PV	41532234	3
1176	3/8/2007	SOURCENET 3/7/0	PV	41534580	3
1177	3/16/2007	funding for 3/15/07	PV	41540848	3
1178	3/21/2007	Funding for 3/21/07	PV	41543849	3
1179	3/27/2007	FUNDING 032707	PV	41548966	3
1180	3/29/2007	FUNDING 032907	PV	41551154	3
1181	3/30/2007	SOURCE NET 3/30	PV	41553330	3
1182	4/3/2007	FUNDING 040307	PV	41555574	3
1183	4/5/2007	FUNDING 040407	PV	41556716	3
1184	4/12/2007	Funding for 4/11/07	PV	41561870	3
1185	4/18/2007	SOURCENET FOR 4	PV	41566795	3
1186	4/27/2007	FUNDING 042707	PV	41574417	3
1187	5/2/2007	Funding for 5/2/07	PV	41578456	3
1188	5/3/2007	FUNDINING 050307	PV	41579217	3
1189	5/8/2007	SOURCENET 5/7/0	PV	41581785	3
1190	5/10/2007	FUNDING 050907	PV	41584284	3
1191	5/17/2007	Funding for 5/16/07	PV	41590609	3
1192	5/25/2007	Funding for 5/22/07	PV	41597149	3
1193	5/25/2007	Funding for 5/25/07	PV	41597680	3
1194	5/29/2007	FUNDING 052407	PV	41598680	3
1195	5/31/2007	Funding for 5/31/07	PV	41602782	3
1196	6/8/2007	FUNDING 060607	PV	41608607	3
1197	6/8/2007	Funding for 6/8/07	PV	41611356	3
1198	6/18/2007	FUNDING 061507	PV	41617800	3
1199	6/21/2007	Funding for 6/20/07	PV	41622041	3
1200	6/29/2007	FUNDING 062807	PV	41628154	3

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1161	118,076.61	P
1162	82,842.33	P
1163	109,690.50	P
1164	91,772.66	P
1165	128,888.57	P
1166	210,400.35	P
1167	209,433.94	P
1168	184,832.61	P
1169	177,360.89	P
1170	4,269.85	P
1171	1,707.95	P
1172	164,631.03	P
1173	1,958.44	P
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1197	28,245.30	P
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1199	21,524.66	P
1200	1,634.86	P

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1203	7/16/2007	7/12/2007	PV	41641539	3
1204	7/23/2007	71707	PV	41648693	3
1205	7/23/2007	71807	PV	41648694	3
1206	7/26/2007	Funding for 7/23/07	PV	41651874	3
1207	7/31/2007	26-Jul	PV	41657703	3
1208	7/31/2007	7/31/2007	PV	41657864	3
1209	8/14/2007	SOURCENET	PV	41667807	3
1210	8/14/2007	aug 7 2007	PV	41667842	3
1211	8/16/2007	81307	PV	41670241	3
1212	8/27/2007	aug 23 2007	PV	41678835	3
1213	8/27/2007	8/24/2007	PV	41678838	3
1214	8/29/2007	8/27/2007	PV	41681704	3
1215	8/31/2007	8/30/2007	PV	41684735	3
1216	8/31/2007	82907	PV	41686111	3
1217	9/7/2007	funding for 9/5/07	PV	41690422	3
1218	9/7/2007	Funding for 9/6/07	PV	41690430	3
1219	9/12/2007	SOURCENET	PV	41695133	3
1220	9/14/2007	SOURCENET	PV	41697213	3
1221	9/21/2007	9/14/2007	PV	41702659	3
1222	9/21/2007	91907	PV	41703103	3
1223	9/24/2007	92007	PV	41703732	3
1224	9/27/2007	9/26/2007	PV	41708808	3
1225	10/4/2007	100307	PV	41716621	3
1226	10/5/2007	funding for 10/5/07	PV	41717620	3
1227	10/16/2007	REMAINING	PV	41725988	3
1228	10/18/2007	Oct-07	PV	41727918	3
1229	10/24/2007	102307	PV	41733239	3
1230	10/26/2007	FUNDING 102407	PV	41735994	3
1231	11/2/2007	Funding for 11/1/07	PV	41743956	3
1232	11/6/2007	103107	PV	41746451	3
1233	11/9/2007	110707	PV	41749462	3
1234	11/26/2007	111507	PV	41759468	3
1235	11/27/2007	112107	PV	41762152	3
1236	11/30/2007	112807	PV	41767027	3
1237	12/5/2007	12/3/2007	PV	41771066	3
1238	12/5/2007	120407	PV	41771074	3
1239	12/5/2007	120507	PV	41771084	3
1240	12/10/2007	120707	PV	41773671	3
1241	12/12/2007	121107	PV	41776084	3
1242	12/19/2007	121907	PV	41784250	3
1243	12/26/2007	12/26/2007	PV	41790685	3
1244	12/28/2007	122807	PV	41793511	3
1245	1/7/2008	10408	PV	41802294	3
1246	1/9/2008	Funding for 1/7/08	PV	41804393	3
1247	1/9/2008	Funding for 1/8/08	PV	41804474	3
1248	1/17/2008	8-Jan	PV	41811573	3
1249	1/17/2008	8-Jan	PV	41811624	3
1250	1/21/2008	8-Jan	PV	41814363	3

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1246	1,770.75	P
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1267	260205.234300.002	9010746	Utility Service Co Inc
1268	260205.234300.002	19000165	Bristol Inc
1269	260205.234300.002	22001213	Engineered Fluid Inc
1270	260205.234300.002	24021507	Iconics Inc
1271	260205.234300.002	26001027	Baker Donelson Bearman & Caldwell Berkow
1272	260205.234300.002	50012739	Sonitrol
1273	260205.234300.002	50097209	Wallace Tile Inc
1274	260205.2361	50000224	Internal Revenue Service
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1252	1/30/2008	Funding for 1/30/08	PV	41822324	3
1253	2/5/2008	AMERICAN WATER	PV	41827668	3
1254	2/8/2008	AMERICAN WATER 02/06/08	PV	41830532	3
1255	2/15/2008	AMERICAN WATER 2/14/08	PV	41836325	3
1256	2/20/2008	AMERICAN WATER	PV	41840006	3
1257	2/22/2008	sourcenet fundi	PV	41842101	3
1258	2/29/2008	AMERICAN WATER 02/27/08	PV	41848682	3
1259	3/5/2008	AMERICAN WATER 03/04/08	PV	41851986	3
1260	3/5/2008	AMEERICAN WATER 03/05/08	PV	41852829	3
1261	3/12/2008	AMERICAN WATER 03/12/08	PV	41858336	3
1262	3/13/2008	AMERICAN WATER 03/12/08	PV	41859591	3
1263	3/17/2008	AMERICAN WATER	PV	41862371	3
1264	3/20/2008	AMERICAN WATER 3/19/08	PV	41864788	3
1265	3/25/2008	FUNDING 032508	PV	41868640	3
1266	3/31/2008	3/31/2008	PV	41873807	3
1267	1/13/2006	REPARING AND RE	PV	41230027	26
1268	2/15/2006	CUST# 143482	PV	41250600	26
1269	2/15/2006	FINAL P# 88367	PV	41251210	26
1270	1/9/2006	CUST# CUS03346	PV	41225115	26
1271	2/16/2006	MATTER# 2014353 000039	PV	41252906	26
1272	1/3/2006	cust# CHA54832	PV	41221639	26
1273	1/3/2006	JOB# P 1401	PV	41221644	26
1274	4/10/2006	TN AM Qtr FUTA	PS	41287486	3
1275	4/25/2007	TN AM Qtr FUTA	PS	41572210	3
1276	1/12/2006	TN-AM 26 FICA ER 941	PS	41228541	3
1277	1/19/2006	TN-AM 26 FICA ER 941	PS	41235928	3
1278	2/7/2006	TN-AM 26 FICA ER 941	PS	41244810	3
1279	2/16/2006	TN-AM 26 FICA ER 941	PS	41253263	3
1280	3/2/2006	TN-AM 26 FICA ER 941	PS	41261287	3
1281	3/15/2006	TN-AM 26 FICA ER 941	PS	41270171	3
1282	3/16/2006	TN-AM 26 FICA ER 941	PS	41270933	3
1283	3/17/2006	TN-AM 26 FICA ER 941	PS	41271607	3
1284	3/31/2006	TN-AM 26 FICA ER 941	PS	41281442	3
1285	4/13/2006	TN-AM 26 FICA ER 941	PS	41289896	3
1286	4/28/2006	TN-AM 26 FICA ER 941	PS	41299980	3
1287	5/12/2006	TN-AM 26 FICA ER 941	PS	41308849	3
1288	5/25/2006	TN-AM 26 FICA ER 941	PS	41320501	3
1289	6/9/2006	TN-AM 26 FICA ER 941	PS	41327938	3
1290	6/23/2006	TN-AM 26 FICA ER 941	PS	41338514	3
1291	7/10/2006	TN-AM 26 FICA ER 941	PS	41351975	3
1292	7/21/2006	TN-AM 26 FICA ER 941	PS	41359430	3
1293	8/4/2006	TN-AM 26 FICA ER 941	PS	41370839	3
1294	8/18/2006	FICA ER	PS	41380582	3
1295	8/31/2006	FICA ER Co 26	PS	41391556	3
1296	9/15/2006	FICA ER Co 26	PS	41400789	3
1297	9/28/2006	FICA ER Co 26	PS	41410771	3
1298	10/12/2006	FICA ER Co 26	PS	41421336	3
1299	10/26/2006	FICA ER Co 26	PS	41436731	3
1300	11/9/2006	FICA ER Co 26	PS	41444288	3

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1343	260205.2362	26000914	Tallen Holdings Co
1344	260205.2362	26000914	Tallen Holdings Co
1345	260205.2362	26001228	Carl E Levi City Treasurer
1346	260205.2362	26001228	Carl E Levi City Treasurer
1347	260205.2362	26001228	Carl E Levi City Treasurer
1348	260205.2362	26001229	TOWN OF LOOKOUT MOUNTAIN
1349	260205.2362	26001229	TOWN OF LOOKOUT MOUNTAIN
1350	260205.2362	26001229	TOWN OF LOOKOUT MOUNTAIN

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1301	11/22/2006	FICA ER Co 26	PS	41452925	3
1302	12/8/2006	FICA ER Co 26	PS	41465215	3
1303	12/14/2006	FICA ER Co 26	PS	41470557	3
1304	12/22/2006	FICA ER Co 24	PS	41476799	3
1305	1/5/2007	FICA ER Co 24	PS	41487808	3
1306	1/22/2007	FICA ER Co 24	PS	41499143	3
1307	2/2/2007	FICA ER Co 24	PS	41509938	3
1308	2/16/2007	FICA ER Co 24	PS	41519179	3
1309	3/2/2007	FICA ER Co 24	PS	41530838	3
1310	3/16/2007	FICA ER Co 24	PS	41540665	3
1311	3/16/2007	FICA ER Co 26	PS	41540817	3
1312	3/30/2007	FICA ER Co 26	PS	41553120	3
1313	4/13/2007	FICA ER Co 26	PS	41562581	3
1314	4/27/2007	FICA ER Co 26	PS	41574543	3
1315	5/11/2007	FICA ER Co 26	PS	41585276	3
1316	5/25/2007	FICA ER Co 26	PS	41597667	3
1317	6/13/2007	FICA ER Co 26	PS	41614419	3
1318	6/22/2007	FICA ER Co 26	PS	41622728	3
1319	7/6/2007	FICA ER Co 26	PS	41634386	3
1320	7/20/2007	FICA ER Co 26	PS	41646479	3
1321	8/3/2007	FICA ER Co 26	PS	41660200	3
1322	8/17/2007	FICA ER Co 26	PS	41671538	3
1323	8/31/2007	FICA ER Co 26	PS	41685337	3
1324	9/14/2007	FICA ER Co 26	PS	41697629	3
1325	9/28/2007	FICA ER Co 26	PS	41711591	3
1326	10/12/2007	FICA ER Co 26	PS	41723329	3
1327	10/26/2007	FICA ER Co 26	PS	41736567	3
1328	11/9/2007	FICA ER Co 26	PS	41749563	3
1329	11/21/2007	FICA ER Co 26	PS	41759175	3
1330	12/10/2007	FICA ER Co 26	PS	41774614	3
1331	12/21/2007	FICA ER Co 26	PS	41786406	3
1332	1/4/2008	FICA ER Co 26	PS	41801405	3
1333	1/18/2008	FICA ER Co 26	PS	41812485	3
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1335	2/15/2008	TN-Am FICA ER Co 26	PS	41836840	3
1336	2/29/2008	TN-Am FICA ER Co 26	PS	41849651	3
1337	3/13/2008	TN-Am FICA ER Co 26	PS	41859529	3
1338	3/14/2008	TN-Am FICA ER Co 26	PS	41860269	3
1339	3/28/2008	TN-Am FICA er	PS	41872055	3
1340	4/25/2006	TN SUI - 1st Qtr 2006	PS	41297035	3
1341	4/30/2007	TN AM SUI Q1 2007	PS	41576554	3
1342	1/16/2006	TN, Chatt. City 2005 RE	PS	41231471	26
1343	2/27/2007	TN, Chattanooga(Tall)06	PS	41525835	26
1344	2/6/2008	Hamilton cnty prop tax	PS	41828599	26
1345	4/20/2006	TN, Hamilton Co 2006	PS	41296459	26
1346	2/27/2007	TN, Hamilton 2006	PS	41526572	26
1347	2/13/2008	HamiltonCnty 2007tx	PS	41834809	26
1348	2/28/2006	TN,Town of Lookout Mt'05	PS	41259484	26
1349	2/27/2007	TN, Twn of Lookout Mt 06	PS	41525834	26
1350	2/11/2008	Lookout mntn ad valorem	PS	41831136	26

	I	J
1301	15,385.04	P
1302	15,966.40	P
1303	1,080.39	P
1304	15,871.96	P
1305	15,798.11	P
1306	15,995.11	P
1307	16,233.45	P
1308	17,407.18	P
1309	16,131.89	P
1310	6,791.30	P
1311	15,616.66	P
1312	15,194.18	P
1313	15,691.34	P
1314	16,061.40	P
1315	16,063.77	P
1316	16,120.53	P
1317	16,268.75	P
1318	16,126.54	P
1319	16,080.81	P
1320	15,983.42	P
1321	16,688.05	P
1322	16,187.27	P
1323	16,420.35	P
1324	15,887.13	P
1325	16,258.05	P
1326	15,777.32	P
1327	16,406.64	P
1328	16,253.42	P
1329	16,680.51	P
1330	17,169.87	P
1331	16,183.46	P
1332	16,601.54	P
1333	16,689.63	P
1334	18,519.32	P
1335	16,609.65	P
1336	16,320.93	P
1337	11,325.99	P
1338	16,740.06	P
1339	16,953.73	P
1340	2,728.60	P
1341	2,918.47	P
1342	27,445.49	P
1343	27,445.49	P
1344	28,835.49	P
1345	1,434,872.00	P
1346	1,477,792.00	P
1347	1,560,710.00	P
1348	9,841.23	P
1349	11,765.45	P
1350	10,026.49	P

	A	B	C
1351	260205.2362	26001230	Marion Cty Trustee
1352	260205.2362	26001230	Marion Cty Trustee
1353	260205.2362	26001230	Marion Cty Trustee
1354	260205.2362	26001354	City of Rossville
1355	260205.2362	26001354	City of Rossville
1356	260205.2362	26001355	WALKER CO TAX COMMISSIONER
1357	260205.2362	26001355	WALKER CO TAX COMMISSIONER
1358	260205.2362	26001356	City of Lookout Mountain
1359	260205.2362	26001356	City of Lookout Mountain
1360	260205.2362	26003464	Sandra Self
1361	260205.2362	26003464	Sandra Self
1362	260205.2362	50058914	Chattanooga City Treasurer
1363	260205.2362	50058914	Chattanooga City Treasurer
1364	260205.2362	50058914	Chattanooga City Treasurer
1365	260205.2362	50058914	Chattanooga City Treasurer
1366	260205.2362	50058914	Chattanooga City Treasurer
1367	260205.2362	26000923	Tennessee Dept of Revenue
1368	260205.2362	26000923	Tennessee Dept of Revenue
1369	260205.2362	26000923	Tennessee Dept of Revenue
1370	260205.2362	26000923	Tennessee Dept of Revenue
1371	260205.2362	26000923	Tennessee Dept of Revenue
1372	260205.2362	26000923	Tennessee Dept of Revenue
1373	260205.2362	26000923	Tennessee Dept of Revenue
1374	260205.2362	26000923	Tennessee Dept of Revenue
1375	260205.2362	26000923	Tennessee Dept of Revenue
1376	260205.2362	26000923	Tennessee Dept of Revenue
1377	260205.2362	26000923	Tennessee Dept of Revenue
1378	260205.2362	26000923	Tennessee Dept of Revenue
1379	260205.2362	26000923	Tennessee Dept of Revenue
1380	260205.2362	26000923	Tennessee Dept of Revenue
1381	260205.2362	26000923	Tennessee Dept of Revenue
1382	260205.2362	26000923	Tennessee Dept of Revenue
1383	260205.2362	26000923	Tennessee Dept of Revenue
1384	260205.2362	26000923	Tennessee Dept of Revenue
1385	260205.2362	26000923	Tennessee Dept of Revenue
1386	260205.2362	26000923	Tennessee Dept of Revenue
1387	260205.2362	26000923	Tennessee Dept of Revenue
1388	260205.2362	26000923	Tennessee Dept of Revenue
1389	260205.2362	26000923	Tennessee Dept of Revenue
1390	260205.2362	26000924	Tennessee Regulatory Authority
1391	260205.2362	26000018	Tennessee Department of Revenue
1392	260205.2362	26000923	Tennessee Dept of Revenue
1393	260205.2362	26000923	Tennessee Dept of Revenue
1394	260205.2362	26000923	Tennessee Dept of Revenue
1395	260205.2362	26001294	Georgia Dept of Revenue
1396	260205.2362	26002527	Georgia Dept of Revenue
1397	260205.2362	26002675	Georgia Income Tax Division
1398	260205.2362	26002527	Georgia Dept of Revenue
1399	260205.2412	50279307	UWUA National Health & Welfare Fund
1400	260205.2412	50279307	UWUA National Health & Welfare Fund

	D	E	F	G	H
1351	2/16/2006	TN, Marion Co 2005 PUTx	PS	41254245	26
1352	2/27/2007	TN, Marion Cty 2006	PS	41525836	26
1353	2/11/2008	Marion cnty prop tax	PS	41831135	26
1354	12/15/2006	TN, Rossville, AdVal '06	PS	41470970	26
1355	11/29/2007	Rossville cty prop tax	PS	41765014	26
1356	12/15/2006	TN, Walker Co, GA 2006RE	PS	41470971	26
1357	11/29/2007	Walker Cnty prop tax	PS	41765012	26
1358	12/28/2006	TN, Lookout Mtn, GA	PS	41483021	26
1359	11/29/2007	Lookout mtn cty prop tax	PS	41765015	26
1360	12/15/2006	TN, Catoosa Co, GA'06 PP	PS	41470972	26
1361	11/29/2007	Catoosa Cnty prop tax	PS	41765013	26
1362	2/28/2006	TN, Chatt. City 2005 SF	PS	41259483	26
1363	3/3/2006	TN, Chatt. City 2005 RE	PS	41262202	26
1364	2/27/2007	TN, Chattanooga 2006	PS	41526573	26
1365	2/11/2008	Hamilton storm fee tax	PS	41831134	26
1366	2/12/2008	Chattanooga city tax	PS	41833364	26
1367	1/19/2006	Use Tax 12/05	PS	41234376	26
1368	2/20/2006	Sales Tax 01/06	PS	41255099	26
1369	5/19/2006	TN Use Tax 04/06	PS	41315082	26
1370	7/5/2006	May 2006 Sales & Use Tax	PS	41349000	26
1371	9/14/2006	Sales/Use 08/06	PS	41400074	26
1372	9/14/2006	use tax 6/06	PS	41400702	26
1373	9/15/2006	JULY 06 SALES/USE TAX	PS	41400809	26
1374	10/19/2006	TN Use Tax 09/06	PS	41428812	26
1375	11/17/2006	TN Use Tax 10/06	PS	41449001	26
1376	12/13/2006	TN 0506 Use Tax	PS	41469273	26
1377	12/14/2006	TN Use 11/06	PS	41470575	26
1378	2/19/2007	TN Use Tax - 01-07	PS	41520314	26
1379	3/19/2007	TN Use Tax 02/07	PS	41542618	26
1380	4/19/2007	TN Use 03/07	PS	41567897	26
1381	10/18/2007	TN Use Tax 09/07	PS	41728694	26
1382	11/19/2007	G/L Account Number	PS	41757074	26
1383	11/30/2007	TN USE TAX 10/07	PS	41767266	26
1384	12/17/2007	TN Use Tax 11/07	PS	41781756	26
1385	1/16/2008	TN Use Tax 12/07	PS	41810616	26
1386	2/14/2008	TN Use 01/08	PS	41836080	26
1387	3/13/2008	TN Use Tax 02/08	PS	41858907	26
1388	4/13/2006	TN-AM 06 1 QTR EST-FR	PS	41290037	26
1389	8/13/2007	LATE PENALTY DUE 09/07	PS	41666068	26
1390	8/9/2007	LATE PENALTY 08/07	PS	41664137	26
1391	6/9/2006	TN-AM 2 QTR Exc Est	PS	41328566	26
1392	4/13/2006	TN-AM 06 1 QTR EST- INC	PS	41290037	26
1393	9/14/2006	TN - 3rd Qtr 2006 Est	PS	41400075	26
1394	9/17/2007	'07 Est Tax Pymts	PS	41699218	26
1395	4/13/2006	TN-AM GA EXT PAYMENT	PS	41290038	26
1396	9/13/2006	GA - 3rd Qtr 2006 Est	PS	41399710	26
1397	6/9/2006	TN GA 2QTR Est	PS	41328567	26
1398	3/11/2008	2007 Extension Pymt	PS	41857381	26
1399	1/29/2007	26 Tennessee AWW	PS	41504036	3
1400	1/23/2008	TN UN Health & Welfare	PS	41815847	3

	I	J
1351	3,826.00	P
1352	3,457.00	P
1353	2,979.00	P
1354	4,789.53	P
1355	4,620.72	P
1356	24,349.45	P
1357	23,258.86	P
1358	2,271.24	P
1359	2,377.96	P
1360	3,984.36	P
1361	1,495.85	P
1362	11,389.11	P
1363	923,042.09	P
1364	967,574.55	P
1365	12,694.93	P
1366	937,112.41	P
1367	1,229.00	P
1368	6,187.00	P
1369	3,360.00	P
1370	4,979.00	P
1371	4,693.00	P
1372	6,176.00	P
1373	5,568.00	P
1374	206,205.00	P
1375	3,805.00	P
1376	4,979.00	P
1377	64,363.00	P
1378	195,533.00	P
1379	160,061.34	P
1380	189,595.12	P
1381	6,333.45	P
1382	23,827.08	P
1383	23,827.08	P
1384	18,949.31	P
1385	61,643.18	P
1386	7,500.27	P
1387	31,495.85	P
1388	73,595.00	P
1389	28,911.00	P
1390	28,911.00	P
1391	10,000.00	P
1392	78,134.00	P
1393	300,000.00	P
1394	250,000.00	P
1395	4,769.00	P
1396	9,000.00	P
1397	6,250.00	P
1398	15,000.00	P
1399	4,000.00	P
1400	5,500.00	P

	A	B	C
1401	260205.2412	50279307	UWUA National Health & Welfare Fund
1402	260205.2412	50279307	UWUA National Health & Welfare Fund
1403	260205.2412	22002628	Merrill Lynch 401k Contributions
1404	260205.2412	22002628	Merrill Lynch 401k Contributions
1405	260205.2412	22002628	Merrill Lynch 401k Contributions
1406	260205.2412	22002628	Merrill Lynch 401k Contributions
1407	260205.2412	22002628	Merrill Lynch 401k Contributions
1408	260205.2412	22002628	Merrill Lynch 401k Contributions
1409	260205.2412	22002628	Merrill Lynch 401k Contributions
1410	260205.2412	22002628	Merrill Lynch 401k Contributions
1411	260205.2412	22002628	Merrill Lynch 401k Contributions
1412	260205.2412	22002628	Merrill Lynch 401k Contributions
1413	260205.2412	22002628	Merrill Lynch 401k Contributions
1414	260205.2412	22002628	Merrill Lynch 401k Contributions
1415	260205.2412	22002628	Merrill Lynch 401k Contributions
1416	260205.2412	22002628	Merrill Lynch 401k Contributions
1417	260205.2412	22002628	Merrill Lynch 401k Contributions
1418	260205.2412	22002628	Merrill Lynch 401k Contributions
1419	260205.2412	22002628	Merrill Lynch 401k Contributions
1420	260205.2412	22002628	Merrill Lynch 401k Contributions
1421	260205.2412	22002628	Merrill Lynch 401k Contributions
1422	260205.2412	22002628	Merrill Lynch 401k Contributions
1423	260205.2412	22002628	Merrill Lynch 401k Contributions
1424	260205.2412	22002628	Merrill Lynch 401k Contributions
1425	260205.2412	22002628	Merrill Lynch 401k Contributions
1426	260205.2412	22002628	Merrill Lynch 401k Contributions
1427	260205.2412	22002628	Merrill Lynch 401k Contributions
1428	260205.2412	22002628	Merrill Lynch 401k Contributions
1429	260205.2412	50064088	Wachovia Bank NA
1430	260205.241220.GA	26002527	Georgia Dept of Revenue
1431	260205.241220.GA	26002527	Georgia Dept of Revenue
1432	260205.241220.GA	26002527	Georgia Dept of Revenue
1433	260205.241220.GA	26002527	Georgia Dept of Revenue
1434	260205.241220.GA	26002527	Georgia Dept of Revenue
1435	260205.241220.GA	26002527	Georgia Dept of Revenue
1436	260205.241220.GA	26002527	Georgia Dept of Revenue
1437	260205.241220.GA	26002527	Georgia Dept of Revenue
1438	260205.241220.GA	26002527	Georgia Dept of Revenue
1439	260205.241220.GA	26002527	Georgia Dept of Revenue
1440	260205.241220.GA	26002527	Georgia Dept of Revenue
1441	260205.241220.GA	26002527	Georgia Dept of Revenue
1442	260205.241220.GA	26002527	Georgia Dept of Revenue
1443	260205.241220.GA	26002527	Georgia Dept of Revenue
1444	260205.241220.GA	26002527	Georgia Dept of Revenue
1445	260205.241220.GA	26002527	Georgia Dept of Revenue
1446	260205.241220.GA	26002527	Georgia Dept of Revenue
1447	260205.241220.GA	26002527	Georgia Dept of Revenue
1448	260205.241220.GA	26002527	Georgia Dept of Revenue
1449	260205.241220.GA	26002527	Georgia Dept of Revenue
1450	260205.241220.GA	26002527	Georgia Dept of Revenue

	D	E	F	G	H
1401	1/30/2007	Union Nat'l Health & Wel	PV	41506059	0
1402	1/24/2008	UNION NATIONAL HEALTH&WE	PV	41816783	3
1403	1/18/2007	G/L Account Number	PS	41497425	3
1404	2/8/2007	G/L Account Number	PS	41512964	3
1405	3/9/2007	G/L Account Number	PS	41535282	3
1406	4/11/2007	G/L Account Number	PS	41561271	3
1407	5/8/2007	G/L Account Number	PS	41581994	3
1408	6/11/2007	G/L Account Number	PS	41612531	3
1409	7/10/2007	G/L Account Number	PS	41637495	3
1410	8/10/2007	G/L Account Number	PS	41665098	3
1411	9/12/2007	G/L Account Number	PS	41695471	3
1412	10/9/2007	G/L Account Number	PS	41720372	3
1413	11/13/2007	G/L Account Number	PS	41752637	3
1414	12/11/2007	G/L Account Number	PS	41775839	3
1415	1/10/2008	G/L Account Number	PS	41805659	3
1416	2/12/2008	G/L Account Number	PS	41833639	3
1417	3/12/2008	G/L Account Number	PS	41858423	3
1418	2/20/2006	401KJAN06	PV	41254701	3
1419	3/10/2006	401KFEB06	PV	41266599	3
1420	4/13/2006	401KMAR06	PV	41290042	3
1421	5/17/2006	401KAPR06	PV	41312922	3
1422	6/16/2006	401KMAY06	PV	41332607	3
1423	7/20/2006	401KJUN06	PV	41358489	3
1424	8/10/2006	401KJUL06	PV	41374326	3
1425	9/15/2006	401K AUGUST 06	PV	41401247	3
1426	10/9/2006	401KSEP06	PV	41418434	3
1427	11/9/2006	401K AW	PV	41444617	3
1428	12/13/2006	401KNOV06	PV	41468908	3
1429	6/5/2006	ACCT#10854	PV	41324821	26
1430	11/27/2006	GA SIT W/H 11/22/06	PS	41454279	3
1431	12/13/2006	GA SIT W/H 12/08	PS	41469134	3
1432	12/22/2006	GA SIT W/H 12/22/06	PS	41476773	3
1433	1/8/2007	GA SIT W/H 01/05/07	PS	41489695	3
1434	1/23/2007	GA SIT W/H 1/19/07	PS	41500288	3
1435	2/6/2007	GA SIT W/H 2/2/07	PS	41511923	3
1436	2/20/2007	GA SIT W/H 02/16/07	PS	41521653	3
1437	3/6/2007	GA SIT W/H 03/02/07	PS	41533239	3
1438	3/20/2007	GA SIT W/H 03/15/07	PS	41543302	3
1439	4/2/2007	GA SIT W/H: 03/30/07	PS	41553904	3
1440	4/16/2007	GA SIT W/H 04/13/07	PS	41564267	3
1441	4/30/2007	26-GA SIT WH: 04/27/07	PS	41576566	3
1442	5/22/2007	26-GA SIT WH: 05/11/07	PS	41594805	3
1443	5/24/2007	26-GA SIT WH: 05/25/07	PS	41596926	3
1444	6/8/2007	26-GA SIT WH: 06/08/07	PS	41608454	3
1445	6/22/2007	26-GA SIT WH: 06/22/07	PS	41622356	3
1446	7/9/2007	26-GA SIT WH: 07/06/07	PS	41635477	3
1447	7/19/2007	26-GA SIT WH: 07/20/07	PS	41645666	3
1448	8/6/2007	26-GA SIT WH: 08/03/07	PS	41661322	3
1449	8/20/2007	26-GA SIT WH: 08/17/07	PS	41672983	3
1450	8/30/2007	26-GA SIT WH: 08/31/07	PS	41682880	3

	I	J
1401	4,000.00	P
1402	5,500.00	P
1403	5,835.17	P
1404	5,863.95	P
1405	5,915.35	P
1406	8,845.74	P
1407	6,244.51	P
1408	6,871.58	P
1409	6,852.54	P
1410	6,787.63	P
1411	9,998.03	P
1412	6,662.72	P
1413	6,700.42	P
1414	6,666.10	P
1415	6,589.29	P
1416	6,881.75	P
1417	10,669.69	P
1418	3,876.73	P
1419	4,038.60	P
1420	6,262.95	P
1421	4,583.21	P
1422	4,883.70	P
1423	4,813.93	P
1424	4,976.57	P
1425	5,008.83	P
1426	7,385.96	P
1427	5,250.84	P
1428	5,783.96	P
1429	3,232.50	P
1430	2,373.95	P
1431	2,428.68	P
1432	2,569.78	P
1433	2,454.43	P
1434	2,658.85	P
1435	2,544.64	P
1436	2,815.06	P
1437	2,531.64	P
1438	3,271.41	P
1439	2,261.19	P
1440	2,524.88	P
1441	2,418.53	P
1442	2,566.26	P
1443	2,481.85	P
1444	2,558.47	P
1445	2,457.66	P
1446	2,614.89	P
1447	2,420.60	P
1448	2,712.19	P
1449	2,502.33	P
1450	2,612.94	P

	A	B	C
1451	260205.241220.GA	26002527	Georgia Dept of Revenue
1452	260205.241220.GA	26002527	Georgia Dept of Revenue
1453	260205.241220.GA	26002527	Georgia Dept of Revenue
1454	260205.241220.GA	26002527	Georgia Dept of Revenue
1455	260205.241220.GA	26002527	Georgia Dept of Revenue
1456	260205.241220.GA	26002527	Georgia Dept of Revenue
1457	260205.241220.GA	26002527	Georgia Dept of Revenue
1458	260205.241220.GA	26002527	Georgia Dept of Revenue
1459	260205.241220.GA	26002527	Georgia Dept of Revenue
1460	260205.241220.GA	26002527	Georgia Dept of Revenue
1461	260205.241220.GA	26002527	Georgia Dept of Revenue
1462	260205.241220.GA	26002527	Georgia Dept of Revenue
1463	260205.241220.GA	26002527	Georgia Dept of Revenue
1464	260205.241220.GA	26002527	Georgia Dept of Revenue
1465	260205.241220.GA	26002527	Georgia Dept of Revenue
1466	260205.241220.GA	26002527	Georgia Dept of Revenue
1467	260205.241220.006	22002628	Merrill Lynch 401k Contributions
1468	260205.241220.006	22002628	Merrill Lynch 401k Contributions
1469	260205.241220.006	22002628	Merrill Lynch 401k Contributions
1470	260205.241220.006	22002628	Merrill Lynch 401k Contributions
1471	260205.241220.006	22002628	Merrill Lynch 401k Contributions
1472	260205.241220.006	22002628	Merrill Lynch 401k Contributions
1473	260205.241220.006	22002628	Merrill Lynch 401k Contributions
1474	260205.241220.006	22002628	Merrill Lynch 401k Contributions
1475	260205.241220.006	22002628	Merrill Lynch 401k Contributions
1476	260205.241220.006	22002628	Merrill Lynch 401k Contributions
1477	260205.241220.006	22002628	Merrill Lynch 401k Contributions
1478	260205.241220.006	22002628	Merrill Lynch 401k Contributions
1479	260205.241220.006	22002628	Merrill Lynch 401k Contributions
1480	260205.241220.006	22002628	Merrill Lynch 401k Contributions
1481	260205.241220.006	22002628	Merrill Lynch 401k Contributions
1482	260205.241220.006	22002628	Merrill Lynch 401k Contributions
1483	260205.241220.006	22002628	Merrill Lynch 401k Contributions
1484	260205.241220.006	22002628	Merrill Lynch 401k Contributions
1485	260205.241220.006	22002628	Merrill Lynch 401k Contributions
1486	260205.241220.006	22002628	Merrill Lynch 401k Contributions
1487	260205.241220.006	22002628	Merrill Lynch 401k Contributions
1488	260205.241220.006	22002628	Merrill Lynch 401k Contributions
1489	260205.241220.006	22002628	Merrill Lynch 401k Contributions
1490	260205.241220.006	22002628	Merrill Lynch 401k Contributions
1491	260205.241220.006	22002628	Merrill Lynch 401k Contributions
1492	260205.241220.006	22002628	Merrill Lynch 401k Contributions
1493	260205.241220.006	22002628	Merrill Lynch 401k Contributions
1494	260205.241220.006	22002628	Merrill Lynch 401k Contributions
1495	260205.241220.006	22002628	Merrill Lynch 401k Contributions
1496	260205.241220.006	22002628	Merrill Lynch 401k Contributions
1497	260205.241220.006	22002628	Merrill Lynch 401k Contributions
1498	260205.241220.006	22002628	Merrill Lynch 401k Contributions
1499	260205.241220.006	22002628	Merrill Lynch 401k Contributions
1500	260205.241220.006	22002628	Merrill Lynch 401k Contributions

	D	E	F	G	H
1451	9/14/2007	26-GA SIT WH: 09/14/07	PS	41697505	3
1452	9/28/2007	26-GA SIT WH:9/28/07	PS	41710433	3
1453	10/12/2007	26-GA SIT WH:10/12/07	PS	41722459	3
1454	10/29/2007	26-GA SIT WH:10/26/07	PS	41737559	3
1455	11/8/2007	26-GA SIT WH: 11/09/07	PS	41749026	3
1456	11/21/2007	26-GA SIT WH:11/21/07	PS	41758446	3
1457	12/7/2007	26-GA SIT WH:12/7/07	PS	41772567	3
1458	12/21/2007	26-GA SIT WH:12/21/07	PS	41786393	3
1459	1/8/2008	26-GA SIT WH:1/4/08	PS	41804098	3
1460	1/22/2008	26-GA SIT WH: 01/18/08	PS	41815552	3
1461	2/4/2008	26-GA SIT WH: 02/01/08	PS	41827064	3
1462	2/15/2008	26-GA SIT WH: 02/15/08	PS	41836824	3
1463	3/3/2008	26-GA SIT WH: 02/29/08	PS	41850485	3
1464	3/10/2008	26-GA SIT WH: 03/07/08	PS	41856511	3
1465	3/14/2008	26-GA SIT WH: 03/14/08	PS	41859762	3
1466	3/28/2008	26-GA SIT WH: 03/28/08	PS	41871553	3
1467	1/18/2007	G/L Account Number	PS	41497425	3
1468	1/18/2007	G/L Account Number	PS	41497425	3
1469	2/8/2007	G/L Account Number	PS	41512964	3
1470	2/8/2007	G/L Account Number	PS	41512964	3
1471	3/9/2007	G/L Account Number	PS	41535282	3
1472	3/9/2007	G/L Account Number	PS	41535282	3
1473	4/11/2007	G/L Account Number	PS	41561271	3
1474	4/11/2007	G/L Account Number	PS	41561271	3
1475	4/11/2007	G/L Account Number	PS	41561271	3
1476	5/8/2007	G/L Account Number	PS	41581994	3
1477	5/8/2007	G/L Account Number	PS	41581994	3
1478	6/11/2007	G/L Account Number	PS	41612531	3
1479	6/11/2007	G/L Account Number	PS	41612531	3
1480	7/10/2007	G/L Account Number	PS	41637495	3
1481	7/10/2007	G/L Account Number	PS	41637495	3
1482	8/10/2007	G/L Account Number	PS	41665098	3
1483	8/10/2007	G/L Account Number	PS	41665098	3
1484	9/12/2007	G/L Account Number	PS	41695471	3
1485	9/12/2007	G/L Account Number	PS	41695471	3
1486	10/9/2007	G/L Account Number	PS	41720372	3
1487	10/9/2007	G/L Account Number	PS	41720372	3
1488	11/13/2007	G/L Account Number	PS	41752637	3
1489	11/13/2007	G/L Account Number	PS	41752637	3
1490	12/11/2007	G/L Account Number	PS	41775839	3
1491	12/11/2007	G/L Account Number	PS	41775839	3
1492	1/10/2008	G/L Account Number	PS	41805659	3
1493	1/10/2008	G/L Account Number	PS	41805659	3
1494	2/12/2008	G/L Account Number	PS	41833639	3
1495	2/12/2008	G/L Account Number	PS	41833639	3
1496	3/12/2008	G/L Account Number	PS	41858423	3
1497	3/12/2008	G/L Account Number	PS	41858423	3
1498	1/7/2006	401kDec05	PV	41232499	3
1499	1/7/2006	401kDec05	PV	41232499	3
1500	2/20/2006	401KJAN06	PV	41254701	3

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1459	2,728.63	P
1460	2,776.18	P
1461	2,789.05	P
1462	2,647.81	P
1463	2,567.31	P
1464	1,249.29	P
1465	2,624.53	P
1466	2,723.57	P
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1479	6,176.96	P
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1482	21,736.82	P
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1484	33,440.78	P
1485	9,145.45	P
1486	21,913.22	P
1487	7,079.90	P
1488	22,091.06	P
1489	6,747.50	P
1490	23,027.38	P
1491	6,705.30	P
1492	23,815.04	P
1493	6,312.94	P
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1495	5,903.74	P
1496	33,994.23	P
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1498	20,844.35	P
1499	4,621.86	P
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1504	260205.241220.006	22002628	Merrill Lynch 401k Contributions
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1507	260205.241220.006	22002628	Merrill Lynch 401k Contributions
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1510	260205.241220.006	22002628	Merrill Lynch 401k Contributions
1511	260205.241220.006	22002628	Merrill Lynch 401k Contributions
1512	260205.241220.006	22002628	Merrill Lynch 401k Contributions
1513	260205.241220.006	22002628	Merrill Lynch 401k Contributions
1514	260205.241220.006	22002628	Merrill Lynch 401k Contributions
1515	260205.241220.006	22002628	Merrill Lynch 401k Contributions
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1517	260205.241220.006	22002628	Merrill Lynch 401k Contributions
1518	260205.241220.006	22002628	Merrill Lynch 401k Contributions
1519	260205.241220.006	22002628	Merrill Lynch 401k Contributions
1520	260205.241220.006	22002628	Merrill Lynch 401k Contributions
1521	260205.241220.006	22002628	Merrill Lynch 401k Contributions
1522	260205.241220.010	50000224	Internal Revenue Service
1523	260205.241220.010	50000224	Internal Revenue Service
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1501	2/20/2006	401KJAN06	PV	41254701	3
1502	3/10/2006	401KFEB06	PV	41266599	3
1503	3/10/2006	401KFEB06	PV	41266599	3
1504	4/13/2006	401KMAR06	PV	41290042	3
1505	4/13/2006	401KMAR06	PV	41290042	3
1506	5/17/2006	401KAPR06	PV	41312922	3
1507	5/17/2006	401KAPR06	PV	41312922	3
1508	6/16/2006	401KMAY06	PV	41332607	3
1509	6/16/2006	401KMAY06	PV	41332607	3
1510	7/20/2006	401KJUN06	PV	41358489	3
1511	7/20/2006	401KJUN06	PV	41358489	3
1512	8/10/2006	401KJUL06	PV	41374326	3
1513	8/10/2006	401KJUL06	PV	41374326	3
1514	9/15/2006	401K AUGUST 06	PV	41401247	3
1515	9/15/2006	401K AUGUST 06	PV	41401247	3
1516	10/9/2006	401KSEP06	PV	41418434	3
1517	10/9/2006	401KSEP06	PV	41418434	3
1518	11/9/2006	401K AW	PV	41444617	3
1519	11/9/2006	401K AW	PV	41444617	3
1520	12/13/2006	401KNOV06	PV	41468908	3
1521	12/13/2006	401KNOV06	PV	41468908	3
1522	1/12/2006	TN-AM 26 FIT 941	PS	41228541	3
1523	1/19/2006	TN-AM 26 FIT 941	PS	41235928	3
1524	2/7/2006	TN-AM 26 FIT 941	PS	41244810	3
1525	2/16/2006	TN-AM 26 FIT 941	PS	41253263	3
1526	3/2/2006	TN-AM 26 FIT 941	PS	41261287	3
1527	3/15/2006	TN-AM 26 FIT 941	PS	41270171	3
1528	3/17/2006	TN-AM 26 FIT 941	PS	41271607	3
1529	3/31/2006	TN-AM 26 FIT 941	PS	41281442	3
1530	4/13/2006	TN-AM 26 FIT 941	PS	41289896	3
1531	4/28/2006	TN-AM 26 FIT 941	PS	41299980	3
1532	5/12/2006	TN-AM 26 FIT 941	PS	41308849	3
1533	5/25/2006	TN-AM 26 FIT 941	PS	41320501	3
1534	6/9/2006	TN-AM 26 FIT 941	PS	41327938	3
1535	6/23/2006	TN-AM 26 FIT 941	PS	41338514	3
1536	7/10/2006	TN-AM 26 FIT 941	PS	41351975	3
1537	7/21/2006	TN-AM 26 FIT 941	PS	41359430	3
1538	8/4/2006	TN-AM 26 FIT 941	PS	41370839	3
1539	8/18/2006	FEDERAL WH	PS	41380582	3
1540	8/31/2006	FEDERAL WH Co 26	PS	41391556	3
1541	9/15/2006	FEDERAL WH Co 26	PS	41400789	3
1542	9/28/2006	FEDERAL WH Co 26	PS	41410771	3
1543	10/12/2006	FEDERAL WH Co 26	PS	41421336	3
1544	10/26/2006	FEDERAL WH Co 26	PS	41436731	3
1545	11/9/2006	FEDERAL WH Co 26	PS	41444288	3
1546	11/22/2006	FEDERAL WH Co 26	PS	41452925	3
1547	12/8/2006	FEDERAL WH Co 26	PS	41465215	3
1548	12/22/2006	FEDERAL WH Co 24	PS	41476799	3
1549	1/5/2007	FEDERAL WH Co 24	PS	41487808	3
1550	1/22/2007	FEDERAL WH Co 24	PS	41499143	3

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1501	4,621.86	P
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1503	4,621.86	P
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1535	22,118.63	P
1536	22,852.12	P
1537	23,736.55	P
1538	23,289.73	P
1539	35,944.28	P
1540	23,507.76	P
1541	23,889.31	P
1542	23,112.98	P
1543	22,425.23	P
1544	23,434.33	P
1545	24,551.62	P
1546	23,711.41	P
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1549	23,354.68	P
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1584	260205.241220.011	26002527	Georgia Dept of Revenue
1585	260205.241220.011	26002527	Georgia Dept of Revenue
1586	260205.241220.011	26002527	Georgia Dept of Revenue
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1600	260205.241220.011	26002527	Georgia Dept of Revenue

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1551	2/2/2007	FEDERAL WH Co 24	PS	41509938	3
1552	2/16/2007	FEDERAL WH Co 24	PS	41519179	3
1553	3/2/2007	FEDERAL WH Co 24	PS	41530838	3
1554	3/16/2007	FEDERAL WH Co 24	PS	41540665	3
1555	3/16/2007	FEDERAL WH Co 26	PS	41540817	3
1556	3/30/2007	FEDERAL WH Co 26	PS	41553120	3
1557	4/13/2007	FEDERAL WH Co 26	PS	41562581	3
1558	4/27/2007	FEDERAL WH Co 26	PS	41574543	3
1559	5/11/2007	FEDERAL WH Co 26	PS	41585276	3
1560	5/25/2007	FEDERAL WH Co 26	PS	41597667	3
1561	6/13/2007	FEDERAL WH Co 26	PS	41614419	3
1562	6/22/2007	FEDERAL WH Co 26	PS	41622728	3
1563	7/6/2007	FEDERAL WH Co 26	PS	41634386	3
1564	7/20/2007	FEDERAL WH Co 26	PS	41646479	3
1565	8/3/2007	FEDERAL WH Co 26	PS	41660200	3
1566	8/17/2007	FEDERAL WH Co 26	PS	41671538	3
1567	8/31/2007	FEDERAL WH Co 26	PS	41685337	3
1568	9/14/2007	FEDERAL WH Co 26	PS	41697629	3
1569	9/28/2007	FEDERAL WH Co 26	PS	41711591	3
1570	10/12/2007	FEDERAL WH Co 26	PS	41723329	3
1571	10/26/2007	FEDERAL WH Co 26	PS	41736567	3
1572	11/9/2007	FEDERAL WH Co 26	PS	41749563	3
1573	11/21/2007	FEDERAL WH Co 26	PS	41759175	3
1574	12/10/2007	FEDERAL WH Co 26	PS	41774614	3
1575	12/21/2007	FEDERAL WH Co 26	PS	41786406	3
1576	1/4/2008	FEDERAL WH Co 26	PS	41801405	3
1577	1/18/2008	FEDERAL WH Co 26	PS	41812485	3
1578	2/1/2008	FEDERAL WH Co 26	PS	41825849	3
1579	2/15/2008	TN-Am FEDERAL WH Co 26	PS	41836840	3
1580	2/29/2008	TN-Am FEDERAL WH Co 26	PS	41849651	3
1581	3/13/2008	TN-Am FEDERAL WH Co 26	PS	41859529	3
1582	3/14/2008	TN-Am FEDERAL WH Co 26	PS	41860269	3
1583	3/28/2008	TN-Am Federal WH	PS	41872055	3
1584	1/9/2006	GA SIT W/H 1/6/06	PS	41225343	3
1585	1/24/2006	GA SIT W/H 1/20/06	PS	41237488	3
1586	2/6/2006	GA SIT W/H PD 2/3/06	PS	41244364	3
1587	2/20/2006	GA SIT W/H PD 2/17/06	PS	41254763	3
1588	3/3/2006	GA SIT W/H PD 3/3/06	PS	41262179	3
1589	3/23/2006	GA SIT W/H PD 3/17/06	PS	41276060	3
1590	4/4/2006	GA SIT W/H-PD 3/31/06	PS	41283296	3
1591	4/17/2006	GA SIT W/H 04/13/06	PS	41291625	3
1592	5/4/2006	GA SIT W/H 04/28/06	PS	41303409	3
1593	5/12/2006	GA SIT W/H 05/12/06	PS	41308852	3
1594	6/1/2006	GA SIT W/H 5/26	PS	41322932	3
1595	6/9/2006	GA SIT W/H 6/9/06	PS	41328588	3
1596	6/26/2006	GA SIT W/H 6/23/06	PS	41339613	3
1597	7/10/2006	GA SIT W/H 07/07/06	PS	41351051	3
1598	7/24/2006	GA W/H 07/21	PS	41361415	3
1599	8/9/2006	GA SIT W/H PD 08/04/06	PS	41374227	3
1600	8/21/2006	GA SIT W/H	PS	41382223	3

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1551	24,231.05	P
1552	27,884.91	P
1553	24,471.84	P
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1555	23,128.44	P
1556	22,313.87	P
1557	23,477.11	P
1558	23,681.29	P
1559	23,519.10	P
1560	23,861.20	P
1561	23,890.23	P
1562	23,638.14	P
1563	23,714.54	P
1564	23,780.27	P
1565	25,318.75	P
1566	24,236.43	P
1567	24,545.73	P
1568	23,736.59	P
1569	24,581.79	P
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1578	28,441.61	P
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1602	260205.241220.011	26002527	Georgia Dept of Revenue
1603	260205.241220.011	26002527	Georgia Dept of Revenue
1604	260205.241220.011	26002527	Georgia Dept of Revenue
1605	260205.241220.011	26002527	Georgia Dept of Revenue
1606	260205.241220.011	26002527	Georgia Dept of Revenue
1607	260205.241220.013	50000224	Internal Revenue Service
1608	260205.241220.013	50000224	Internal Revenue Service
1609	260205.241220.013	50000224	Internal Revenue Service
1610	260205.241220.013	50000224	Internal Revenue Service
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1640	260205.241220.013	50000224	Internal Revenue Service
1641	260205.241220.013	50000224	Internal Revenue Service
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1646	260205.241220.013	50000224	Internal Revenue Service
1647	260205.241220.013	50000224	Internal Revenue Service
1648	260205.241220.013	50000224	Internal Revenue Service
1649	260205.241220.013	50000224	Internal Revenue Service
1650	260205.241220.013	50000224	Internal Revenue Service

	D	E	F	G	H
1601	9/1/2006	GA SIT W/H	PS	41391700	3
1602	9/18/2006	GA SIT W/H	PS	41402512	3
1603	10/3/2006	GA SIT W/H 9/29/06	PS	41414935	3
1604	10/12/2006	GA SIT W/H	PS	41421333	3
1605	10/31/2006	GA SIT W/H	PS	41438829	3
1606	11/13/2006	GA SIT W/H 11/10/06	PS	41445955	3
1607	1/12/2006	TN-AM 26 FICA EE 941	PS	41228541	3
1608	1/19/2006	TN-AM 26 FICA EE 941	PS	41235928	3
1609	2/7/2006	TN-AM 26 FICA EE 941	PS	41244810	3
1610	2/16/2006	TN-AM 26 FICA EE 941	PS	41253263	3
1611	3/2/2006	TN-AM 26 FICA EE 941	PS	41261287	3
1612	3/15/2006	TN-AM 26 FICA EE 941	PS	41270171	3
1613	3/17/2006	TN-AM 26 FICA EE 941	PS	41271607	3
1614	3/31/2006	TN-AM 26 FICA EE 941	PS	41281442	3
1615	4/13/2006	TN-AM 26 FICA EE 941	PS	41289896	3
1616	4/28/2006	TN-AM 26 FICA EE 941	PS	41299980	3
1617	5/12/2006	TN-AM 26 FICA EE 941	PS	41308849	3
1618	5/25/2006	TN-AM 26 FICA EE 941	PS	41320501	3
1619	6/9/2006	TN-AM 26 FICA EE 941	PS	41327938	3
1620	6/23/2006	TN-AM 26 FICA EE 941	PS	41338514	3
1621	7/10/2006	TN-AM 26 FICA EE 941	PS	41351975	3
1622	7/21/2006	TN-AM 26 FICA EE 941	PS	41359430	3
1623	8/4/2006	TN-AM 26 FICA EE 941	PS	41370839	3
1624	8/18/2006	FICA EE	PS	41380582	3
1625	8/31/2006	FICA EE Co 26	PS	41391556	3
1626	9/15/2006	FICA EE Co 26	PS	41400789	3
1627	9/28/2006	FICA EE Co 26	PS	41410771	3
1628	10/12/2006	FICA EE Co 26	PS	41421336	3
1629	10/26/2006	FICA EE Co 26	PS	41436731	3
1630	11/9/2006	FICA EE Co 26	PS	41444288	3
1631	11/22/2006	FICA EE Co 26	PS	41452925	3
1632	12/8/2006	FICA EE Co 26	PS	41465215	3
1633	12/14/2006	FICA EE Co 26	PS	41470557	3
1634	12/22/2006	FICA EE Co 23	PS	41476799	3
1635	1/5/2007	FICA EE Co 23	PS	41487808	3
1636	1/22/2007	FICA EE Co 23	PS	41499143	3
1637	2/2/2007	FICA EE Co 23	PS	41509938	3
1638	2/16/2007	FICA EE Co 23	PS	41519179	3
1639	3/2/2007	FICA EE Co 23	PS	41530838	3
1640	3/16/2007	FICA EE Co 23	PS	41540665	3
1641	3/16/2007	FICA EE Co 26	PS	41540817	3
1642	3/30/2007	FICA EE Co 26	PS	41553120	3
1643	4/13/2007	FICA EE Co 26	PS	41562581	3
1644	4/27/2007	FICA EE Co 26	PS	41574543	3
1645	5/11/2007	FICA EE Co 26	PS	41585276	3
1646	5/25/2007	FICA EE Co 26	PS	41597667	3
1647	6/13/2007	FICA EE Co 26	PS	41614419	3
1648	6/22/2007	FICA EE Co 26	PS	41622728	3
1649	7/6/2007	FICA EE Co 26	PS	41634386	3
1650	7/20/2007	FICA EE Co 26	PS	41646479	3

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1601	2,518.54	P
1602	2,351.53	P
1603	2,425.91	P
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1605	2,341.96	P
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1607	15,241.78	P
1608	13,927.06	P
1609	13,919.10	P
1610	13,815.30	P
1611	14,191.50	P
1612	3,787.14	P
1613	13,808.46	P
1614	14,051.36	P
1615	14,297.54	P
1616	14,866.02	P
1617	14,912.92	P
1618	15,068.04	P
1619	14,945.80	P
1620	14,870.56	P
1621	15,267.90	P
1622	15,534.13	P
1623	15,357.70	P
1624	19,155.21	P
1625	15,361.52	P
1626	15,170.88	P
1627	14,956.62	P
1628	14,721.19	P
1629	15,113.21	P
1630	15,906.51	P
1631	15,385.04	P
1632	15,966.40	P
1633	1,080.39	P
1634	15,871.96	P
1635	15,798.11	P
1636	15,995.11	P
1637	16,233.45	P
1638	17,407.18	P
1639	16,131.89	P
1640	6,791.30	P
1641	15,616.66	P
1642	15,194.18	P
1643	15,691.34	P
1644	16,061.40	P
1645	16,063.77	P
1646	16,120.53	P
1647	16,268.75	P
1648	16,126.54	P
1649	16,080.81	P
1650	15,983.42	P

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1651	260205.241220.013	50000224	Internal Revenue Service
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1669	260205.241220.013	50000224	Internal Revenue Service
1670	260205.2412	22002628	Merrill Lynch 401k Contributions
1671	260205.2412	22002628	Merrill Lynch 401k Contributions
1672	260205.2412	22002628	Merrill Lynch 401k Contributions
1673	260205.2412	22002628	Merrill Lynch 401k Contributions
1674	260205.2412	22002628	Merrill Lynch 401k Contributions
1675	260205.2412	22002628	Merrill Lynch 401k Contributions
1676	260205.2412	22002628	Merrill Lynch 401k Contributions
1677	260205.2412	22002628	Merrill Lynch 401k Contributions
1678	260205.2412	22002628	Merrill Lynch 401k Contributions
1679	260205.2412	22002628	Merrill Lynch 401k Contributions
1680	260205.2412	22002628	Merrill Lynch 401k Contributions
1681	260205.2412	22002628	Merrill Lynch 401k Contributions
1682	260205.2412	22002628	Merrill Lynch 401k Contributions
1683	260205.2412	22002628	Merrill Lynch 401k Contributions
1684	260205.2412	22002628	Merrill Lynch 401k Contributions
1685	260205.2412	22002628	Merrill Lynch 401k Contributions
1686	260205.2412	22002628	Merrill Lynch 401k Contributions
1687	260205.2412	22002628	Merrill Lynch 401k Contributions
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1689	260205.2412	22002628	Merrill Lynch 401k Contributions
1690	260205.2412	22002628	Merrill Lynch 401k Contributions
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1693	260205.2412	22002628	Merrill Lynch 401k Contributions
1694	260205.2412	22002628	Merrill Lynch 401k Contributions
1695	260205.2412	22002628	Merrill Lynch 401k Contributions
1696	260205.2412	22002628	Merrill Lynch 401k Contributions
1697	260205.2412	26002749	State of Tennessee Treasury Dept
1698	260205.2412	26002749	State of Tennessee Treasury Dept
1699	260205.2412	26002749	State of Tennessee Treasury Dept
1700	260205.2412	26002749	State of Tennessee Treasury Dept

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1651	8/3/2007	FICA EE Co 26	PS	41660200	3
1652	8/17/2007	FICA EE Co 26	PS	41671538	3
1653	8/31/2007	FICA EE Co 26	PS	41685337	3
1654	9/14/2007	FICA EE Co 26	PS	41697629	3
1655	9/28/2007	FICA EE Co 26	PS	41711591	3
1656	10/12/2007	FICA EE Co 26	PS	41723329	3
1657	10/26/2007	FICA EE Co 26	PS	41736567	3
1658	11/9/2007	FICA EE Co 26	PS	41749563	3
1659	11/21/2007	FICA EE Co 26	PS	41759175	3
1660	12/10/2007	FICA EE Co 26	PS	41774614	3
1661	12/21/2007	FICA EE Co 26	PS	41786406	3
1662	1/4/2008	FICA EE Co 26	PS	41801405	3
1663	1/18/2008	FICA EE Co 26	PS	41812485	3
1664	2/1/2008	FICA EE Co 26	PS	41825849	3
1665	2/15/2008	TN-Am FICA EE Co 26	PS	41836840	3
1666	2/29/2008	TN-Am FICA EE Co 26	PS	41849651	3
1667	3/13/2008	TN-Am FICA EE Co 26	PS	41859529	3
1668	3/14/2008	TN-Am FICA EE Co 26	PS	41860269	3
1669	3/28/2008	TN-Am FICA ee	PS	41872055	3
1670	1/18/2007	G/L Account Number	PS	41497425	3
1671	2/8/2007	G/L Account Number	PS	41512964	3
1672	3/9/2007	G/L Account Number	PS	41535282	3
1673	4/11/2007	G/L Account Number	PS	41561271	3
1674	5/8/2007	G/L Account Number	PS	41581994	3
1675	6/11/2007	G/L Account Number	PS	41612531	3
1676	7/10/2007	G/L Account Number	PS	41637495	3
1677	8/10/2007	G/L Account Number	PS	41665098	3
1678	9/12/2007	G/L Account Number	PS	41695471	3
1679	10/9/2007	G/L Account Number	PS	41720372	3
1680	11/13/2007	G/L Account Number	PS	41752637	3
1681	12/11/2007	G/L Account Number	PS	41775839	3
1682	1/10/2008	G/L Account Number	PS	41805659	3
1683	2/12/2008	G/L Account Number	PS	41833639	3
1684	3/12/2008	G/L Account Number	PS	41858423	3
1685	1/7/2006	401kDec05	PV	41232499	3
1686	2/20/2006	401KJAN06	PV	41254701	3
1687	3/10/2006	401KFEB06	PV	41266599	3
1688	4/13/2006	401KMAR06	PV	41290042	3
1689	5/17/2006	401KAPR06	PV	41312922	3
1690	6/16/2006	401KMAY06	PV	41332607	3
1691	7/20/2006	401KJUN06	PV	41358489	3
1692	8/10/2006	401KJUL06	PV	41374326	3
1693	9/15/2006	401K AUGUST 06	PV	41401247	3
1694	10/9/2006	401KSEP06	PV	41418434	3
1695	11/9/2006	401K AW	PV	41444617	3
1696	12/13/2006	401KNOV06	PV	41468908	3
1697	10/24/2006	Unclaimed Prop 12-04	PS	41431794	26
1698	10/24/2006	Unclaimed Prop under 50	PS	41431794	26
1699	4/30/2007	TN,unclaimed property 07	PS	41575839	26
1700	4/30/2007	TN,unclaimed property 07	PS	41575839	26

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1651	16,688.05	P
1652	16,187.27	P
1653	16,420.35	P
1654	15,887.13	P
1655	16,258.05	P
1656	15,777.32	P
1657	16,406.64	P
1658	16,253.42	P
1659	16,680.51	P
1660	17,169.87	P
1661	16,183.46	P
1662	16,601.54	P
1663	16,689.63	P
1664	18,519.32	P
1665	16,609.65	P
1666	16,320.93	P
1667	11,325.99	P
1668	16,740.06	P
1669	16,953.73	P
1670	8,118.12	P
1671	8,207.86	P
1672	8,250.88	P
1673	12,761.27	P
1674	8,610.73	P
1675	8,536.50	P
1676	8,585.28	P
1677	8,557.83	P
1678	13,017.82	P
1679	8,755.65	P
1680	8,808.62	P
1681	8,822.00	P
1682	8,854.98	P
1683	9,187.94	P
1684	13,451.63	P
1685	6,349.44	P
1686	6,828.82	P
1687	6,768.20	P
1688	10,131.75	P
1689	7,140.13	P
1690	7,287.74	P
1691	7,452.15	P
1692	7,626.47	P
1693	7,691.06	P
1694	11,711.16	P
1695	7,857.12	P
1696	8,077.81	P
1697	7,819.75	P
1698	4,291.92	P
1699	2,789.90	P
1700	15,172.00	P

	A	B	C
1701	260205.2412	50005059	State of Tennessee Treasury Dept
1702	260205.2412	18529391	Smith-Blair Inc
1703	260205.2412	18543530	Mueller Co
1704	260205.2412	18543530	Mueller Co
1705	260205.2412	18543530	Mueller Co
1706	260205.2412	18543530	Mueller Co
1707	260205.2412	26000292	Chattanooga Armature Works Inc
1708	260205.2412	26000292	Chattanooga Armature Works Inc
1709	260205.2412	26000943	Vermeer of Tennessee Inc
1710	260205.2412	26000943	Vermeer of Tennessee Inc
1711	260205.2412	26001196	Perkinson Co Inc
1712	260205.2412	26002746	Ingersoll Rand Company
1713	260205.2412	26002746	Ingersoll Rand Company
1714	260205.2412	27001312	Godwin Pumps of America Inc
1715	260205.2412	50012361	Chemical Feed Systems Inc
1716	260205.2412	50012361	Chemical Feed Systems Inc
1717	260205.2412	50012414	MapSync
1718	260205.2412	50012414	MapSync
1719	260205.2412	50012414	MapSync
1720	260205.2412	50191186	Underwater Construction Corp
1721	260205.2412	50266094	Grainger
1722	260205.2412	50295493	Hagler & Associates LLC
1723	260205.2412	50295493	Hagler & Associates LLC
1724	260205.2412	50295493	Hagler & Associates LLC
1725	260205.2412	3014921	Calgon Carbon Corporation
1726	260205.2412	3014921	Calgon Carbon Corporation
1727	260205.2412	9001361	Lucier Chemical Industries Ltd
1728	260205.2412	9001361	Lucier Chemical Industries Ltd
1729	260205.2412	9001361	Lucier Chemical Industries Ltd
1730	260205.2412	9001361	Lucier Chemical Industries Ltd
1731	260205.2412	9001362	Sweetwater Technologies
1732	260205.2412	9001362	Sweetwater Technologies
1733	260205.2412	10001315	Lucier Chemical Industries Ltd
1734	260205.2412	10001315	Lucier Chemical Industries Ltd
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1749	260205.2412	10001315	Lucier Chemical Industries Ltd
1750	260205.2412	10001315	Lucier Chemical Industries Ltd

	D	E	F	G	H
1701	3/23/2006	PREVIOUS REFUND A8256	PS	41277130	26
1702	11/21/2006	2x71/2" Repair Clamp	PV	41452107	26
1703	7/18/2006	5/8x3/4 Angle Meter Valv	PV	41356156	26
1704	10/13/2006	Tap. Machine Motor	PV	41421511	26
1705	10/13/2006	Model CL-12 Tap. Machine	PV	41421512	26
1706	10/13/2006	Model CL-12 Tap. Machine	PV	41421512	26
1707	11/22/2006	200 hp Motor - E.R. #6	PV	41452900	26
1708	11/22/2006	Base - E.R.#6 Pump Motor	PV	41452900	26
1709	7/18/2006	3" Mole RH PP	PV	41356331	26
1710	7/18/2006	3" Mole RH PP	PV	41356331	26
1711	1/10/2007	Actuator	PV	41491176	26
1712	12/13/2006	Pneumatic Pumps	PV	41469078	26
1713	12/13/2006	Pneumatic Pumps	PV	41469078	26
1714	9/15/2006	Honda EB3000 Generator	PV	41401168	26
1715	12/6/2006	Pumps/SCR Control Panels	PV	41463730	26
1716	12/6/2006	Pumps/SCR Control Panels	PV	41463730	26
1717	12/26/2006	GeoXH GPS Handheld Unit	PV	41479124	26
1718	12/26/2006	TerraSync Pro. Software	PV	41479124	26
1719	12/26/2006	TerraSync Pro. Software	PV	41479124	26
1720	2/12/2007	Purchase Install Parts	PV	41515509	26
1721	12/14/2006	Air Mask & Safety Items	PV	41469591	26
1722	11/10/2006	Sump Pump - L.S. Pit	PV	41445359	26
1723	11/17/2006	Pump for St. Elmo # 5	PV	41449066	26
1724	1/29/2007	15 hp Pump-Windridge #2	PV	41503015	26
1725	10/9/2006	Carbon - PAC,Lignite-Bulk	PV	41417744	26
1726	12/17/2007	200A-BULK	PV	41781866	26
1727	4/20/2006	HFS Acid,23%-Bulk	PV	41296011	26
1728	4/20/2006	HFS Acid,23%-Bulk	PV	41296311	26
1729	9/27/2007	300A-BULK	PV	41708778	26
1730	2/7/2008	300A-BULK	PV	41829292	26
1731	3/2/2006	Polymr,Non,Pol- EZ 652 50LB	PV	41261229	26
1732	12/8/2006	420E-50LB	PV	41464964	26
1733	2/3/2006	HFS Acid,23%-Bulk	PV	41242835	26
1734	2/28/2006	HFS Acid,23%-Bulk	PV	41259765	26
1735	6/7/2006	HFS Acid,23%-Bulk	PV	41326684	26
1736	7/18/2006	HFS Acid,23%-Bulk	PV	41356255	26
1737	7/26/2006	HFS Acid,23%-Bulk	PV	41363812	26
1738	8/21/2006	HFS Acid,23%-Bulk	PV	41381784	26
1739	9/21/2006	HFS Acid,23%-Bulk	PV	41404410	26
1740	10/9/2006	HFS Acid,23%-Bulk	PV	41418629	26
1741	10/18/2006	HFS Acid,23%-Bulk	PV	41428239	26
1742	10/18/2006	HFS Acid,23%-Bulk	PV	41428240	26
1743	11/21/2006	300A-BULK	PV	41452133	26
1744	12/19/2006	300A-BULK	PV	41473474	26
1745	1/31/2007	300A-BULK	PV	41508539	26
1746	2/16/2007	300A-BULK	PV	41518878	26
1747	3/9/2007	300A-BULK	PV	41534914	26
1748	4/3/2007	300A-BULK	PV	41555375	26
1749	4/24/2007	300A-BULK	PV	41571421	26
1750	6/6/2007	300A-BULK	PV	41606674	26

	I	J
1701	4,983.00	P
1702	1,084.50	P
1703	1,080.00	P
1704	4,109.25	P
1705	13,714.12	P
1706	1,039.94	P
1707	4,820.00	P
1708	1,200.00	P
1709	27,404.65	P
1710	2,478.20	P
1711	6,500.00	P
1712	23,004.00	P
1713	2,146.96	P
1714	1,100.00	P
1715	19,656.00	P
1716	1,695.92	P
1717	10,590.00	P
1718	2,695.00	P
1719	1,195.00	P
1720	61,401.00	P
1721	5,614.00	P
1722	2,762.00	P
1723	5,394.00	P
1724	2,685.00	P
1725	15,639.00	P
1726	23,196.00	P
1727	4,813.85	P
1728	4,852.55	P
1729	5,046.02	P
1730	7,413.96	P
1731	3,800.00	P
1732	3,800.00	P
1733	4,699.90	P
1734	4,684.85	P
1735	4,732.15	P
1736	4,639.70	P
1737	4,592.40	P
1738	4,237.65	P
1739	4,102.20	P
1740	3,033.65	P
1741	4,205.40	P
1742	4,093.60	P
1743	4,515.00	P
1744	4,381.70	P
1745	4,768.70	P
1746	5,474.47	P
1747	4,989.11	P
1748	5,468.78	P
1749	5,430.84	P
1750	5,311.60	P

	A	B	C
1751	260205.2412	10001315	Lucier Chemical Industries Ltd
1752	260205.2412	10001315	Lucier Chemical Industries Ltd
1753	260205.2412	10001315	Lucier Chemical Industries Ltd
1754	260205.2412	10001315	Lucier Chemical Industries Ltd
1755	260205.2412	14003152	Carus Phosphates Inc
1756	260205.2412	14003152	Carus Phosphates Inc
1757	260205.2412	14003152	Carus Phosphates Inc
1758	260205.2412	14003152	Carus Phosphates Inc
1759	260205.2412	14003152	Carus Phosphates Inc
1760	260205.2412	14003152	Carus Phosphates Inc
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1762	260205.2412	14003152	Carus Phosphates Inc
1763	260205.2412	14003152	Carus Phosphates Inc
1764	260205.2412	14003152	Carus Phosphates Inc
1765	260205.2412	14003152	Carus Phosphates Inc
1766	260205.2412	14003152	Carus Phosphates Inc
1767	260205.2412	14003152	Carus Phosphates Inc
1768	260205.2412	14003152	Carus Phosphates Inc
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1770	260205.2412	14003152	Carus Phosphates Inc
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1776	260205.2412	14003152	Carus Phosphates Inc
1777	260205.2412	14003152	Carus Phosphates Inc
1778	260205.2412	14003152	Carus Phosphates Inc
1779	260205.2412	14003152	Carus Phosphates Inc
1780	260205.2412	14003152	Carus Phosphates Inc
1781	260205.2412	14003152	Carus Phosphates Inc
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1783	260205.2412	14003152	Carus Phosphates Inc
1784	260205.2412	14003152	Carus Phosphates Inc
1785	260205.2412	14003152	Carus Phosphates Inc
1786	260205.2412	14003152	Carus Phosphates Inc
1787	260205.2412	27001597	Basic Chemical Solutions LLC
1788	260205.2412	27001597	Basic Chemical Solutions LLC
1789	260205.2412	27001597	Basic Chemical Solutions LLC
1790	260205.2412	27001597	Basic Chemical Solutions LLC
1791	260205.2412	27001597	Basic Chemical Solutions LLC
1792	260205.2412	27001597	Basic Chemical Solutions LLC
1793	260205.2412	27001597	Basic Chemical Solutions LLC
1794	260205.2412	27001597	Basic Chemical Solutions LLC
1795	260205.2412	27001597	Basic Chemical Solutions LLC
1796	260205.2412	27001597	Basic Chemical Solutions LLC
1797	260205.2412	27001597	Basic Chemical Solutions LLC
1798	260205.2412	27001597	Basic Chemical Solutions LLC
1799	260205.2412	27001597	Basic Chemical Solutions LLC
1800	260205.2412	50001025	David M Finch

	D	E	F	G	H
1751	7/12/2007	300A-BULK	PV	41639667	26
1752	8/21/2007	300A-BULK	PV	41674047	26
1753	9/7/2007	300A-BULK	PV	41690676	26
1754	3/7/2008	300A-BULK	PV	41853998	26
1755	1/16/2006	Zn Ortho(Sulfate) ,(1:10)-Bul	PV	41231379	26
1756	2/3/2006	Zn Ortho(Sulfate) ,(1:10)-Bul	PV	41242841	26
1757	3/31/2006	Zn Ortho(Sulfate) ,(1:10)-Bul	PV	41281671	26
1758	6/5/2006	Zn Ortho(Sulfate) ,(1:10)-Bul	PV	41325275	26
1759	6/5/2006	Zn Ortho(Sulfate) ,(1:10)-Bul	PV	41325275	26
1760	6/15/2006	Zn Ortho(Sulfate) ,(1:10)-Bul	PV	41332233	26
1761	7/18/2006	Zn Ortho(Sulfate) ,(1:10)-Bul	PV	41356145	26
1762	8/16/2006	Zn Ortho(Sulfate) ,(1:10)-Bul	PV	41379100	26
1763	9/8/2006	Zn Ortho(Sulfate) ,(1:10)-Bul	PV	41395671	26
1764	9/27/2006	Zn Ortho(Sulfate) ,(1:10)-Bul	PV	41409039	26
1765	10/18/2006	Zn Ortho(Sulfate) ,(1:10)-Bul	PV	41428229	26
1766	11/21/2006	680C-BULK	PV	41452128	26
1767	12/27/2006	680C-BULK	PV	41480466	26
1768	4/4/2007	680C-BULK	PV	41556421	26
1769	4/4/2007	680C-BULK	PV	41556421	26
1770	4/6/2007	680C-BULK	PV	41557480	26
1771	4/6/2007	680C-BULK	PV	41557480	26
1772	4/10/2007	680C-BULK	PV	41559897	26
1773	4/10/2007	680C-BULK	PV	41559897	26
1774	6/13/2007	680C-BULK	PV	41614266	26
1775	6/13/2007	680C-BULK	PV	41614266	26
1776	7/11/2007	680C-BULK	PV	41638049	26
1777	7/11/2007	680C-BULK	PV	41638049	26
1778	7/12/2007	680C-BULK	PV	41639657	26
1779	9/7/2007	680C-BULK	PV	41690682	26
1780	9/14/2007	680C-BULK	PV	41697339	26
1781	9/24/2007	680C-BULK	PV	41705286	26
1782	10/3/2007	680C-BULK	PV	41715741	26
1783	10/31/2007	680C-BULK	PV	41741943	26
1784	12/7/2007	680C-BULK	PV	41772910	26
1785	1/21/2008	680C-BULK	PV	41814253	26
1786	3/7/2008	680C-BULK	PV	41853999	26
1787	6/6/2006	Sodium Hydrox,50%-Bulk	PV	41326160	26
1788	6/7/2006	Sodium Hydrox,50%-Bulk	PV	41326683	26
1789	7/18/2006	Sodium Hydrox,50%-Bulk	PV	41356267	26
1790	8/21/2006	Sodium Hydrox,50%-Bulk	PV	41381776	26
1791	11/6/2006	Sodium Hydrox,50%-Bulk	PV	41442167	26
1792	11/29/2006	560A-BULK	PV	41457087	26
1793	6/6/2007	560A-BULK	PV	41606654	26
1794	6/12/2007	560A-BULK	PV	41613591	26
1795	7/12/2007	560A-BULK	PV	41639666	26
1796	7/17/2007	560A-BULK	PV	41642569	26
1797	7/24/2007	560A-BULK	PV	41649389	26
1798	9/24/2007	560A-BULK	PV	41705061	26
1799	10/22/2007	560A-BULK	PV	41731199	26
1800	3/25/2008	380E-BULK	PV	41868412	26

	I	J
1751	5,151.71	P
1752	5,620.54	P
1753	5,335.99	P
1754	7,250.28	P
1755	7,184.58	P
1756	11,368.63	P
1757	10,973.15	P
1758	11,558.85	P
1759	1,069.19	P
1760	11,373.63	P
1761	11,373.63	P
1762	11,368.63	P
1763	11,358.61	P
1764	11,443.72	P
1765	11,523.81	P
1766	11,453.73	P
1767	11,348.60	P
1768	15,320.54	P
1769	1,417.15	P
1770	16,123.51	P
1771	1,491.42	P
1772	15,540.82	P
1773	1,437.53	P
1774	15,348.96	P
1775	1,419.78	P
1776	16,322.48	P
1777	1,509.83	P
1778	15,583.46	P
1779	14,801.80	P
1780	15,299.22	P
1781	15,860.59	P
1782	15,427.13	P
1783	16,215.89	P
1784	15,789.53	P
1785	17,198.80	P
1786	17,069.60	P
1787	6,746.84	P
1788	6,714.23	P
1789	6,687.29	P
1790	6,210.84	P
1791	6,426.38	P
1792	6,420.70	P
1793	5,240.62	P
1794	5,196.46	P
1795	5,256.89	P
1796	5,217.38	P
1797	5,563.66	P
1798	5,303.37	P
1799	4,875.75	P
1800	11,546.40	P

	A	B	C
1801	260205.2412	50010251	Southern Water Consultants Inc
1802	260205.2412	50010251	Southern Water Consultants Inc
1803	260205.2412	50010251	Southern Water Consultants Inc
1804	260205.2412	50010251	Southern Water Consultants Inc
1805	260205.2412	50010251	Southern Water Consultants Inc
1806	260205.2412	50010251	Southern Water Consultants Inc
1807	260205.2412	50010251	Southern Water Consultants Inc
1808	260205.2412	50010251	Southern Water Consultants Inc
1809	260205.2412	50010251	Southern Water Consultants Inc
1810	260205.2412	50010251	Southern Water Consultants Inc
1811	260205.2412	50010251	Southern Water Consultants Inc
1812	260205.2412	50010251	Southern Water Consultants Inc
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1814	260205.2412	50010251	Southern Water Consultants Inc
1815	260205.2412	50010251	Southern Water Consultants Inc
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1819	260205.2412	50010251	Southern Water Consultants Inc
1820	260205.2412	50010251	Southern Water Consultants Inc
1821	260205.2412	50010251	Southern Water Consultants Inc
1822	260205.2412	50010251	Southern Water Consultants Inc
1823	260205.2412	50010251	Southern Water Consultants Inc
1824	260205.2412	50010251	Southern Water Consultants Inc
1825	260205.2412	50010251	Southern Water Consultants Inc
1826	260205.2412	50010251	Southern Water Consultants Inc
1827	260205.2412	50010251	Southern Water Consultants Inc
1828	260205.2412	50010251	Southern Water Consultants Inc
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1830	260205.2412	50010251	Southern Water Consultants Inc
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1832	260205.2412	50010251	Southern Water Consultants Inc
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1845	260205.2412	50010251	Southern Water Consultants Inc
1846	260205.2412	50010251	Southern Water Consultants Inc
1847	260205.2412	50010251	Southern Water Consultants Inc
1848	260205.2412	50010251	Southern Water Consultants Inc
1849	260205.2412	50010251	Southern Water Consultants Inc
1850	260205.2412	50010251	Southern Water Consultants Inc

	D	E	F	G	H
1801	1/16/2006	PACL,80% basicity-Bulk	PV	41231485	26
1802	1/16/2006	PACL,80% basicity-Bulk	PV	41231486	26
1803	2/3/2006	PACL,80% basicity-Bulk	PV	41242821	26
1804	2/28/2006	PACL,80% basicity-Bulk	PV	41259770	26
1805	3/9/2006	PACL,80% basicity-Bulk	PV	41265511	26
1806	3/14/2006	PACL,80% basicity-Bulk	PV	41269161	26
1807	3/31/2006	PACL,80% basicity-Bulk	PV	41281129	26
1808	4/12/2006	PACL,80% basicity-Bulk	PV	41289120	26
1809	5/5/2006	PACL,80% basicity-Bulk	PV	41304572	26
1810	5/5/2006	PACL,80% basicity-Bulk	PV	41304573	26
1811	5/5/2006	PACL,80% basicity-Bulk	PV	41304574	26
1812	6/6/2006	PACL,80% basicity-Bulk	PV	41326124	26
1813	6/7/2006	PACL,80% basicity-Bulk	PV	41326823	26
1814	6/7/2006	PACL,80% basicity-Bulk	PV	41326825	26
1815	7/18/2006	PACL,80% basicity-Bulk	PV	41356134	26
1816	7/18/2006	PACL,80% basicity-Bulk	PV	41356143	26
1817	7/18/2006	PACL,80% basicity-Bulk	PV	41356389	26
1818	7/26/2006	PACL,80% basicity-Bulk	PV	41363820	26
1819	7/26/2006	PACL,80% basicity-Bulk	PV	41363847	26
1820	8/16/2006	PACL,80% basicity-Bulk	PV	41379106	26
1821	8/23/2006	PACL,80% basicity-Bulk	PV	41384807	26
1822	9/5/2006	PACL,80% basicity-Bulk	PV	41392417	26
1823	9/27/2006	PACL,80% basicity-Bulk	PV	41408974	26
1824	9/27/2006	PACL,80% basicity-Bulk	PV	41409030	26
1825	10/9/2006	PACL,80% basicity-Bulk	PV	41418631	26
1826	10/18/2006	PACL,80% basicity-Bulk	PV	41428243	26
1827	11/6/2006	PACL,80% basicity-Bulk	PV	41442165	26
1828	11/27/2006	380E-BULK	PV	41454383	26
1829	11/29/2006	380E-BULK	PV	41456773	26
1830	11/29/2006	380E-BULK	PV	41457102	26
1831	11/29/2006	380E-BULK	PV	41457105	26
1832	1/5/2007	380E-BULK	PV	41487938	26
1833	1/18/2007	380E-BULK	PV	41497032	26
1834	1/18/2007	380E-BULK	PV	41497032	26
1835	1/25/2007	380E-BULK	PV	41502238	26
1836	1/25/2007	380E-BULK	PV	41502238	26
1837	1/25/2007	380E-BULK	PV	41502386	26
1838	2/12/2007	380E-BULK	PV	41515743	26
1839	2/12/2007	380E-BULK	PV	41515743	26
1840	2/22/2007	380E-BULK	PV	41522543	26
1841	2/22/2007	380E-BULK	PV	41522543	26
1842	2/23/2007	380E-BULK	PV	41523965	26
1843	2/23/2007	380E-BULK	PV	41523965	26
1844	3/14/2007	380E-BULK	PV	41539088	26
1845	3/14/2007	380E-BULK	PV	41539088	26
1846	3/22/2007	380E-BULK	PV	41544673	26
1847	3/22/2007	380E-BULK	PV	41544673	26
1848	3/23/2007	380E-BULK	PV	41545754	26
1849	3/23/2007	380E-BULK	PV	41545754	26
1850	4/6/2007	380E-BULK	PV	41557484	26

	I	J
1801	9,868.95	P
1802	8,254.54	P
1803	9,673.74	P
1804	9,682.42	P
1805	10,038.13	P
1806	9,903.65	P
1807	9,756.16	P
1808	9,751.82	P
1809	8,302.93	P
1810	9,608.67	P
1811	9,769.18	P
1812	10,029.46	P
1813	9,599.99	P
1814	9,248.62	P
1815	9,938.36	P
1816	9,673.74	P
1817	9,738.81	P
1818	9,760.50	P
1819	9,539.26	P
1820	9,816.89	P
1821	9,699.77	P
1822	9,730.13	P
1823	9,977.40	P
1824	9,782.19	P
1825	9,816.89	P
1826	9,695.43	P
1827	10,038.13	P
1828	9,834.25	P
1829	9,704.11	P
1830	9,665.06	P
1831	9,652.05	P
1832	9,790.87	P
1833	11,459.70	P
1834	1,060.02	P
1835	11,745.30	P
1836	1,086.44	P
1837	9,899.32	P
1838	11,628.00	P
1839	1,075.59	P
1840	11,439.30	P
1841	1,058.14	P
1842	11,526.00	P
1843	1,066.16	P
1844	11,602.50	P
1845	1,073.23	P
1846	11,561.70	P
1847	1,069.46	P
1848	11,786.10	P
1849	1,090.21	P
1850	11,653.50	P

	A	B	C
1851	260205.2412	50010251	Southern Water Consultants Inc
1852	260205.2412	50010251	Southern Water Consultants Inc
1853	260205.2412	50010251	Southern Water Consultants Inc
1854	260205.2412	50010251	Southern Water Consultants Inc
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1863	260205.2412	50010251	Southern Water Consultants Inc
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1886	260205.2412	50010251	Southern Water Consultants Inc
1887	260205.2412	50010251	Southern Water Consultants Inc
1888	260205.2412	50137035	Univar USA Inc
1889	260205.2412	50137035	Univar USA Inc
1890	260205.2412	50137035	Univar USA Inc
1891	260205.2412	50137035	Univar USA Inc
1892	260205.2412	50137035	Univar USA Inc
1893	260205.2412	50141748	Brenntag Mid South Inc
1894	260205.2412	50141748	Brenntag Mid South Inc
1895	260205.2412	50141748	Brenntag Mid South Inc
1896	260205.2412	50141748	Brenntag Mid South Inc
1897	260205.2412	50141748	Brenntag Mid South Inc
1898	260205.2412	50141748	Brenntag Mid South Inc
1899	260205.2412	50141748	Brenntag Mid South Inc
1900	260205.2412	50141748	Brenntag Mid South Inc

	D	E	F	G	H
1851	4/6/2007	380E-BULK	PV	41557484	26
1852	4/10/2007	380E-BULK	PV	41559902	26
1853	4/10/2007	380E-BULK	PV	41559902	26
1854	4/18/2007	380E-BULK	PV	41566552	26
1855	4/18/2007	380E-BULK	PV	41566552	26
1856	4/30/2007	380E-BULK	PV	41576444	26
1857	4/30/2007	380E-BULK	PV	41576444	26
1858	5/29/2007	380E-BULK	PV	41599246	26
1859	5/29/2007	380E-BULK	PV	41599246	26
1860	5/31/2007	380E-BULK	PV	41602820	26
1861	5/31/2007	380E-BULK	PV	41602820	26
1862	6/6/2007	380E-BULK	PV	41606687	26
1863	6/6/2007	380E-BULK	PV	41606687	26
1864	7/11/2007	380E-BULK	PV	41638052	26
1865	7/12/2007	380E-BULK	PV	41639671	26
1866	7/18/2007	380E-BULK	PV	41643219	26
1867	8/7/2007	380E-BULK	PV	41662016	26
1868	9/7/2007	380E-BULK	PV	41690639	26
1869	9/24/2007	380E-BULK	PV	41705282	26
1870	9/27/2007	380E-BULK	PV	41708381	26
1871	10/16/2007	380E-BULK	PV	41725651	26
1872	10/29/2007	380E-BULK	PV	41738554	26
1873	11/14/2007	380E-BULK	PV	41753122	26
1874	12/5/2007	380E-BULK	PV	41770779	26
1875	12/7/2007	380E-BULK	PV	41772914	26
1876	12/17/2007	380E-BULK	PV	41781873	26
1877	12/22/2007	380E-BULK	PV	41786964	26
1878	1/4/2008	380E-BULK	PV	41801329	26
1879	1/21/2008	380E-BULK	PV	41814248	26
1880	1/28/2008	380E-BULK	PV	41820137	26
1881	1/30/2008	380E-BULK	PV	41821456	26
1882	2/7/2008	380E-BULK	PV	41829297	26
1883	2/18/2008	380E-BULK	PV	41838120	26
1884	2/20/2008	380E-BULK	PV	41840205	26
1885	3/7/2008	380E-BULK	PV	41854004	26
1886	3/11/2008	380E-BULK	PV	41857518	26
1887	3/18/2008	380E-BULK	PV	41863381	26
1888	12/7/2007	300A-BULK	PV	41772618	26
1889	12/7/2007	300A-BULK	PV	41772677	26
1890	12/7/2007	300A-BULK	PV	41772686	26
1891	12/7/2007	300A-BULK	PV	41772896	26
1892	12/31/2007	300A-BULK	PV	41797615	26
1893	1/16/2006	Chlorine ,100%-2000LB	PV	41231487	26
1894	1/16/2006	Chlorine ,100%-2000LB	PV	41231488	26
1895	2/10/2006	Chlorine ,100%-2000LB	PV	41247003	26
1896	2/23/2006	Chlorine ,100%-2000LB	PV	41257060	26
1897	2/28/2006	Chlorine ,100%-2000LB	PV	41259772	26
1898	3/14/2006	Chlorine ,100%-2000LB	PV	41268978	26
1899	3/31/2006	Chlorine ,100%-2000LB	PV	41281127	26
1900	3/31/2006	Chlorine ,100%-2000LB	PV	41281128	26

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1857	1,072.29	P
1858	11,378.10	P
1859	1,052.47	P
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1861	1,068.51	P
1862	11,260.80	P
1863	1,041.62	P
1864	11,770.80	P
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1872	11,832.00	P
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1889	6,474.00	P
1890	6,630.00	P
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1897	2,160.00	P
1898	2,700.00	P
1899	2,700.00	P
1900	2,160.00	P

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1905	260205.2412	50141748	Brenntag Mid South Inc
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1908	260205.2412	50141748	Brenntag Mid South Inc
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1911	260205.2412	50141748	Brenntag Mid South Inc
1912	260205.2412	50141748	Brenntag Mid South Inc
1913	260205.2412	50141748	Brenntag Mid South Inc
1914	260205.2412	50141748	Brenntag Mid South Inc
1915	260205.2412	50141748	Brenntag Mid South Inc
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1918	260205.2412	50141748	Brenntag Mid South Inc
1919	260205.2412	50141748	Brenntag Mid South Inc
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1921	260205.2412	50141748	Brenntag Mid South Inc
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1929	260205.2412	50141748	Brenntag Mid South Inc
1930	260205.2412	50141748	Brenntag Mid South Inc
1931	260205.2412	50141748	Brenntag Mid South Inc
1932	260205.2412	50141748	Brenntag Mid South Inc
1933	260205.2412	50141748	Brenntag Mid South Inc
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1948	260205.2412	50141748	Brenntag Mid South Inc
1949	260205.2412	50141748	Brenntag Mid South Inc
1950	260205.2412	50141748	Brenntag Mid South Inc

	D	E	F	G	H
1901	4/5/2006	Chlorine ,100%-2000LB	PV	41283848	26
1902	4/13/2006	Chlorine ,100%-2000LB	PV	41290089	26
1903	4/13/2006	Chlorine ,100%-2000LB	PV	41290090	26
1904	4/13/2006	Chlorine ,100%-2000LB	PV	41290091	26
1905	4/13/2006	Chlorine ,100%-2000LB	PV	41290092	26
1906	4/19/2006	Chlorine ,100%-2000LB	PV	41293521	26
1907	4/20/2006	Chlorine ,100%-2000LB	PV	41295954	26
1908	5/8/2006	Chlorine ,100%-2000LB	PV	41305532	26
1909	5/8/2006	Chlorine ,100%-2000LB	PV	41305535	26
1910	5/8/2006	Chlorine ,100%-2000LB	PV	41305539	26
1911	5/23/2006	Chlorine ,100%-2000LB	PV	41317812	26
1912	6/5/2006	Chlorine ,100%-2000LB	PV	41325242	26
1913	6/6/2006	Chlorine ,100%-2000LB	PV	41325898	26
1914	6/7/2006	Chlorine ,100%-2000LB	PV	41326731	26
1915	6/7/2006	Chlorine ,100%-2000LB	PV	41326733	26
1916	7/18/2006	Chlorine ,100%-2000LB	PV	41356124	26
1917	7/18/2006	Chlorine ,100%-2000LB	PV	41356148	26
1918	7/18/2006	Chlorine ,100%-2000LB	PV	41356224	26
1919	7/18/2006	Chlorine ,100%-2000LB	PV	41356239	26
1920	7/18/2006	Chlorine ,100%-2000LB	PV	41356390	26
1921	7/26/2006	Chlorine ,100%-2000LB	PV	41363822	26
1922	7/26/2006	Chlorine ,100%-2000LB	PV	41363842	26
1923	8/10/2006	Chlorine ,100%-2000LB	PV	41375068	26
1924	8/21/2006	Chlorine ,100%-2000LB	PV	41381779	26
1925	9/8/2006	Chlorine ,100%-2000LB	PV	41395638	26
1926	9/19/2006	Chlorine ,100%-2000LB	PV	41403194	26
1927	9/19/2006	Chlorine ,100%-2000LB	PV	41403200	26
1928	9/19/2006	Chlorine ,100%-2000LB	PV	41403209	26
1929	9/21/2006	Chlorine ,100%-2000LB	PV	41404408	26
1930	9/27/2006	Chlorine ,100%-2000LB	PV	41409037	26
1931	10/9/2006	Chlorine ,100%-2000LB	PV	41418185	26
1932	10/9/2006	Chlorine ,100%-2000LB	PV	41418626	26
1933	10/18/2006	Chlorine ,100%-2000LB	PV	41428224	26
1934	10/18/2006	Chlorine ,100%-2000LB	PV	41428226	26
1935	10/18/2006	Chlorine ,100%-2000LB	PV	41428247	26
1936	11/6/2006	Chlorine ,100%-2000LB	PV	41442047	26
1937	11/17/2006	220A-2000LB	PV	41449064	26
1938	11/21/2006	220A-2000LB	PV	41452121	26
1939	11/28/2006	220A-2000LB	PV	41454726	26
1940	11/29/2006	220A-2000LB	PV	41457096	26
1941	12/6/2006	220A-2000LB	PV	41463573	26
1942	12/8/2006	220A-2000LB	PV	41464968	26
1943	12/27/2006	220A-2000LB	PV	41480463	26
1944	12/27/2006	220A-2000LB	PV	41481491	26
1945	1/4/2007	220A-2000LB	PV	41487226	26
1946	1/10/2007	220A-2000LB	PV	41491103	26
1947	1/15/2007	220A-2000LB	PV	41494970	26
1948	1/25/2007	220A-2000LB	PV	41502250	26
1949	1/29/2007	220A-2000LB	PV	41502999	26
1950	2/8/2007	220A-2000LB	PV	41512554	26

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1903	2,160.00	P
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1907	2,700.00	P
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1909	3,240.00	P
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1945	2,700.00	P
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1949	2,160.00	P
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2000	260205.2412	50141748	Brenntag Mid South Inc

	D	E	F	G	H
1951	2/20/2007	220A-2000LB	PV	41521640	26
1952	3/6/2007	220A-2000LB	PV	41532323	26
1953	3/6/2007	220A-2000LB	PV	41532324	26
1954	3/8/2007	220A-2000LB	PV	41534178	26
1955	3/22/2007	220A-2000LB	PV	41544485	26
1956	3/22/2007	220A-2000LB	PV	41544675	26
1957	3/23/2007	220A-2000LB	PV	41545730	26
1958	4/3/2007	220A-2000LB	PV	41555378	26
1959	4/6/2007	220A-2000LB	PV	41557486	26
1960	4/13/2007	220A-2000LB	PV	41562545	26
1961	4/18/2007	220A-2000LB	PV	41566547	26
1962	4/30/2007	220A-2000LB	PV	41576594	26
1963	5/4/2007	220A-2000LB	PV	41579474	26
1964	5/10/2007	220A-2000LB	PV	41584110	26
1965	5/23/2007	220A-2000LB	PV	41595998	26
1966	5/29/2007	220A-2000LB	PV	41598583	26
1967	6/6/2007	220A-2000LB	PV	41606651	26
1968	6/8/2007	220A-2000LB	PV	41608322	26
1969	6/12/2007	220A-2000LB	PV	41613809	26
1970	7/11/2007	220A-2000LB	PV	41638083	26
1971	7/12/2007	220A-2000LB	PV	41639669	26
1972	7/17/2007	220A-2000LB	PV	41642567	26
1973	7/17/2007	220A-2000LB	PV	41642905	26
1974	7/24/2007	220A-2000LB	PV	41649395	26
1975	8/7/2007	220A-2000LB	PV	41662031	26
1976	8/21/2007	220A-2000LB	PV	41674038	26
1977	8/21/2007	220A-2000LB	PV	41674049	26
1978	9/7/2007	220A-2000LB	PV	41690628	26
1979	9/7/2007	220A-2000LB	PV	41690672	26
1980	9/24/2007	220A-2000LB	PV	41705332	26
1981	9/24/2007	220A-2000LB	PV	41705340	26
1982	9/26/2007	220A-2000LB	PV	41707833	26
1983	9/26/2007	220A-2000LB	PV	41707835	26
1984	10/3/2007	220A-2000LB	PV	41715738	26
1985	10/4/2007	220A-2000LB	PV	41716330	26
1986	10/10/2007	220A-2000LB	PV	41721145	26
1987	10/22/2007	220A-2000LB	PV	41731200	26
1988	10/29/2007	220A-2000LB	PV	41738587	26
1989	10/31/2007	220A-2000LB	PV	41741947	26
1990	11/19/2007	220A-2000LB	PV	41755090	26
1991	11/30/2007	220A-2000LB	PV	41767093	26
1992	11/30/2007	220A-2000LB	PV	41767153	26
1993	12/7/2007	220A-2000LB	PV	41772668	26
1994	12/7/2007	220A-2000LB	PV	41772907	26
1995	12/17/2007	220A-2000LB	PV	41781864	26
1996	12/26/2007	220A-2000LB	PV	41790330	26
1997	12/26/2007	220A-2000LB	PV	41790358	26
1998	1/4/2008	220A-2000LB	PV	41801345	26
1999	1/23/2008	220A-2000LB	PV	41816097	26
2000	1/24/2008	220A-2000LB	PV	41816875	26

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1999	2,300.00	P
2000	2,300.00	P

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2006	260205.2412	50141748	Brenntag Mid South Inc
2007	260205.2412	50141748	Brenntag Mid South Inc
2008	260205.2412	50141748	Brenntag Mid South Inc
2009	260205.2412	50141748	Brenntag Mid South Inc
2010	260205.2412	50382104	Sterling Water Technologies
2011	260205.2412	10007572	US Pipe & Foundry Co LLC
2012	260205.2412	10007572	US Pipe & Foundry Co LLC
2013	260205.2412	10007572	US Pipe & Foundry Co LLC
2014	260205.2412	10007572	US Pipe & Foundry Co LLC
2015	260205.2412	10007572	US Pipe & Foundry Co LLC
2016	260205.2412	10007572	US Pipe & Foundry Co LLC
2017	260205.2412	10007572	US Pipe & Foundry Co LLC
2018	260205.2412	10007572	US Pipe & Foundry Co LLC
2019	260205.2412	10007572	US Pipe & Foundry Co LLC
2020	260205.2412	10007572	US Pipe & Foundry Co LLC
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2023	260205.2412	10007572	US Pipe & Foundry Co LLC
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2033	260205.2412	10007572	US Pipe & Foundry Co LLC
2034	260205.2412	10007572	US Pipe & Foundry Co LLC
2035	260205.2412	10007572	US Pipe & Foundry Co LLC
2036	260205.2412	10007572	US Pipe & Foundry Co LLC
2037	260205.2412	10007572	US Pipe & Foundry Co LLC
2038	260205.2412	10007572	US Pipe & Foundry Co LLC
2039	260205.2412	10007572	US Pipe & Foundry Co LLC
2040	260205.2412	10007572	US Pipe & Foundry Co LLC
2041	260205.2412	10007572	US Pipe & Foundry Co LLC
2042	260205.2412	10007572	US Pipe & Foundry Co LLC
2043	260205.2412	10007572	US Pipe & Foundry Co LLC
2044	260205.2412	10007572	US Pipe & Foundry Co LLC
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2046	260205.2412	10007572	US Pipe & Foundry Co LLC
2047	260205.2412	10007572	US Pipe & Foundry Co LLC
2048	260205.2412	10007572	US Pipe & Foundry Co LLC
2049	260205.2412	10007572	US Pipe & Foundry Co LLC
2050	260205.2412	10007572	US Pipe & Foundry Co LLC

	D	E	F	G	H
2001	1/24/2008	220A-2000LB	PV	41816882	26
2002	2/7/2008	220A-2000LB	PV	41829282	26
2003	2/8/2008	220A-2000LB	PV	41830395	26
2004	2/13/2008	220A-2000LB	PV	41834139	26
2005	2/25/2008	220A-2000LB	PV	41843885	26
2006	2/28/2008	220A-2000LB	PV	41847745	26
2007	3/6/2008	220A-2000LB	PV	41853444	26
2008	3/18/2008	220A-2000LB	PV	41863366	26
2009	3/18/2008	220A-2000LB	PV	41863384	26
2010	2/29/2008	420E-50LB	PV	41849448	26
2011	2/3/2006	4000606	PV	41242812	26
2012	2/10/2006	4000808	PV	41247006	26
2013	2/23/2006	4000808	PV	41257061	26
2014	2/24/2006	3850808	PV	41257699	26
2015	3/2/2006	3850808	PV	41261270	26
2016	3/7/2006	4000808	PV	41264260	26
2017	3/7/2006	4000808	PV	41264260	26
2018	5/5/2006	4000808	PV	41304568	26
2019	5/5/2006	4000808	PV	41304568	26
2020	5/8/2006	3260808	PV	41305685	26
2021	5/8/2006	4000606	PV	41305762	26
2022	5/8/2006	4000808	PV	41305762	26
2023	5/8/2006	4000808	PV	41305763	26
2024	7/10/2006	4000808	PV	41351142	26
2025	7/18/2006	3850808	PV	41356287	26
2026	7/18/2006	4002424	PV	41356393	26
2027	7/18/2006	4002424	PV	41356393	26
2028	7/18/2006	4002424	PV	41356393	26
2029	7/18/2006	4002424	PV	41356393	26
2030	7/18/2006	4002424	PV	41356393	26
2031	7/20/2006	3851616	PV	41358370	26
2032	7/20/2006	3851616	PV	41358370	26
2033	7/26/2006	4000808	PV	41362960	26
2034	8/4/2006	3262424	PV	41370797	26
2035	8/4/2006	3272424	PV	41370797	26
2036	8/4/2006	7002424	PV	41370797	26
2037	8/4/2006	3852424	PV	41370797	26
2038	8/4/2006	3852424	PV	41370797	26
2039	8/21/2006	4000606	PV	41380721	26
2040	8/21/2006	4000808	PV	41380721	26
2041	8/21/2006	4001212	PV	41380721	26
2042	9/1/2006	4000606	PV	41391900	26
2043	9/1/2006	4000808	PV	41391900	26
2044	9/20/2006	4000808	PV	41404148	26
2045	9/20/2006	4000606	PV	41404150	26
2046	9/20/2006	3850606	PV	41404154	26
2047	9/25/2006	4001616	PV	41406389	26
2048	9/25/2006	4001616	PV	41406389	26
2049	9/25/2006	4001616	PV	41406389	26
2050	9/25/2006	4001616	PV	41406389	26

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2002	1,840.00	P
2003	2,300.00	P
2004	2,300.00	P
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2006	2,300.00	P
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2008	2,300.00	P
2009	2,300.00	P
2010	4,400.00	P
2011	13,637.50	P
2012	13,627.88	P
2013	13,661.20	P
2014	1,844.00	P
2015	1,106.40	P
2016	13,652.87	P
2017	13,627.88	P
2018	13,644.54	P
2019	13,652.87	P
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2028	12,025.60	P
2029	4,735.08	P
2030	12,138.34	P
2031	20,780.50	P
2032	1,922.20	P
2033	7,280.42	P
2034	6,003.00	P
2035	1,986.00	P
2036	1,244.00	P
2037	24,703.00	P
2038	2,285.03	P
2039	4,093.75	P
2040	4,090.03	P
2041	6,040.02	P
2042	6,793.75	P
2043	6,838.93	P
2044	13,947.24	P
2045	13,990.40	P
2046	1,451.10	P
2047	13,467.30	P
2048	13,467.30	P
2049	13,489.56	P
2050	11,152.26	P

	A	B	C
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2053	260205.2412	10007572	US Pipe & Foundry Co LLC
2054	260205.2412	10007572	US Pipe & Foundry Co LLC
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2057	260205.2412	10007572	US Pipe & Foundry Co LLC
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2059	260205.2412	10007572	US Pipe & Foundry Co LLC
2060	260205.2412	10007572	US Pipe & Foundry Co LLC
2061	260205.2412	10007572	US Pipe & Foundry Co LLC
2062	260205.2412	10007572	US Pipe & Foundry Co LLC
2063	260205.2412	10007572	US Pipe & Foundry Co LLC
2064	260205.2412	10007572	US Pipe & Foundry Co LLC
2065	260205.2412	10007572	US Pipe & Foundry Co LLC
2066	260205.2412	10007572	US Pipe & Foundry Co LLC
2067	260205.2412	10007572	US Pipe & Foundry Co LLC
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2072	260205.2412	10007572	US Pipe & Foundry Co LLC
2073	260205.2412	10007572	US Pipe & Foundry Co LLC
2074	260205.2412	10007572	US Pipe & Foundry Co LLC
2075	260205.2412	10007572	US Pipe & Foundry Co LLC
2076	260205.2412	10007572	US Pipe & Foundry Co LLC
2077	260205.2412	10007572	US Pipe & Foundry Co LLC
2078	260205.2412	10007572	US Pipe & Foundry Co LLC
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2080	260205.2412	10007572	US Pipe & Foundry Co LLC
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2082	260205.2412	10007572	US Pipe & Foundry Co LLC
2083	260205.2412	10007572	US Pipe & Foundry Co LLC
2084	260205.2412	10007572	US Pipe & Foundry Co LLC
2085	260205.2412	10007572	US Pipe & Foundry Co LLC
2086	260205.2412	10007572	US Pipe & Foundry Co LLC
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2088	260205.2412	10007572	US Pipe & Foundry Co LLC
2089	260205.2412	10007572	US Pipe & Foundry Co LLC
2090	260205.2412	10007572	US Pipe & Foundry Co LLC
2091	260205.2412	10007572	US Pipe & Foundry Co LLC
2092	260205.2412	10007572	US Pipe & Foundry Co LLC
2093	260205.2412	10007572	US Pipe & Foundry Co LLC
2094	260205.2412	10007572	US Pipe & Foundry Co LLC
2095	260205.2412	10007572	US Pipe & Foundry Co LLC
2096	260205.2412	10007572	US Pipe & Foundry Co LLC
2097	260205.2412	10007572	US Pipe & Foundry Co LLC
2098	260205.2412	10007572	US Pipe & Foundry Co LLC
2099	260205.2412	10007572	US Pipe & Foundry Co LLC
2100	260205.2412	10007572	US Pipe & Foundry Co LLC

	D	E	F	G	H
2051	10/9/2006	4000808	PV	41418208	26
2052	10/9/2006	3850808	PV	41418208	26
2053	10/9/2006	4001616	PV	41418579	26
2054	10/9/2006	4001616	PV	41418579	26
2055	10/9/2006	4001616	PV	41418579	26
2056	10/9/2006	3851616	PV	41418579	26
2057	10/9/2006	3851616	PV	41418579	26
2058	10/9/2006	3851616	PV	41418579	26
2059	10/9/2006	4000606	PV	41418585	26
2060	10/9/2006	4000808	PV	41418585	26
2061	10/16/2006	4001616	PV	41422811	26
2062	10/16/2006	4001616	PV	41422811	26
2063	10/16/2006	4001616	PV	41422811	26
2064	10/16/2006	3851616	PV	41422811	26
2065	10/16/2006	3851616	PV	41422811	26
2066	10/16/2006	3851616	PV	41422811	26
2067	10/25/2006	7442406	PV	41433866	26
2068	11/22/2006	4001212	PV	41452892	26
2069	11/22/2006	4001212	PV	41452892	26
2070	11/22/2006	4001212	PV	41452892	26
2071	11/22/2006	4000808	PV	41452892	26
2072	11/27/2006	4000808	PV	41454413	26
2073	11/27/2006	4000606	PV	41454413	26
2074	11/27/2006	4000606	PV	41454413	26
2075	12/8/2006	4000404	PV	41464960	26
2076	12/8/2006	4000808	PV	41464960	26
2077	12/19/2006	4000808	PV	41473470	26
2078	1/10/2007	4000808	PV	41491049	26
2079	2/23/2007	3850808	PV	41523981	26
2080	2/23/2007	4000808	PV	41523984	26
2081	2/23/2007	4000606	PV	41523984	26
2082	2/23/2007	4000404	PV	41523984	26
2083	2/23/2007	4000808	PV	41523984	26
2084	2/23/2007	4000606	PV	41523984	26
2085	4/6/2007	4001212	PV	41557476	26
2086	4/6/2007	4001212	PV	41557476	26
2087	4/6/2007	4001212	PV	41557476	26
2088	4/6/2007	4001212	PV	41557476	26
2089	4/19/2007	3040808	PV	41567596	26
2090	5/3/2007	4000808	PV	41579015	26
2091	5/3/2007	4000808	PV	41579015	26
2092	5/3/2007	4000808	PV	41579015	26
2093	5/3/2007	4000808	PV	41579015	26
2094	5/3/2007	3850808	PV	41579030	26
2095	6/12/2007	4000606	PV	41613593	26
2096	6/12/2007	4000808	PV	41613593	26
2097	6/12/2007	4000606	PV	41613593	26
2098	6/12/2007	4000808	PV	41613593	26
2099	7/9/2007	3040606	PV	41636762	26
2100	8/21/2007	4000606	PV	41674061	26

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2052	2,258.90	P
2053	14,123.60	P
2054	14,260.28	P
2055	14,283.06	P
2056	6,324.50	P
2057	6,324.50	P
2058	6,324.50	P
2059	6,995.20	P
2060	6,994.92	P
2061	14,283.06	P
2062	12,961.82	P
2063	14,260.28	P
2064	6,324.50	P
2065	6,685.90	P
2066	6,324.50	P
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2070	13,771.36	P
2071	6,875.64	P
2072	13,981.32	P
2073	13,977.60	P
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2075	14,476.23	P
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2077	13,964.28	P
2078	14,721.28	P
2079	1,454.40	P
2080	14,703.36	P
2081	11,716.93	P
2082	3,793.20	P
2083	1,360.06	P
2084	1,083.82	P
2085	14,592.72	P
2086	14,533.40	P
2087	1,349.83	P
2088	1,344.34	P
2089	1,640.00	P
2090	14,712.32	P
2091	14,380.80	P
2092	1,360.89	P
2093	1,330.22	P
2094	1,793.76	P
2095	14,718.51	P
2096	14,676.48	P
2097	1,361.46	P
2098	1,357.57	P
2099	1,240.00	P
2100	6,009.90	P

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2101	260205.2412	10007572	US Pipe & Foundry Co LLC
2102	260205.2412	10007572	US Pipe & Foundry Co LLC
2103	260205.2412	10007572	US Pipe & Foundry Co LLC
2104	260205.2412	10007572	US Pipe & Foundry Co LLC
2105	260205.2412	10007572	US Pipe & Foundry Co LLC
2106	260205.2412	10007572	US Pipe & Foundry Co LLC
2107	260205.2412	10007572	US Pipe & Foundry Co LLC
2108	260205.2412	10007572	US Pipe & Foundry Co LLC
2109	260205.2412	10007572	US Pipe & Foundry Co LLC
2110	260205.2412	10007572	US Pipe & Foundry Co LLC
2111	260205.2412	10007572	US Pipe & Foundry Co LLC
2112	260205.2412	10007572	US Pipe & Foundry Co LLC
2113	260205.2412	10007572	US Pipe & Foundry Co LLC
2114	260205.2412	10007572	US Pipe & Foundry Co LLC
2115	260205.2412	10007572	US Pipe & Foundry Co LLC
2116	260205.2412	10007572	US Pipe & Foundry Co LLC
2117	260205.2412	10007572	US Pipe & Foundry Co LLC
2118	260205.2412	10007572	US Pipe & Foundry Co LLC
2119	260205.2412	10007572	US Pipe & Foundry Co LLC
2120	260205.2412	10007572	US Pipe & Foundry Co LLC
2121	260205.2412	10007572	US Pipe & Foundry Co LLC
2122	260205.2412	10007572	US Pipe & Foundry Co LLC
2123	260205.2412	10007572	US Pipe & Foundry Co LLC
2124	260205.2412	10007572	US Pipe & Foundry Co LLC
2125	260205.2412	10007572	US Pipe & Foundry Co LLC
2126	260205.2412	10007572	US Pipe & Foundry Co LLC
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2131	260205.2412	11000411	Bingham & Taylor Corp
2132	260205.2412	11000411	Bingham & Taylor Corp
2133	260205.2412	11000411	Bingham & Taylor Corp
2134	260205.2412	11000411	Bingham & Taylor Corp
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2140	260205.2412	11000411	Bingham & Taylor Corp
2141	260205.2412	11000411	Bingham & Taylor Corp
2142	260205.2412	11000411	Bingham & Taylor Corp
2143	260205.2412	11000411	Bingham & Taylor Corp
2144	260205.2412	11000411	Bingham & Taylor Corp
2145	260205.2412	11000411	Bingham & Taylor Corp
2146	260205.2412	18514376	Ford Meter Box Co Inc
2147	260205.2412	18514376	Ford Meter Box Co Inc
2148	260205.2412	18514376	Ford Meter Box Co Inc
2149	260205.2412	18514376	Ford Meter Box Co Inc
2150	260205.2412	18514376	Ford Meter Box Co Inc

	D	E	F	G	H
2101	8/21/2007	4000808	PV	41674061	26
2102	9/11/2007	4000606	PV	41693371	26
2103	9/11/2007	4000606	PV	41693371	26
2104	9/24/2007	3850808	PV	41705294	26
2105	10/4/2007	4000808	PV	41716346	26
2106	10/4/2007	4000808	PV	41716346	26
2107	10/12/2007	4001212	PV	41722761	26
2108	10/12/2007	4001212	PV	41722761	26
2109	10/12/2007	4001212	PV	41722761	26
2110	10/12/2007	4001212	PV	41722761	26
2111	10/12/2007	3851212	PV	41722761	26
2112	10/12/2007	4001212	PV	41722761	26
2113	10/12/2007	4001212	PV	41722761	26
2114	10/12/2007	4001212	PV	41722761	26
2115	10/12/2007	4001212	PV	41722761	26
2116	10/29/2007	3850808	PV	41738584	26
2117	12/26/2007	4000606	PV	41790325	26
2118	12/26/2007	4000808	PV	41790325	26
2119	1/21/2008	3850606	PV	41814210	26
2120	2/7/2008	4000606	PV	41829288	26
2121	2/7/2008	4000606	PV	41829288	26
2122	2/7/2008	3040606	PV	41829308	26
2123	2/11/2008	4000606	PV	41832784	26
2124	2/11/2008	4001212	PV	41832784	26
2125	2/13/2008	3002424	PV	41834149	26
2126	2/13/2008	3851212	PV	41834166	26
2127	2/18/2008	4000404	PV	41838111	26
2128	2/18/2008	4000606	PV	41838111	26
2129	3/11/2008	4001212	PV	41857520	26
2130	3/11/2008	4001212	PV	41857520	26
2131	7/26/2006	2380000	PV	41363830	26
2132	7/26/2006	2390000	PV	41363830	26
2133	9/27/2006	2380000	PV	41409052	26
2134	9/27/2006	2390000	PV	41409052	26
2135	10/18/2006	2380000	PV	41428245	26
2136	10/18/2006	2390000	PV	41428245	26
2137	1/9/2007	2380000	PV	41490654	26
2138	1/9/2007	2390000	PV	41490654	26
2139	1/16/2007	2380000	PV	41496260	26
2140	6/13/2007	2380000	PV	41614214	26
2141	6/13/2007	2390000	PV	41614214	26
2142	10/19/2007	2380000	PV	41729256	26
2143	10/19/2007	2390000	PV	41729256	26
2144	2/11/2008	2380000	PV	41832778	26
2145	2/11/2008	2390000	PV	41832778	26
2146	2/3/2006	1530202	PV	41242831	26
2147	3/14/2006	1530202	PV	41269221	26
2148	7/18/2006	1530202	PV	41356260	26
2149	9/21/2006	1530202	PV	41404300	26
2150	9/27/2006	1530202	PV	41408968	26

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2102	15,021.30	P
2103	1,389.47	P
2104	1,163.52	P
2105	15,007.27	P
2106	1,388.17	P
2107	14,966.64	P
2108	14,951.43	P
2109	14,966.64	P
2110	14,951.43	P
2111	4,655.08	P
2112	1,384.41	P
2113	1,383.01	P
2114	1,384.41	P
2115	1,383.01	P
2116	1,551.36	P
2117	6,016.80	P
2118	9,033.77	P
2119	1,088.70	P
2120	15,083.40	P
2121	1,395.21	P
2122	1,284.00	P
2123	7,541.70	P
2124	8,304.66	P
2125	1,274.00	P
2126	2,407.80	P
2127	6,513.60	P
2128	10,577.70	P
2129	14,981.85	P
2130	1,385.82	P
2131	1,311.50	P
2132	1,244.50	P
2133	1,311.50	P
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2135	1,311.50	P
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2137	1,311.50	P
2138	1,244.50	P
2139	1,311.50	P
2140	1,352.00	P
2141	1,283.00	P
2142	1,352.00	P
2143	1,283.00	P
2144	1,405.50	P
2145	1,334.50	P
2146	1,921.02	P
2147	4,317.36	P
2148	3,597.80	P
2149	3,166.03	P
2150	2,713.74	P

	A	B	C
2151	260205.2412	18514376	Ford Meter Box Co Inc
2152	260205.2412	18529383	JCM Industries Inc
2153	260205.2412	18529383	JCM Industries Inc
2154	260205.2412	18529383	JCM Industries Inc
2155	260205.2412	18543530	Mueller Co
2156	260205.2412	18543530	Mueller Co
2157	260205.2412	18543530	Mueller Co
2158	260205.2412	18543530	Mueller Co
2159	260205.2412	18543530	Mueller Co
2160	260205.2412	18543530	Mueller Co
2161	260205.2412	18543530	Mueller Co
2162	260205.2412	18543530	Mueller Co
2163	260205.2412	18543530	Mueller Co
2164	260205.2412	18543530	Mueller Co
2165	260205.2412	18543530	Mueller Co
2166	260205.2412	18543530	Mueller Co
2167	260205.2412	18543530	Mueller Co
2168	260205.2412	18543530	Mueller Co
2169	260205.2412	18543530	Mueller Co
2170	260205.2412	18543530	Mueller Co
2171	260205.2412	18543530	Mueller Co
2172	260205.2412	18543530	Mueller Co
2173	260205.2412	18543530	Mueller Co
2174	260205.2412	18543530	Mueller Co
2175	260205.2412	18543530	Mueller Co
2176	260205.2412	18543530	Mueller Co
2177	260205.2412	18543530	Mueller Co
2178	260205.2412	18543530	Mueller Co
2179	260205.2412	18543530	Mueller Co
2180	260205.2412	18543530	Mueller Co
2181	260205.2412	18543530	Mueller Co
2182	260205.2412	18543530	Mueller Co
2183	260205.2412	18543530	Mueller Co
2184	260205.2412	18543530	Mueller Co
2185	260205.2412	18543530	Mueller Co
2186	260205.2412	18543530	Mueller Co
2187	260205.2412	18543530	Mueller Co
2188	260205.2412	18543530	Mueller Co
2189	260205.2412	18543530	Mueller Co
2190	260205.2412	18543530	Mueller Co
2191	260205.2412	18543530	Mueller Co
2192	260205.2412	18543530	Mueller Co
2193	260205.2412	18543530	Mueller Co
2194	260205.2412	18543530	Mueller Co
2195	260205.2412	18543530	Mueller Co
2196	260205.2412	18543530	Mueller Co
2197	260205.2412	18543530	Mueller Co
2198	260205.2412	18543530	Mueller Co
2199	260205.2412	18543530	Mueller Co
2200	260205.2412	18543530	Mueller Co

	D	E	F	G	H
2151	9/27/2006	1530202	PV	41409033	26
2152	3/28/2007	7383608	PV	41549591	26
2153	3/31/2008	7442406	PV	41873321	26
2154	3/31/2008	7201606	PV	41873321	26
2155	1/16/2006	1660G0H	PV	41231680	26
2156	2/6/2006	1660G0H	PV	41243723	26
2157	2/6/2006	1660G0H	PV	41243723	26
2158	3/7/2006	8040808	PV	41263997	26
2159	3/7/2006	5600423	PV	41264004	26
2160	3/14/2006	8000808	PV	41268997	26
2161	3/14/2006	5600423	PV	41268999	26
2162	3/14/2006	8150202	PV	41269003	26
2163	3/14/2006	7200606	PV	41269013	26
2164	4/5/2006	8050606	PV	41283685	26
2165	5/2/2006	1660G0H	PV	41302758	26
2166	5/23/2006	490202	PV	41317719	26
2167	7/18/2006	8441616	PV	41356160	26
2168	7/18/2006	1660G0H	PV	41356161	26
2169	7/18/2006	8000808	PV	41356170	26
2170	7/18/2006	1660G0H	PV	41356185	26
2171	7/18/2006	8441616	PV	41356207	26
2172	7/18/2006	1660G0H	PV	41356228	26
2173	8/10/2006	1660G0H	PV	41375066	26
2174	8/10/2006	1660G0H	PV	41375066	26
2175	8/10/2006	8442424	PV	41375067	26
2176	8/16/2006	5600423	PV	41379089	26
2177	8/22/2006	1660G0H	PV	41383128	26
2178	8/22/2006	1660G0H	PV	41383128	26
2179	9/5/2006	1660G0H	PV	41392381	26
2180	9/8/2006	8041616	PV	41395594	26
2181	9/14/2006	8040808	PV	41400512	26
2182	9/14/2006	7200808	PV	41400518	26
2183	9/14/2006	7201616	PV	41400521	26
2184	9/15/2006	8040606	PV	41401110	26
2185	10/9/2006	1660G0H	PV	41418608	26
2186	10/9/2006	1660G0H	PV	41418608	26
2187	10/9/2006	1660G0H	PV	41418642	26
2188	10/18/2006	1660G0H	PV	41428241	26
2189	11/10/2006	1530202	PV	41445353	26
2190	12/27/2006	1660G0H	PV	41480456	26
2191	12/27/2006	1660G0H	PV	41480458	26
2192	1/4/2007	1660G0H	PV	41486752	26
2193	1/25/2007	1530202	PV	41502247	26
2194	2/8/2007	1660G0H	PV	41512549	26
2195	2/12/2007	1660G0H	PV	41515727	26
2196	2/23/2007	1660G0H	PV	41523970	26
2197	3/6/2007	1530202	PV	41532326	26
2198	3/9/2007	5600423	PV	41534919	26
2199	3/19/2007	5600423	PV	41542153	26
2200	4/6/2007	1660G0H	PV	41557269	26

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2153	1,430.80	P
2154	1,341.40	P
2155	1,641.60	P
2156	3,216.00	P
2157	1,298.40	P
2158	1,050.60	P
2159	2,240.80	P
2160	2,712.19	P
2161	5,578.04	P
2162	1,224.90	P
2163	1,736.46	P
2164	2,537.08	P
2165	4,502.40	P
2166	1,050.00	P
2167	1,013.00	P
2168	1,608.00	P
2169	1,769.20	P
2170	5,467.20	P
2171	2,026.00	P
2172	1,143.60	P
2173	6,882.00	P
2174	1,223.60	P
2175	4,432.00	P
2176	5,148.96	P
2177	1,720.50	P
2178	1,529.50	P
2179	2,064.60	P
2180	2,300.00	P
2181	1,613.64	P
2182	1,992.48	P
2183	1,337.34	P
2184	1,010.85	P
2185	2,408.70	P
2186	1,529.50	P
2187	2,752.80	P
2188	1,041.90	P
2189	2,027.90	P
2190	7,456.00	P
2191	1,376.40	P
2192	2,982.40	P
2193	3,650.22	P
2194	1,658.00	P
2195	1,658.00	P
2196	3,728.00	P
2197	4,867.00	P
2198	2,372.95	P
2199	1,423.77	P
2200	6,263.60	P

	A	B	C
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2202	260205.2412	18543530	Mueller Co
2203	260205.2412	18543530	Mueller Co
2204	260205.2412	18543530	Mueller Co
2205	260205.2412	18543530	Mueller Co
2206	260205.2412	18543530	Mueller Co
2207	260205.2412	18543530	Mueller Co
2208	260205.2412	18543530	Mueller Co
2209	260205.2412	18543530	Mueller Co
2210	260205.2412	18543530	Mueller Co
2211	260205.2412	18543530	Mueller Co
2212	260205.2412	18543530	Mueller Co
2213	260205.2412	18543530	Mueller Co
2214	260205.2412	18543530	Mueller Co
2215	260205.2412	18543530	Mueller Co
2216	260205.2412	18543530	Mueller Co
2217	260205.2412	18543530	Mueller Co
2218	260205.2412	18543530	Mueller Co
2219	260205.2412	18543530	Mueller Co
2220	260205.2412	18543530	Mueller Co
2221	260205.2412	18543530	Mueller Co
2222	260205.2412	18543530	Mueller Co
2223	260205.2412	18543530	Mueller Co
2224	260205.2412	18543530	Mueller Co
2225	260205.2412	18543530	Mueller Co
2226	260205.2412	18543530	Mueller Co
2227	260205.2412	18543530	Mueller Co
2228	260205.2412	18543530	Mueller Co
2229	260205.2412	18543530	Mueller Co
2230	260205.2412	18543530	Mueller Co
2231	260205.2412	18543530	Mueller Co
2232	260205.2412	18543530	Mueller Co
2233	260205.2412	18543530	Mueller Co
2234	260205.2412	18543530	Mueller Co
2235	260205.2412	18543530	Mueller Co
2236	260205.2412	18543530	Mueller Co
2237	260205.2412	18543530	Mueller Co
2238	260205.2412	18543530	Mueller Co
2239	260205.2412	19000429	Hydraflo Inc
2240	260205.2412	19000429	Hydraflo Inc
2241	260205.2412	26000509	Piping Supply Co
2242	260205.2412	26000509	Piping Supply Co
2243	260205.2412	26000509	Piping Supply Co
2244	260205.2412	26000509	Piping Supply Co
2245	260205.2412	26000509	Piping Supply Co
2246	260205.2412	26000509	Piping Supply Co
2247	260205.2412	26000509	Piping Supply Co
2248	260205.2412	26000509	Piping Supply Co
2249	260205.2412	26000509	Piping Supply Co
2250	260205.2412	26000509	Piping Supply Co

	D	E	F	G	H
2201	4/6/2007	1660G0H	PV	41557269	26
2202	4/6/2007	1660G0H	PV	41557295	26
2203	4/20/2007	1660G0H	PV	41568152	26
2204	5/3/2007	7201208	PV	41578834	26
2205	5/10/2007	7201206	PV	41583995	26
2206	5/31/2007	8050606	PV	41602453	26
2207	6/12/2007	7201606	PV	41613583	26
2208	6/18/2007	1660G0H	PV	41617792	26
2209	6/28/2007	5600423	PV	41626648	26
2210	6/29/2007	1660G0H	PV	41628222	26
2211	7/11/2007	7201606	PV	41638053	26
2212	7/11/2007	1660G0H	PV	41638076	26
2213	7/17/2007	5600423	PV	41642900	26
2214	7/24/2007	1530202	PV	41649387	26
2215	8/21/2007	1530202	PV	41674043	26
2216	9/7/2007	7200806	PV	41690632	26
2217	9/7/2007	7201206	PV	41690632	26
2218	9/7/2007	8050606	PV	41690657	26
2219	9/24/2007	1660G0H	PV	41705320	26
2220	9/24/2007	1660G0H	PV	41705320	26
2221	9/24/2007	1530202	PV	41705347	26
2222	9/25/2007	5600423	PV	41705502	26
2223	10/10/2007	5600423	PV	41721144	26
2224	10/19/2007	1530202	PV	41729257	26
2225	10/31/2007	1660G0H	PV	41741948	26
2226	12/17/2007	1530202	PV	41781871	26
2227	12/17/2007	1660G0H	PV	41781872	26
2228	12/17/2007	1660G0H	PV	41781872	26
2229	1/4/2008	1660G0H	PV	41801333	26
2230	1/28/2008	7201206	PV	41820132	26
2231	2/7/2008	1530202	PV	41829276	26
2232	2/7/2008	1530202	PV	41829312	26
2233	2/7/2008	1660G0H	PV	41829328	26
2234	2/7/2008	490202	PV	41829332	26
2235	2/18/2008	5600423	PV	41838115	26
2236	2/18/2008	5600423	PV	41838116	26
2237	3/6/2008	1660G0H	PV	41853397	26
2238	3/7/2008	5600423	PV	41854003	26
2239	1/16/2006	5600606	PV	41231630	26
2240	4/20/2006	5600606	PV	41296025	26
2241	1/16/2006	2061414	PV	41231489	26
2242	1/16/2006	2061422	PV	41231489	26
2243	2/3/2006	2061414	PV	41242817	26
2244	2/3/2006	2061422	PV	41242817	26
2245	3/8/2006	3760808	PV	41264927	26
2246	4/19/2006	2061414	PV	41293569	26
2247	4/19/2006	2061422	PV	41293569	26
2248	4/20/2006	3760808	PV	41296006	26
2249	4/20/2006	3760606	PV	41296006	26
2250	7/18/2006	3760808	PV	41356195	26

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2202	1,138.05	P
2203	2,936.80	P
2204	1,097.44	P
2205	2,066.28	P
2206	1,533.00	P
2207	1,381.56	P
2208	1,101.30	P
2209	3,448.13	P
2210	1,342.20	P
2211	1,381.56	P
2212	6,711.00	P
2213	2,955.54	P
2214	1,946.80	P
2215	1,946.80	P
2216	1,305.90	P
2217	1,033.14	P
2218	2,002.16	P
2219	5,143.20	P
2220	1,101.30	P
2221	4,055.80	P
2222	3,940.72	P
2223	2,955.54	P
2224	4,055.80	P
2225	8,572.00	P
2226	2,433.48	P
2227	12,858.00	P
2228	1,189.37	P
2229	2,569.70	P
2230	1,033.14	P
2231	1,231.35	P
2232	2,462.70	P
2233	2,349.00	P
2234	1,011.00	P
2235	1,014.74	P
2236	1,014.74	P
2237	1,156.20	P
2238	2,029.48	P
2239	2,384.70	P
2240	2,383.95	P
2241	7,915.00	P
2242	4,915.00	P
2243	2,286.20	P
2244	2,482.50	P
2245	1,509.62	P
2246	4,245.80	P
2247	2,482.50	P
2248	1,325.52	P
2249	1,726.59	P
2250	1,178.24	P

	A	B	C
2251	260205.2412	26000509	Piping Supply Co
2252	260205.2412	26000509	Piping Supply Co
2253	260205.2412	26000509	Piping Supply Co
2254	260205.2412	26000509	Piping Supply Co
2255	260205.2412	26000509	Piping Supply Co
2256	260205.2412	26000509	Piping Supply Co
2257	260205.2412	26000509	Piping Supply Co
2258	260205.2412	26000509	Piping Supply Co
2259	260205.2412	26000509	Piping Supply Co
2260	260205.2412	26000509	Piping Supply Co
2261	260205.2412	26000509	Piping Supply Co
2262	260205.2412	26000509	Piping Supply Co
2263	260205.2412	26000509	Piping Supply Co
2264	260205.2412	26000509	Piping Supply Co
2265	260205.2412	26000509	Piping Supply Co
2266	260205.2412	26000509	Piping Supply Co
2267	260205.2412	26000970	Walter A Wood Supply Co Inc
2268	260205.2412	26000970	Walter A Wood Supply Co Inc
2269	260205.2412	26000970	Walter A Wood Supply Co Inc
2270	260205.2412	26003914	Georgia Metal Craft Enterprises Inc
2271	260205.2412	26003914	Georgia Metal Craft Enterprises Inc
2272	260205.2412	26003914	Georgia Metal Craft Enterprises Inc
2273	260205.2412	26003914	Georgia Metal Craft Enterprises Inc
2274	260205.2412	26003922	Pierce Welding & Machine Inc
2275	260205.2412	26003922	Pierce Welding & Machine Inc
2276	260205.2412	26003922	Pierce Welding & Machine Inc
2277	260205.2412	26003922	Pierce Welding & Machine Inc
2278	260205.2412	26003922	Pierce Welding & Machine Inc
2279	260205.2412	26003922	Pierce Welding & Machine Inc
2280	260205.2412	26003922	Pierce Welding & Machine Inc
2281	260205.2412	26003922	Pierce Welding & Machine Inc
2282	260205.2412	26003922	Pierce Welding & Machine Inc
2283	260205.2412	26003922	Pierce Welding & Machine Inc
2284	260205.2412	26003922	Pierce Welding & Machine Inc
2285	260205.2412	26003922	Pierce Welding & Machine Inc
2286	260205.2412	26003922	Pierce Welding & Machine Inc
2287	260205.2412	27003156	Neptune Technology Group Inc
2288	260205.2412	27003156	Neptune Technology Group Inc
2289	260205.2412	27003156	Neptune Technology Group Inc
2290	260205.2412	27003156	Neptune Technology Group Inc
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2292	260205.2412	27003156	Neptune Technology Group Inc
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2295	260205.2412	27003156	Neptune Technology Group Inc
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2298	260205.2412	27003156	Neptune Technology Group Inc
2299	260205.2412	27003156	Neptune Technology Group Inc
2300	260205.2412	27003156	Neptune Technology Group Inc

	D	E	F	G	H
2251	7/18/2006	2061414	PV	41356342	26
2252	7/18/2006	2061422	PV	41356342	26
2253	7/26/2006	3762424	PV	41363835	26
2254	9/27/2006	2061414	PV	41408969	26
2255	9/27/2006	2061422	PV	41408969	26
2256	11/6/2006	2061414	PV	41442164	26
2257	11/6/2006	2061422	PV	41442164	26
2258	1/4/2007	2061414	PV	41486889	26
2259	1/4/2007	2061422	PV	41486889	26
2260	1/9/2007	2061414	PV	41490599	26
2261	3/9/2007	2061414	PV	41534910	26
2262	3/9/2007	2061414	PV	41534912	26
2263	3/9/2007	2061422	PV	41534912	26
2264	3/12/2007	7201206	PV	41536486	26
2265	3/30/2007	7201206	PV	41553047	26
2266	3/18/2008	3760808	PV	41863363	26
2267	9/14/2007	8620606	PV	41697408	26
2268	12/26/2007	7201206	PV	41790253	26
2269	3/17/2008	8620606	PV	41862076	26
2270	5/29/2007	2061422	PV	41598591	26
2271	5/29/2007	2061500	PV	41598594	26
2272	6/6/2007	2061500	PV	41606749	26
2273	6/6/2007	2061422	PV	41606749	26
2274	9/14/2007	2061414	PV	41697409	26
2275	10/10/2007	1971414	PV	41721160	26
2276	10/10/2007	1971422	PV	41721160	26
2277	10/10/2007	2061422	PV	41721160	26
2278	11/5/2007	2061414	PV	41745895	26
2279	12/7/2007	2061414	PV	41772818	26
2280	12/7/2007	2061422	PV	41772818	26
2281	12/31/2007	2061414	PV	41797602	26
2282	12/31/2007	2061422	PV	41797602	26
2283	12/31/2007	1971414	PV	41797602	26
2284	12/31/2007	1971422	PV	41797602	26
2285	3/31/2008	1971422	PV	41873367	26
2286	3/31/2008	1971422	PV	41873367	26
2287	4/19/2006	8840G0G	PV	41293522	26
2288	5/23/2006	8850202	PV	41316865	26
2289	5/23/2006	8820202	PV	41316866	26
2290	6/6/2006	8840303	PV	41326172	26
2291	6/7/2006	8850202	PV	41326682	26
2292	7/18/2006	8840G0G	PV	41356250	26
2293	7/26/2006	8840101	PV	41363833	26
2294	7/26/2006	8840H0H	PV	41363833	26
2295	11/9/2006	8800G0G	PV	41444474	26
2296	11/9/2006	8800G0G	PV	41444474	26
2297	11/21/2006	8800G0G	PV	41452112	26
2298	11/21/2006	8800G0G	PV	41452112	26
2299	12/12/2006	8840G0G	PV	41468079	26
2300	12/19/2006	8810606	PV	41473478	26

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2254	4,082.50	P
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2256	4,899.00	P
2257	4,965.00	P
2258	4,899.00	P
2259	4,965.00	P
2260	4,899.00	P
2261	4,899.00	P
2262	4,899.00	P
2263	4,965.00	P
2264	1,239.80	P
2265	1,239.80	P
2266	1,104.60	P
2267	1,711.80	P
2268	1,428.95	P
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2270	1,208.22	P
2271	1,175.16	P
2272	1,147.18	P
2273	1,146.26	P
2274	1,161.50	P
2275	2,250.00	P
2276	1,650.00	P
2277	2,662.50	P
2278	1,150.00	P
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2283	3,600.00	P
2284	1,650.00	P
2285	3,600.00	P
2286	4,275.00	P
2287	53,130.00	P
2288	2,536.56	P
2289	1,117.20	P
2290	2,609.25	P
2291	5,482.50	P
2292	53,130.00	P
2293	5,292.00	P
2294	1,505.28	P
2295	335,910.00	P
2296	31,071.68	P
2297	335,910.00	P
2298	31,071.68	P
2299	35,420.00	P
2300	4,103.80	P

	A	B	C
2301	260205.2412	27003156	Neptune Technology Group Inc
2302	260205.2412	27003156	Neptune Technology Group Inc
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2304	260205.2412	27003156	Neptune Technology Group Inc
2305	260205.2412	27003156	Neptune Technology Group Inc
2306	260205.2412	27003156	Neptune Technology Group Inc
2307	260205.2412	27003156	Neptune Technology Group Inc
2308	260205.2412	27003156	Neptune Technology Group Inc
2309	260205.2412	27003156	Neptune Technology Group Inc
2310	260205.2412	27003156	Neptune Technology Group Inc
2311	260205.2412	27003156	Neptune Technology Group Inc
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2335	260205.2412	50004476	Dempseys Welding
2336	260205.2412	50004476	Dempseys Welding
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2350	260205.2412	50004476	Dempseys Welding

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2302	2/8/2007	8800202	PV	41512558	26
2303	2/8/2007	8800202	PV	41512558	26
2304	2/12/2007	8840101	PV	41515737	26
2305	2/12/2007	8800H0H	PV	41515740	26
2306	2/16/2007	8840G0G	PV	41518876	26
2307	2/16/2007	8840G0G	PV	41518876	26
2308	2/23/2007	8840G0G	PV	41523992	26
2309	2/23/2007	8840G0G	PV	41523992	26
2310	2/23/2007	8800101	PV	41523994	26
2311	3/14/2007	8840G0G	PV	41539092	26
2312	3/14/2007	8840G0G	PV	41539092	26
2313	4/3/2007	8800101	PV	41555354	26
2314	4/3/2007	8800101	PV	41555354	26
2315	4/18/2007	8800G0G	PV	41566549	26
2316	7/11/2007	8810404	PV	41638078	26
2317	8/7/2007	8850202	PV	41662002	26
2318	8/7/2007	8840303	PV	41662003	26
2319	8/7/2007	8800101	PV	41662015	26
2320	8/7/2007	8800101	PV	41662015	26
2321	9/12/2007	8810606	PV	41695143	26
2322	9/24/2007	8810606	PV	41705337	26
2323	9/28/2007	8800G0G	PV	41710331	26
2324	9/28/2007	8800G0G	PV	41710331	26
2325	10/29/2007	8810404	PV	41738588	26
2326	10/29/2007	8850606	PV	41738599	26
2327	11/5/2007	8800G0G	PV	41745913	26
2328	11/5/2007	8800G0G	PV	41745913	26
2329	11/8/2007	8810606	PV	41748572	26
2330	1/24/2008	8800101	PV	41816869	26
2331	1/28/2008	8800202	PV	41820130	26
2332	1/28/2008	8800202	PV	41820130	26
2333	2/7/2008	8800G0G	PV	41829301	26
2334	2/7/2008	8800G0G	PV	41829301	26
2335	1/16/2006	1971414	PV	41231390	26
2336	1/17/2006	1971414	PV	41232035	26
2337	1/24/2006	1971422	PV	41237582	26
2338	2/27/2006	1971414	PV	41258313	26
2339	2/27/2006	1972442	PV	41258316	26
2340	2/27/2006	2062442	PV	41258316	26
2341	3/13/2006	1971422	PV	41266920	26
2342	3/14/2006	1971414	PV	41269376	26
2343	4/5/2006	1972442	PV	41283682	26
2344	4/5/2006	2062442	PV	41283682	26
2345	4/11/2006	1971414	PV	41288469	26
2346	5/5/2006	1971422	PV	41304576	26
2347	5/5/2006	1971414	PV	41304577	26
2348	6/8/2006	1971414	PV	41327619	26
2349	6/8/2006	1972442	PV	41327623	26
2350	6/8/2006	2062442	PV	41327623	26

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2315	8,694.00	P
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2318	2,664.95	P
2319	17,254.00	P
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2322	4,140.98	P
2323	86,940.00	P
2324	8,041.95	P
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2329	4,140.98	P
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2345	1,824.00	P
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2352	6/27/2006	1971422	PV	41340561	26
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2354	8/7/2006	1972442	PV	41372383	26
2355	8/7/2006	2062442	PV	41372383	26
2356	8/21/2006	1971414	PV	41381737	26
2357	8/23/2006	1972442	PV	41385306	26
2358	8/23/2006	2062442	PV	41385306	26
2359	8/23/2006	1971414	PV	41385306	26
2360	8/23/2006	1971422	PV	41385310	26
2361	9/1/2006	1971422	PV	41392227	26
2362	9/21/2006	1971414	PV	41404332	26
2363	10/13/2006	1971422	PV	41421507	26
2364	10/13/2006	1971414	PV	41421508	26
2365	10/18/2006	1971414	PV	41428246	26
2366	11/6/2006	1971422	PV	41441994	26
2367	11/17/2006	2062442	PV	41449065	26
2368	11/17/2006	1972442	PV	41449065	26
2369	11/29/2006	1971422	PV	41457082	26
2370	12/6/2006	1971422	PV	41463575	26
2371	12/19/2006	1971414	PV	41473472	26
2372	12/27/2006	1971422	PV	41480450	26
2373	1/16/2007	1971422	PV	41496235	26
2374	1/22/2007	1972442	PV	41498849	26
2375	1/22/2007	2062442	PV	41498849	26
2376	1/31/2007	1971414	PV	41507540	26
2377	2/22/2007	1971414	PV	41522447	26
2378	3/7/2007	1971422	PV	41533498	26
2379	3/14/2007	1972442	PV	41538639	26
2380	3/14/2007	2062442	PV	41538639	26
2381	3/14/2007	1971422	PV	41538822	26
2382	3/14/2007	1971414	PV	41538828	26
2383	4/3/2007	1971422	PV	41555381	26
2384	4/12/2007	1971422	PV	41561846	26
2385	4/12/2007	1971414	PV	41561848	26
2386	5/3/2007	1971414	PV	41578696	26
2387	5/22/2007	1971422	PV	41594256	26
2388	5/31/2007	1971414	PV	41602825	26
2389	6/12/2007	1971422	PV	41613592	26
2390	6/28/2007	1972442	PV	41626646	26
2391	6/28/2007	2062442	PV	41626646	26
2392	7/12/2007	1971414	PV	41639663	26
2393	7/12/2007	1971422	PV	41639664	26
2394	7/24/2007	1971422	PV	41649416	26
2395	7/24/2007	1971414	PV	41649418	26
2396	9/14/2007	1971422	PV	41697403	26
2397	9/14/2007	1971414	PV	41697415	26
2398	9/14/2007	1971422	PV	41697415	26
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2422	260205.2412	50115041	Ferguson Enterprises Inc
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2405	11/30/2007	1971422	PV	41767081	26
2406	12/5/2007	1972442	PV	41770785	26
2407	12/5/2007	2062442	PV	41770785	26
2408	12/17/2007	1971422	PV	41781861	26
2409	12/17/2007	1971414	PV	41781862	26
2410	1/9/2008	1971422	PV	41804301	26
2411	1/21/2008	1971414	PV	41814224	26
2412	2/25/2008	1972442	PV	41843431	26
2413	2/25/2008	2062442	PV	41843431	26
2414	3/17/2008	1971422	PV	41862064	26
2415	2/24/2006	1660101	PV	41257817	26
2416	4/6/2007	1660101	PV	41557473	26
2417	1/30/2008	1660101	PV	41821457	26
2418	2/11/2008	1660101	PV	41832782	26
2419	8/9/2007	2061500	PV	41663976	26
2420	8/9/2007	2061422	PV	41663976	26
2421	8/9/2007	2061500	PV	41663978	26
2422	2/28/2006	4210H0H	PV	41259761	26
2423	3/31/2006	4210H0H	PV	41281680	26
2424	5/5/2006	4210H0H	PV	41304626	26
2425	5/5/2006	4210202	PV	41304626	26
2426	5/5/2006	4210101	PV	41304628	26
2427	6/7/2006	4210H0H	PV	41326751	26
2428	6/7/2006	4210101	PV	41326751	26
2429	6/7/2006	4210101	PV	41326755	26
2430	6/7/2006	4210H0H	PV	41326765	26
2431	6/7/2006	4210101	PV	41326765	26
2432	11/21/2006	4210H0H	PV	41452142	26
2433	11/21/2006	4210202	PV	41452142	26
2434	11/29/2006	4210101	PV	41457125	26
2435	1/12/2007	4210H0H	PV	41493381	26
2436	1/12/2007	4210202	PV	41493381	26
2437	1/15/2007	4210H0H	PV	41495053	26
2438	1/25/2007	4210101	PV	41502260	26
2439	1/25/2007	4210101	PV	41502261	26
2440	2/9/2007	4210H0H	PV	41513959	26
2441	2/12/2007	4210202	PV	41515735	26
2442	3/9/2007	4210H0H	PV	41534936	26
2443	4/6/2007	4210101	PV	41557289	26
2444	4/11/2007	4210101	PV	41560867	26
2445	4/25/2007	4210202	PV	41572426	26
2446	5/3/2007	4210H0H	PV	41578866	26
2447	5/18/2007	4210101	PV	41590815	26
2448	7/11/2007	4210101	PV	41638109	26
2449	8/7/2007	4210H0H	PV	41662008	26
2450	8/24/2007	4210H0H	PV	41675888	26

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2457	260205.2412	50270897	FEI
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2476	260205.2412	50270897	FEI
2477	260205.2412	50270897	FEI
2478	260205.2412	50355351	TSS Company Inc
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2482	260205.2412	50355351	TSS Company Inc
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2485	260205.2412	50355351	TSS Company Inc
2486	260205.2412	50355351	TSS Company Inc
2487	260205.2412	26000923	Tennessee Dept of Revenue
2488	260205.2412	26000923	Tennessee Dept of Revenue
2489	260205.2412	26000923	Tennessee Dept of Revenue
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2491	260205.2412	26000923	Tennessee Dept of Revenue
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2495	260205.2412	26000923	Tennessee Dept of Revenue
2496	260205.2412	26000923	Tennessee Dept of Revenue
2497	260205.2412	26000923	Tennessee Dept of Revenue
2498	260205.2412	26000923	Tennessee Dept of Revenue
2499	260205.2412	26000923	Tennessee Dept of Revenue
2500	260205.2412	26000923	Tennessee Dept of Revenue

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2451	9/7/2007	4210101	PV	41690636	26
2452	9/7/2007	4210101	PV	41690679	26
2453	9/14/2007	4210202	PV	41697385	26
2454	9/14/2007	4210H0H	PV	41697386	26
2455	9/27/2007	4210H0H	PV	41710010	26
2456	1/21/2008	4210H0H	PV	41814252	26
2457	7/18/2006	4210101	PV	41356354	26
2458	7/20/2006	4210H0H	PV	41358704	26
2459	7/20/2006	4210101	PV	41358704	26
2460	7/20/2006	4210202	PV	41358704	26
2461	7/26/2006	4210101	PV	41363829	26
2462	8/10/2006	4210101	PV	41375072	26
2463	8/21/2006	4210H0H	PV	41381787	26
2464	9/8/2006	4210101	PV	41395679	26
2465	9/15/2006	4210101	PV	41401169	26
2466	9/27/2006	4210H0H	PV	41408972	26
2467	10/9/2006	4210101	PV	41418197	26
2468	10/18/2006	4210H0H	PV	41428236	26
2469	10/19/2007	4210101	PV	41729261	26
2470	10/19/2007	4210202	PV	41729261	26
2471	11/30/2007	4210H0H	PV	41767075	26
2472	11/30/2007	4210H0H	PV	41767097	26
2473	12/26/2007	4210101	PV	41790340	26
2474	1/30/2008	4210202	PV	41821427	26
2475	2/29/2008	4210101	PV	41849524	26
2476	3/6/2008	4210H0H	PV	41853435	26
2477	3/27/2008	4210H0H	PV	41870919	26
2478	8/17/2007	2061500	PV	41671323	26
2479	8/17/2007	2061414	PV	41671323	26
2480	8/17/2007	2061414	PV	41671323	26
2481	8/17/2007	2061414	PV	41671323	26
2482	8/17/2007	2061414	PV	41671323	26
2483	8/17/2007	2061500	PV	41671325	26
2484	8/17/2007	2061414	PV	41671325	26
2485	8/17/2007	2061422	PV	41671325	26
2486	8/17/2007	2061500	PV	41671329	26
2487	1/19/2006	Sales Tax 12/05	PS	41234376	26
2488	2/20/2006	Sales Tax 01/06	PS	41255099	26
2489	3/16/2006	Sales&Use Tax 02/06	PS	41271099	26
2490	4/19/2006	TN Sales Tax 03/06	PS	41293791	26
2491	5/19/2006	TN Sales Tax 04/06	PS	41315082	26
2492	7/5/2006	May 2006 Sales & Use Tax	PS	41349000	26
2493	9/14/2006	Sales/Use 08/06	PS	41400074	26
2494	9/14/2006	sales tax 6/06	PS	41400702	26
2495	9/15/2006	JULY 06 SALES/USE TAX	PS	41400809	26
2496	11/17/2006	TN Sales Tax 10/06	PS	41449001	26
2497	12/13/2006	TN ER 0506 S Tx	PS	41469273	26
2498	12/14/2006	TN Sales 11/06	PS	41470575	26
2499	1/16/2007	TN Sales & Use Tax	PS	41495812	26
2500	2/19/2007	TN sales Tax 01-07	PS	41520314	26

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2451	1,828.80	P
2452	2,743.20	P
2453	2,010.80	P
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2456	4,500.00	P
2457	1,073.88	P
2458	3,353.08	P
2459	2,147.76	P
2460	1,889.60	P
2461	1,342.35	P
2462	4,027.05	P
2463	4,737.60	P
2464	1,134.00	P
2465	1,814.40	P
2466	4,598.10	P
2467	3,150.00	P
2468	4,158.00	P
2469	2,995.20	P
2470	1,539.44	P
2471	1,054.20	P
2472	2,861.40	P
2473	3,096.00	P
2474	1,444.74	P
2475	3,366.00	P
2476	3,788.40	P
2477	2,238.60	P
2478	1,278.00	P
2479	1,765.50	P
2480	2,728.50	P
2481	2,166.75	P
2482	1,899.25	P
2483	1,278.00	P
2484	1,712.00	P
2485	1,420.00	P
2486	3,834.00	P
2487	112,168.00	P
2488	224,821.00	P
2489	131,034.00	P
2490	173,522.00	P
2491	145,611.00	P
2492	190,697.00	P
2493	168,164.00	P
2494	188,351.00	P
2495	189,655.00	P
2496	178,090.00	P
2497	5,820.80	P
2498	167,962.00	P
2499	136,865.00	P
2500	180,024.00	P

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2501	260205.2412	26000923	Tennessee Dept of Revenue
2502	260205.2412	26000923	Tennessee Dept of Revenue
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2512	260205.2412	26000923	Tennessee Dept of Revenue
2513	260205.2412	26000923	Tennessee Dept of Revenue
2514	260205.241249.006	50105915	American Water Resources WLPP
2515	260205.241249.006	50105915	American Water Resources WLPP
2516	260205.241249.006	50105915	American Water Resources WLPP
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2519	260205.241249.006	50105915	American Water Resources WLPP
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2521	260205.241249.010	50105915	American Water Resources WLPP
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2533	260205.241249.012	50105915	American Water Resources WLPP
2534	260205.241249.012	50105915	American Water Resources WLPP
2535	260205.241253.AW21	50105915	American Water Resources WLPP
2536	260205.241253.AW21	50105915	American Water Resources WLPP
2537	260205.241253.AW21	50105915	American Water Resources WLPP
2538	260205.241253.AW21	50105915	American Water Resources WLPP
2539	260205.241253.AW21	50105915	American Water Resources WLPP
2540	260205.241253.AW21	50105915	American Water Resources WLPP
2541	260205.241254.AW21	50105915	American Water Resources WLPP
2542	260205.241254.AW21	50105915	American Water Resources WLPP
2543	260205.241254.AW21	50105915	American Water Resources WLPP
2544	260205.241254.AW21	50105915	American Water Resources WLPP
2545	260205.241254.AW21	50105915	American Water Resources WLPP
2546	260205.241254.AW21	50105915	American Water Resources WLPP
2547	260205.241255.AW21	50105915	American Water Resources WLPP
2548	260205.241255.AW21	50105915	American Water Resources WLPP
2549	260205.241255.AW21	50105915	American Water Resources WLPP
2550	260205.241255.AW21	50105915	American Water Resources WLPP

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2501	3/19/2007	TN Sales Tax 02/07	PS	41542618	26
2502	4/19/2007	TN Sales 03/07	PS	41567897	26
2503	5/17/2007	TN Sales Tax 0407	PS	41590768	26
2504	7/19/2007	TN SALES TAX 06/2007	PS	41645146	26
2505	8/16/2007	TN SALES TAX 07/2007	PS	41671011	26
2506	9/18/2007	TN SALES TAX 08/2007	PS	41700214	26
2507	10/18/2007	TN Sales 09/07	PS	41728694	26
2508	11/19/2007	G/L Account Number	PS	41757074	26
2509	11/30/2007	TN SALES TAX 10/07	PS	41767266	26
2510	12/17/2007	TN Sales Tax 11/07	PS	41781756	26
2511	1/16/2008	TN Sales Tax 12/07	PS	41810616	26
2512	2/14/2008	TN Sales 01/08	PS	41836080	26
2513	3/13/2008	TN Sales Tax 02/08	PS	41858907	26
2514	11/21/2006	WLPP Payable	PS	41452452	26
2515	12/20/2006	WLPP Payable	PS	41475167	26
2516	1/31/2007	WLPP Payable	PS	41507717	26
2517	3/30/2007	Total Due to AWR-WLPP	PS	41552277	26
2518	5/1/2007	Total due to AWR-WLPP	PS	41577079	26
2519	5/25/2007	WLPP Cash Received	PS	41597679	26
2520	5/29/2007	WLPP Cash Received	PS	41598280	26
2521	11/21/2006	SLPP Payable	PS	41452452	26
2522	12/20/2006	SLPP Payable	PS	41475167	26
2523	1/31/2007	SLPP Payable	PS	41507717	26
2524	3/30/2007	Total due to AWR-SLPP	PS	41552277	26
2525	5/1/2007	Total due to AWR-SLPP	PS	41577079	26
2526	5/25/2007	SLPP Cash Received	PS	41597679	26
2527	5/29/2007	SLPP Cash Received	PS	41598280	26
2528	11/21/2006	In Home Payable	PS	41452452	26
2529	12/20/2006	In Home Payable	PS	41475167	26
2530	1/31/2007	In Home Payable	PS	41507717	26
2531	3/30/2007	Total due to AWR-In Home	PS	41552277	26
2532	5/1/2007	Total due to AWR-In Home	PS	41577079	26
2533	5/25/2007	In Home Cash Received	PS	41597679	26
2534	5/29/2007	In Home Cash Received	PS	41598280	26
2535	7/27/2007	WLPP Cash Received	PS	41652737	26
2536	9/28/2007	WLPP Cash Received	PS	41710454	26
2537	10/31/2007	WLPP Cash Received	PS	41742022	26
2538	11/30/2007	WLPP Cash Received	PS	41767286	26
2539	1/8/2008	WLPP Cash Received	PS	41803906	26
2540	3/25/2008	WLPP Cash Received	PS	41867840	26
2541	7/27/2007	SLPP Cash Received	PS	41652737	26
2542	9/28/2007	SLPP Cash Received	PS	41710454	26
2543	10/31/2007	SLPP Cash Received	PS	41742022	26
2544	11/30/2007	SLPP Cash Received	PS	41767286	26
2545	1/8/2008	SLPP Cash Received	PS	41803906	26
2546	3/25/2008	SLPP Cash Received	PS	41867840	26
2547	7/27/2007	In Home Cash Received	PS	41652737	26
2548	9/28/2007	In Home Cash Received	PS	41710454	26
2549	10/31/2007	In Home Cash Received	PS	41742022	26
2550	11/30/2007	In Home Cash Received	PS	41767286	26

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2501	132,282.68	P
2502	96,440.72	P
2503	165,499.35	P
2504	204,129.00	P
2505	236,428.00	P
2506	206,940.82	P
2507	201,074.59	P
2508	237,541.28	P
2509	237,541.28	P
2510	174,131.69	P
2511	168,587.07	P
2512	201,054.59	P
2513	162,892.61	P
2514	859,527.64	P
2515	50,010.20	P
2516	38,846.07	P
2517	47,417.80	P
2518	44,251.96	P
2519	45,221.24	P
2520	45,891.89	P
2521	263,661.74	P
2522	26,160.26	P
2523	21,402.95	P
2524	27,247.80	P
2525	26,098.26	P
2526	27,565.81	P
2527	28,414.66	P
2528	1,403.23	P
2529	2,062.81	P
2530	1,875.13	P
2531	2,694.05	P
2532	3,069.88	P
2533	3,398.53	P
2534	3,292.74	P
2535	87,258.72	P
2536	88,764.12	P
2537	37,342.99	P
2538	47,779.25	P
2539	41,429.18	P
2540	82,991.35	P
2541	54,185.58	P
2542	55,662.96	P
2543	23,129.46	P
2544	31,004.27	P
2545	26,984.16	P
2546	55,541.81	P
2547	7,007.43	P
2548	8,075.53	P
2549	3,469.80	P
2550	4,414.40	P

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2551	260205.241255.AW21	50105915	American Water Resources WLPP
2552	260205.241255.AW21	50105915	American Water Resources WLPP
2553	260205.241256.AW21	50105915	American Water Resources WLPP
2554	260205.241256.AW21	50105915	American Water Resources WLPP
2555	260205.241256.AW21	50105915	American Water Resources WLPP
2556	260205.241256.AW21	50105915	American Water Resources WLPP
2557	260205.241256.AW21	50105915	American Water Resources WLPP
2558	260205.241256.AW21	50105915	American Water Resources WLPP
2559	260205.241257.AW21	50105915	American Water Resources WLPP
2560	260205.2521	26000293	CEMC LT
2561	260205.2521	26000293	CEMC LT
2562	260205.2521	26000293	CEMC LT
2563	260205.2521	26000402	Carroll D Groner
2564	260205.2521	26000570	Ken Millican
2565	260205.2521	26000570	Ken Millican
2566	260205.2521	26000570	Ken Millican
2567	260205.2521	26000570	Ken Millican
2568	260205.2521	26000570	Ken Millican
2569	260205.2521	26001821	Bell Development Co Inc - Po/remit
2570	260205.2521	26002226	Bradley Properties
2571	260205.2521	26002327	Dillard LP Inc
2572	260205.2521	26002327	Dillard LP Inc
2573	260205.2521	26002329	Provident Life & Accident Insurance Co
2574	260205.2521	26002602	Phil Burke
2575	260205.2521	26002602	Phil Burke
2576	260205.2521	26003550	Winward Cove LLC
2577	260205.2521	26003550	Winward Cove LLC
2578	260205.2521	26003613	Cummings Cove LLC
2579	260205.2521	26003613	Cummings Cove LLC
2580	260205.2521	26003613	Cummings Cove LLC
2581	260205.2521	26003613	Cummings Cove LLC
2582	260205.2521	26003613	Cummings Cove LLC
2583	260205.2521	26003613	Cummings Cove LLC
2584	260205.2521	26003613	Cummings Cove LLC
2585	260205.2521	26003848	Oak Crest Properties LLC
2586	260205.2521	26004326	WAUHATCHIE DEVELOPMENT CO
2587	260205.2521	50005012	B&W Builders
2588	260205.2521	50014217	Glasscock Dev - Remit
2589	260205.2521	50014217	Glasscock Dev - Remit
2590	260205.2521	50014217	Glasscock Dev - Remit
2591	260205.2521	50015575	US Xpress Claims Department
2592	260205.2521	50040474	THE ESTATE OF JAMES PAYNE
2593	260205.2521	50046557	Geminus LLC
2594	260205.2521	50046586	E&K GP
2595	260205.2521	50055007	H&H Development & Construction LLC
2596	260205.2521	50055007	H&H Development & Construction LLC
2597	260205.2521	50077854	Timothy L Hobbs
2598	260205.2521	50077854	Timothy L Hobbs
2599	260205.2521	50097008	James D. Lee, Inc.
2600	260205.2521	50097008	James D. Lee, Inc.

	D	E	F	G	H
2551	1/8/2008	In Home Cash Received	PS	41803906	26
2552	3/25/2008	In Home Cash Received	PS	41867840	26
2553	7/27/2007	WL-SL Combo	PS	41652737	26
2554	9/28/2007	WL-SL Combo Cash Rec'd	PS	41710454	26
2555	10/31/2007	WL-SL Combo	PS	41742022	26
2556	11/30/2007	WL/SL Combo	PS	41767286	26
2557	1/8/2008	WL/SL Combo	PS	41803906	26
2558	3/25/2008	WL/SL Combo	PS	41867840	26
2559	3/25/2008	WL/SL/INH Bundle	PS	41867840	26
2560	6/27/2006	REFUND ENCLAVE A8812	PS	41341439	26
2561	6/27/2006	REFUND ENCLAVE A9658	PS	41341439	26
2562	7/27/2007	refund enclave a8812	PS	41652574	26
2563	2/1/2006	REFUND TIFTONIA HEIGHTS	PS	41241671	26
2564	7/13/2006	ADJ TO ACT T50082087	PS	41353039	26
2565	11/3/2006	REFUND HABITAT T50036590	PS	41440862	26
2566	12/8/2006	ADJ TO ACT T50109291	PS	41465235	26
2567	11/29/2007	REFUND HABITAT-HUMANITY	PS	41764145	26
2568	11/29/2007	refund mt. creek trails	PS	41764146	26
2569	2/29/2008	REFUND BELLEAU WOODS	PS	41849662	26
2570	12/7/2006	EXPIRED A8601 DERBY DOWN	PS	41465432	26
2571	1/3/2006	60/40 REFUND BONNYSHIRE	PS	41222550	26
2572	2/28/2007	40/60 REFUND DONNYSHIRE	PS	41528931	26
2573	2/1/2008	A8996-40/60 REFUND	PS	41825822	26
2574	8/15/2006	REFUND A9006 MAIN EXT.	PS	41377569	26
2575	11/29/2007	REFUND A9006 HURICN MTN	PS	41764144	26
2576	5/18/2007	REFUND A8992 WINDWARD	PS	41591121	26
2577	11/30/2007	REFUND A8992 WINDWARD	PS	41767268	26
2578	4/19/2006	adj to actual T50085381	PS	41293792	26
2579	2/21/2007	REFUND T50014964-HAWK	PS	41522351	26
2580	2/22/2007	refund t50071147-Obar Dr	PS	41522721	26
2581	3/5/2008	refund-Obar Drive	PS	41852089	26
2582	3/5/2008	refund-Wildrose Lane	PS	41852089	26
2583	3/14/2008	refund - The Woodlands	PS	41859803	26
2584	3/14/2008	refund-Obar Drive	PS	41859804	26
2585	2/29/2008	REFUND A9065 OAKCREST	PS	41849659	26
2586	4/2/2007	ADJ TO ACT T50115850	PS	41554202	26
2587	9/11/2007	REFUND-SHALLOWFORD 1	PS	41693340	26
2588	2/1/2006	REFUND BRASS LANTERN	PS	41241675	26
2589	2/16/2006	REFUND BRASS LANTERN	PS	41253288	26
2590	5/25/2006	REFUND-T50031137 BRASS L	PS	41320534	26
2591	5/18/2007	REFUND 50082201 MAIN EXT	PS	41591120	26
2592	11/6/2006	EXPIRE A8665 MOLLY MEADO	PS	41441429	26
2593	2/11/2008	A8895-expired contract	PS	41832984	26
2594	9/11/2007	REFUND SHALLOWFORD 2	PS	41693342	26
2595	10/3/2006	REFUNDT50020375 IGOU VIL	PS	41414488	26
2596	6/12/2007	REFUND T50020375 IGOU VL	PS	41613564	26
2597	3/23/2006	LAUREL OAKS REFUND A9516	PS	41276085	26
2598	7/27/2007	refund a9516 elizabethto	PS	41652576	26
2599	12/6/2006	ADJ TO ACT T50111287	PS	41463867	26
2600	10/19/2007	REFUND KEYSTONE CIR	PS	41729177	26

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2551	3,619.46	P
2552	9,713.28	P
2553	3,898.43	P
2554	7,630.38	P
2555	4,035.34	P
2556	5,838.93	P
2557	5,772.80	P
2558	13,030.39	P
2559	1,377.86	P
2560	16,402.50	P
2561	4,563.00	P
2562	9,302.90	P
2563	1,598.40	P
2564	8,032.81	P
2565	9,023.40	P
2566	1,217.26	P
2567	23,886.95	P
2568	31,510.35	P
2569	7,227.90	P
2570	14,922.11	P
2571	5,471.80	P
2572	2,361.92	P
2573	1,116.54	P
2574	2,950.20	P
2575	1,475.10	P
2576	1,680.96	P
2577	5,883.36	P
2578	6,473.60	P
2579	2,560.50	P
2580	19,542.60	P
2581	14,656.95	P
2582	10,602.90	P
2583	10,602.90	P
2584	12,621.40	P
2585	35,529.00	P
2586	1,871.52	P
2587	7,312.50	P
2588	8,577.00	P
2589	1,715.40	P
2590	6,895.99	P
2591	11,830.50	P
2592	2,280.15	P
2593	1,999.80	P
2594	4,117.50	P
2595	3,517.20	P
2596	5,275.80	P
2597	2,677.50	P
2598	1,338.75	P
2599	3,216.45	P
2600	31,811.55	P

	A	B	C
2601	260205.2521	50101322	CT Construction
2602	260205.2521	50105737	Webb, Jack L.
2603	260205.2521	50113099	Don Walker Construction
2604	260205.2521	50115629	Neal Bennett
2605	260205.2521	50115629	Neal Bennett
2606	260205.2521	50115629	Neal Bennett
2607	260205.2521	50115629	Neal Bennett
2608	260205.2521	50115629	Neal Bennett
2609	260205.2521	50118442	Baylor School
2610	260205.2521	50122975	Baylor School
2611	260205.2521	50128516	Baylor School
2612	260205.2521	50128516	Baylor School
2613	260205.2521	50129701	Don Moon, Building/Developing
2614	260205.2521	50129701	Don Moon, Building/Developing
2615	260205.2521	50139524	TKS Development Inc
2616	260205.2521	50139524	TKS Development Inc
2617	260205.2521	50139524	TKS Development Inc
2618	260205.2521	50139524	TKS Development Inc
2619	260205.2521	50140645	Crown Land Development
2620	260205.2521	50147441	Chattanooga Development Group LLC
2621	260205.2521	50147441	Chattanooga Development Group LLC
2622	260205.2521	50148716	Baker & Summers Construction
2623	260205.2521	50148716	Baker & Summers Construction
2624	260205.2521	50148716	Baker & Summers Construction
2625	260205.2521	50151643	Don Walker Const
2626	260205.2521	50151643	Don Walker Const
2627	260205.2521	50162630	Sew Construction
2628	260205.2521	50162630	Sew Construction
2629	260205.2521	50162630	Sew Construction
2630	260205.2521	50162630	Sew Construction
2631	260205.2521	50162630	Sew Construction
2632	260205.2521	50162630	Sew Construction
2633	260205.2521	50162630	Sew Construction
2634	260205.2521	50164957	Waterhaven Development
2635	260205.2521	50164957	Waterhaven Development
2636	260205.2521	50164957	Waterhaven Development
2637	260205.2521	50164957	Waterhaven Development
2638	260205.2521	50180290	DMW Group LLC
2639	260205.2521	50180290	DMW Group LLC
2640	260205.2521	50188804	Pine Breeze Development Corp
2641	260205.2521	50188804	Pine Breeze Development Corp
2642	260205.2521	50193619	Penrose Properties LLC
2643	260205.2521	50193619	Penrose Properties LLC
2644	260205.2521	50193619	Penrose Properties LLC
2645	260205.2521	50193619	Penrose Properties LLC
2646	260205.2521	50193619	Penrose Properties LLC
2647	260205.2521	50205804	Gary Martin
2648	260205.2521	50205804	Gary Martin
2649	260205.2521	50205804	Gary Martin
2650	260205.2521	50214402	Morgan Construction Co. Inc

	D	E	F	G	H
2601	10/3/2006	REFUND T50036633 GLENROY	PS	41414486	26
2602	3/15/2006	REFUND CUMMINGS POINT	PS	41270212	26
2603	11/29/2007	refund hawkscove sub	PS	41764149	26
2604	8/22/2006	ADJ TO ACTUAL T50080485	PS	41370888	26
2605	5/3/2007	REFUND HORSECREEK -2	PS	41578637	26
2606	7/27/2007	REFUND HORSE CREEK	PS	41652577	26
2607	8/2/2007	ADJ TO ACTUAL HORSECREEK	PS	41658899	26
2608	11/26/2007	REFUND HORSECREEK FARM	PS	41762340	26
2609	6/16/2006	CANCELED T50105794 REFUN	PS	41332566	26
2610	8/29/2006	REFUND BRITNANY COVE	PS	41389512	26
2611	8/10/2006	REFUND A9294	PS	41375065	26
2612	8/10/2006	REFUND A9656	PS	41375065	26
2613	12/20/2006	REFUND T50053376 HER.GRE	PS	41475169	26
2614	8/13/2007	CALLAWAY CT REFUNDS	PS	41667191	26
2615	5/25/2006	REFUND T50055289 MAJ HIL	PS	41320532	26
2616	10/3/2006	REFUND T50055289 MAJESTI	PS	41414485	26
2617	5/1/2007	REFUND MAJESTIC HILLS	PS	41578378	24
2618	2/29/2008	REFUND MAJESTIC HILLS	PS	41849660	26
2619	11/26/2007	refund blossom circle	PS	41762343	26
2620	2/1/2006	REFUND REUNION 50063356	PS	41241673	26
2621	6/16/2006	REFUND REUNION SUB	PS	41332564	26
2622	8/10/2006	REFUND CHEROKEE LANDING	PS	41375064	26
2623	11/26/2007	refund cherokee landing	PS	41762346	26
2624	2/5/2008	refund cherokee landing	PS	41827789	26
2625	11/26/2007	refund A9634 robin glenn	PS	41762349	26
2626	11/26/2007	refund casey's place	PS	41762350	26
2627	8/7/2006	REFUND FRIAR BRANCH	PS	41371837	26
2628	10/3/2006	REFUND T50078763 FRIAR	PS	41414487	26
2629	12/20/2006	REFUND T50078763 FRIAR B	PS	41475170	26
2630	4/24/2007	refund FRAIR BRANCH	PS	41571674	26
2631	7/27/2007	REFUND LARAMIE CIR	PS	41652578	26
2632	10/3/2007	REFUND FRIAR BRANCH	PS	41715159	26
2633	11/26/2007	REFUND FRAIR BRANCE	PS	41762341	26
2634	9/6/2006	ADJ TO ACTUAL T50065158	PS	41394594	26
2635	10/3/2006	REFUND T50065158 WATER	PS	41414489	26
2636	6/12/2007	refund T50065158-waterha	PS	41613563	26
2637	11/26/2007	refund waterhaven deve	PS	41762348	26
2638	8/7/2006	REFUND T50071046 JENKINS	PS	41371839	26
2639	2/29/2008	REFUND JENKINS MEADOW	PS	41849661	26
2640	11/9/2006	ADJ TO ACT PINEBREEZE	PS	41444637	26
2641	11/29/2007	refund pinebreeze subdiv	PS	41764150	26
2642	2/16/2006	REFUND T50046261PENROSE	PS	41253289	26
2643	6/27/2006	REFUND PENROSE II	PS	41341438	26
2644	4/4/2007	REFUND PENROSE T50087902	PS	41556621	26
2645	4/10/2007	REFUND T50071706 PENROSE	PS	41560153	26
2646	4/11/2007	refund T50087902 Penrose	PS	41561347	26
2647	5/25/2006	REFUND T50078349 SHEILA	PS	41320533	26
2648	5/18/2007	REFUND 50078349 -SHEILA	PS	41591119	26
2649	10/3/2007	REFUND SHEILA GAIL	PS	41715158	26
2650	12/7/2006	ADJ TO ACT TASK 50103680	PS	41464775	26

	I	J
2601	4,022.51	P
2602	3,032.10	P
2603	41,073.61	P
2604	2,826.18	P
2605	13,790.25	P
2606	15,322.50	P
2607	25,997.55	P
2608	61,290.00	P
2609	10,840.00	P
2610	1,180.35	P
2611	2,128.97	P
2612	1,036.20	P
2613	70,931.70	P
2614	47,287.80	P
2615	6,133.50	P
2616	8,586.90	P
2617	2,453.40	P
2618	12,267.00	P
2619	3,289.20	P
2620	7,600.95	P
2621	42,348.15	P
2622	36,023.40	P
2623	24,444.45	P
2624	11,578.95	P
2625	11,532.00	P
2626	15,194.49	P
2627	20,326.00	P
2628	4,065.20	P
2629	20,326.00	P
2630	22,358.60	P
2631	12,195.60	P
2632	6,097.80	P
2633	48,829.80	P
2634	5,872.39	P
2635	19,716.75	P
2636	22,356.00	P
2637	26,827.20	P
2638	10,493.21	P
2639	2,498.33	P
2640	6,245.86	P
2641	68,289.30	P
2642	28,009.64	P
2643	86,554.78	P
2644	13,196.37	P
2645	42,855.30	P
2646	10,175.63	P
2647	4,266.00	P
2648	4,266.00	P
2649	7,961.30	P
2650	2,311.66	P

	A	B	C
2651	260205.2521	50216240	Ken DeFoor Development
2652	260205.2521	50216240	Ken DeFoor Development
2653	260205.2521	50216240	Ken DeFoor Development
2654	260205.2521	50216704	Ken DeFoor Development
2655	260205.2521	50219059	John McDonald
2656	260205.2521	50220178	U S Xpress Corporate Campus
2657	260205.2521	50222599	U S Xpress Corporate Campus
2658	260205.2521	50224702	Bright Meyers Lookout Valley Assoc.
2659	260205.2521	50228006	Bright Meyers Lookout Valley Assoc.
2660	260205.2521	50228006	Bright Meyers Lookout Valley Assoc.
2661	260205.2521	50235110	Next Generation Development, LLC
2662	260205.2521	50235110	Next Generation Development, LLC
2663	260205.2521	50235110	Next Generation Development, LLC
2664	260205.2521	50235110	Next Generation Development, LLC
2665	260205.2521	50235110	Next Generation Development, LLC
2666	260205.2521	50235131	Cory, Peter & Fine, Bill
2667	260205.2521	50235131	Cory, Peter & Fine, Bill
2668	260205.2521	50235131	Cory, Peter & Fine, Bill
2669	260205.2521	50236427	Tommy & Vanessa Woods
2670	260205.2521	50236605	Wise Construction
2671	260205.2521	50236605	Wise Construction
2672	260205.2521	50241907	Palmertree Construction Co
2673	260205.2521	50242388	Pryor Bacon & Assoc
2674	260205.2521	50244311	Eller Construction Co
2675	260205.2521	50244311	Eller Construction Co
2676	260205.2521	50244311	Eller Construction Co
2677	260205.2521	50246679	Eller Construction Co
2678	260205.2521	50248633	True North Development
2679	260205.2521	50248633	True North Development
2680	260205.2521	50250814	True North Development
2681	260205.2521	50256239	Baylor School
2682	260205.2521	50256239	Baylor School
2683	260205.2521	50268662	ERMC
2684	260205.2521	50278063	Ed Stephens Construction
2685	260205.2521	50278063	Ed Stephens Construction
2686	260205.2521	50290661	The Promise Lands Inc
2687	260205.2521	50295619	ABT Construction Company Inc
2688	260205.2521	50299147	Girls Preparatory School
2689	260205.2521	50302466	Chattanooga Development Group LLC
2690	260205.2521	50302466	Chattanooga Development Group LLC
2691	260205.2521	50302466	Chattanooga Development Group LLC
2692	260205.2521	50302466	Chattanooga Development Group LLC
2693	260205.2521	50302466	Chattanooga Development Group LLC
2694	260205.2521	50317449	Holder LLC of Chattanooga
2695	260205.2521	50319752	Nikolay Timoshchuk
2696	260205.2521	50321812	Bright Meyers Signal Mountain Ass LP
2697	260205.2521	50322777	Red Bank Town Center LLC
2698	260205.2521	50322891	Gibby Gilbert
2699	260205.2521	50331663	Dillard LP
2700	260205.2521	50344503	William Haisten

	D	E	F	G	H
2651	12/7/2006	ADJ TO ACT T50081033 COR	PS	41465435	26
2652	9/11/2007	REFUND CORPORATE 1	PS	41693341	26
2653	9/11/2007	REFUND CORPORATE 2	PS	41693343	26
2654	11/17/2006	REFUND NORTHVIEW TOWN	PS	41448858	26
2655	12/6/2006	ADJ TO ACT T50107917 RID	PS	41463869	26
2656	10/17/2006	ADJ TO ACT T50082201	PS	41423242	26
2657	9/8/2006	ADJ TO ACTUAL MYSTIC CT	PS	41395658	26
2658	11/7/2006	ADJ TO ACT T50082255 WLM	PS	41443295	26
2659	2/16/2006	REFUND A-9295	PS	41253287	26
2660	12/20/2006	REFUND A9295 CHANNING	PS	41475171	26
2661	6/14/2006	ADJ TO ACTUAL T50084499	PS	41331741	26
2662	8/7/2006	REFUND STERLING OAKS	PS	41371838	26
2663	3/7/2007	refund T50084499 STERLIN	PS	41533529	26
2664	8/13/2007	REFUND STERLING OAKS	PS	41667189	26
2665	11/26/2007	refund sterling oaks	PS	41762347	26
2666	4/4/2006	REFUND T50085914	PS	41283469	26
2667	7/27/2007	refund magnolia leaf	PS	41652575	26
2668	11/26/2007	REFUND MAGNOLIA GARDEN	PS	41762342	26
2669	11/30/2007	REFUND N. MOORE RD	PS	41767267	26
2670	10/4/2006	ADJ TO ACT T50098671	PS	41415112	26
2671	8/13/2007	REFUNDS NORTHVIEW TOWN	PS	41667190	26
2672	3/30/2006	ADJ TO ACTUAL 50084158	PS	41280665	26
2673	10/4/2006	ADJ TO ACT T50101579 AIR	PS	41415110	26
2674	10/4/2006	ADJ TO ACT T50090296 GAR	PS	41415111	26
2675	5/16/2007	REFUND GARDEN SPOT	PS	41588867	26
2676	11/26/2007	refund garden spot subdi	PS	41762344	26
2677	5/8/2007	REFUND BLOSSOM CIR	PS	41582116	26
2678	7/11/2006	ARBORS ADJ TO ACTUAL	PS	41352664	26
2679	11/29/2007	refund the arbors	PS	41764147	26
2680	3/27/2007	ADJ TO ACT T50111556	PS	41548112	26
2681	2/28/2007	40/60 REFUND BAYLOR	PS	41528930	26
2682	2/1/2008	60/40 REFUND 2007	PS	41825823	26
2683	1/30/2007	ADJ TO ACTUAL T50100549	PS	41505285	26
2684	5/1/2007	REFUND MYSTIC BROOK	PS	41578379	24
2685	11/26/2007	refund mystic brook sub	PS	41762345	26
2686	12/6/2006	ADJ TO ACT T50108673	PS	41463868	26
2687	12/7/2006	ADJ TO ACT TASK 50111147	PS	41464774	26
2688	2/11/2008	adjust to actual -Island	PS	41832985	26
2689	10/18/2007	ADJ TO ACT REUNION 2	PS	41728333	26
2690	10/18/2007	refund reunion II	PS	41728336	26
2691	10/18/2007	refund reunion I	PS	41728337	26
2692	3/28/2008	refund reunion 1	PS	41871582	26
2693	3/28/2008	refund reunion 2	PS	41871582	26
2694	11/9/2006	ADJ TO ACT 50090129 TMOB	PS	41444638	26
2695	4/2/2007	ADJ TO ACTUAL T50117616	PS	41554201	26
2696	12/12/2006	AJU TO ACT T50097318 WAL	PS	41468348	26
2697	12/12/2006	ADJ TO ACT T50103680 BIL	PS	41468347	26
2698	1/30/2007	ADJ TO ACTUAL T50105496	PS	41505286	26
2699	2/1/2008	A9027 40/60 REFUND	PS	41825824	26
2700	12/12/2007	refund karwill lane	PS	41777946	26

	I	J
2651	2,250.22	P
2652	13,566.15	P
2653	20,241.78	P
2654	27,387.00	P
2655	3,720.41	P
2656	5,422.02	P
2657	1,408.04	P
2658	6,352.61	P
2659	6,490.80	P
2660	2,393.50	P
2661	4,258.63	P
2662	1,784.42	P
2663	12,490.94	P
2664	5,353.26	P
2665	5,353.26	P
2666	2,471.11	P
2667	17,236.80	P
2668	13,885.09	P
2669	3,419.48	P
2670	1,611.39	P
2671	10,644.46	P
2672	22,194.66	P
2673	1,484.07	P
2674	1,640.65	P
2675	2,295.00	P
2676	9,180.00	P
2677	33,541.20	P
2678	18,944.81	P
2679	61,204.50	P
2680	4,468.50	P
2681	25,042.16	P
2682	29,335.42	P
2683	4,180.88	P
2684	10,404.00	P
2685	10,404.00	P
2686	4,026.85	P
2687	3,000.75	P
2688	9,227.44	P
2689	3,632.32	P
2690	8,091.90	P
2691	59,960.47	P
2692	10,762.18	P
2693	5,394.60	P
2694	1,084.41	P
2695	2,452.25	P
2696	15,353.14	P
2697	2,311.66	P
2698	4,118.48	P
2699	4,608.87	P
2700	30,237.00	P

	A	B	C
2701	260205.2521	50345916	Enclave LLC
2702	260205.2521	50354795	Enclave LLC
2703	260205.2521	50362033	Chattanooga Dept of Education
2704	260205.2521	50371171	Chattanooga Dept of Education
2705	260205.2521	26000293	CEMC LT
2706	260205.2521	26000293	CEMC LT
2707	260205.2521	26002226	Bradley Properties
2708	260205.2521	50055007	H&H Development & Construction LLC
2709	260205.2521	50151643	Don Walker Const
2710	260205.2522	26003613	Cummings Cove LLC
2711	260205.2522	50115629	Neal Bennett
2712	260205.2522	50162630	Sew Construction
2713	260205.2522	50333125	Alabucks, LLC
2714	260205.2522	50005059	Alabucks, LLC
2715	260205.2522	50117506	Alabucks, LLC
2716	260205.2522	50257076	Alabucks, LLC
2717	260205.2522	50005059	Alabucks, LLC
2718	260205.2621	50113917	Wachovia Bank NA
2719	260205.2621	50113917	Wachovia Bank NA
2720	260205.2621	50113917	Wachovia Bank NA
2721	260205.2621	50113917	Wachovia Bank NA
2722	260205.2621	50113917	Wachovia Bank NA
2723	260205.2621	50113917	Wachovia Bank NA
2724	260205.2621	50113917	Wachovia Bank NA
2725	260205.2621	50113917	Wachovia Bank NA
2726	260205.2622	17005123	State Street Bank And Trust
2727	260205.2622	17005123	State Street Bank And Trust
2728	260205.2622	17005123	State Street Bank And Trust
2729	260205.2622	17005123	State Street Bank And Trust
2730	260205.2622	17005123	State Street Bank And Trust
2731	260205.2622	17005123	State Street Bank And Trust
2732	260205.2622	17005123	State Street Bank And Trust
2733	260205.2622	17005123	State Street Bank And Trust
2734	260205.2622	17005123	State Street Bank And Trust
2735	260205.2622	17005123	State Street Bank And Trust
2736	260205.2712	50232706	Pointe General Contractors LLC
2737	260205.504100.16	50062536	Waschovia Bank National Association
2738	260205.504100.16	50062536	Waschovia Bank National Association
2739	260205.504100.16	50062536	Waschovia Bank National Association
2740	260205.504100.16	50062536	Waschovia Bank National Association
2741	260205.504100.16	50062536	Waschovia Bank National Association
2742	260205.504100.16	50062536	Waschovia Bank National Association
2743	260205.504100.16	50062536	Waschovia Bank National Association
2744	260205.504100.16	50062536	Waschovia Bank National Association
2745	260205.504100.16	50062536	Waschovia Bank National Association
2746	260205.504100.16	50062536	Waschovia Bank National Association
2747	260205.504100.16	50062536	Waschovia Bank National Association
2748	260205.504100.16	50062536	Waschovia Bank National Association
2749	260205.504100.16	50062536	Waschovia Bank National Association
2750	260205.504100.16	50062536	Waschovia Bank National Association

	D	E	F	G	H
2701	10/18/2007	ADJ TO ACTUAL ENCLAVE	PS	41728338	26
2702	7/27/2007	refund a8801 ellington w	PS	41652579	26
2703	8/2/2007	REFUND A8709-DEPT OF ED	PS	41658898	26
2704	11/29/2007	refund rivendell subdivi	PS	41764148	26
2705	6/27/2006	REFUND SERVICE A8812	PS	41341439	26
2706	7/27/2007	refund services	PS	41652574	26
2707	12/7/2006	G/L Account Number	PS	41465432	26
2708	6/12/2007	REFUND MAIN AND SERVICE	PS	41613564	26
2709	11/26/2007	services Robin Glenn sub	PS	41762349	26
2710	4/19/2006	ADJ TO ACTUAL F.H.	PS	41293792	26
2711	8/2/2007	TASK 50126921	PS	41658899	26
2712	5/18/2006	T50078763	PS	41313466	26
2713	7/16/2007	refund for f h T50124388	PS	41640682	26
2714	3/23/2006	REFUND LEGEND HILL A8516	PS	41277130	26
2715	3/27/2006	REFUND A8555 HICK. TRACE	PS	41278193	26
2716	1/9/2006	refund 60/40 scenic hwy	PS	41227035	26
2717	3/23/2006	REFUND LEGEND HILL A8516	PS	41277130	26
2718	3/10/2006	1Q06 Pension Funding	PS	41265916	3
2719	5/23/2006	2Q06 Pension Funding	PS	41317148	3
2720	8/10/2006	3Q06 Pension Funding	PS	41375101	3
2721	11/9/2006	4Q06 Pension Funding	PS	41444548	3
2722	3/23/2007	1Q07 Pension Funding	PS	41546125	3
2723	8/9/2007	Aug07 Pension Funding	PS	41664377	3
2724	11/5/2007	Nov07 Pension Funding	PS	41746180	3
2725	2/18/2008	Feb08 Pension Funding	PS	41837998	3
2726	3/10/2006	FAS106 1st Qtr Payment	PS	41265917	3
2727	5/9/2006	FAS106 2nd Qtr Payment	PS	41306721	3
2728	8/10/2006	FAS106 3rd Qtr Payment	PS	41375100	3
2729	11/9/2006	FAS106 4th Qtr Payment	PS	41444549	3
2730	3/14/2007	FAS106 1st Qtr07 Payment	PS	41539399	3
2731	3/20/2007	FAS106 1st Qtr07 Payment	PS	41543299	3
2732	5/16/2007	FAS106 2nd Qtr07 Payment	PS	41589623	3
2733	8/9/2007	FAS106 3rd Qtr07 Payment	PS	41664379	3
2734	11/5/2007	FAS106 4th Qtr07 Payment	PS	41746181	3
2735	2/18/2008	FAS106 Feb08 Payment	PS	41837999	3
2736	8/9/2007	garden meter refund	PS	41664138	26
2737	1/13/2006	TN American	PS	41229764	3
2738	2/15/2006	TN American	PS	41250442	3
2739	3/2/2006	TN American	PS	41260993	3
2740	3/31/2006	TN American	PS	41281727	3
2741	5/9/2006	TN American	PS	41306380	3
2742	5/30/2006	TN American	PS	41320856	3
2743	7/3/2006	TN American	PS	41345908	3
2744	7/31/2006	TN American	PS	41366466	3
2745	9/5/2006	TN American	PS	41393983	3
2746	9/27/2006	TN American	PS	41408209	3
2747	10/31/2006	TN American	PS	41439284	3
2748	12/6/2006	TN American	PS	41463266	3
2749	1/2/2007	TN American	PS	41485042	3
2750	1/31/2007	TN American	PS	41506940	3

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2764	260205.531000.13	26000436	Hopkins Surveying Group Inc
2765	260205.532000.16	14008006	Price WaterhouseCoopers LLP
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2774	260205.532000.16	14008006	Price WaterhouseCoopers LLP
2775	260205.533000.16	26000237	Bass Berry & Sims PLC
2776	260205.533000.16	26001027	Baker Donelson Bearman & Caldwell Berkow
2777	260205.533000.16	26001027	Baker Donelson Bearman & Caldwell Berkow
2778	260205.533000.16	26001027	Baker Donelson Bearman & Caldwell Berkow
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2780	260205.533000.16	26001027	Baker Donelson Bearman & Caldwell Berkow
2781	260205.533000.16	26001027	Baker Donelson Bearman & Caldwell Berkow
2782	260205.533000.16	50149934	Cravath, Swaine & Moore LLP
2783	260205.533000.16	50200045	Fox Rothschild LLP
2784	260205.535000.14	14006687	Heath Consultants Inc
2785	260205.535000.16	3016617	Accenture, LLP
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2755	7/3/2007	TN American	PS	41632422	3
2756	8/2/2007	TN American	PS	41658894	3
2757	9/4/2007	TN American	PS	41687440	3
2758	10/1/2007	TN American	PS	41712769	3
2759	11/2/2007	TN American	PS	41743699	3
2760	12/3/2007	TN American	PS	41768183	3
2761	1/2/2008	TN American	PS	41799337	3
2762	2/1/2008	TN American	PS	41825758	3
2763	3/4/2008	TN American	PS	41850813	3
2764	6/29/2006	TN AM WTR	PV	41344415	26
2765	7/12/2006	#1030586798-7 Add'l June	PS	41352869	3
2766	8/9/2006	#1030601464-7 Add'l July	PS	41374226	3
2767	9/19/2006	#1030623949-1 Add'l Aug	PS	41402727	3
2768	10/18/2006	#10306431049-1 Add'l Sep	PS	41428292	3
2769	6/18/2007	#1030838929-4 May Progre	PS	41617968	3
2770	7/11/2007	#1030871488-9 Jun29 Prog	PS	41638701	3
2771	8/13/2007	#1030882322-9 7/16 Bill	PS	41667150	3
2772	8/13/2007	#1030887380-0 7/31 Bill	PS	41667152	3
2773	8/29/2007	#10308877380- 8/16 Progr	PS	41681240	3
2774	9/14/2007	#1030905408-7 8/31 progr	PS	41697506	3
2775	8/23/2006	TNAWC 064554 00	PV	41384315	26
2776	6/21/2006	CLIENT#2014353.000001	PV	41335919	26
2777	12/21/2006	TNAWC	PV	41476296	26
2778	12/21/2006	CLIENT 20143530	PV	41476302	26
2779	12/28/2006	prof. services	PV	41483256	26
2780	1/10/2007	CLIENT 2014353	PV	41491512	26
2781	1/10/2007	CLIENT 2014353	PV	41491514	26
2782	1/9/2008	PRO SVCS 5/1-11	PV	41804789	3
2783	9/28/2006	CLIENT# 05272	PV	41412109	26
2784	3/31/2008	sb270983	PV	41872917	26
2785	2/15/2006	COMPUTER CONSULTING SERV	PV	41250842	3
2786	2/28/2006	ECIS APPLICATION SUPPORT	PV	41259382	3
2787	11/29/2006	Oct-06	PV	41457553	3
2788	12/15/2006	Dec-06	PV	41470755	3
2789	2/2/2007	CIS SUpport	PV	41509856	3
2790	2/26/2007	Feb-07	PV	41525653	3
2791	4/5/2007	1000124844	PV	41556873	3
2792	6/7/2007	Apr-07	PV	41607832	3
2793	6/29/2007	1000138170	PV	41629956	3
2794	7/30/2007	Jun-07	PV	41654506	3
2795	9/20/2007	Jul-07	PV	41701642	3
2796	10/1/2007	1000153338	PV	41711925	3
2797	10/31/2007	Sep-07	PV	41740001	3
2798	12/10/2007	Oct-07	PV	41773852	3
2799	12/24/2007	1000168374	PV	41789547	3
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2825	260205.550000.16	50032385	Vehicle Cleaning Services Inc
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2806	3/16/2006	CUST# 975	PV	41271108	26
2807	4/27/2006	cust# 075	PV	41299819	26
2808	5/19/2006	CUST# 075	PV	41313975	26
2809	6/5/2006	CUST#075 TNAWC	PV	41324819	26
2810	7/27/2006	CUST# 075	PV	41365895	26
2811	8/23/2006	CUST# 075 TNAWC	PV	41384429	26
2812	9/27/2006	CUST ID #075	PV	41410192	26
2813	10/26/2006	75	PV	41436630	26
2814	11/30/2006	cust id 075	PV	41460135	26
2815	12/21/2006	CUST 075	PV	41476387	26
2816	2/15/2007	CUST 075	PV	41518323	26
2817	2/28/2007	CUST# 075	PV	41528656	26
2818	3/13/2007	CUST 075	PV	41537964	26
2819	4/30/2007	75	PV	41576175	26
2820	5/31/2007	TN AM	PV	41602524	26
2821	6/29/2007	SERVICE	PV	41630279	26
2822	7/6/2007	2439	PV	41634329	26
2823	1/31/2007	246913	PV	41508387	26
2824	3/23/2007	TNAWC	PV	41545497	26
2825	1/19/2006	TRUCK WASH	PV	41235013	26
2826	2/16/2006	WASH TRUCKS	PV	41252991	26
2827	4/20/2006	WASH TRUCKS	PV	41295041	26
2828	5/19/2006	WASH TRUCKS	PV	41314234	26
2829	6/29/2006	TN AM WTR	PV	41344507	26
2830	7/27/2006	SERVICE	PV	41365850	26
2831	8/23/2006	TNAWC	PV	41384774	26
2832	9/28/2006	TNAW	PV	41412548	26
2833	10/26/2006	WASH TRUCKS	PV	41436650	26
2834	11/30/2006	WASH TRUCKS	PV	41460169	26
2835	3/22/2007	TNAWC	PV	41544692	26
2836	5/15/2007	INV 113006SW	PV	41588293	26
2837	5/15/2007	INV 123006SW	PV	41588296	26
2838	5/15/2007	INV 32507SW	PV	41588300	26
2839	5/15/2007	INV 13107SW	PV	41588303	26
2840	5/15/2007	INV 83106SW	PV	41588307	26
2841	5/31/2007	WASH TRUCKS	PV	41602704	26
2842	6/29/2007	53007sw	PV	41630375	26
2843	7/23/2007	62907SW	PV	41647785	26
2844	8/31/2007	73107	PV	41684851	26
2845	9/27/2007	83107SW	PV	41709659	26
2846	10/23/2007	93007SW	PV	41731376	26
2847	12/3/2007	103107SW	PV	41767528	26
2848	12/31/2007	113007sw	PV	41795221	26
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2852	260205.550001.16	18523002	Automotive Rentals Inc
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2854	2/27/2007	5d70	PV	41527314	3
2855	2/27/2007	5d70	PV	41527314	3
2856	2/27/2007	5d70	PV	41527314	3
2857	2/27/2007	5d70	PV	41527314	3
2858	2/27/2007	5d70	PV	41527314	3
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2862	2/27/2007	5d70	PV	41527314	3
2863	2/27/2007	5d70	PV	41527314	3
2864	2/27/2007	5d70	PV	41527314	3
2865	2/27/2007	5d70	PV	41527314	3
2866	1/19/2006	5d70	PV	41235704	3
2867	1/19/2006	5d70	PV	41235704	3
2868	1/19/2006	5d70	PV	41235704	3
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2870	2/6/2006	5d70	PV	41253800	3
2871	2/6/2006	5d70	PV	41253800	3
2872	2/6/2006	5d70	PV	41253800	3
2873	2/6/2006	5d70	PV	41253800	3
2874	2/6/2006	5d70	PV	41253800	3
2875	2/6/2006	5d70	PV	41253800	3
2876	2/6/2006	5d70	PV	41253800	3
2877	3/23/2006	5d70	PV	41277605	3
2878	3/23/2006	5d70	PV	41277605	3
2879	3/23/2006	5d70	PV	41277605	3
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2881	4/20/2006	5d70	PV	41295389	3
2882	4/20/2006	5d70	PV	41295389	3
2883	4/20/2006	5d70	PV	41295389	3
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2886	5/24/2006	5D70	PV	41319198	3
2887	5/24/2006	5D70	PV	41319198	3
2888	6/29/2006	5d70 m12248	PV	41344775	3
2889	6/29/2006	5d70 m12248	PV	41344775	3
2890	7/28/2006	5d70	PV	41365571	3
2891	7/28/2006	5d70	PV	41365571	3
2892	8/17/2006	client 5D70 IN	PV	41380442	3
2893	8/17/2006	client 5D70 IN	PV	41380442	3
2894	8/17/2006	client 5D70 IN	PV	41380442	3
2895	9/15/2006	CLIENT 5D70	PV	41401164	3
2896	9/15/2006	CLIENT 5D70	PV	41401164	3
2897	9/15/2006	CLIENT 5D70	PV	41401164	3
2898	10/25/2006	5d70 m78162	PV	41433679	3
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2900	10/25/2006	5d70 m78162	PV	41433679	3

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2867	9,211.36	P
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2873	1,259.45	P
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2875	4,544.09	P
2876	2,812.14	P
2877	3,706.38	P
2878	1,952.89	P
2879	4,833.60	P
2880	1,664.88	P
2881	1,237.29	P
2882	1,162.96	P
2883	1,191.41	P
2884	1,253.15	P
2885	2,296.41	P
2886	3,432.03	P
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2898	1,585.47	P
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	D	E	F	G	H
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2902	10/25/2006	5d70 m78162	PV	41433679	3
2903	11/30/2006	5d70	PV	41459531	3
2904	11/30/2006	5d70	PV	41459531	3
2905	11/30/2006	5d70	PV	41459531	3
2906	12/27/2006	5d70	PV	41480401	3
2907	12/27/2006	5d70	PV	41480401	3
2908	12/27/2006	5d70	PV	41480401	3
2909	12/27/2006	5d70	PV	41480401	3
2910	12/27/2006	5d70	PV	41480401	3
2911	12/27/2006	5d70	PV	41480401	3
2912	1/15/2007	5d70	PV	41495088	3
2913	1/15/2007	5d70	PV	41495088	3
2914	1/15/2007	5d70	PV	41495088	3
2915	1/15/2007	5d70	PV	41495088	3
2916	1/15/2007	5d70	PV	41495088	3
2917	2/27/2007	5d70	PV	41527314	3
2918	2/27/2007	5d70	PV	41527314	3
2919	3/13/2007	5d70	PV	41537974	3
2920	3/13/2007	5d70	PV	41537974	3
2921	3/13/2007	5d70	PV	41537974	3
2922	3/13/2007	5d70	PV	41537974	3
2923	3/13/2007	5d70	PV	41537974	3
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2926	3/13/2007	5d70	PV	41537974	3
2927	4/13/2007	CLIENT 5D70	PV	41562777	3
2928	4/13/2007	CLIENT 5D70	PV	41562777	3
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2931	4/13/2007	CLIENT 5D70	PV	41562777	3
2932	5/17/2007	client 5D70	PV	41590081	3
2933	5/17/2007	client 5D70	PV	41590081	3
2934	5/17/2007	client 5D70	PV	41590081	3
2935	5/17/2007	client 5D70	PV	41590081	3
2936	6/18/2007	client 5D70	PV	41618134	3
2937	6/18/2007	client 5D70	PV	41618134	3
2938	6/18/2007	client 5D70	PV	41618134	3
2939	6/18/2007	client 5D70	PV	41618134	3
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2941	6/18/2007	client 5D70	PV	41618134	3
2942	8/15/2007	CLIENT 5D70	PV	41670041	3
2943	8/15/2007	CLIENT 5D70	PV	41670041	3
2944	8/15/2007	CLIENT 5D70	PV	41670041	3
2945	8/15/2007	CLIENT 5D70	PV	41670041	3
2946	9/17/2007	CLIENT 5D70	PV	41699258	3
2947	9/17/2007	CLIENT 5D70	PV	41699258	3
2948	9/17/2007	CLIENT 5D70	PV	41699258	3
2949	9/17/2007	CLIENT 5D70	PV	41699258	3
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2912	1,630.32	P
2913	3,384.39	P
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2917	1,564.72	P
2918	1,538.72	P
2919	1,331.04	P
2920	1,426.04	P
2921	4,112.96	P
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2923	1,049.03	P
2924	2,959.07	P
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2926	1,838.93	P
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2929	1,819.56	P
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2931	3,043.26	P
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2935	1,191.20	P
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2939	1,217.94	P
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2942	2,597.14	P
2943	1,266.37	P
2944	1,298.46	P
2945	5,269.59	P
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2981	260205.550003.16	50118470	BFNT LLC
2982	260205.575000.16	3016617	Accenture, LLP
2983	260205.575000.16	3016617	Accenture, LLP
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2989	260205.575000.16	3016617	Accenture, LLP
2990	260205.575000.16	18543530	Mueller Co
2991	260205.575000.16	18543530	Mueller Co
2992	260205.575000.16	26000970	Walter A Wood Supply Co Inc
2993	260205.575000.16	50148631	Insight Direct
2994	260205.575000.16	50285473	ACG Trust Account C/O ASK Financial LLP
2995	260205.575000.16	50301082	WRS LLC
2996	260205.575100.15	19000119	Mellon Bank NA
2997	260205.575100.15	50199007	Deutsche Bank Trust Co Americas-AA
2998	260205.575100.15	50199007	Deutsche Bank Trust Co Americas-AA
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2955	10/15/2007	client 5D70	PV	41724862	3
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2958	10/15/2007	client 5D70	PV	41724862	3
2959	11/15/2007	CLIENT 5D70	PV	41753839	3
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2962	11/15/2007	CLIENT 5D70	PV	41753839	3
2963	11/15/2007	CLIENT 5D70	PV	41753839	3
2964	11/15/2007	CLIENT 5D70	PV	41753839	3
2965	12/14/2007	client 5D70	PV	41778338	3
2966	12/14/2007	client 5D70	PV	41778338	3
2967	12/14/2007	client 5D70	PV	41778338	3
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2970	1/14/2008	client 5D70	PV	41808500	3
2971	1/14/2008	client 5D70	PV	41808500	3
2972	2/14/2008	client 5D70	PV	41835714	3
2973	2/14/2008	client 5D70	PV	41835714	3
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2975	2/14/2008	client 5D70	PV	41835714	3
2976	2/14/2008	client 5D70	PV	41835714	3
2977	3/21/2008	client 5D70	PV	41866187	3
2978	3/21/2008	client 5D70	PV	41866187	3
2979	3/21/2008	client 5D70	PV	41866187	3
2980	3/21/2008	client 5D70	PV	41866187	3
2981	11/30/2006	REF#y90028 11/02/06	PV	41460105	26
2982	3/29/2006	COMPUTER CONSUL	PV	41279562	3
2983	3/29/2006	COMPUTER CONSUL	PV	41279601	3
2984	4/20/2006	AW CIS Applicat	PV	41295158	3
2985	5/18/2006	Computer Consul	PV	41313365	3
2986	6/22/2006	AW CIS applicat	PV	41336841	3
2987	7/17/2006	AW CIS APPL. SU	PV	41355373	3
2988	9/12/2006	ECIS Support	PV	41398734	3
2989	10/25/2006	Oct-06	PV	41433346	3
2990	10/17/2007	15095922	PV	41727330	26
2991	10/17/2007	15095922	PV	41727332	26
2992	10/2/2007	15097026	PV	41714776	26
2993	9/28/2006	200327201 OFFSET	PV	41412479	26
2994	6/27/2006	Pymt for Tennesee Americ	PS	41340258	26
2995	9/18/2006	TRA customer survey	PS	41402614	26
2996	3/17/2008	ACCT#079-4402 A	PV	41862295	3
2997	1/10/2006	CUST #771690	PV	41227289	3
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2999	4/12/2006	A/C #00-433-500	PV	41288830	3
3000	4/12/2006	A/C #00-433-500	PV	41288832	3

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2959	2,724.14	P
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2964	1,592.08	P
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2996	3,569.69	P
2997	4,999.71	P
2998	5,612.54	P
2999	5,114.25	P
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3001	260205.575100.15	50199007	Deutsche Bank Trust Co Americas-AA
3002	260205.575100.15	50199007	Deutsche Bank Trust Co Americas-AA
3003	260205.575100.15	50199007	Deutsche Bank Trust Co Americas-AA
3004	260205.575100.15	50199007	Deutsche Bank Trust Co Americas-AA
3005	260205.575100.15	50199007	Deutsche Bank Trust Co Americas-AA
3006	260205.575100.15	50199007	Deutsche Bank Trust Co Americas-AA
3007	260205.575100.15	50199007	Deutsche Bank Trust Co Americas-AA
3008	260205.575100.15	50199007	Deutsche Bank Trust Co Americas-AA
3009	260205.575100.15	50199007	Deutsche Bank Trust Co Americas-AA
3010	260205.575100.15	50199007	Deutsche Bank Trust Co Americas-AA
3011	260205.575100.15	50199007	Deutsche Bank Trust Co Americas-AA
3012	260205.575100.15	50199007	Deutsche Bank Trust Co Americas-AA
3013	260205.575100.15	50199007	Deutsche Bank Trust Co Americas-AA
3014	260205.575100.15	50199007	Deutsche Bank Trust Co Americas-AA
3015	260205.575100.15	50199007	Deutsche Bank Trust Co Americas-AA
3016	260205.575100.15	50199007	Deutsche Bank Trust Co Americas-AA
3017	260205.575100.15	50199007	Deutsche Bank Trust Co Americas-AA
3018	260205.575100.15	50199007	Deutsche Bank Trust Co Americas-AA
3019	260205.575100.15	50199007	Deutsche Bank Trust Co Americas-AA
3020	260205.575100.15	50199007	Deutsche Bank Trust Co Americas-AA
3021	260205.575100.15	50199007	Deutsche Bank Trust Co Americas-AA
3022	260205.575100.15	50199007	Deutsche Bank Trust Co Americas-AA
3023	260205.575100.15	50199007	Deutsche Bank Trust Co Americas-AA
3024	260205.575100.15	50199007	Deutsche Bank Trust Co Americas-AA
3025	260205.575100.16	27002807	Suntrust Bank
3026	260205.575100.16	27002807	Suntrust Bank
3027	260205.575100.16	27002807	Suntrust Bank
3028	260205.575100.16	50123587	Computershare Investor Services LLC
3029	260205.575240.16	22001278	American Water Works Association
3030	260205.575270.16	26000642	William P Sudderth
3031	260205.575270.16	26000999	John F Germ
3032	260205.575340.16	50162405	Friends Of The Festival
3033	260205.575500.16	50238093	Building Services
3034	260205.575560.16	26001027	Baker Donelson Bearman & Caldwell Berkow
3035	260205.575640.16	26000018	Tennessee Department of Revenue
3036	260205.575640.16	26000923	Tennessee Dept of Revenue
3037	260205.575640.16	26000923	Tennessee Dept of Revenue
3038	260205.575640.16	26000923	Tennessee Dept of Revenue
3039	260205.575640.16	26000923	Tennessee Dept of Revenue
3040	260205.575640.16	26000923	Tennessee Dept of Revenue
3041	260205.575640.16	26000923	Tennessee Dept of Revenue
3042	260205.575640.16	26000923	Tennessee Dept of Revenue
3043	260205.575660.16	50046503	Neopost Inc
3044	260205.575740.16	50099144	BellSouth
3045	260205.575740.16	50099144	BellSouth
3046	260205.575740.16	50099144	BellSouth
3047	260205.575740.16	50099144	BellSouth
3048	260205.575740.16	50099144	BellSouth
3049	260205.575740.16	50099144	BellSouth
3050	260205.575740.16	50099144	BellSouth

	D	E	F	G	H
3001	4/17/2006	A/C #00-433-500	PV	41291800	3
3002	6/26/2006	Deutsche Bank L	PV	41339781	3
3003	6/26/2006	Duetsche Bank L	PV	41339789	3
3004	7/11/2006	ACCT #00433500	PV	41352714	3
3005	8/10/2006	MAY 2006 LOCKBO	PV	41374930	3
3006	8/10/2006	JUNE 2006 LOCKB	PV	41374994	3
3007	11/27/2006	ACCT#00433500	PV	41454108	3
3008	12/8/2006	sept 2006 lockbox	PV	41465092	3
3009	12/8/2006	AUG 2006 LOCKBOX	PV	41465108	3
3010	12/19/2006	Oct-06	PV	41473402	3
3011	3/23/2007	Nov-06	PV	41545666	3
3012	3/23/2007	Dec-06	PV	41545678	3
3013	3/23/2007	Jan-07	PV	41545701	3
3014	4/19/2007	Feb-07	PV	41567231	3
3015	6/6/2007	Mar-07	PV	41607120	3
3016	6/29/2007	lockbox charges	PV	41628367	3
3017	7/18/2007	May-07	PV	41643518	3
3018	8/20/2007	Jun-07	PV	41672652	3
3019	9/28/2007	Jul-07	PV	41711501	3
3020	11/7/2007	Aug-07	PV	41747433	3
3021	11/7/2007	Sep-07	PV	41747497	3
3022	2/29/2008	lockbox charges	PV	41849110	3
3023	2/29/2008	lockbox charges	PV	41849120	3
3024	3/25/2008	AMERICAN WATER 10/07	PV	41867985	3
3025	1/17/2006	10307730 TNAW	PV	41231799	26
3026	3/10/2006	ACCT# 10307730	PV	41266127	26
3027	5/22/2006	ACCT#10307730	PV	41316531	26
3028	8/31/2006	ACCT# 29132	PV	41391165	26
3029	2/6/2007	00022561 Tenn Amer Water	PV	41512076	26
3030	11/1/2006	1,2 & 3 Qtr Attendance	PS	41439885	26
3031	11/1/2006	1,2 &3 Qtr Attendance	PS	41439884	26
3032	12/7/2006	2007 Riverbend Pins	PS	41464160	26
3033	9/27/2007	inv 12050	PV	41709145	26
3034	4/30/2007	2014353 000046	PV	41575382	26
3035	1/13/2006	04 TN SIT Penalty	PS	41229961	26
3036	10/31/2006	TN ERIDGE PENTALTY 06/06	PS	41438263	26
3037	12/7/2006	TN 2006 Util Tx Penalty	PS	41464159	26
3038	12/13/2006	TN CH 0706 S Tx Penalty	PS	41469273	26
3039	12/13/2006	TN CH 0606 S Tx Penalty	PS	41469273	26
3040	12/13/2006	TN ER 0506 S Tx Penalty	PS	41469273	26
3041	12/13/2006	TN 0506 Use Tax Penalty	PS	41469273	26
3042	11/30/2007	TN PENALTY S/U 10/07	PS	41767266	26
3043	12/5/2007	Postage	PS	41770311	26
3044	1/17/2006	423M0994332511861	PV	41232132	26
3045	2/21/2006	Tennessee Amer Water	PV	41256018	26
3046	7/25/2006	423M0994332511861	PV	41361500	26
3047	8/15/2006	423M0994332511861	PV	41377410	26
3048	9/25/2006	423m0994332511861 TNAW	PV	41406752	26
3049	11/28/2006	423m0994332511861	PV	41455482	26
3050	12/19/2006	423m0994332511861	PV	41473220	26

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3001	5,586.41	P
3002	5,161.34	P
3003	5,441.04	P
3004	5,248.32	P
3005	5,235.89	P
3006	4,919.74	P
3007	5,264.67	P
3008	4,609.01	P
3009	5,316.19	P
3010	5,514.92	P
3011	5,085.73	P
3012	4,770.51	P
3013	5,679.72	P
3014	5,017.94	P
3015	4,972.66	P
3016	5,521.30	P
3017	5,441.59	P
3018	5,032.67	P
3019	5,313.94	P
3020	5,454.18	P
3021	4,330.15	P
3022	7,377.80	P
3023	7,316.98	P
3024	8,312.11	P
3025	1,606.35	P
3026	1,572.02	P
3027	1,399.53	P
3028	1,376.54	P
3029	7,355.00	P
3030	1,500.00	P
3031	1,500.00	P
3032	2,300.00	P
3033	1,179.00	P
3034	15,601.20	P
3035	10,494.10	P
3036	1,706.90	P
3037	40,530.80	P
3038	9,939.53	P
3039	15,925.30	P
3040	2,003.16	P
3041	1,551.01	P
3042	13,056.00	P
3043	2,500.00	P
3044	1,334.38	P
3045	1,334.38	P
3046	1,352.97	P
3047	1,394.77	P
3048	1,321.35	P
3049	1,321.34	P
3050	1,362.16	P

	A	B	C
3051	260205.575740.16	50099144	BellSouth
3052	260205.575740.16	50099144	BellSouth
3053	260205.575740.16	50099144	BellSouth
3054	260205.575740.16	50099144	BellSouth
3055	260205.575740.16	50099144	BellSouth
3056	260205.575740.16	50102833	BellSouth
3057	260205.575740.16	50109456	US Bank
3058	260205.575740.16	50147470	EPB Telecom
3059	260205.575740.16	50147470	EPB Telecom
3060	260205.575740.16	50147470	EPB Telecom
3061	260205.575740.16	50147470	EPB Telecom
3062	260205.575740.16	50147470	EPB Telecom
3063	260205.575740.16	50147470	EPB Telecom
3064	260205.575740.16	50147470	EPB Telecom
3065	260205.575740.16	50147470	EPB Telecom
3066	260205.575740.16	50147470	EPB Telecom
3067	260205.575740.16	50147470	EPB Telecom
3068	260205.575740.16	50147470	EPB Telecom
3069	260205.575740.16	50147470	EPB Telecom
3070	260205.575740.16	50147470	EPB Telecom
3071	260205.575740.16	50147470	EPB Telecom
3072	260205.575740.16	50147470	EPB Telecom
3073	260205.575740.16	50147470	EPB Telecom
3074	260205.575740.16	50147470	EPB Telecom
3075	260205.575740.16	50147470	EPB Telecom
3076	260205.575740.16	50147470	EPB Telecom
3077	260205.575740.16	50147470	EPB Telecom
3078	260205.575740.16	50147470	EPB Telecom
3079	260205.575740.16	50348247	AT&T
3080	260205.575740.16	50348247	AT&T
3081	260205.575740.16	50348247	AT&T
3082	260205.575740.16	50348247	AT&T
3083	260205.575740.16	50348247	AT&T
3084	260205.575740.16	50348247	AT&T
3085	260205.575740.16	50348247	AT&T
3086	260205.575740.16	50348247	AT&T
3087	260205.575740.16	50348247	AT&T
3088	260205.575830.16	50008299	Tenn American Water Co
3089	260205.635000.26	50220202	W H Painting
3090	260205.675000.26	3017037	Oracle Corp
3091	260205.675000.26	26000587	Kone Inc
3092	260205.675000.26	26000587	Kone Inc
3093	260205.675000.26	26001743	Callahan Service Co., LLC
3094	260205.675000.26	50022608	OCE IMAGISTICS INC
3095	260205.675000.26	50022608	OCE IMAGISTICS INC
3096	260205.675000.26	50022608	OCE IMAGISTICS INC
3097	260205.675000.26	50022608	OCE IMAGISTICS INC
3098	260205.675000.26	50022608	OCE IMAGISTICS INC
3099	260205.675000.26	50069012	TNT Concrete
3100	260205.675000.26	50149928	Alliance Data Systems Inc

	D	E	F	G	H
3051	1/25/2007	423m0994332511861	PV	41501649	26
3052	2/13/2007	423m0994332511861	PV	41516196	26
3053	3/21/2007	423M0994332511861	PV	41543523	26
3054	5/4/2007	423M0994332511861	PV	41579664	26
3055	10/19/2007	ACCT # 423M0994332511861	PV	41728958	26
3056	10/16/2006	423M0994332511861	PV	41422741	26
3057	10/8/2007	1910389	PV	41717895	26
3058	7/25/2006	10005177	PV	41361498	26
3059	8/16/2006	1.00052E+12	PV	41379456	26
3060	9/14/2006	10005177	PV	41400409	26
3061	10/16/2006	10005177	PV	41422740	26
3062	11/8/2006	10005177	PV	41444134	26
3063	12/19/2006	10005177	PV	41473630	26
3064	1/16/2007	10005177	PV	41495813	26
3065	2/13/2007	10005177	PV	41516185	26
3066	3/13/2007	10005177	PV	41537505	26
3067	4/13/2007	001-0005177-02647	PV	41562102	26
3068	5/9/2007	ACCT 001-000517	PV	41583208	26
3069	6/14/2007	10005177	PV	41615716	26
3070	7/18/2007	1.00052E+12	PV	41644347	26
3071	8/31/2007	10005177	PV	41684563	26
3072	9/13/2007	1.00052E+12	PV	41696486	26
3073	10/12/2007	10005177	PV	41723261	26
3074	11/9/2007	10005177	PV	41749737	26
3075	11/12/2007	0010005177NOV07	PV	41751739	26
3076	1/11/2008	10005177	PV	41806121	26
3077	2/6/2008	10005177	PV	41828653	26
3078	3/10/2008	10005177	PV	41856457	26
3079	7/18/2007	423M09943325118	PV	41644293	26
3080	8/15/2007	423M09943325118	PV	41669950	26
3081	9/13/2007	423M09943325118	PV	41696473	26
3082	11/15/2007	423m09943325118	PV	41753682	26
3083	11/27/2007	423M09943325118	PV	41762026	26
3084	12/12/2007	423M09943325118	PV	41776017	26
3085	2/12/2008	423m09943325118	PV	41833039	26
3086	2/12/2008	423m09943325118	PV	41833040	26
3087	3/12/2008	423m09943325118	PV	41857795	26
3088	10/10/2006	2600163162	PV	41418999	26
3089	11/30/2007	10097	PV	41765413	26
3090	11/14/2006	PJDMO471000	PV	41447099	3
3091	8/31/2007	17525898	PV	41685818	26
3092	8/31/2007	CUST#145246	PV	41685829	26
3093	9/27/2006	WORK ORDER# 14556	PV	41410173	26
3094	11/30/2006	CUST #246913	PV	41460179	26
3095	5/15/2007	CUST 246913	PV	41588291	26
3096	7/31/2007	CUST# 246913	PV	41656281	26
3097	10/31/2007	407979467	PV	41740134	26
3098	2/6/2008	246913	PV	41827580	26
3099	11/30/2006	PARKING LOT	PV	41460148	26
3100	2/27/2006	CUST #0000436	PV	41259205	3

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3052	1,321.34	P
3053	1,321.34	P
3054	1,321.34	P
3055	1,397.01	P
3056	1,321.34	P
3057	3,232.50	P
3058	1,118.55	P
3059	1,118.55	P
3060	1,118.55	P
3061	1,118.55	P
3062	1,203.77	P
3063	1,121.87	P
3064	1,121.87	P
3065	1,121.87	P
3066	1,121.87	P
3067	3,032.09	P
3068	1,121.87	P
3069	1,122.09	P
3070	1,124.20	P
3071	1,228.12	P
3072	1,228.11	P
3073	1,076.74	P
3074	1,143.21	P
3075	1,143.21	P
3076	1,143.21	P
3077	1,143.21	P
3078	1,143.21	P
3079	1,403.07	P
3080	1,401.89	P
3081	1,399.43	P
3082	1,351.50	P
3083	1,362.21	P
3084	1,350.27	P
3085	1,349.36	P
3086	1,348.49	P
3087	1,353.83	P
3088	1,142.35	P
3089	1,785.00	P
3090	16,521.77	P
3091	1,627.00	P
3092	2,365.00	P
3093	1,309.75	P
3094	1,421.57	P
3095	1,407.31	P
3096	2,624.73	P
3097	1,373.28	P
3098	1,754.86	P
3099	2,050.00	P
3100	7,479.44	P

	A	B	C
3101	260205.675000.26	50149928	Alliance Data Systems Inc
3102	260205.675000.26	50149928	Alliance Data Systems Inc
3103	260205.675000.26	50149928	Alliance Data Systems Inc
3104	260205.675000.26	50149928	Alliance Data Systems Inc
3105	260205.675000.26	50149928	Alliance Data Systems Inc
3106	260205.675000.26	50149928	Alliance Data Systems Inc
3107	260205.675000.26	50160125	Oracle USA Inc
3108	260205.675000.26	50263335	Black Box Universal Solutions Inc
3109	260205.675000.26	50263335	Black Box Universal Solutions Inc
3110	260205.675000.26	50263335	Black Box Universal Solutions Inc
3111	260205.675000.26	50263335	Black Box Universal Solutions Inc
3112	260205.675650.24	50069012	TNT Concrete
3113	260205.7151	26000376	Eslinger Contracting Co
3114	260205.7601	50162405	Friends Of The Festival
3115	260205.8103	26000914	Tallen Holdings Co
3116	260205.8103	26000914	Tallen Holdings Co
3117	260205.8103	26000914	Tallen Holdings Co
3118	260205.8103	26000914	Tallen Holdings Co
3119	260205.8103	26000914	Tallen Holdings Co
3120	260205.8103	26000914	Tallen Holdings Co
3121	260205.8103	26000914	Tallen Holdings Co
3122	260205.8103	26000914	Tallen Holdings Co
3123	260205.8103	26000914	Tallen Holdings Co
3124	260205.8103	26000914	Tallen Holdings Co
3125	260205.8103	26000914	Tallen Holdings Co
3126	260205.8103	26000914	Tallen Holdings Co
3127	260205.8103	26000914	Tallen Holdings Co
3128	260205.8103	26000914	Tallen Holdings Co
3129	260205.8103	26000914	Tallen Holdings Co
3130	260205.8103	26000914	Tallen Holdings Co
3131	260205.8103	26000914	Tallen Holdings Co
3132	260205.8103	26000914	Tallen Holdings Co
3133	260205.8103	26000914	Tallen Holdings Co
3134	260205.8103	26000914	Tallen Holdings Co
3135	260205.8103	26000914	Tallen Holdings Co
3136	260205.8103	26000914	Tallen Holdings Co
3137	260205.8103	26000914	Tallen Holdings Co
3138	260205.8103	26000914	Tallen Holdings Co
3139	260205.8103	26000914	Tallen Holdings Co
3140	260205.8103	26000914	Tallen Holdings Co
3141	260205.84	26000923	Tennessee Dept of Revenue
3142	260205.84	26000923	Tennessee Dept of Revenue
3143	260205.84	26000923	Tennessee Dept of Revenue
3144	260206.520100.14	26000586	Rothberger Directory Company
3145	260206.535000.14	14006687	Heath Consultants Inc
3146	260206.535000.14	14006687	Heath Consultants Inc
3147	260206.535000.14	14006687	Heath Consultants Inc
3148	260206.535000.14	14006687	Heath Consultants Inc
3149	260206.535000.14	14006687	Heath Consultants Inc
3150	260206.535000.14	14006687	Heath Consultants Inc

	D	E	F	G	H
3101	6/1/2006	436	PV	41323178	3
3102	8/11/2006	ECIS JUL-SEPT 2	PV	41375559	3
3103	11/14/2006	436	PV	41447180	3
3104	5/21/2007	SERVICES	PV	41593663	3
3105	8/14/2007	436	PV	41667896	3
3106	10/25/2007	436	PV	41734165	3
3107	10/12/2007	40783038	PV	41723214	3
3108	5/31/2007	244281	PV	41602484	26
3109	5/31/2007	CONTRACT # 0000	PV	41602708	26
3110	9/12/2007	34982	PV	41694973	26
3111	2/6/2008	34982	PV	41827604	26
3112	1/3/2008	2686	PV	41799436	26
3113	12/28/2007	12387	PV	41792227	26
3114	6/29/2007	RIVERBEND FESTI	PV	41629932	26
3115	1/5/2006	1101 Broad St. Lease	PS	41223942	26
3116	2/2/2006	1101 Broad St. Lease	PS	41242133	26
3117	2/22/2006	1101 Broad St Lease	PS	41256672	26
3118	3/31/2006	1101 Broad St. Lease	PS	41281518	26
3119	5/8/2006	1101 Broad St. Lease	PS	41304727	26
3120	6/21/2006	1101 Broad St Lease	PS	41336689	26
3121	8/8/2006	1101 Broad St. Lease	PS	41373498	26
3122	9/5/2006	1101 Broad St Lease	PS	41394024	26
3123	10/4/2006	1101 Broad St LEase	PS	41415460	26
3124	11/1/2006	1101 Broad St. Lease	PS	41439545	26
3125	12/11/2006	1101 Broad St Lease	PS	41467742	26
3126	1/18/2007	1101 Broad St. Lease 07	PS	41497488	26
3127	2/8/2007	1101 Broad St Lease	PS	41513407	26
3128	3/19/2007	1101 Broad St Lease	PS	41542518	26
3129	5/1/2007	1101 Broad St Lse-Apr 07	PS	41577657	26
3130	5/1/2007	1101 Broad St Lse-May 07	PS	41577658	26
3131	6/18/2007	1101 Broad St Lease	PS	41618269	26
3132	7/23/2007	1101 Broad St Lease	PS	41648684	26
3133	8/3/2007	1101 Broad St Lease	PS	41660194	26
3134	9/4/2007	1101 Broad St Lease	PS	41687448	26
3135	10/18/2007	1101 Broad St Lease	PS	41728334	26
3136	11/7/2007	1101 Broad St Lease	PS	41747739	26
3137	12/14/2007	1101 Broad St Lease	PS	41777943	26
3138	1/4/2008	1101 Broad St Lease	PS	41801433	26
3139	2/13/2008	1101 Broad St Lease	PS	41834871	26
3140	3/26/2008	1080301	PV	41869006	26
3141	12/7/2006	TN 2006 Util Tx Interest	PS	41464159	26
3142	12/13/2006	TN CH 0706 S Tx Interest	PS	41469273	26
3143	12/13/2006	TN CH 0606 S Tx Interest	PS	41469273	26
3144	12/18/2007	11203	PV	41782052	26
3145	1/4/2006	CUST 746200	PV	41222975	26
3146	1/4/2006	CUST 746200	PV	41222979	26
3147	1/10/2006	TNAW 746200	PV	41227638	26
3148	1/10/2006	746200 TNAW	PV	41227653	26
3149	1/12/2006	746200 Tenn Amer Water	PV	41229330	26
3150	1/13/2006	212859 TNAW	PV	41230033	26

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3101	7,604.49	P
3102	7,682.87	P
3103	7,730.45	P
3104	8,182.30	P
3105	8,309.92	P
3106	8,355.30	P
3107	15,554.89	P
3108	1,039.37	P
3109	1,155.67	P
3110	1,155.67	P
3111	1,155.67	P
3112	8,663.37	P
3113	3,816.30	P
3114	5,500.00	P
3115	9,403.70	P
3116	9,335.18	P
3117	9,266.11	P
3118	9,196.50	P
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3120	9,055.62	P
3121	17,896.86	P
3122	8,840.10	P
3123	8,767.12	P
3124	8,693.56	P
3125	8,619.42	P
3126	8,544.70	P
3127	8,469.38	P
3128	8,393.47	P
3129	8,316.96	P
3130	8,239.84	P
3131	8,162.12	P
3132	8,083.77	P
3133	8,004.81	P
3134	7,925.23	P
3135	7,845.01	P
3136	7,764.17	P
3137	7,682.68	P
3138	7,600.54	P
3139	7,517.76	P
3140	7,434.33	P
3141	7,323.84	P
3142	1,781.22	P
3143	3,200.22	P
3144	1,127.50	P
3145	1,837.55	P
3146	1,644.18	P
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3151	1/13/2006	746200 TNAW	PV	41230035	26
3152	2/1/2006	TNAW 746200	PV	41241720	26
3153	2/1/2006	TNAW 746200	PV	41241723	26
3154	2/9/2006	CUST# 746200	PV	41246389	26
3155	2/9/2006	CUST# 746200	PV	41246391	26
3156	2/15/2006	CUST# 746200	PV	41250610	26
3157	3/10/2006	CUST# 746200	PV	41266129	26
3158	3/10/2006	order# 212859	PV	41266352	26
3159	3/13/2006	746200 TNAW	PV	41266892	26
3160	3/31/2006	cust# 746200	PV	41281168	26
3161	3/31/2006	cust# 746200	PV	41281172	26
3162	4/4/2006	746200 TNAW 212859	PV	41283370	26
3163	4/19/2006	746200 TNAW	PV	41293236	26
3164	4/20/2006	cust# 746200	PV	41294546	26
3165	4/28/2006	CUST# 746200	PV	41300411	26
3166	4/28/2006	CUST# 746200	PV	41300415	26
3167	5/17/2006	CUST# 746200	PV	41312867	26
3168	5/22/2006	CUST#746200	PV	41316496	26
3169	5/22/2006	CUST#746200	PV	41316499	26
3170	5/31/2006	CUST#746200	PV	41322551	26
3171	6/5/2006	CUST#746200 TNAWC	PV	41325271	26
3172	6/14/2006	TNAWC CUST# 746200	PV	41331121	26
3173	6/15/2006	CUST#746200 TNAWC	PV	41331971	26
3174	6/26/2006	CUST#746200	PV	41338979	26
3175	7/19/2006	CUST#746200	PV	41357712	26
3176	7/19/2006	CUST# 746200	PV	41357713	26
3177	7/19/2006	CUST#746200 TNAWC	PV	41357729	26
3178	8/23/2006	CUST#746200	PV	41383958	26
3179	8/23/2006	CUST# 746200	PV	41383965	26
3180	8/23/2006	CUST# 746200	PV	41383976	26
3181	8/23/2006	CUST# 746200	PV	41384198	26
3182	8/23/2006	CUST# 746200	PV	41384207	26
3183	8/31/2006	CUST# 746200	PV	41391492	26
3184	9/15/2006	CUST# 746200	PV	41401292	26
3185	9/15/2006	CUST# 746200	PV	41401294	26
3186	9/27/2006	CUST #746200	PV	41410024	26
3187	10/4/2006	CUST# 746200	PV	41415409	26
3188	10/4/2006	CUST# 746200	PV	41415410	26
3189	11/30/2006	CUST# 746200	PV	41459971	26
3190	11/30/2006	CUST# 746200	PV	41459979	26
3191	11/30/2006	CUST# 746200	PV	41459987	26
3192	11/30/2006	CUST# 746200	PV	41459994	26
3193	11/30/2006	CUST# 746200	PV	41460003	26
3194	11/30/2006	CUST# 746200	PV	41460005	26
3195	11/30/2006	CUST# 746200	PV	41460021	26
3196	12/19/2006	CUST 746200	PV	41473908	26
3197	12/19/2006	CUST 746200	PV	41473909	26
3198	12/19/2006	CUST 746200	PV	41473910	26
3199	12/21/2006	746200	PV	41476585	26
3200	12/21/2006	746200	PV	41476588	26

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3158	1,666.27	P
3159	1,701.70	P
3160	1,942.53	P
3161	1,719.25	P
3162	1,837.55	P
3163	2,109.25	P
3164	1,798.87	P
3165	2,132.65	P
3166	1,417.65	P
3167	2,041.97	P
3168	1,962.35	P
3169	1,215.50	P
3170	1,843.07	P
3171	1,828.78	P
3172	1,539.20	P
3173	1,663.03	P
3174	1,760.20	P
3175	1,766.70	P
3176	1,465.10	P
3177	1,338.03	P
3178	1,922.70	P
3179	1,039.68	P
3180	1,689.35	P
3181	1,829.75	P
3182	1,071.85	P
3183	1,948.05	P
3184	1,258.40	P
3185	1,708.20	P
3186	1,666.28	P
3187	1,419.92	P
3188	1,588.93	P
3189	1,544.73	P
3190	1,496.95	P
3191	1,355.58	P
3192	1,574.63	P
3193	1,436.18	P
3194	1,349.08	P
3195	1,595.43	P
3196	1,425.45	P
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3201	1/31/2007	746200	PV	41507787	26
3202	1/31/2007	746200	PV	41507795	26
3203	2/28/2007	746200	PV	41528469	26
3204	3/8/2007	CUST 746200	PV	41534290	26
3205	3/8/2007	746200	PV	41534292	26
3206	3/8/2007	746200	PV	41534293	26
3207	4/30/2007	746200	PV	41576208	26
3208	4/30/2007	746200	PV	41576264	26
3209	4/30/2007	746200	PV	41576291	26
3210	4/30/2007	746200	PV	41576303	26
3211	5/2/2007	HEATH ORDER 231	PV	41577979	26
3212	5/2/2007	HEATH ORDER 231	PV	41577980	26
3213	5/2/2007	HEATH NO 231865	PV	41578218	26
3214	5/31/2007	1661852	PV	41602464	26
3215	5/31/2007	1661852	PV	41602472	26
3216	5/31/2007	746200	PV	41602523	26
3217	6/13/2007	746200	PV	41614470	26
3218	6/13/2007	746200	PV	41614473	26
3219	6/29/2007	CUST 746200	PV	41629984	26
3220	6/29/2007	CUST# 746200	PV	41630069	26
3221	7/11/2007	SB256099	PV	41638466	26
3222	7/11/2007	SB255686	PV	41638472	26
3223	7/23/2007	SB56952	PV	41647231	26
3224	7/23/2007	SB256409	PV	41647234	26
3225	7/31/2007	Order# 231865	PV	41655433	26
3226	7/31/2007	TNAW	PV	41655441	26
3227	8/7/2007	SB57870	PV	41662536	26
3228	8/7/2007	SB258195	PV	41662540	26
3229	8/31/2007	SB258691	PV	41685248	26
3230	9/5/2007	ORDER# 231865	PV	41688834	26
3231	9/19/2007	Order# 231865	PV	41701029	26
3232	9/21/2007	746200	PV	41703196	26
3233	9/21/2007	746200	PV	41703199	26
3234	9/21/2007	746200	PV	41703202	26
3235	9/24/2007	inv sb260435	PV	41704862	26
3236	10/4/2007	SB261451	PV	41716023	26
3237	10/4/2007	SB261539	PV	41716025	26
3238	10/31/2007	SB262207	PV	41741908	26
3239	10/31/2007	SB261993	PV	41741911	26
3240	11/27/2007	SB264080	PV	41762064	26
3241	11/27/2007	SB263480	PV	41762067	26
3242	11/27/2007	SB263397	PV	41762080	26
3243	11/29/2007	SB264322	PV	41764169	26
3244	11/30/2007	SB262820	PV	41765367	26
3245	12/3/2007	SB264889	PV	41767536	26
3246	12/13/2007	SB265349	PV	41777053	26
3247	12/17/2007	SB265118	PV	41781618	26
3248	12/24/2007	SB265641	PV	41787722	26
3249	1/8/2008	sb266205	PV	41803930	26
3250	1/11/2008	SB266727	PV	41806299	26

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3204	1,384.50	P
3205	1,741.35	P
3206	1,215.50	P
3207	1,192.10	P
3208	1,587.63	P
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3213	1,262.95	P
3214	1,738.10	P
3215	1,102.73	P
3216	1,861.93	P
3217	1,334.78	P
3218	1,456.33	P
3219	1,899.30	P
3220	1,544.73	P
3221	1,193.40	P
3222	1,603.23	P
3223	1,709.17	P
3224	1,438.45	P
3225	1,809.93	P
3226	1,628.25	P
3227	1,340.30	P
3228	1,586.65	P
3229	1,579.83	P
3230	1,371.60	P
3231	1,623.05	P
3232	1,672.78	P
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3235	1,598.68	P
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3238	1,559.03	P
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3243	1,593.15	P
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3246	1,073.80	P
3247	1,528.15	P
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3250	1,340.30	P

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3259	260206.535000.14	14006687	Heath Consultants Inc
3260	260206.535000.14	26000906	Tennessee One-Call System Inc.
3261	260206.535000.14	26000906	Tennessee One-Call System Inc.
3262	260206.535000.14	26000906	Tennessee One-Call System Inc.
3263	260206.535000.14	26000959	Utilities Protection Center Inc
3264	260206.535000.14	26000959	Utilities Protection Center Inc
3265	260206.535000.14	26001743	Callahan Service Co., LLC
3266	260206.535000.14	26003922	Pierce Welding & Machine Inc
3267	260206.550000.16	26000213	Abra Auto Body & Glass
3268	260206.575000.13	50008299	Tenn American Water Co
3269	260206.575000.13	50008299	Tenn American Water Co
3270	260206.575000.13	50008299	Tenn American Water Co
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3297	260206.575000.14	50226469	F S Brainard & Co
3298	260206.575000.16	10007572	US Pipe & Foundry Co LLC
3299	260206.575000.16	10007572	US Pipe & Foundry Co LLC
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3251	1/11/2008	SB66967	PV	41806314	26
3252	1/31/2008	746200	PV	41823586	26
3253	2/7/2008	inv sb268469	PV	41829177	26
3254	2/21/2008	SB268744	PV	41840942	26
3255	2/21/2008	SB269369	PV	41840946	26
3256	2/29/2008	746200	PV	41848472	26
3257	3/5/2008	sb269920	PV	41852118	26
3258	3/17/2008	SB270215	PV	41860572	26
3259	3/31/2008	sb270582	PV	41872854	26
3260	1/12/2006	2006 MEMBERSHIP	PV	41228607	26
3261	1/30/2007	Tenn Amer Water	PV	41505933	26
3262	1/30/2008	9927	PV	41822330	26
3263	1/30/2007	TAW01	PV	41505847	26
3264	1/2/2008	a80571	PV	41799302	26
3265	7/24/2006	TNAWC	PV	41360413	26
3266	2/21/2008	13266	PV	41840967	26
3267	3/8/2007	TENN AMERICAN WATER	PV	41534305	26
3268	2/27/2007	2601047810	PV	41526057	26
3269	6/6/2007	26-0104781-0	PV	41607267	26
3270	6/29/2007	tawc	PV	41630437	26
3271	7/18/2007	2601047810	PV	41644307	26
3272	12/12/2007	2601047810	PV	41776029	26
3273	12/31/2007	2601047810	PV	41795335	26
3274	1/30/2008	2601047810	PV	41822328	26
3275	3/5/2008	2601047810	PV	41852010	26
3276	3/31/2008	2601047810	PV	41872825	26
3277	5/2/2007	HEATH ORDER 231	PV	41577978	26
3278	8/23/2006	TNAWC 8/15-9/15/06 CHARG	PV	41384890	26
3279	9/28/2006	8933 TNAW	PV	41411242	26
3280	10/26/2006	SO# 8933	PV	41436594	26
3281	12/14/2006	TNAWC	PV	41470223	26
3282	12/28/2006	communication charges	PV	41483228	26
3283	1/31/2007	SO# 8933	PV	41509046	26
3284	2/28/2007	# 8933	PV	41528945	26
3285	3/30/2007	TNAWC	PV	41553379	26
3286	4/30/2007	8933	PV	41576217	26
3287	6/5/2007	05/16/07-06/15/07 12757	PV	41605875	26
3288	6/29/2007	12789	PV	41630160	26
3289	7/30/2007	2006	PV	41654937	26
3290	8/31/2007	12852	PV	41685618	26
3291	9/27/2007	12884	PV	41709663	26
3292	10/24/2007	12906	PV	41732990	26
3293	11/29/2007	12932	PV	41764067	26
3294	12/24/2007	12947	PV	41787712	26
3295	1/22/2008	12973	PV	41814816	26
3296	2/21/2008	13000	PV	41840985	26
3297	3/31/2008	13042	PV	41872860	26
3298	11/3/2006	15079291 1000060 TNAW	PV	41441034	26
3299	11/29/2006	90190314cr po 15074360 T	PV	41457529	26
3300	1/9/2007	CREDIT TAKEN IN ERROR	PV	41490125	26

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3301	260206.575000.16	18543530	Mueller Co
3302	260206.575000.16	50115041	Ferguson Enterprises Inc
3303	260206.575100.15	5000948	CheckFreePay Corporation
3304	260206.575100.15	5000948	CheckFreePay Corporation
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3306	260206.575100.15	5000948	CheckFreePay Corporation
3307	260206.575100.15	5000948	CheckFreePay Corporation
3308	260206.575100.15	5000948	CheckFreePay Corporation
3309	260206.575100.15	26001232	SUNTRUST BANK,CHATTA ANALYSIS PROCESSING
3310	260206.575242.16	22001278	American Water Works Association
3311	260206.575242.16	50241938	American Water Works Assn
3312	260206.620000.21	26000424	Hydra-Shield Manufacturing Inc
3313	260206.620000.21	27003156	Neptune Technology Group Inc
3314	260206.620000.21	27003156	Neptune Technology Group Inc
3315	260206.620000.21	27003156	Neptune Technology Group Inc
3316	260206.620000.21	27003156	Neptune Technology Group Inc
3317	260206.620000.21	27003156	Neptune Technology Group Inc
3318	260206.620000.21	27003156	Neptune Technology Group Inc
3319	260206.620000.24	18531459	Fluid Conservation System Inc
3320	260206.620000.24	18568551	American Flow Control
3321	260206.620000.24	19000429	Hydraflo Inc
3322	260206.620000.24	19000429	Hydraflo Inc
3323	260206.620000.24	19000429	Hydraflo Inc
3324	260206.620000.24	19000429	Hydraflo Inc
3325	260206.620000.24	19000429	Hydraflo Inc
3326	260206.620000.24	19000429	Hydraflo Inc
3327	260206.620000.24	26000316	City of Chattanooga
3328	260206.620000.24	26000316	City of Chattanooga
3329	260206.620000.24	26000316	City of Chattanooga
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3342	260206.620000.24	26000316	City of Chattanooga
3343	260206.620000.24	26000316	City of Chattanooga
3344	260206.620000.24	26000316	City of Chattanooga
3345	260206.620000.24	26000316	City of Chattanooga
3346	260206.620000.24	26000316	City of Chattanooga
3347	260206.620000.24	26000376	Eslinger Contracting Co
3348	260206.620000.24	26000509	Piping Supply Co
3349	260206.620000.24	26002663	City of East Ridge - Sewer Payment
3350	260206.620000.24	26002663	City of East Ridge - Sewer Payment

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3301	12/21/2006	15075096 33840000 TNAW	PV	41476028	26
3302	1/6/2006	768 po 1506761	PV	41224759	26
3303	5/17/2006	907891 Tenn Am Water	PV	41312884	26
3304	6/6/2006	CUST#907891	PV	41326211	26
3305	6/6/2006	CUST#907891 TNAWC	PV	41326212	26
3306	7/27/2006	CUST ID 907891	PV	41366346	26
3307	8/23/2006	CUST# 907891	PV	41383971	26
3308	8/31/2006	CUST# 907891	PV	41391162	26
3309	3/13/2006	000359560800125 021626 T	PV	41266894	26
3310	2/1/2007	dues	PV	41509672	3
3311	12/28/2007	2008 DUES	PV	41792568	3
3312	11/9/2007	ORDER # 14295	PV	41749643	26
3313	1/19/2006	3158900	PV	41234997	26
3314	1/19/2006	3158900	PV	41235000	26
3315	5/23/2006	CUST#03158900 TENN AM WA	PV	41317393	26
3316	7/27/2006	SO # S132658	PV	41366425	26
3317	1/22/2007	CUST 03158900	PV	41499667	26
3318	1/22/2008	n172935	PV	41814806	26
3319	6/29/2006	CUST NO TEN001	PV	41344594	26
3320	1/19/2006	52137000	PV	41235053	26
3321	5/25/2006	TEN374 Tenn Amer Water	PV	41320266	26
3322	6/1/2006	CUST# TEN374	PV	41322882	26
3323	1/31/2007	TEN374	PV	41507663	26
3324	2/28/2007	CUST# TEN374	PV	41528973	26
3325	8/31/2007	TEN374	PV	41685947	26
3326	1/31/2008	8776	PV	41823642	26
3327	1/3/2006	108 STREET	PV	41221649	26
3328	4/4/2006	222 STREET CUT FEB PEMIT	PV	41283265	26
3329	8/23/2006	TNAWC MAY/JUNE/	PV	41384615	26
3330	8/23/2006	TNAWC	PV	41384681	26
3331	8/23/2006	TNAWC APRIL PER	PV	41384708	26
3332	12/14/2006	TNAWC OCT06 PER	PV	41469844	26
3333	12/21/2006	TNAWC	PV	41475545	26
3334	1/31/2007	PERMITS DECEMBE	PV	41507965	26
3335	3/14/2007	TNAWC	PV	41539245	26
3336	4/24/2007	TNAWC	PV	41571342	26
3337	7/31/2007	TNAW	PV	41655354	26
3338	8/14/2007	72307	PV	41667942	26
3339	8/14/2007	72307	PV	41667942	26
3340	10/19/2007	STREET CUT PERM	PV	41729061	26
3341	10/22/2007	wv aw 09/07/07	PV	41730860	26
3342	10/22/2007	tnaw 10/02/07	PV	41730874	26
3343	11/9/2007	110107	PV	41749646	26
3344	12/17/2007	120407	PV	41781587	26
3345	2/7/2008	inv 020108	PV	41829179	26
3346	3/17/2008	30308	PV	41860528	26
3347	1/31/2008	10812	PV	41823542	26
3348	1/22/2008	s1048730001	PV	41814819	26
3349	6/7/2006	REF#STREET CUT	PV	41326440	26
3350	12/21/2006	STREET CUT PERMIT	PV	41476583	26

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3335	5,339.75	P
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3338	9,642.75	P
3339	5,192.25	P
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3341	6,672.25	P
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3343	3,487.25	P
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	A	B	C
3351	260206.620000.24	26002663	City of East Ridge - Sewer Payment
3352	260206.620000.24	26003922	Pierce Welding & Machine Inc
3353	260206.620000.24	26003922	Pierce Welding & Machine Inc
3354	260206.620000.24	27003156	Neptune Technology Group Inc
3355	260206.620000.24	50069012	TNT Concrete
3356	260206.620000.24	50069012	TNT Concrete
3357	260206.620000.24	50335986	Grainger
3358	260206.635000.24	50191115	Mark Cubberley
3359	260206.675000.2435	26000485	Nabco Electric Company Inc
3360	260206.675000.2435	50114711	Terminix Processing Center
3361	260206.675000.2435	50123718	Brown Fence Company Inc
3362	260206.675000.26	26001743	Callahan Service Co., LLC
3363	260206.675650.24	26000316	City of Chattanooga
3364	260206.675650.24	50069012	TNT Concrete
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3400	260206.675650.24	50069012	TNT Concrete

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3351	12/28/2007	STREET CUT PERMITS	PV	41792802	26
3352	3/3/2008	13446	PV	41850219	26
3353	3/20/2008	13475	PV	41864580	26
3354	7/27/2006	CUST# 03158900	PV	41365802	26
3355	1/12/2006	Tenn Amer Water	PV	41229319	26
3356	2/2/2006	ASPHALT/CONCRET	PV	41242018	26
3357	12/3/2007	9441048718	PV	41767579	26
3358	8/31/2006	TNAWC	PV	41391495	26
3359	6/29/2006	73080	PV	41344642	26
3360	4/24/2007	CUST 5604593	PV	41571450	26
3361	12/14/2006	TNAWC	PV	41470049	26
3362	1/18/2006	ORDER# 11193	PV	41233325	26
3363	6/29/2007	REPAIRS	PV	41629998	26
3364	3/13/2006	TNAW	PV	41266896	26
3365	3/27/2006	Tenn American Water	PV	41277691	26
3366	4/28/2006	ASPHALT/CONCRETE REPAIRS	PV	41300409	26
3367	4/28/2006	REPAIRS	PV	41300413	26
3368	5/17/2006	ASPHALT REPAIRS	PV	41312896	26
3369	5/31/2006	TENN AMERICAN WATER	PV	41322547	26
3370	6/21/2006	TNAWC	PV	41335934	26
3371	6/26/2006	TENN AMERICAN WATER	PV	41339024	26
3372	7/12/2006	TNAW 6/23 - 6/29	PV	41352784	26
3373	8/14/2006	TENNESSEE AMERI	PV	41376740	26
3374	8/14/2006	TENNESSEE AMERI	PV	41376782	26
3375	8/23/2006	TNAWC	PV	41384222	26
3376	9/27/2006	SERVICE	PV	41409934	26
3377	9/27/2006	SERVICE	PV	41410027	26
3378	10/25/2006	SERVICES	PV	41434881	26
3379	11/7/2006	TNAWC	PV	41443088	26
3380	12/7/2006	TNAW	PV	41464735	26
3381	12/14/2006	TNAWC	PV	41469839	26
3382	12/19/2006	TNAWC	PV	41473905	26
3383	12/27/2006	TNAWC	PV	41480447	26
3384	1/18/2007	TNAW	PV	41496995	26
3385	1/31/2007	JANUARY INSURAN	PV	41508609	26
3386	2/28/2007	675650 24	PV	41528349	26
3387	3/14/2007	TNAWC	PV	41539242	26
3388	3/22/2007	TNAWC	PV	41544684	26
3389	4/24/2007	TNAWC	PV	41571354	26
3390	5/8/2007	Asphalt Repairs	PV	41581797	26
3391	5/18/2007	2315	PV	41591489	26
3392	6/5/2007	TNAWC	PV	41606365	26
3393	6/5/2007	TNAWC	PV	41606370	26
3394	6/29/2007	2369	PV	41630003	26
3395	7/6/2007	2397	PV	41634310	26
3396	7/23/2007	2423	PV	41647239	26
3397	7/31/2007	Asphalt	PV	41655422	26
3398	8/31/2007	2448	PV	41684655	26
3399	8/31/2007	Tn american	PV	41685942	26
3400	9/21/2007	Tennessee Amwat	PV	41703209	26

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3362	1,273.28	P
3363	2,535.00	P
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3366	7,978.91	P
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3368	6,650.81	P
3369	2,978.63	P
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3371	5,005.41	P
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3387	8,597.24	P
3388	12,885.86	P
3389	16,943.90	P
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3391	4,954.32	P
3392	4,681.72	P
3393	2,946.78	P
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3403	260206.675650.24	50069012	TNT Concrete
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3406	260206.675650.24	50069012	TNT Concrete
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3408	260206.675650.24	50069012	TNT Concrete
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3410	260206.675650.24	50069012	TNT Concrete
3411	260206.675650.24	50069012	TNT Concrete
3412	260206.675650.24	50069012	TNT Concrete
3413	260206.675650.24	50228004	Hudson Material Co
3414	260215.533000.16	26000237	Bass Berry & Sims PLC
3415	260215.533000.16	26000237	Bass Berry & Sims PLC
3416	260215.533000.16	26000237	Bass Berry & Sims PLC
3417	260215.533000.16	26000237	Bass Berry & Sims PLC
3418	260215.533000.16	26000237	Bass Berry & Sims PLC
3419	260215.533000.16	26000237	Bass Berry & Sims PLC
3420	260215.533000.16	26001027	Baker Donelson Bearman & Caldwell Berkow
3421	260215.533000.16	26001027	Baker Donelson Bearman & Caldwell Berkow
3422	260215.533000.16	26001027	Baker Donelson Bearman & Caldwell Berkow
3423	260215.533000.16	26001027	Baker Donelson Bearman & Caldwell Berkow
3424	260218.504500.16	26001041	Chatta Ham Cty Convention & Trade Center
3425	260218.504500.16	50277088	Chatta Ham Cty Convention & Trade Center
3426	260218.504610.16	23000691	Tharpe Company Inc
3427	260218.504610.16	50112440	Chattanooga Convention Center
3428	260218.504660.16	3018581	Central Michigan University
3429	260218.504660.16	50399192	Cornell University
3430	260218.504660.16	50399192	Cornell University
3431	260218.504670.16	26000308	Chattanooga State Technical Community Co
3432	260218.535000.16	9014891	Backtrack Employment Screening Spec
3433	260218.535001.16	27002654	Office Team
3434	260219.504670.16	26000911	TN Safety & Health Council Inc
3435	260219.504670.16	50198997	Community Anti Terrorism Trng Institute
3436	260219.504670.16	50200154	American Red Cross Chattanooga
3437	260219.575000.16	26000289	Chattanooga Fire Protection
3438	260219.575000.16	26000289	Chattanooga Fire Protection
3439	260219.575490.16	50123718	Brown Fence Company Inc
3440	260219.575490.16	50223277	Damron Plbg LLC
3441	260219.575490.16	50223277	Damron Plbg LLC
3442	260219.575490.16	50223277	Damron Plbg LLC
3443	260219.575490.16	50223277	Damron Plbg LLC
3444	260219.575490.16	50316382	Melinda Boone
3445	260219.575640.16	50108780	Melinda Boone
3446	260221.575030.16		Melinda Boone
3447	260221.575030.16	26000266	Chattanooga Manufacturers Association
3448	260221.575030.16	26000266	Chattanooga Manufacturers Association
3449	260221.575030.16	26000307	Chattanooga Times Free Press
3450	260221.575030.16	26000307	Chattanooga Times Free Press

	D	E	F	G	H
3401	10/4/2007	2540	PV	41716019	26
3402	10/9/2007	50069012	PV	41719588	26
3403	10/31/2007	2590	PV	41739879	26
3404	11/27/2007	2637	PV	41762087	26
3405	12/4/2007	ASPHALT/CONCRET	PV	41769853	26
3406	12/17/2007	2662	PV	41781592	26
3407	1/10/2008	2737	PV	41805338	26
3408	1/30/2008	2755	PV	41822329	26
3409	2/11/2008	2800	PV	41831329	26
3410	2/29/2008	2826	PV	41848476	26
3411	3/17/2008	2850	PV	41860549	26
3412	3/28/2008	concrete/asphalt	PV	41871456	26
3413	11/9/2007	2614	PV	41749519	26
3414	1/31/2007	64554000	PV	41507634	26
3415	3/23/2007	CLIENT 064554 170	PV	41545500	26
3416	3/23/2007	TNAWC CLIENT 064554000	PV	41545509	26
3417	6/25/2007	C# 064554000	PV	41624392	26
3418	11/1/2007	299674	PV	41743105	26
3419	12/31/2007	300723	PV	41796798	26
3420	12/21/2006	TNAWC	PV	41475620	26
3421	1/31/2007	2014363	PV	41508192	26
3422	6/22/2007	2014846	PV	41622707	26
3423	7/5/2007	6907014	PV	41634073	26
3424	12/21/2006	CUST 0610100	PV	41476294	26
3425	12/15/2006	Gift Certificates	PS	41471327	26
3426	11/30/2006	CUST ID AWWTEN	PV	41460156	26
3427	1/31/2008	712086	PV	41823625	26
3428	11/10/2006	Mark Shadrick #408413512	PS	41445590	26
3429	3/24/2008	Tuition-Rebecca Thornton	PS	41867500	26
3430	3/24/2008	Tuition-Rebecca Thornton	PS	41867500	26
3431	9/15/2006	TNAWC	PV	41401313	26
3432	11/30/2006	CLIENT ID #18372140	PV	41460161	26
3433	3/26/2008	20847574	PV	41869053	26
3434	12/6/2007	TP101807	PV	41771567	26
3435	12/14/2006	CHATTANOOGA TNAWC	PV	41469824	26
3436	2/15/2006	FIRST AID	PV	41251230	26
3437	5/23/2006	TENN AMERICAN WATER	PV	41317824	26
3438	10/31/2007	26239	PV	41741920	26
3439	5/31/2007	RIVERSIDE DR	PV	41602588	26
3440	11/10/2006	TNAWC	PV	41444930	26
3441	12/14/2006	TNAWC	PV	41469976	26
3442	12/14/2006	TNAWC	PV	41470099	26
3443	1/3/2008	3595	PV	41799442	26
3444	11/3/2006	Damage claim	PS	41441068	26
3445	3/7/2007	USEPA Penalty-RMP	PS	41533531	26
3446	9/18/2006	cust 1410005	PV	41401379	26
3447	2/8/2007	20032098	PV	41512894	26
3448	2/27/2008	inv 20032537	PV	41845432	26
3449	10/26/2006	2045400	PV	41436496	26
3450	12/21/2006	2045400	PV	41476415	26

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3454	260221.575030.16	26000307	Chattanooga Times Free Press
3455	260221.575030.16	26000307	Chattanooga Times Free Press
3456	260221.575030.16	26000307	Chattanooga Times Free Press
3457	260221.575030.16	26000307	Chattanooga Times Free Press
3458	260221.575030.16	26000308	Chattanooga State Technical Community Co
3459	260221.575030.16	26001292	Interspace Airport Advertising Inc
3460	260221.575030.16	26001292	Interspace Airport Advertising Inc
3461	260221.575030.16	26001292	Interspace Airport Advertising Inc
3462	260221.575030.16	26001292	Interspace Airport Advertising Inc
3463	260221.575030.16	26001292	Interspace Airport Advertising Inc
3464	260221.575030.16	26001292	Interspace Airport Advertising Inc
3465	260221.575030.16	26001292	Interspace Airport Advertising Inc
3466	260221.575030.16	26001292	Interspace Airport Advertising Inc
3467	260221.575030.16	50077083	Chattanoogan.com
3468	260221.575030.16	50109292	Alcom Printing Group Inc
3469	260221.575030.16	50109292	Alcom Printing Group Inc
3470	260221.575030.16	50342407	Chattanooga Magazine
3471	260221.575030.16	50342407	Chattanooga Magazine
3472	260221.575240.16	23000191	National Association of Water Companies
3473	260221.575240.16	23000191	National Association of Water Companies
3474	260221.575242.16	26000266	Chattanooga Manufacturers Association
3475	260221.575242.16	26000266	Chattanooga Manufacturers Association
3476	260221.575242.16	50087104	Tennessee Chamber of Commerce & Industry
3477	260221.7601	26000912	Tennessee Aquarium
3478	260221.7601	26000912	Tennessee Aquarium
3479	260221.7601	26000912	Tennessee Aquarium
3480	260221.7601	26000912	Tennessee Aquarium
3481	260221.7601	50232669	Chattanooga Head Race
3482	260221.7601	50245583	Junior Achievement of Chattanooga Inc
3483	260221.7601	50256302	United Way of Greater Chattanooga
3484	260221.7601	50256302	United Way of Greater Chattanooga
3485	260221.7601	50256302	United Way of Greater Chattanooga
3486	260221.7601	50256302	United Way of Greater Chattanooga
3487	260221.7601	50256302	United Way of Greater Chattanooga
3488	260221.7601	50256302	United Way of Greater Chattanooga
3489	260221.7601	50285099	Site Solutions Inc
3490	260221.7601	50375587	Chattanooga Area Food Bank
3491	260300.105150.21	26000376	Eslinger Contracting Co
3492	260300.105150.31	17001001	E H Wachs Co
3493	260300.105150.31	17005014	Sealing Specialists Inc
3494	260300.105150.31	50005942	Southeast Co Inc
3495	260300.105150.31	50101733	Sulzer Pumps (US) Inc
3496	260300.105150.31	50101733	Sulzer Pumps (US) Inc
3497	260300.105150.31	50276701	Osborne Cabinet & Appliance Inc
3498	260300.105275.31	10002674	Tank Industry Consultants Inc
3499	260305.510100.11	50125798	Waldens Ridge Utility District
3500	260305.510100.11	50125798	Waldens Ridge Utility District

	D	E	F	G	H
3451	1/18/2007	ACCT# 2045400	PV	41496961	26
3452	3/8/2007	2045400	PV	41534231	26
3453	3/13/2007	N2045400	PV	41537895	26
3454	3/13/2007	2045400	PV	41537898	26
3455	9/18/2007	inv 1613610	PV	41700029	26
3456	10/9/2007	1595672	PV	41719584	26
3457	10/19/2007	ACCT # 2045400	PV	41728995	26
3458	12/6/2007	Promo Fans-Riverbend 07	PS	41771364	26
3459	9/18/2006	070106-093006 107980 598	PV	41402493	26
3460	9/18/2006	1415 TNAW	PV	41402508	26
3461	12/21/2006	14740 1107-141-	PV	41476293	26
3462	3/23/2007	CUST 184690	PV	41545491	26
3463	6/25/2007	con# 10896	PV	41624332	26
3464	9/18/2007	inv 791410096	PV	41700023	26
3465	12/18/2007	791410131	PV	41782048	26
3466	3/11/2008	791410175	PV	41857393	26
3467	1/31/2007	RICH MEDIA AD 1	PV	41507568	26
3468	5/25/2006	TN AMERICAN WAT	PV	41319334	26
3469	4/10/2007	651100	PV	41559590	26
3470	11/30/2007	200875	PV	41766789	26
3471	3/31/2008	cm3904	PV	41873314	26
3472	6/29/2007	TN ACTIVE MEMBER DUES	PV	41630431	26
3473	6/29/2007	2007 member dues	PV	41630432	26
3474	7/31/2007	MEMBERSHIP DUES	PV	41656483	26
3475	3/31/2008	20032512	PV	41873312	26
3476	7/19/2007	25526	PV	41645192	26
3477	2/14/2006	Donation	PS	41249590	26
3478	3/8/2006	Donation	PS	41264753	26
3479	5/15/2007	CUST ID SP07-TA	PV	41588157	26
3480	11/14/2007	cust id# sp07-tawc	PV	41753163	26
3481	9/28/2007	92107	PV	41710669	26
3482	2/27/2008	inv 2715	PV	41845428	26
3483	10/26/2006	ACCT# 3103	PV	41436573	26
3484	1/18/2007	ACCT# 3103	PV	41496955	26
3485	3/13/2007	ACCT 3103	PV	41537903	26
3486	7/31/2007	2006	PV	41656475	26
3487	10/19/2007	PO # 20071010	PV	41728998	26
3488	12/31/2007	3103	PV	41795418	26
3489	6/20/2006	Professional Dev Servs	PS	41335485	26
3490	10/31/2007	SPONSORSHIP OF	PV	41739834	26
3491	9/27/2007	12297	PV	41709657	26
3492	10/1/2007	# S22431	PV	41712492	26
3493	6/13/2007	202868901	PV	41614461	26
3494	6/13/2007	13938	PV	41614463	26
3495	8/31/2007	50935661	PV	41685097	26
3496	10/5/2007	short original invoice	PV	41717401	26
3497	1/15/2008	3652	PV	41809679	26
3498	2/21/2008	21827	PV	41841017	26
3499	1/22/2007	105379	PV	41500040	26
3500	6/26/2007	tawc	PV	41624864	26

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3473	21,334.71	P
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3494	7,750.00	P
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3501	260305.510100.11	50125798	Waldens Ridge Utility District
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3505	260305.510100.11	50125798	Waldens Ridge Utility District
3506	260305.510100.11	50125798	Waldens Ridge Utility District
3507	260305.510100.11	50125798	Waldens Ridge Utility District
3508	260305.511100.13	18605091	Clean Harbors Environmental Services Inc
3509	260305.532000.16	50200139	Johnson Murphey & Wright PC
3510	260305.575000.16	50168931	USDA Rural Development
3511	260305.575000.16	50168931	USDA Rural Development
3512	260305.575000.16	50200139	Johnson Murphey & Wright PC
3513	260305.575710.16	50110721	ADT Security Services
3514	260305.575710.16	50110721	ADT Security Services
3515	260305.620000.24	26000376	Eslinger Contracting Co
3516	260405.510100.11	50125798	Waldens Ridge Utility District
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3534	260405.510100.11	50125798	Waldens Ridge Utility District
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3545	260405.575270.16	50129679	Lone Oak Utility District
3546	260405.575270.16	50129679	Lone Oak Utility District
3547	260405.575270.16	50129679	Lone Oak Utility District
3548	260505.575000.16	3016617	Accenture, LLP
3549	269901.241249.001	26000368	City of Ft Oglethorpe
3550	269901.241249.001	26000368	City of Ft Oglethorpe

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3502	9/28/2007	acct 105379 tnaw	PV	41710666	26
3503	10/31/2007	105379	PV	41740007	26
3504	11/30/2007	105379	PV	41765411	26
3505	12/28/2007	105379	PV	41792793	26
3506	2/4/2008	105379	PV	41826666	26
3507	2/27/2008	105379	PV	41845623	26
3508	2/28/2007	te0934	PV	41528241	26
3509	10/23/2007	9512	PV	41731268	26
3510	6/21/2006	ID 480580621406295	PS	41336573	26
3511	9/5/2006	ID 480580621406295	PS	41394023	26
3512	10/26/2006	5024	PV	41436610	26
3513	3/1/2006	CUST #014001310	PV	41260447	0
3514	10/2/2006	01400 131003472	PV	41413012	3
3515	3/5/2008	12430	PV	41852001	26
3516	2/6/2006	105379	PV	41243828	24
3517	3/3/2006	105379 TN AMERICAN WATER	PV	41262075	26
3518	4/11/2006	105379	PV	41288057	26
3519	5/4/2006	105379	PV	41303853	26
3520	5/30/2006	105379	PV	41321007	26
3521	7/7/2006	105379	PV	41349940	26
3522	8/2/2006	105379	PV	41368663	26
3523	9/25/2006	Grandview 105379 TNAW	PV	41406717	26
3524	10/31/2006	105379	PV	41438222	26
3525	11/28/2006	105379	PV	41455348	26
3526	12/27/2006	105379	PV	41481874	26
3527	1/22/2007	105379	PV	41500040	26
3528	3/2/2007	105379	PV	41530393	26
3529	5/25/2007	105379	PV	41597657	26
3530	6/26/2007	tawc	PV	41624864	26
3531	8/28/2007	105379	PV	41679600	26
3532	9/27/2007	acct 105379	PV	41709014	26
3533	9/28/2007	acct 105379 tnaw	PV	41710666	26
3534	10/31/2007	105379	PV	41740007	26
3535	11/30/2007	105379	PV	41765411	26
3536	12/28/2007	105379	PV	41792793	26
3537	2/4/2008	105379	PV	41826666	26
3538	2/27/2008	105379	PV	41845623	26
3539	11/30/2006	EXPENSES	PV	41459917	26
3540	1/3/2008	20071	PV	41799482	26
3541	1/16/2006	Audit	PS	41231621	26
3542	11/30/2006	EXPENSES	PV	41459917	26
3543	1/3/2008	20071	PV	41799482	26
3544	1/16/2006	Insurance	PS	41231621	26
3545	1/16/2006	Board Fees	PS	41231621	26
3546	11/30/2006	EXPENSES	PV	41459917	26
3547	1/3/2008	20071	PV	41799482	26
3548	8/28/2006	Aug-06	PV	41388450	3
3549	1/12/2006	Fort Oglethorpe -DEC2005	PS	41228559	26
3550	2/10/2006	Fort Oglethorpe - Jan 06	PS	41247165	26

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3523	2,190.73	P
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3526	2,195.65	P
3527	1,115.24	P
3528	2,358.70	P
3529	1,959.83	P
3530	1,669.41	P
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3532	1,324.97	P
3533	1,772.62	P
3534	1,354.81	P
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3536	1,191.38	P
3537	1,244.31	P
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3541	2,500.00	P
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3543	3,441.00	P
3544	3,347.00	P
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3546	3,600.00	P
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	A	B	C
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3576	269902.241249.001	26000459	Hamilton County Water & Authority
3577	269902.241249.001	26000459	Hamilton County Water & Authority
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3551	3/15/2006	Fort Oglethorpe - FEB 06	PS	41269822	26
3552	4/13/2006	Fort Oglethorpe -MAR 06	PS	41289815	26
3553	5/11/2006	Fort Oglethorpe -APRIL06	PS	41307840	26
3554	6/15/2006	Fort Oglethorpe -MAY2006	PS	41332315	26
3555	7/12/2006	Fort Oglethorpe -JUNE06	PS	41352902	26
3556	8/15/2006	Fort Oglethorpe - JULY06	PS	41378209	26
3557	9/15/2006	Fort Oglethorpe -AUG 06	PS	41400810	26
3558	10/13/2006	Fort Oglethorpe -SEPT06	PS	41421603	26
3559	11/16/2006	Fort Oglethorpe -OCT06	PS	41448368	26
3560	12/14/2006	Fort Oglethorpe -NOV06	PS	41470576	26
3561	1/15/2007	Fort Oglethorpe -dec 06	PS	41494126	26
3562	2/13/2007	Fort Oglethorpe -JAN 07	PS	41516272	26
3563	3/15/2007	Fort Oglethorpe -FEB2007	PS	41539791	26
3564	4/17/2007	Fort Oglethorpe -MAR 07	PS	41565100	26
3565	5/15/2007	Fort Oglethorpe -APR07	PS	41588401	26
3566	6/13/2007	Fort Oglethorpe -MAY2007	PS	41613999	26
3567	7/12/2007	Fort Oglethorpe -JUNE07	PS	41638983	26
3568	8/15/2007	Fort Oglethorpe -JULY 07	PS	41669773	26
3569	9/14/2007	Fort Oglethorpe -AUG 07	PS	41697608	26
3570	10/15/2007	Fort Oglethorpe -SEPT07	PS	41725115	26
3571	11/14/2007	Fort Oglethorpe OCT 07	PS	41753294	26
3572	12/13/2007	Fort Oglethorpe -NOV2007	PS	41777782	26
3573	1/14/2008	Fort Oglethorpe -DEC07	PS	41808567	26
3574	2/11/2008	Fort Oglethorpe JAN2008	PS	41832692	26
3575	3/12/2008	Fort Oglethorpe -FEB08	PS	41858777	26
3576	9/12/2006	Lookout Mountain -AUG 06	PS	41398766	26
3577	10/13/2006	Lookout Mountain -SEPT06	PS	41421604	26
3578	10/13/2006	Lookout Mountain -SEPT06	PS	41421613	26
3579	11/16/2006	Lookout Mountain -OCT06	PS	41448369	26
3580	11/16/2006	Lookout Mountain -OCT 06	PS	41448377	26
3581	1/12/2006	Lookout Mountain -DEC 05	PS	41228560	26
3582	2/10/2006	Lookout Mountain -JAN 06	PS	41247166	26
3583	3/15/2006	Lookout Mountain -FEB 06	PS	41269823	26
3584	4/13/2006	Lookout Mountain -MAR 06	PS	41289816	26
3585	5/10/2006	Lookout Mountain -APR06	PS	41307162	26
3586	6/15/2006	Lookout Mountain -MAY06	PS	41332316	26
3587	7/12/2006	Lookout Mountain -JUN06	PS	41352903	26
3588	9/15/2006	Lookout Mountain -AUG 06	PS	41400811	26
3589	12/14/2006	Lookout Mtn GeorgiaNOV06	PS	41470577	26
3590	1/15/2007	Lookout Mtn Georgia 1206	PS	41494127	26
3591	2/13/2007	Lookout Mtn GA JAN 2007	PS	41516273	26
3592	3/15/2007	Lookout Mtn GA FEB 2007	PS	41539792	26
3593	4/17/2007	Lookout Mtn GA MAR 2007	PS	41565101	26
3594	5/15/2007	Lookout Mtn GA APRIL2007	PS	41588402	26
3595	6/13/2007	Lookout Mtn GA MAY2007	PS	41614000	26
3596	7/12/2007	Lookout Mtn GA JUNE 2007	PS	41638984	26
3597	8/15/2007	Lookout Mtn GA JULY2007	PS	41669774	26
3598	8/21/2007	Lookout Mtn GA, Oct 2006	PS	41673906	26
3599	8/21/2007	Lookout Mtn GA, Sept2006	PS	41673906	26
3600	9/14/2007	Lookout Mtn GA, AUG 07	PS	41697609	26

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3560	14,979.80	P
3561	17,530.41	P
3562	13,483.06	P
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3568	19,349.29	P
3569	18,906.05	P
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3590	19,870.18	P
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3592	18,566.38	P
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3596	32,943.75	P
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3598	23,809.65	P
3599	26,622.09	P
3600	32,397.93	P

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3605	269902.241249.001	26002509	City of Lookout Mountain
3606	269902.241249.001	26002509	City of Lookout Mountain
3607	269903.142	50261742	City of Lookout Mountain
3608	269903.142	50270269	City of Lookout Mountain
3609	269903.241249.001	26000315	City of Chattanooga
3610	269903.241249.001	26000315	City of Chattanooga
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3612	269903.241249.001	26000315	City of Chattanooga
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3637	269903.241249.001	50345421	City of Chattanooga
3638	269904.241249.001	26000607	City of Rossville
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3603	12/13/2007	Lookout Mtn GA NOV2007	PS	41777783	26
3604	1/14/2008	Lookout Mtn GA DEC 2007	PS	41808568	26
3605	2/11/2008	Lookout Mtn GA JAN2008	PS	41832693	26
3606	3/12/2008	Lookout Mtn GA FEB 2008	PS	41858778	26
3607	1/27/2006	TN CREDIT REFUND	PV	41240224	26
3608	3/27/2006	TN CREDIT REFUND	PV	41278838	26
3609	1/11/2006	City of Chatt Dec 2005	PS	41228415	26
3610	2/10/2006	City of Chatt JAN 06	PS	41247167	26
3611	3/15/2006	City of Chatt	PS	41270211	26
3612	4/13/2006	City of Chatt MAR 2006	PS	41289814	26
3613	5/15/2006	City of Chatt APRIL 06	PS	41310955	26
3614	6/15/2006	City of Chatt MAY 2006	PS	41332314	26
3615	7/17/2006	City of Chatt JUNE 2006	PS	41355263	26
3616	8/14/2006	City of Chatt JUL 06	PS	41377290	26
3617	9/13/2006	City of Chatt AUGUST 06	PS	41399033	26
3618	10/13/2006	City of Chatt SEPT 06	PS	41421605	26
3619	11/17/2006	City of Chatt OCT 2006	PS	41449002	26
3620	12/15/2006	City of Chatt NOV06	PS	41470974	26
3621	1/15/2007	City of Chatt DEC 06	PS	41494896	26
3622	2/13/2007	City of Chatt JAN 2007	PS	41516574	26
3623	3/15/2007	City of Chatt FEB 2007	PS	41540181	26
3624	4/17/2007	City of Chatt MARCH 2007	PS	41565690	26
3625	5/15/2007	City of Chatt ARP 2007	PS	41588400	26
3626	6/15/2007	City of Chatt MAY2007	PS	41616597	26
3627	7/12/2007	City of Chatt JUNE2007	PS	41638982	26
3628	8/15/2007	City of Chatt JULY 2007	PS	41669775	26
3629	9/14/2007	City of Chatt AUG 2007	PS	41697624	26
3630	10/16/2007	City of Chatt SEPT 2007	PS	41725511	26
3631	11/15/2007	City of Chatt OCT2007	PS	41753811	26
3632	12/13/2007	City of Chatt NOV2007	PS	41777804	26
3633	1/15/2008	City of Chatt DEC2007	PS	41808899	26
3634	2/14/2008	City of Chatt JAN 2008	PS	41835667	26
3635	3/13/2008	City of Chatt FEB2008	PS	41859626	26
3636	9/22/2006	TN CREDIT REFUND	PV	41405820	26
3637	5/4/2007	TN CREDIT REFUND	PV	41581205	26
3638	1/12/2006	City of Rossville DEC 05	PS	41228561	26
3639	1/13/2006	Admin fee for - Dec 2005	PS	41229858	26
3640	2/10/2006	City of Rossville JAN 06	PS	41247168	26
3641	2/10/2006	Admin fee for - JAN 06	PS	41247169	26
3642	3/15/2006	City of Rossville FEB 06	PS	41269825	26
3643	3/15/2006	Admin fee for - FEB 2006	PS	41269826	26
3644	4/13/2006	City of Rossville MAR 06	PS	41289817	26
3645	4/13/2006	Admin fee for - MARCH 06	PS	41289818	26
3646	5/10/2006	City of Rossville APR06	PS	41307163	26
3647	5/10/2006	Admin fee for - APRIL 06	PS	41307164	26
3648	6/15/2006	City of Rossville MAY 06	PS	41332317	26
3649	6/15/2006	Admin fee for -MAY 2006	PS	41332318	26
3650	7/12/2006	City of Rossville JUN06	PS	41352904	26

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3608	23,858.04	P
3609	1,693,600.91	P
3610	1,743,940.89	P
3611	1,443,032.32	P
3612	1,684,582.50	P
3613	1,423,295.52	P
3614	1,808,182.22	P
3615	1,864,949.58	P
3616	1,778,482.04	P
3617	1,972,705.36	P
3618	1,767,816.53	P
3619	1,839,978.05	P
3620	1,728,319.80	P
3621	1,720,585.91	P
3622	1,874,834.52	P
3623	1,651,144.30	P
3624	1,775,897.64	P
3625	1,795,532.97	P
3626	1,952,941.28	P
3627	2,161,378.01	P
3628	2,074,470.18	P
3629	2,190,455.43	P
3630	2,059,435.78	P
3631	2,137,875.48	P
3632	1,874,085.20	P
3633	1,962,500.93	P
3634	2,019,285.16	P
3635	2,358,172.34	P
3636	1,028.32	P
3637	1,337.60	P
3638	28,594.09	P
3639	9,778.18	P
3640	28,851.53	P
3641	9,720.77	P
3642	26,934.07	P
3643	9,950.38	P
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3645	9,728.09	P
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3673	269904.241249.001	50295431	City of Rossville City Hall
3674	269904.241249.001	50295431	City of Rossville City Hall
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3690	269904.241249.001	50295431	City of Rossville City Hall
3691	269904.241249.001	50295431	City of Rossville City Hall
3692	269905.241249.001	26000459	Hamilton County Water & Authority
3693	269905.241249.001	26000459	Hamilton County Water & Authority
3694	269905.241249.001	26000459	Hamilton County Water & Authority
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3651	7/12/2006	Admin fee for - JUNE2006	PS	41352905	26
3652	8/15/2006	City of Rossville JULY06	PS	41378211	26
3653	8/15/2006	Admin fee for - JULY06	PS	41378212	26
3654	9/12/2006	City of Rossville AUG 06	PS	41398759	26
3655	10/13/2006	City of Rossville SEPT06	PS	41421606	26
3656	11/16/2006	City of Rossville OCT06	PS	41448370	26
3657	12/14/2006	City of Rossville NOV06	PS	41470578	26
3658	1/15/2007	City of Rossville DEC06	PS	41494128	26
3659	2/13/2007	City of Rossville JAN07	PS	41516274	26
3660	3/15/2007	City of Rossville FEB 07	PS	41539793	26
3661	4/17/2007	City of Rossville MAR07	PS	41565102	26
3662	5/15/2007	City of Rossville ARP07	PS	41588403	26
3663	6/13/2007	City of Rossville MAY07	PS	41614001	26
3664	7/12/2007	City of Rossville JUN07	PS	41638985	26
3665	8/15/2007	City of Rossville JULY07	PS	41669776	26
3666	9/14/2007	City of Rossville AUG07	PS	41697610	26
3667	10/15/2007	City of Rossville SEP07	PS	41725117	26
3668	11/14/2007	City of Rossville OCT07	PS	41753296	26
3669	12/13/2007	City of Rossville NOV07	PS	41777784	26
3670	1/14/2008	City of Rossville DEC07	PS	41808569	26
3671	2/11/2008	City of Rossville JAN08	PS	41832694	26
3672	3/12/2008	City of Rossville FEB08	PS	41858779	26
3673	9/12/2006	Admin fee for - AUG 06	PS	41398760	26
3674	10/13/2006	Admin fee for - SEPT 06	PS	41421607	26
3675	11/16/2006	Admin fee for - OCT06	PS	41448371	26
3676	12/14/2006	Admin fee for - NOV 06	PS	41470579	26
3677	1/15/2007	Admin fee for - DEC06	PS	41494129	26
3678	2/13/2007	Admin fee for -JAN 2007	PS	41516275	26
3679	3/15/2007	Admin fee for - FEB 2007	PS	41539794	26
3680	4/17/2007	Admin fee for - MARCH 07	PS	41565103	26
3681	5/15/2007	Admin fee for - APRIL07	PS	41588404	26
3682	6/13/2007	Admin fee for - MAY 2007	PS	41614002	26
3683	7/12/2007	Admin fee for - JUNE07	PS	41638986	26
3684	8/15/2007	Admin fee for - JULY2007	PS	41669777	26
3685	9/14/2007	Admin fee for - AUG2007	PS	41697611	26
3686	10/15/2007	Admin fee for -SEPT 2007	PS	41725118	26
3687	11/14/2007	Admin fee for -OCT2007	PS	41753297	26
3688	12/13/2007	Admin fee for - NOV2007	PS	41777785	26
3689	1/14/2008	Admin fee for -DEC2007	PS	41808570	26
3690	2/11/2008	Admin fee for - JAN08	PS	41832695	26
3691	3/12/2008	Admin fee for - FEB 2008	PS	41858780	26
3692	1/12/2006	Hamilton Red Bank 2605	PS	41228563	26
3693	2/10/2006	Hamilton Red Bank 2605	PS	41247171	26
3694	3/15/2006	Hamilton Red Bank 2605	PS	41269828	26
3695	4/13/2006	Hamilton Red Bank 2605	PS	41289820	26
3696	5/10/2006	Hamilton Red Bank 2605	PS	41307166	26
3697	6/15/2006	Hamilton Red Bank 2605	PS	41332320	26
3698	7/12/2006	Hamilton Red Bank 2605	PS	41352907	26
3699	8/15/2006	Hamilton Red Bank 2605	PS	41377570	26
3700	9/12/2006	Hamilton Red Bank 2605	PS	41398762	26

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3692	117,949.63	P
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3696	49,240.83	P
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3698	124,227.13	P
3699	121,540.49	P
3700	193,751.77	P

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3746	269906.241249.001	26000393	City of East Ridge
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3702	11/16/2006	Hamilton Red Bank 2605	PS	41448373	26
3703	12/14/2006	Hamilton Red Bank 2605	PS	41470581	26
3704	1/15/2007	Hamilton Red Bank 2605	PS	41494131	26
3705	2/13/2007	Hamilton Red Bank 2605	PS	41516277	26
3706	3/15/2007	Hamilton Red Bank 2605	PS	41539796	26
3707	4/17/2007	Hamilton Red Bank 2605	PS	41565105	26
3708	5/15/2007	Hamilton Red Bank 2605	PS	41588406	26
3709	6/13/2007	Hamilton Red Bank 2605	PS	41614004	26
3710	7/12/2007	Hamilton Red Bank 2605	PS	41638988	26
3711	8/15/2007	Hamilton Red Bank 2605	PS	41669779	26
3712	9/14/2007	Hamilton Red Bank 2605	PS	41697614	26
3713	10/15/2007	Hamilton Red Bank 2605	PS	41725120	26
3714	11/14/2007	Hamilton Red Bank 2605	PS	41753299	26
3715	12/13/2007	Hamilton Red Bank 2605	PS	41777787	26
3716	1/14/2008	Hamilton Red Bank 2605	PS	41808572	26
3717	2/11/2008	Hamilton Red Bank 2605	PS	41832697	26
3718	3/12/2008	Hamilton Red Bank 2605	PS	41858782	26
3719	1/12/2006	Redbank-Garbage DEC 05	PS	41228562	26
3720	2/10/2006	Redbank-Garbage JAN 06	PS	41247170	26
3721	3/15/2006	Redbank-Garbage FEB2006	PS	41269827	26
3722	4/13/2006	Redbank-Garbage MARCH06	PS	41289819	26
3723	5/10/2006	Redbank-Garbage APRIL06	PS	41307165	26
3724	6/15/2006	Redbank-Garbage MAY 2006	PS	41332319	26
3725	7/12/2006	Redbank-Garbage JUNE2006	PS	41352906	26
3726	8/15/2006	Redbank-Garbage JULY06	PS	41378213	26
3727	9/12/2006	Redbank-Garbage AUG 06	PS	41398761	26
3728	10/13/2006	Redbank-Garbage SEPT 06	PS	41421608	26
3729	11/16/2006	Redbank-Garbage OCT06	PS	41448372	26
3730	12/14/2006	Redbank-Garbage NOV06	PS	41470580	26
3731	1/15/2007	Redbank-Garbage DEC06	PS	41494130	26
3732	2/13/2007	Redbank-Garbage JAN 2007	PS	41516276	26
3733	3/15/2007	Redbank-Garbage FEB 2007	PS	41539795	26
3734	4/17/2007	Redbank-Garbage MAR 2007	PS	41565104	26
3735	5/15/2007	Redbank-Garbage APRIL07	PS	41588405	26
3736	6/13/2007	Redbank-Garbage MAY 2007	PS	41614003	26
3737	7/12/2007	Redbank-Garbage JUNE07	PS	41638987	26
3738	8/15/2007	Redbank-Garbage JULY2007	PS	41669778	26
3739	9/14/2007	Redbank-Garbage AUG07	PS	41697612	26
3740	10/15/2007	Redbank-Garbage SEPT07	PS	41725119	26
3741	11/14/2007	Redbank-Garbage OCT2007	PS	41753298	26
3742	12/13/2007	Redbank-Garbage NOV2007	PS	41777786	26
3743	1/14/2008	Redbank-Garbage DEC2007	PS	41808571	26
3744	2/11/2008	Redbank-Garbage JAN08	PS	41832696	26
3745	3/12/2008	Redbank-Garbage FEB08	PS	41858781	26
3746	1/12/2006	Garbage Reimb for DEC05	PS	41228565	26
3747	2/10/2006	Garbage Reimb for JAN 06	PS	41247173	26
3748	3/15/2006	Garbage Reimb for FEB 06	PS	41269830	26
3749	4/13/2006	Garbage Reimb for MAR 06	PS	41290035	26
3750	5/10/2006	Garbage Reimb for APR 06	PS	41307168	26

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3738	43,626.89	P
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3741	44,784.10	P
3742	43,975.10	P
3743	44,697.00	P
3744	43,294.40	P
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3752	7/12/2006	Garbage Reimb for JUNE06	PS	41352909	26
3753	8/15/2006	Garbage Reimb for JULY06	PS	41378215	26
3754	9/12/2006	Garbage Reimb for AUG06	PS	41398764	26
3755	10/13/2006	Garbage Reimb for SEPT06	PS	41421611	26
3756	11/16/2006	Garbage Reimb for OCT06	PS	41448375	26
3757	12/14/2006	Garbage Reimb for NOV06	PS	41470583	26
3758	1/15/2007	Garbage Reimb for DEC06	PS	41494133	26
3759	2/13/2007	Garbage Reimb for JAN 07	PS	41516279	26
3760	3/15/2007	Garbage Reimb for FEB 07	PS	41539799	26
3761	4/17/2007	Garbage Reimb for MAR07	PS	41565107	26
3762	5/15/2007	Garbage Reimb for APR07	PS	41588408	26
3763	6/13/2007	Garbage Reimb for MAY07	PS	41614006	26
3764	7/12/2007	Garbage Reimb for JUN07	PS	41638990	26
3765	8/15/2007	Garbage Reimb for JULY07	PS	41669781	26
3766	9/14/2007	Garbage Reimb for AUG07	PS	41697616	26
3767	10/15/2007	Garbage Reimb SEPT07	PS	41725122	26
3768	11/14/2007	Garbage Reimb OCT2007	PS	41753301	26
3769	12/13/2007	Garbage Reimb NOV2007	PS	41777789	26
3770	1/14/2008	Garbage Reimb forDEC2007	PS	41808574	26
3771	2/11/2008	Garbage Reimb for JAN08	PS	41832699	26
3772	3/12/2008	Garbage Reimb for FEB08	PS	41858784	26
3773	1/12/2006	Hamilton 2607 DEC 2005	PS	41228563	26
3774	1/12/2006	Hamilton East Ridge 2606	PS	41228563	26
3775	1/12/2006	Hamilton LP Ridgeside 08	PS	41228563	26
3776	2/10/2006	Hamilton 2607 JAN 2006	PS	41247171	26
3777	2/10/2006	Hamilton East Ridge 2606	PS	41247171	26
3778	2/10/2006	Hamilton LP Ridgeside 08	PS	41247171	26
3779	3/15/2006	Hamilton 2607 FEB 2006	PS	41269828	26
3780	3/15/2006	Hamilton East Ridge 2606	PS	41269828	26
3781	3/15/2006	Hamilton LP Ridgeside 08	PS	41269828	26
3782	4/13/2006	Hamilton 2607 MARCH 06	PS	41289820	26
3783	4/13/2006	Hamilton East Ridge 2606	PS	41289820	26
3784	4/13/2006	Hamilton LP Ridgeside 08	PS	41289820	26
3785	5/10/2006	Hamilton 2607 APRIL06	PS	41307166	26
3786	5/10/2006	Hamilton East Ridge 2606	PS	41307166	26
3787	5/10/2006	Hamilton LP Ridgeside 08	PS	41307166	26
3788	6/15/2006	Hamilton 2607 MAY 2006	PS	41332320	26
3789	6/15/2006	Hamilton East Ridge 2606	PS	41332320	26
3790	6/15/2006	Hamilton LP Ridgeside 08	PS	41332320	26
3791	7/12/2006	Hamilton 2607 JUNE2006	PS	41352907	26
3792	7/12/2006	Hamilton East Ridge 2606	PS	41352907	26
3793	7/12/2006	Hamilton LP Ridgeside 08	PS	41352907	26
3794	8/15/2006	Hamilton 2607 JULY06	PS	41377570	26
3795	8/15/2006	Hamilton East Ridge 2606	PS	41377570	26
3796	8/15/2006	Hamilton LP Ridgeside 08	PS	41377570	26
3797	9/12/2006	Hamilton 2607 AUG 06	PS	41398762	26
3798	9/12/2006	Hamilton East Ridge 2606	PS	41398762	26
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3800	10/13/2006	Hamilton 2607 SEPT 06	PS	41421609	26

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3802	10/13/2006	Hamilton LP Ridgeside 08	PS	41421609	26
3803	11/16/2006	Hamilton 2607 OCT 2006	PS	41448373	26
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3805	11/16/2006	Hamilton LP Ridgeside 08	PS	41448373	26
3806	12/14/2006	Hamilton 2607 NOV2006	PS	41470581	26
3807	12/14/2006	Hamilton East Ridge 2606	PS	41470581	26
3808	12/14/2006	Hamilton LP Ridgeside 08	PS	41470581	26
3809	1/15/2007	Hamilton 2607 DEC 2006	PS	41494131	26
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3811	1/15/2007	Hamilton LP Ridgeside 08	PS	41494131	26
3812	2/13/2007	Hamilton 2607 JAN 2007	PS	41516277	26
3813	2/13/2007	Hamilton East Ridge 2606	PS	41516277	26
3814	2/13/2007	Hamilton LP Ridgeside 08	PS	41516277	26
3815	3/15/2007	Hamilton 2607 FEB 2007	PS	41539796	26
3816	3/15/2007	Hamilton East Ridge 2606	PS	41539796	26
3817	3/15/2007	Hamilton LP Ridgeside 08	PS	41539796	26
3818	4/17/2007	Hamilton 2607 MAR 2007	PS	41565105	26
3819	4/17/2007	Hamilton East Ridge 2606	PS	41565105	26
3820	4/17/2007	Hamilton LP Ridgesd 2608	PS	41565105	26
3821	5/15/2007	Hamilton 2607 APRIL07	PS	41588406	26
3822	5/15/2007	Hamilton East Ridge 2606	PS	41588406	26
3823	5/15/2007	Hamilton LP Ridgesd 2608	PS	41588406	26
3824	6/13/2007	Hamilton 2607 MAY 2007	PS	41614004	26
3825	6/13/2007	Hamilton East Ridge 2606	PS	41614004	26
3826	6/13/2007	Hamilton LP Ridgesd 2608	PS	41614004	26
3827	7/12/2007	Hamilton 2607 JUNE2007	PS	41638988	26
3828	7/12/2007	Hamilton East Ridge 2606	PS	41638988	26
3829	7/12/2007	Hamilton LP Ridgesd 2608	PS	41638988	26
3830	8/15/2007	Hamilton 2607 JULY07	PS	41669779	26
3831	8/15/2007	Hamilton East Ridge 2606	PS	41669779	26
3832	8/15/2007	Hamilton LP Ridgesd 2608	PS	41669779	26
3833	9/14/2007	Hamilton 2607 AUG2007	PS	41697614	26
3834	9/14/2007	Hamilton East Ridge 2606	PS	41697614	26
3835	9/14/2007	Hamilton LP Ridgesd 2608	PS	41697614	26
3836	10/15/2007	Hamilton 2607 SEPT07	PS	41725120	26
3837	10/15/2007	Hamilton East Ridge 2606	PS	41725120	26
3838	10/15/2007	Hamilton LP Ridgesd 2608	PS	41725120	26
3839	11/14/2007	Hamilton 2607 oct2007	PS	41753299	26
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3841	11/14/2007	Hamilton LP Ridgesd 2608	PS	41753299	26
3842	12/13/2007	Hamilton 2607 NOV2007	PS	41777787	26
3843	12/13/2007	Hamilton East Ridge 2606	PS	41777787	26
3844	12/13/2007	Hamilton LP Ridgesd 2608	PS	41777787	26
3845	1/14/2008	Hamilton 2607 DEC2007	PS	41808572	26
3846	1/14/2008	Hamilton East Ridge 2606	PS	41808572	26
3847	1/14/2008	Hamilton LP Ridgesd 2608	PS	41808572	26
3848	2/11/2008	Hamilton 2607 JAN08	PS	41832697	26
3849	2/11/2008	Hamilton East Ridge 2606	PS	41832697	26
3850	2/11/2008	Hamilton LP Ridgesd 2608	PS	41832697	26

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3842	13,478.80	P
3843	187,455.69	P
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3853	3/12/2008	Hamilton LP Ridgesd 2608	PS	41858782	26
3854	1/12/2006	Walker County DEC 2005	PS	41228564	26
3855	2/10/2006	Walker County JAN 2006	PS	41247172	26
3856	3/15/2006	Walker County FEB 2006	PS	41269829	26
3857	4/13/2006	Walker County MARCH 06	PS	41289821	26
3858	5/10/2006	Walker County APRIL 06	PS	41307167	26
3859	6/15/2006	Walker County MAY 2006	PS	41332321	26
3860	7/12/2006	Walker County JUNE2006	PS	41352908	26
3861	8/15/2006	Walker County JULY 06	PS	41378214	26
3862	9/12/2006	Walker County AUGUST 06	PS	41398763	26
3863	10/13/2006	Walker County SEPT 06	PS	41421610	26
3864	11/16/2006	Walker County OCT 2006	PS	41448374	26
3865	12/14/2006	Walker County NOV2006	PS	41470582	26
3866	1/15/2007	Walker County DEC 2006	PS	41494132	26
3867	2/13/2007	Walker County JAN 2007	PS	41516278	26
3868	3/15/2007	Walker County FEB 2007	PS	41539798	26
3869	4/17/2007	Walker County MARCH 2007	PS	41565106	26
3870	5/15/2007	Walker County APR 2007	PS	41588407	26
3871	6/13/2007	Walker County MAY2007	PS	41614005	26
3872	7/12/2007	Walker County JUNE 2007	PS	41638989	26
3873	8/15/2007	Walker County JULY2007	PS	41669780	26
3874	9/14/2007	Walker County AUG 2007	PS	41697615	26
3875	10/15/2007	Walker County SEPT2007	PS	41725121	26
3876	11/14/2007	Walker County OCT2007	PS	41753300	26
3877	12/13/2007	Walker County NOV2007	PS	41777788	26
3878	1/14/2008	Walker County DEC2007	PS	41808573	26
3879	2/11/2008	Walker County JAN08	PS	41832698	26
3880	3/12/2008	Walker County FEB 2008	PS	41858783	26
3881	1/12/2006	Hamilton LP Gtown 2610	PS	41228563	26
3882	2/10/2006	Hamilton LP Gtown 2610	PS	41247171	26
3883	3/15/2006	Hamilton LP Gtown 2610	PS	41269828	26
3884	4/13/2006	Hamilton LP Gtown 2610	PS	41289820	26
3885	5/10/2006	Hamilton LP Gtown 2610	PS	41307166	26
3886	6/15/2006	Hamilton LP Gtown 2610	PS	41332320	26
3887	7/12/2006	Hamilton LP Gtown 2610	PS	41352907	26
3888	8/15/2006	Hamilton LP Gtown 2610	PS	41377570	26
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3891	11/16/2006	Hamilton LP Gtown 2610	PS	41448373	26
3892	12/14/2006	Hamilton LP Gtown 2610	PS	41470581	26
3893	1/15/2007	Hamilton LP Gtown 2610	PS	41494131	26
3894	2/13/2007	Hamilton LP Gtown 2610	PS	41516277	26
3895	3/15/2007	Hamilton LP Gtown 2610	PS	41539796	26
3896	4/17/2007	Hamilton LP Gtown 2610	PS	41565105	26
3897	5/15/2007	Hamilton LP Gtown 2610	PS	41588406	26
3898	6/13/2007	Hamilton LP Gtown 2610	PS	41614004	26
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3925	260200MJ.715111	50377969	AFS Acquisition Co
3926	2602000R.185125	26000316	City of Chattanooga
3927	2602000R.185150	50280579	Sys-Tech Inc
3928	2602000R.185275	26000376	Eslinger Contracting Co
3929	2602000R.185275	26000376	Eslinger Contracting Co
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3903	11/14/2007	Hamilton LP Gtown 2610	PS	41753299	26
3904	12/13/2007	Hamilton LP Gtown 2610	PS	41777787	26
3905	1/14/2008	Hamilton LP Gtown 2610	PS	41808572	26
3906	2/11/2008	Hamilton LP Gtown 2610	PS	41832697	26
3907	3/12/2008	Hamilton LP Gtown 2610	PS	41858782	26
3908	8/16/2006	City of Lookout Mnt	PS	41379485	26
3909	12/14/2006	Lookout Mountain TN NOV	PS	41470585	26
3910	1/15/2007	Lookout Mountain DEC 06	PS	41494135	26
3911	2/13/2007	Lookout Mnt TN JAN 2007	PS	41516281	26
3912	3/15/2007	Lookout Mountain TN 2/07	PS	41539801	26
3913	4/17/2007	Lookout MTN, TN MAR 07	PS	41565109	26
3914	5/15/2007	Lookout MTN, TN APR07	PS	41588410	26
3915	6/13/2007	Lookout MTN, TN MAY2007	PS	41614008	26
3916	7/12/2007	Lookout MTN, TN JUN07	PS	41638992	26
3917	8/15/2007	Lookout MTN, TN JULY 07	PS	41669783	26
3918	9/14/2007	Lookout MTN, TN AUG07	PS	41697618	26
3919	10/15/2007	Lookout MTN, TN SEPT07	PS	41725124	26
3920	11/14/2007	Lookout MTN, TN OCT07	PS	41753303	26
3921	12/13/2007	Lookout MTN, TN NOV2007	PS	41777791	26
3922	1/14/2008	Lookout MTN, TN DEC07	PS	41808576	26
3923	2/11/2008	Lookout MTN, TN JAN08	PS	41832701	26
3924	3/12/2008	Lookout MTN, TN FEB08	PS	41858786	26
3925	1/15/2008	job cancelled	PS	41809227	26
3926	8/23/2006	TNAWC MAY/JUNE/	PV	41384615	26
3927	12/6/2006	1563	PV	41463189	26
3928	2/15/2006	JOB# 10512	PV	41251425	26
3929	2/15/2006	JOB# 10612	PV	41251429	26
3930	3/10/2006	job# 10512	PV	41266353	26
3931	3/10/2006	job# 10512	PV	41266356	26
3932	4/4/2006	10612 TNAW	PV	41283282	26
3933	5/3/2006	9TH AVE	PV	41303242	26
3934	6/2/2006	TENNESSEE AMERI	PV	41323406	26
3935	6/2/2006	TENNESSEE AMERI	PV	41323412	26
3936	7/5/2006	TENN AWC TAYLOR	PV	41347404	26
3937	7/5/2006	TENN AWC	PV	41347467	26
3938	7/12/2006	Maryland st Spears Snow TNAW	PV	41352785	26
3939	7/19/2006	TNAW W.HILLS DRIVE	PV	41357720	26
3940	12/14/2006	TNAWC	PV	41470009	26
3941	12/14/2006	TNAWC	PV	41470155	26
3942	12/26/2006	TNAWC	PV	41479760	26
3943	12/26/2006	TNAWC	PV	41479763	26
3944	12/26/2006	TNAWC	PV	41479770	26
3945	12/26/2006	TNAWC	PV	41479776	26
3946	3/15/2007	TNAWC	PV	41540023	26
3947	5/3/2006	DUE FOR 11/05	PV	41303254	26
3948	12/14/2006	TNAWC	PV	41470145	26
3949	1/3/2007	TNAWC	PV	41486442	26
3950	7/19/2006	CUST# 20100 TAWC	PV	41357725	26

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3905	12,838.19	P
3906	13,221.33	P
3907	12,310.02	P
3908	39,964.12	P
3909	25,579.98	P
3910	22,810.17	P
3911	25,543.43	P
3912	22,713.56	P
3913	21,774.06	P
3914	28,869.65	P
3915	35,028.86	P
3916	44,391.33	P
3917	38,567.04	P
3918	38,587.13	P
3919	45,865.21	P
3920	40,907.21	P
3921	30,219.44	P
3922	26,667.10	P
3923	27,609.79	P
3924	24,851.36	P
3925	1,515.00	P
3926	1,855.00	P
3927	11,500.00	P
3928	2,171.44	P
3929	1,452.30	P
3930	2,375.00	P
3931	3,890.93	P
3932	1,526.25	P
3933	1,600.00	P
3934	4,800.00	P
3935	1,600.00	P
3936	1,600.00	P
3937	1,840.36	P
3938	1,600.00	P
3939	1,669.00	P
3940	3,450.00	P
3941	1,600.00	P
3942	2,227.00	P
3943	2,000.00	P
3944	3,078.00	P
3945	2,400.00	P
3946	1,225.00	P
3947	2,990.00	P
3948	1,200.00	P
3949	3,166.49	P
3950	4,591.18	P

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3951	2602000R.185275	26002109	East Tennessee Grading Co Inc
3952	2602000R.185275	50188730	Mitchell Shelton Construction Co Inc
3953	2602000R.185275	50223277	Damron Plbg LLC
3954	2602000R.185300	50069012	TNT Concrete
3955	2602000R.185300	50069012	TNT Concrete
3956	26020003.105125.21	26001027	Baker Donelson Bearman & Caldwell Berkow
3957	26020003.105125.21	50220178	U S Xpress Corporate Campus
3958	26020003.105125.21	50236176	Hamilton County
3959	26020003.105125.21	50302454	Erskine L & Betty C Cook
3960	26020003.105175.21	26001027	Baker Donelson Bearman & Caldwell Berkow
3961	26020003.105275.21	10001826	GRW Engineers Inc
3962	26020003.105275.21	10001826	GRW Engineers Inc
3963	26020003.105275.21	10001826	GRW Engineers Inc
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3966	26020003.105275.21	10001826	GRW Engineers Inc
3967	26020003.105275.21	10001826	GRW Engineers Inc
3968	26020003.105275.21	10001826	GRW Engineers Inc
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3974	26020003.105275.21	19000165	Bristol Inc
3975	26020003.105275.21	26001027	Baker Donelson Bearman & Caldwell Berkow
3976	26020003.105275.21	26004184	BWSC
3977	26020003.105275.21	50009200	Betts Engineering Associates Inc
3978	26020003.105275.21	50093668	Roy Joe Angel Construction
3979	26020003.105275.21	50093668	Roy Joe Angel Construction
3980	26020003.105275.21	50093668	Roy Joe Angel Construction
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3982	26020003.105275.21	50093668	Roy Joe Angel Construction
3983	26020003.105275.21	50093668	Roy Joe Angel Construction
3984	26020003.105275.21	50124636	Lamar Dunn & Associates Inc
3985	26020003.105275.21	50233842	Crom Corp
3986	26020003.105275.21	50233842	Crom Corp
3987	26020003.105275.21	50233842	Crom Corp
3988	26020003.105275.21	50233842	Crom Corp
3989	26020003.105275.21	50233842	Crom Corp
3990	26020003.105275.21	50279062	Rains Appraisal Services
3991	26020003.105275.31	10001826	GRW Engineers Inc
3992	26020003.105275.31	10001826	GRW Engineers Inc
3993	26020003.105275.31	10001826	GRW Engineers Inc
3994	26020003.105275.31	50233842	Crom Corp
3995	26020003.105275.31	50233842	Crom Corp
3996	26020003.105275.31	50233842	Crom Corp
3997	26020080.105275.21	26000321	Consolidated Technologies Inc
3998	26020080.105275.21	26000376	Eslinger Contracting Co
3999	26020080.105275.21	26000376	Eslinger Contracting Co
4000	26020080.105275.21	26000376	Eslinger Contracting Co

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3951	9/28/2006	21258 tnaw	PV	41412409	26
3952	12/21/2006	TNAWC	PV	41475549	26
3953	3/16/2006	SPRING CREEK RD	PV	41271095	26
3954	5/17/2006	ASPHALT REPAIRS	PV	41312896	26
3955	5/31/2006	TENN AMERICAN WATER	PV	41322547	26
3956	2/15/2007	PURCHASE EASEMENT	PS	41518443	26
3957	12/13/2006	PURCHASE EASEMENT	PS	41469274	26
3958	2/12/2007	PURCHASE EASEMENT	PS	41515723	26
3959	10/2/2006	PURCHASE EASEMENT	PS	41413177	26
3960	1/30/2007	2014353	PV	41505550	26
3961	2/13/2006	0769705 TAWC East Ridge	PV	41248398	26
3962	2/15/2006	PRO# 07697 05	PV	41251202	26
3963	3/13/2006	0769705 TAWC	PV	41267027	26
3964	4/4/2006	0769705 TAWC EAST RIDGE	PV	41283291	26
3965	5/3/2006	PRO# 0769705	PV	41303231	26
3966	6/5/2006	PROJECT#07697-05 TNAWC	PV	41325265	26
3967	7/7/2006	PROJECT#07697-05	PV	41349946	26
3968	7/19/2006	TNAW PROJECT#07697-05	PV	41357730	26
3969	9/15/2006	PROJECT# 07697-05	PV	41401286	26
3970	10/4/2006	TNAWC PROJECT 07697 05	PV	41415386	26
3971	11/7/2006	TNAWC PROJECT 0	PV	41443094	26
3972	12/8/2006	PRO# 0769705	PV	41465459	26
3973	4/6/2007	project 07697-05	PV	41557271	26
3974	8/31/2006	CUST# 143482	PV	41391494	26
3975	10/11/2006	c# 201435300007	PV	41420179	26
3976	1/16/2007	TNAWC	PV	41496107	26
3977	12/21/2006	CLIENT T-003	PV	41476453	26
3978	7/19/2006	TNAWC JENKINS RD PROJECT	PV	41357715	26
3979	12/7/2006	TNAW	PV	41464740	26
3980	12/14/2006	TNAWC	PV	41469898	26
3981	1/3/2007	TYNER RD TNAWC	PV	41486398	26
3982	1/3/2007	TNAWC	PV	41486434	26
3983	1/3/2007	TNAWC	PV	41486436	26
3984	11/7/2006	TAW606SE12WD13	PV	41442977	26
3985	6/15/2006	TNAW EST#1 JOB06021	PV	41332109	26
3986	7/12/2006	1MG ground Storage Tank TNAW	PV	41352786	26
3987	9/27/2006	PAY ESTIMATE #3	PV	41409912	26
3988	9/27/2006	SERVICE	PV	41410075	26
3989	10/13/2006	TNAWC 1MG GROUND STOR. T	PV	41421496	26
3990	9/11/2006	CHATTANOOGA TNAWC	PV	41396399	26
3991	1/3/2007	TNAWC	PV	41485981	26
3992	2/15/2007	TNAWC	PV	41518493	26
3993	3/8/2007	TAWC EAST RIDGE	PV	41534228	26
3994	12/21/2006	TNAWC PAY ESTIM	PV	41476423	26
3995	1/3/2007	PROJECT# 06021	PV	41486403	26
3996	4/6/2007	project 06021	PV	41557283	26
3997	5/19/2006	CODE# C0500902	PV	41313800	26
3998	1/3/2006	HORSE CREEK FAR	PV	41221686	26
3999	1/3/2006	HORSE CREEK PHA	PV	41221687	26
4000	1/3/2006	JOB# 10512	PV	41221690	26

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3952	7,800.00	P
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3958	2,675.00	P
3959	1,050.00	P
3960	2,763.00	P
3961	8,054.85	P
3962	15,061.43	P
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3964	3,549.15	P
3965	4,337.85	P
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3970	23,022.96	P
3971	9,946.85	P
3972	9,634.40	P
3973	9,118.25	P
3974	6,909.45	P
3975	3,138.25	P
3976	2,350.00	P
3977	2,010.50	P
3978	92,911.19	P
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3981	85,114.14	P
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3988	240,975.00	P
3989	101,025.00	P
3990	1,700.00	P
3991	10,091.10	P
3992	15,863.80	P
3993	6,396.33	P
3994	46,575.00	P
3995	31,050.00	P
3996	13,275.00	P
3997	1,077.22	P
3998	6,296.30	P
3999	84,495.55	P
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4001	26020080.105275.21	26000376	Eslinger Contracting Co
4002	26020080.105275.21	26000376	Eslinger Contracting Co
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4007	26020080.105275.21	26000376	Eslinger Contracting Co
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4010	26020080.105275.21	26000376	Eslinger Contracting Co
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4039	26020080.105275.31	26000376	Eslinger Contracting Co
4040	26020081.105125.21	26000316	City of Chattanooga
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4042	26020081.105125.21	26000316	City of Chattanooga
4043	26020081.105125.21	26000316	City of Chattanooga
4044	26020081.105125.21	26000316	City of Chattanooga
4045	26020081.105125.21	26000316	City of Chattanooga
4046	26020081.105125.21	26000316	City of Chattanooga
4047	26020081.105125.21	50017359	DMJM & Harris Inc
4048	26020081.105275.21	26000321	Consolidated Technologies Inc
4049	26020081.105275.21	26000321	Consolidated Technologies Inc
4050	26020081.105275.21	26000321	Consolidated Technologies Inc

	D	E	F	G	H
4001	1/13/2006	HORSECREEK FARM	PV	41230016	26
4002	1/13/2006	HORSECREEK FARM	PV	41230018	26
4003	1/13/2006	MCCALLIE HOMES	PV	41230019	26
4004	1/13/2006	RIVENDELL TOWNH	PV	41230029	26
4005	1/13/2006	HORSE CREEK PHA	PV	41230031	26
4006	1/19/2006	RIVENDELL TOWNH	PV	41234466	26
4007	1/19/2006	RIVENDELL TOWNH	PV	41234470	26
4008	1/19/2006	RIVENDELL TOWNH	PV	41234474	26
4009	2/9/2006	HORSE CREEK FARMS	PV	41246378	26
4010	2/9/2006	HORSE CREEK PH II	PV	41246380	26
4011	2/9/2006	EASEMENT	PV	41246381	26
4012	2/9/2006	LATERALS	PV	41246382	26
4013	3/2/2006	OCOEE EBLEN STS TNAW	PV	41261373	26
4014	3/2/2006	ARBORS DEV TNAW	PV	41261379	26
4015	3/2/2006	ARBORS DEV TNAW	PV	41261380	26
4016	3/2/2006	ARBORS DEV TNAW	PV	41261381	26
4017	3/2/2006	HORSE CREEK FARMS PHASE	PV	41261383	26
4018	3/2/2006	HORSECREEK FARMS PHASE I	PV	41261385	26
4019	3/10/2006	THE ARBORS DEV	PV	41266159	26
4020	3/10/2006	THE ARBORS DEV	PV	41266163	26
4021	3/10/2006	OCOEE & EBLEN STS	PV	41266188	26
4022	4/4/2006	FINAL TNAW	PV	41283269	26
4023	5/11/2006	bal due inv 116	PV	41308417	26
4024	5/17/2006	HORSE CREEK FARMS	PV	41312877	26
4025	5/17/2006	HORSE CREEK FARMS	PV	41312880	26
4026	5/17/2006	HORSECREEK FARMS	PV	41312882	26
4027	5/17/2006	AIRPARK SOUTH	PV	41312887	26
4028	5/17/2006	AIRPARK SOUTH	PV	41312890	26
4029	6/2/2006	TENNESSEE AMERI	PV	41323405	26
4030	7/5/2006	TENN AW 4915 HW	PV	41347458	26
4031	7/19/2006	TNAWC RAISE 2 FIRE HYDRA	PV	41357717	26
4032	8/14/2006	TNAW MAIN IN RI	PV	41376567	26
4033	9/20/2006	TNAWC	PV	41403864	26
4034	9/20/2006	TNAWC	PV	41403888	26
4035	12/8/2006	SISKIN ST	PV	41465446	26
4036	12/14/2006	TNAWC	PV	41470188	26
4037	12/14/2006	TNAWC	PV	41470190	26
4038	3/14/2007	TNAWC	PV	41539257	26
4039	12/14/2006	TNAWC	PV	41470023	26
4040	4/4/2006	222 STREET CUT FEB PEMIT	PV	41283265	26
4041	4/4/2006	222 STREET CUT FEB PEMIT	PV	41283265	26
4042	8/23/2006	TNAWC MAY/JUNE/	PV	41384615	26
4043	8/23/2006	TNAWC MAY/JUNE/	PV	41384615	26
4044	8/23/2006	TNAWC	PV	41384681	26
4045	12/14/2006	TNAWC OCT06 PER	PV	41469844	26
4046	3/14/2007	TNAWC	PV	41539245	26
4047	2/13/2006	R/R PERMIT HAMM ROAD	PS	41247508	26
4048	2/15/2006	CODE# C050009 0	PV	41251490	26
4049	3/10/2006	CODE# C05009 07	PV	41266326	26
4050	3/10/2006	code# c05009 05	PV	41266341	26

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4001	1,137.09	P
4002	9,173.90	P
4003	7,097.28	P
4004	25,113.31	P
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4014	13,688.42	P
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4027	7,717.16	P
4028	1,626.05	P
4029	14,652.94	P
4030	5,304.67	P
4031	1,071.30	P
4032	22,322.35	P
4033	2,605.45	P
4034	3,657.91	P
4035	18,272.00	P
4036	20,515.91	P
4037	2,701.96	P
4038	3,762.06	P
4039	6,850.00	P
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4055	26020081.105275.21	26000321	Consolidated Technologies Inc
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4063	26020081.105275.21	26000321	Consolidated Technologies Inc
4064	26020081.105275.21	26000321	Consolidated Technologies Inc
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4051	4/18/2006	TO FEB 24 2006	PV	41291908	26
4052	4/18/2006	TO FEB 24 06 TA	PV	41291934	26
4053	5/19/2006	CODE# C0500901	PV	41313801	26
4054	6/9/2006	TAWC CALDWELL	PV	41328323	0
4055	7/14/2006	CODE# C0500906	PV	41353262	26
4056	7/27/2006	SVC FROM 5/27/06 TO 6/30/06	PV	41365854	26
4057	8/1/2006	TNAWC	PV	41368073	26
4058	8/30/2006	TAWC GENERAL SERVICES	PV	41390709	26
4059	8/30/2006	TAWC CALDWELL MTN	PV	41390714	26
4060	9/27/2006	TNAW C0500901	PV	41410462	26
4061	9/27/2006	TAWC C0500906	PV	41410466	26
4062	11/7/2006	TAWC GENERAL SERVICES	PV	41442952	26
4063	11/7/2006	TAWC CALDWELL MTN S/D	PV	41442958	26
4064	12/14/2006	TAWC WHITE OAK TANK	PV	41469710	26
4065	12/14/2006	TAWC GENERAL SERVICES	PV	41469715	26
4066	12/21/2006	TNAWC	PV	41476445	26
4067	3/30/2007	CODE# C0500901	PV	41552576	26
4068	2/9/2006	HUNT AVE	PV	41246383	26
4069	3/2/2006	HUNT AVE TNAW	PV	41261378	26
4070	3/2/2006	FAXON ST TNAW	PV	41261389	26
4071	3/2/2006	10612 TNAW	PV	41261415	26
4072	3/10/2006	WILSON STREET	PV	41266149	26
4073	3/10/2006	WILSON STREET	PV	41266154	26
4074	3/10/2006	FAXON ST	PV	41266165	26
4075	3/23/2006	camp jordan parkway	PV	41276501	26
4076	3/23/2006	9TH AVE	PV	41276504	26
4077	3/23/2006	9TH AVE	PV	41276507	26
4078	4/4/2006	FINAL CAMP JORDAN PKWY T	PV	41283271	26
4079	4/4/2006	9TH 10TH 41ST 42ND TNAW	PV	41283279	26
4080	4/13/2006	9TH AVE, 10TH, 41ST, 42S	PV	41290041	26
4081	5/3/2006	JOB# 10612	PV	41303232	26
4082	5/3/2006	9TH AVE	PV	41303241	26
4083	5/3/2006	JORDAN DR	PV	41303247	26
4084	5/3/2006	NORTHRUP ST	PV	41303249	26
4085	5/3/2006	MERCER ST	PV	41303250	26
4086	5/17/2006	ELENDORF CIR	PV	41312871	26
4087	5/17/2006	NORTHRUP ST	PV	41312874	26
4088	5/17/2006	MERCER ST	PV	41312883	26
4089	5/17/2006	LOCKSLEY CIR	PV	41312892	26
4090	5/17/2006	WEST HILLS DR	PV	41312893	26
4091	5/24/2006	ARLINGTON AVE T	PV	41318571	26
4092	5/24/2006	W.HILLS DR TENN	PV	41318572	26
4093	5/24/2006	LOCKSLEY CIRCLE	PV	41318574	26
4094	5/24/2006	MERCER ST TENN	PV	41318575	26
4095	5/24/2006	NORTHRUP ST TEN	PV	41318577	26
4096	6/2/2006	TENNESSEE AMERI	PV	41323408	26
4097	6/2/2006	TENNESSEE AMERI	PV	41323410	26
4098	6/2/2006	TENNESSEE AMERI	PV	41323411	26
4099	6/14/2006	TNAWC WEST HILL	PV	41331125	26
4100	7/5/2006	TENN AWC TAYLOR	PV	41347398	26

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4078	3,675.00	P
4079	21,435.94	P
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4081	9,759.50	P
4082	23,145.00	P
4083	23,987.06	P
4084	8,923.00	P
4085	5,477.00	P
4086	10,392.45	P
4087	11,662.42	P
4088	40,514.77	P
4089	7,061.91	P
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4091	11,686.95	P
4092	19,410.00	P
4093	3,439.00	P
4094	32,340.00	P
4095	15,051.00	P
4096	11,117.19	P
4097	30,795.00	P
4098	11,703.00	P
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4149	26020081.105275.21	26000376	Eslinger Contracting Co
4150	26020081.105275.21	26000376	Eslinger Contracting Co

	D	E	F	G	H
4101	7/5/2006	TENN AWC HAMM/M	PV	41347436	26
4102	7/5/2006	TENN AWC W.HILL	PV	41347441	26
4103	7/5/2006	TENN AW MARYLAN	PV	41347445	26
4104	7/5/2006	TENN AW MARYLAN	PV	41347447	26
4105	7/19/2006	TNAW W.HILLS DR	PV	41357719	26
4106	7/19/2006	TNAW HAMM RD.	PV	41357722	26
4107	8/23/2006	TNAWC INSERT GATE VALVES	PV	41384086	26
4108	8/30/2006	TNAWC	PV	41390694	26
4109	8/30/2006	TNAWC	PV	41390701	26
4110	8/30/2006	TNAWC	PV	41390703	26
4111	9/20/2006	TNAWC	PV	41403872	26
4112	9/20/2006	TNAWC	PV	41403876	26
4113	9/20/2006	TNAWC	PV	41403877	26
4114	9/20/2006	TNAWC	PV	41403890	26
4115	9/20/2006	TNAWC	PV	41403896	26
4116	9/20/2006	TNAWC	PV	41403909	26
4117	9/20/2006	TNAWC	PV	41403914	26
4118	10/5/2006	TNAWC MAIN IN BUSH ST/SP	PV	41416080	26
4119	10/5/2006	TNAWC OCOEE ST	PV	41416082	26
4120	10/5/2006	TNAWC THOMPSON ST	PV	41416088	26
4121	10/5/2006	TNAWC LYERLY ST	PV	41416091	26
4122	10/9/2006	TNAWC SPEARS AVE MANNING	PV	41418058	26
4123	11/7/2006	TNAWC HIGHWAY 58	PV	41443055	26
4124	11/7/2006	TNAWC BUSH ST	PV	41443057	26
4125	11/7/2006	TNAWC SPEARS AVE & BUSH	PV	41443058	26
4126	11/7/2006	TNAWC THOMPSON ST	PV	41443062	26
4127	11/7/2006	TNAWC LYERLY ST	PV	41443064	26
4128	11/7/2006	TNAWC BRAINERD RD	PV	41443065	26
4129	12/8/2006	BRAINERD RD	PV	41465437	26
4130	12/8/2006	LYERLY ST	PV	41465441	26
4131	12/8/2006	VALENTINE CR	PV	41465450	26
4132	12/14/2006	TNAWC	PV	41469982	26
4133	12/14/2006	TNAWC	PV	41469993	26
4134	12/14/2006	TNAWC	PV	41470002	26
4135	12/14/2006	TNAWC	PV	41470015	26
4136	12/14/2006	TNAWC EST#4	PV	41470034	26
4137	12/14/2006	TNAWC	PV	41470154	26
4138	12/14/2006	TNAWC	PV	41470158	26
4139	12/14/2006	TNAWC	PV	41470159	26
4140	12/14/2006	TNAWC	PV	41470163	26
4141	12/14/2006	TNAWC	PV	41470168	26
4142	12/14/2006	TNAWC	PV	41470177	26
4143	12/26/2006	TNAWC	PV	41479748	26
4144	12/26/2006	TNAWC	PV	41479749	26
4145	12/26/2006	TNAWC	PV	41479750	26
4146	12/26/2006	TNAWC	PV	41479752	26
4147	12/26/2006	TNAWC	PV	41479755	26
4148	12/26/2006	TNAWC	PV	41479757	26
4149	12/26/2006	TNAWC	PV	41479761	26
4150	12/26/2006	TNAWC	PV	41479771	26

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4101	34,996.17	P
4102	21,724.40	P
4103	7,630.52	P
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4105	14,631.87	P
4106	10,501.50	P
4107	3,117.86	P
4108	31,318.14	P
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4110	31,676.28	P
4111	19,590.76	P
4112	11,144.00	P
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4114	1,917.52	P
4115	12,622.00	P
4116	37,580.50	P
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4118	4,676.92	P
4119	9,980.50	P
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4124	7,041.00	P
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4127	16,164.95	P
4128	13,652.69	P
4129	15,504.82	P
4130	29,520.00	P
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4132	23,910.14	P
4133	12,815.20	P
4134	22,203.07	P
4135	15,527.50	P
4136	18,135.00	P
4137	40,626.59	P
4138	6,305.50	P
4139	6,521.50	P
4140	6,298.87	P
4141	16,414.16	P
4142	9,278.04	P
4143	35,227.69	P
4144	50,838.11	P
4145	14,908.39	P
4146	24,419.97	P
4147	56,239.41	P
4148	22,281.34	P
4149	26,182.50	P
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4167	26020081.105275.21	26000545	Mayse Construction Co
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4179	26020081.105275.21	26000545	Mayse Construction Co
4180	26020081.105275.21	26000545	Mayse Construction Co
4181	26020081.105275.21	26002109	East Tennessee Grading Co Inc
4182	26020081.105275.21	26002109	East Tennessee Grading Co Inc
4183	26020081.105275.21	26002109	East Tennessee Grading Co Inc
4184	26020081.105275.21	50027845	B&B Plumbing & Heating Inc
4185	26020081.105275.21	50027845	B&B Plumbing & Heating Inc
4186	26020081.105275.21	50027845	B&B Plumbing & Heating Inc
4187	26020081.105275.21	50080063	March Adams & Associates Inc
4188	26020081.105275.21	50116365	Thompson Engineering
4189	26020081.105275.21	50116365	Thompson Engineering
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4198	26020081.105275.21	50116365	Thompson Engineering
4199	26020081.105275.21	50124636	Lamar Dunn & Associates Inc
4200	26020081.105275.21	50124636	Lamar Dunn & Associates Inc

	D	E	F	G	H
4151	12/26/2006	TNAWC	PV	41479775	26
4152	12/27/2006	TNAWC	PV	41481041	26
4153	1/31/2007	DIXIE CIRCLE	PV	41507627	26
4154	1/31/2007	DIXIE CIRCLE	PV	41507811	26
4155	3/8/2007	TNAWC	PV	41534270	26
4156	3/8/2007	TNAWC	PV	41534271	26
4157	3/8/2007	TNAWC	PV	41534272	26
4158	3/8/2007	TNAWC	PV	41534280	26
4159	3/8/2007	TNAWC	PV	41534281	26
4160	3/8/2007	TNAWC	PV	41534282	26
4161	3/8/2007	TNAWC	PV	41534285	26
4162	3/14/2007	TNAWC	PV	41539255	26
4163	3/30/2007	tnam	PV	41553513	26
4164	3/30/2007	TRANSFER SVCS 1	PV	41553522	26
4165	3/30/2007	12117	PV	41553540	26
4166	4/6/2007	12125	PV	41557398	26
4167	9/7/2006	885 TNAW 7TH ST SEWER	PV	41395006	26
4168	12/4/2006	C0500914 Lakeview Dr Wat	PV	41460465	26
4169	12/4/2006	50109069 Newton Street	PV	41460471	26
4170	12/4/2006	50115593 Oakwood Road	PV	41460479	26
4171	12/4/2006	50115923 Brainerd Road	PV	41460483	26
4172	12/4/2006	c05009 1-4 Tenn Amer Wat	PV	41460494	26
4173	12/14/2006	TNAWC	PV	41470138	26
4174	12/14/2006	TNAWC	PV	41470143	26
4175	12/21/2006	LAKEVIEW DR WAT	PV	41476421	26
4176	12/21/2006	TNAWC BRAINERD	PV	41476425	26
4177	12/26/2006	TNAWC	PV	41479782	26
4178	3/23/2007	BRAINERD RD TNAWC	PV	41545645	26
4179	3/23/2007	BRAINERD RD TNAWC	PV	41545655	26
4180	3/23/2007	BRAINERD RD TNAWC	PV	41545659	26
4181	3/23/2006	JOB# 21246	PV	41276480	26
4182	10/4/2006	JOB# 21258 TNAWC	PV	41415237	26
4183	10/4/2006	TNAWC	PV	41415238	26
4184	10/4/2006	KYAWC	PV	41415240	26
4185	10/4/2006	TNAWC LOOKOUT MTN	PV	41415382	26
4186	12/14/2006	TNAWC	PV	41470045	26
4187	1/12/2006	PROJECT# 05185	PV	41228665	26
4188	6/5/2006	BRAINERD RD TENNESSEE AW	PV	41325270	26
4189	6/15/2006	TNAW BRAINERD RD DESIGN	PV	41332114	26
4190	8/23/2006	TNAWC BRAINERD RD INSPEC	PV	41384034	26
4191	8/23/2006	TNAWC BRAINERD RD DESIGN	PV	41384063	26
4192	10/4/2006	TNAWC SPRING CREEK RD	PV	41415230	26
4193	10/13/2006	TNAWC	PV	41421497	26
4194	12/14/2006	TNAWC	PV	41469751	26
4195	12/14/2006	TNAWC	PV	41470133	26
4196	1/18/2007	JOB# 0640300002	PV	41497007	26
4197	3/8/2007	TNAWC	PV	41534255	26
4198	3/8/2007	TNAWC	PV	41534259	26
4199	6/9/2006	TAW509SE12WD12	PV	41328210	26
4200	10/4/2006	TNAWC	PV	41415243	26

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4153	42,241.27	P
4154	10,725.27	P
4155	10,090.00	P
4156	27,895.00	P
4157	2,049.56	P
4158	15,231.88	P
4159	15,574.75	P
4160	20,202.50	P
4161	21,873.12	P
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4163	35,984.14	P
4164	24,979.32	P
4165	13,949.82	P
4166	9,452.00	P
4167	19,745.85	P
4168	53,354.87	P
4169	24,826.74	P
4170	34,959.18	P
4171	57,361.27	P
4172	22,413.99	P
4173	6,334.91	P
4174	61,147.14	P
4175	8,684.04	P
4176	161,989.62	P
4177	28,260.44	P
4178	126,655.00	P
4179	144,419.08	P
4180	27,942.50	P
4181	42,884.12	P
4182	16,760.49	P
4183	2,150.00	P
4184	4,500.00	P
4185	60,390.00	P
4186	2,020.44	P
4187	1,212.50	P
4188	26,568.14	P
4189	7,312.50	P
4190	4,947.68	P
4191	5,881.48	P
4192	8,418.20	P
4193	1,445.00	P
4194	20,561.28	P
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4196	22,820.72	P
4197	2,323.71	P
4198	20,208.62	P
4199	1,691.06	P
4200	1,873.13	P

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4204	26020081.105275.21	50124636	Lamar Dunn & Associates Inc
4205	26020081.105275.21	50188730	Mitchell Shelton Construction Co Inc
4206	26020081.105275.21	50223277	Damron Plbg LLC
4207	26020081.105275.21	50223277	Damron Plbg LLC
4208	26020081.105275.21	50268662	ERMC
4209	26020081.105300.21	50069012	TNT Concrete
4210	26020081.105300.21	50069012	TNT Concrete
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4212	26020081.105300.21	50069012	TNT Concrete
4213	26020081.105300.21	50069012	TNT Concrete
4214	26020081.105300.21	50069012	TNT Concrete
4215	26020081.105300.21	50069012	TNT Concrete
4216	26020081.105300.21	50069012	TNT Concrete
4217	26020081.105300.21	50069012	TNT Concrete
4218	26020081.105300.21	50069012	TNT Concrete
4219	26020081.105300.21	50069012	TNT Concrete
4220	26020081.105300.21	50069012	TNT Concrete
4221	26020081.105300.21	50069012	TNT Concrete
4222	26020081.105300.21	50069012	TNT Concrete
4223	26020081.105300.21	50069012	TNT Concrete
4224	26020081.105300.21	50069012	TNT Concrete
4225	26020081.105300.21	50069012	TNT Concrete
4226	26020082.105275.21	26000376	Eslinger Contracting Co
4227	26020082.105275.21	26000376	Eslinger Contracting Co
4228	26020082.105275.21	26000376	Eslinger Contracting Co
4229	26020082.105275.21	26000376	Eslinger Contracting Co
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4231	26020082.105275.21	26000376	Eslinger Contracting Co
4232	26020082.105275.21	26000376	Eslinger Contracting Co
4233	26020082.105275.21	26000376	Eslinger Contracting Co
4234	26020082.105275.21	26000376	Eslinger Contracting Co
4235	26020082.105275.21	26000376	Eslinger Contracting Co
4236	26020082.105275.21	26000376	Eslinger Contracting Co
4237	26020082.105275.21	26000376	Eslinger Contracting Co
4238	26020082.105275.21	26000376	Eslinger Contracting Co
4239	26020082.105275.21	26000376	Eslinger Contracting Co
4240	26020082.105275.21	26000376	Eslinger Contracting Co
4241	26020082.105275.21	50027845	B&B Plumbing & Heating Inc
4242	26020082.105275.21	50116365	Thompson Engineering
4243	26020083.105275.21	26000376	Eslinger Contracting Co
4244	26020083.105275.21	26000376	Eslinger Contracting Co
4245	26020083.105275.21	26000376	Eslinger Contracting Co
4246	26020083.105275.21	26000545	Mayse Construction Co
4247	26020083.105275.21	26000545	Mayse Construction Co
4248	26020083.105275.21	26000545	Mayse Construction Co
4249	26020083.105275.21	26000545	Mayse Construction Co
4250	26020083.105275.21	26000545	Mayse Construction Co

	D	E	F	G	H
4201	11/7/2006	TAW509SE12WD12	PV	41442971	26
4202	12/14/2006	TAW509SE12WD12	PV	41469656	26
4203	3/8/2007	TNAWC	PV	41534260	26
4204	3/30/2007	TAW607SE12WD13	PV	41553322	26
4205	12/21/2006	TNAWC	PV	41475555	26
4206	12/21/2006	TNAWC	PV	41476400	26
4207	3/8/2007	TNAWC	PV	41534295	26
4208	1/3/2007	TNAWC	PV	41486400	26
4209	2/2/2006	ASPHALT/CONCRET	PV	41242018	26
4210	2/2/2006	ASPHALT/CONCRET	PV	41242018	26
4211	2/2/2006	ASPHALT/CONCRET	PV	41242018	26
4212	2/2/2006	ASPHALT/CONCRET	PV	41242018	26
4213	3/13/2006	TNAW	PV	41266896	26
4214	3/27/2006	Tenn American Water	PV	41277691	26
4215	4/28/2006	REPAIRS	PV	41300413	26
4216	8/14/2006	TENNESSEE AMERI	PV	41376740	26
4217	9/27/2006	SERVICE	PV	41409934	26
4218	9/27/2006	SERVICE	PV	41409934	26
4219	10/25/2006	SERVICES	PV	41434881	26
4220	10/25/2006	SERVICES	PV	41434881	26
4221	12/14/2006	TNAWC	PV	41469894	26
4222	12/19/2006	TNAWC	PV	41473905	26
4223	2/28/2007	675650 24	PV	41528349	26
4224	2/28/2007	675650 24	PV	41528349	26
4225	4/24/2007	TNAWC	PV	41571354	26
4226	1/13/2006	cravens terrace	PV	41230022	26
4227	1/13/2006	KENT ST	PV	41230034	26
4228	1/18/2006	ROSE CLARK TERR	PV	41233199	26
4229	1/19/2006	GEORGIA TERRACE	PV	41234487	26
4230	2/9/2006	GLENROY AVE	PV	41246384	26
4231	3/10/2006	GLENROY AVE	PV	41266185	26
4232	5/3/2006	OSCEOLA AVE	PV	41303235	26
4233	5/3/2006	OSCEOLA AVE	PV	41303238	26
4234	7/5/2006	TENN AWC TY-HI	PV	41347438	26
4235	8/23/2006	TNAWC RIDGE AVE	PV	41384123	26
4236	9/20/2006	TNAWC	PV	41403894	26
4237	9/27/2006	service	PV	41410253	26
4238	11/7/2006	TNAWC MORIN RD	PV	41443060	26
4239	12/14/2006	TNAWC	PV	41469985	26
4240	12/14/2006	TNAWC	PV	41470181	26
4241	1/18/2006	VELMA ST	PV	41233192	26
4242	10/5/2006	TNAWC 0340300002	PV	41416106	26
4243	3/2/2006	10512 TNAW	PV	41261399	26
4244	3/10/2006	WILSON STREET	PV	41266152	26
4245	7/5/2006	TENN AW FIRE HY	PV	41347444	26
4246	9/15/2006	TNAWC	PV	41401287	26
4247	10/4/2006	TNAWC HYDRANT LINE RELOC	PV	41415415	26
4248	11/7/2006	TNAWC HYDRANT R	PV	41443069	26
4249	12/14/2006	TNAWC	PV	41470136	26
4250	3/23/2007	BRAINERD RD TNAWC	PV	41545651	26

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4211	1,842.75	P
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4213	2,268.00	P
4214	1,260.00	P
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4216	1,417.50	P
4217	2,951.25	P
4218	9,093.75	P
4219	1,012.50	P
4220	1,151.25	P
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4222	2,932.50	P
4223	2,193.75	P
4224	3,180.00	P
4225	1,256.26	P
4226	10,687.99	P
4227	5,791.27	P
4228	15,872.75	P
4229	8,977.88	P
4230	3,678.52	P
4231	3,082.50	P
4232	1,110.00	P
4233	5,133.14	P
4234	10,008.86	P
4235	9,898.90	P
4236	5,279.84	P
4237	8,704.30	P
4238	12,396.72	P
4239	2,860.00	P
4240	7,741.00	P
4241	9,949.89	P
4242	1,455.00	P
4243	2,821.36	P
4244	1,200.00	P
4245	1,238.07	P
4246	3,280.46	P
4247	1,640.92	P
4248	4,760.71	P
4249	1,259.99	P
4250	7,535.13	P

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4251	26020083.105300.21	50069012	TNT Concrete
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4253	26020084.105275.21	26000376	Eslinger Contracting Co
4254	26020084.105275.21	26000376	Eslinger Contracting Co
4255	26020084.105275.21	26000376	Eslinger Contracting Co
4256	26020084.105275.21	26000376	Eslinger Contracting Co
4257	26020084.105275.21	26000376	Eslinger Contracting Co
4258	26020084.105275.21	26000376	Eslinger Contracting Co
4259	26020084.105275.21	26000376	Eslinger Contracting Co
4260	26020084.105275.21	26000376	Eslinger Contracting Co
4261	26020084.105275.21	26000376	Eslinger Contracting Co
4262	26020084.105275.21	26000376	Eslinger Contracting Co
4263	26020084.105275.21	26000376	Eslinger Contracting Co
4264	26020084.105275.21	26000376	Eslinger Contracting Co
4265	26020084.105275.21	26000376	Eslinger Contracting Co
4266	26020084.105275.21	26000376	Eslinger Contracting Co
4267	26020084.105275.21	26000376	Eslinger Contracting Co
4268	26020084.105275.21	26000376	Eslinger Contracting Co
4269	26020084.105275.21	26000376	Eslinger Contracting Co
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4271	26020084.105275.21	26000376	Eslinger Contracting Co
4272	26020084.105275.21	26000376	Eslinger Contracting Co
4273	26020084.105275.21	26000545	Mayse Construction Co
4274	26020084.105275.21	26002109	East Tennessee Grading Co Inc
4275	26020084.105275.21	50027845	B&B Plumbing & Heating Inc
4276	26020084.105275.21	50027845	B&B Plumbing & Heating Inc
4277	26020084.105275.21	50027845	B&B Plumbing & Heating Inc
4278	26020084.105275.21	50027845	B&B Plumbing & Heating Inc
4279	26020084.105275.21	50027845	B&B Plumbing & Heating Inc
4280	26020084.105275.21	50027845	B&B Plumbing & Heating Inc
4281	26020084.105275.21	50116365	Thompson Engineering
4282	26020085.105125.21	26000316	City of Chattanooga
4283	26020085.105125.21	26000316	City of Chattanooga
4284	26020085.105125.21	26000316	City of Chattanooga
4285	26020085.105125.21	26000316	City of Chattanooga
4286	26020085.105125.21	26000316	City of Chattanooga
4287	26020085.105275.21	26000376	Eslinger Contracting Co
4288	26020085.105275.21	26002109	East Tennessee Grading Co Inc
4289	26020085.105300.21	50069012	TNT Concrete
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4295	26020085.105300.21	50069012	TNT Concrete
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4297	26020085.105300.21	50069012	TNT Concrete
4298	26020085.105300.21	50069012	TNT Concrete
4299	26020085.105300.21	50069012	TNT Concrete
4300	26020085.105300.21	50069012	TNT Concrete

	D	E	F	G	H
4251	4/28/2006	REPAIRS	PV	41300413	26
4252	1/18/2006	CHATT FIR HYDRA	PV	41233196	26
4253	3/2/2006	FAXON ST TNAW	PV	41261394	26
4254	3/17/2006	Tennessee Amer Water	PV	41271351	26
4255	3/23/2006	E.R FIR HYDRANTS	PV	41276506	26
4256	4/4/2006	FINAL ER FIRE HYD2006 TN	PV	41283273	26
4257	5/3/2006	CHATT FIRE HYDRANTS	PV	41303239	26
4258	5/3/2006	RIVER TERMINAL	PV	41303244	26
4259	5/17/2006	CHATT FIRE HYDRANTS	PV	41312875	26
4260	5/17/2006	MERCER ST	PV	41312885	26
4261	7/5/2006	TENN AWC FIRE H	PV	41347407	26
4262	9/20/2006	TNAWC	PV	41403868	26
4263	10/5/2006	TNAWC VARIOUS LOCATIONS	PV	41416084	26
4264	10/5/2006	TNAWC FIRE HYDRANTS	PV	41416095	26
4265	12/8/2006	VALENTINE CR	PV	41465451	26
4266	12/14/2006	TNAWC	PV	41469997	26
4267	12/14/2006	TNAWC	PV	41470172	26
4268	12/26/2006	TNAWC	PV	41479753	26
4269	12/26/2006	TNAWC	PV	41479764	26
4270	1/31/2007	DIXIE CIRCLE	PV	41507623	26
4271	3/8/2007	TNAWC	PV	41534265	26
4272	3/30/2007	TNAWC	PV	41553514	26
4273	12/4/2006	C0500914 Lakeview Dr Wat	PV	41460468	26
4274	11/7/2006	TNAWC JOB 21258	PV	41443156	26
4275	6/15/2006	TNAWC	PV	41332071	26
4276	10/4/2006	LOOCOUT MTN KYA	PV	41415425	26
4277	12/26/2006	TNAWC	PV	41479778	26
4278	12/27/2006	TNAWC	PV	41481086	26
4279	1/31/2007	RED BANK FIRE H	PV	41507931	26
4280	4/12/2007	40207	PV	41561522	26
4281	11/3/2006	TNAWC	PV	41441005	26
4282	4/4/2006	222 STREET CUT FEB PEMIT	PV	41283265	26
4283	8/23/2006	TNAWC MAY/JUNE/	PV	41384615	26
4284	8/23/2006	TNAWC APRIL PER	PV	41384708	26
4285	12/14/2006	TNAWC OCT06 PER	PV	41469844	26
4286	4/24/2007	TNAWC	PV	41571342	26
4287	4/4/2006	10612 TNAW	PV	41283288	26
4288	1/18/2007	ID# 21244	PV	41496969	26
4289	2/2/2006	ASPHALT/CONCRET	PV	41242018	26
4290	3/27/2006	Tenn American Water	PV	41277691	26
4291	4/28/2006	ASPHALT/CONCRETE REPAIRS	PV	41300409	26
4292	5/31/2006	TENN AMERICAN WATER	PV	41322547	26
4293	6/21/2006	TNAWC	PV	41335934	26
4294	6/26/2006	TENN AMERICAN WATER	PV	41339024	26
4295	7/12/2006	TNAW 6/23 - 6/29	PV	41352784	26
4296	8/14/2006	TENNESSEE AMERI	PV	41376740	26
4297	8/23/2006	TNAWC	PV	41384222	26
4298	9/27/2006	SERVICE	PV	41409934	26
4299	2/28/2007	675650 24	PV	41528349	26
4300	3/14/2007	TNAWC	PV	41539242	26

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4251	1,309.50	P
4252	13,843.64	P
4253	1,712.87	P
4254	2,892.69	P
4255	1,511.50	P
4256	9,869.00	P
4257	7,698.25	P
4258	2,000.00	P
4259	3,955.00	P
4260	2,902.40	P
4261	1,078.46	P
4262	8,089.09	P
4263	3,689.75	P
4264	9,212.51	P
4265	2,652.35	P
4266	1,204.50	P
4267	21,422.72	P
4268	5,294.02	P
4269	18,417.34	P
4270	3,628.53	P
4271	1,237.00	P
4272	1,896.93	P
4273	2,387.47	P
4274	5,492.81	P
4275	4,972.40	P
4276	11,062.00	P
4277	21,587.00	P
4278	13,840.00	P
4279	20,410.00	P
4280	1,280.00	P
4281	2,960.00	P
4282	2,385.00	P
4283	8,480.00	P
4284	3,710.00	P
4285	2,385.00	P
4286	2,120.00	P
4287	1,251.50	P
4288	1,862.54	P
4289	2,733.50	P
4290	9,108.50	P
4291	6,877.25	P
4292	1,714.50	P
4293	3,665.00	P
4294	1,172.25	P
4295	1,613.50	P
4296	1,634.75	P
4297	1,287.50	P
4298	1,095.00	P
4299	1,104.38	P
4300	2,728.88	P

	A	B	C
4301	26020086.105125.21	26000316	City of Chattanooga
4302	26020086.105125.21	26000316	City of Chattanooga
4303	26020086.105125.21	26000316	City of Chattanooga
4304	26020086.105125.21	26000316	City of Chattanooga
4305	26020086.105125.21	26000316	City of Chattanooga
4306	26020086.105125.21	26000316	City of Chattanooga
4307	26020086.105125.21	26000316	City of Chattanooga
4308	26020086.105125.21	26000316	City of Chattanooga
4309	26020086.105125.21	26000316	City of Chattanooga
4310	26020086.105125.21	26000316	City of Chattanooga
4311	26020086.105150.21	50004476	Dempseys Welding
4312	26020086.105150.21	50094609	APAC Midsouth Inc
4313	26020086.105275.21	50027845	B&B Plumbing & Heating Inc
4314	26020086.105300.21	50069012	TNT Concrete
4315	26020086.105300.21	50069012	TNT Concrete
4316	26020086.105300.21	50069012	TNT Concrete
4317	26020086.105300.21	50069012	TNT Concrete
4318	26020086.105300.21	50069012	TNT Concrete
4319	26020086.105300.21	50069012	TNT Concrete
4320	26020086.105300.21	50069012	TNT Concrete
4321	26020086.105300.21	50069012	TNT Concrete
4322	26020086.105300.21	50069012	TNT Concrete
4323	26020086.105300.21	50069012	TNT Concrete
4324	26020086.105300.21	50069012	TNT Concrete
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4326	26020086.105300.21	50069012	TNT Concrete
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4329	26020086.105300.21	50069012	TNT Concrete
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4339	26020086.105300.21	50069012	TNT Concrete
4340	26020087.105125.21	26000316	City of Chattanooga
4341	26020087.105125.21	26000316	City of Chattanooga
4342	26020087.105150.21	18514376	Ford Meter Box Co Inc
4343	26020087.105150.21	26000509	Piping Supply Co
4344	26020087.105150.21	26000509	Piping Supply Co
4345	26020087.105150.21	27003156	Neptune Technology Group Inc
4346	26020087.105150.21	27003156	Neptune Technology Group Inc
4347	26020087.105150.21	27003156	Neptune Technology Group Inc
4348	26020087.105150.21	27003156	Neptune Technology Group Inc
4349	26020087.105150.21	27003156	Neptune Technology Group Inc
4350	26020087.105150.21	27003156	Neptune Technology Group Inc

	D	E	F	G	H
4301	1/3/2006	108 STREET	PV	41221649	26
4302	4/4/2006	222 STREET CUT FEB PEMIT	PV	41283265	26
4303	8/23/2006	TNAWC 20 STREET	PV	41384136	26
4304	8/23/2006	TNAWC MAY/JUNE/	PV	41384615	26
4305	8/23/2006	TNAWC	PV	41384681	26
4306	8/23/2006	TNAWC APRIL PER	PV	41384708	26
4307	12/14/2006	TNAWC SEPT PERMITS	PV	41469843	26
4308	12/14/2006	TNAWC OCT06 PER	PV	41469844	26
4309	12/21/2006	TNAWC	PV	41475545	26
4310	4/24/2007	TNAWC	PV	41571342	26
4311	2/9/2006	99 WALNUT ST	PV	41246392	26
4312	10/4/2006	CUST# 10886	PV	41415364	26
4313	4/13/2006	WALDEN METER VAULT	PV	41289877	26
4314	1/12/2006	Tenn Amer Water	PV	41229319	26
4315	2/2/2006	ASPHALT/CONCRET	PV	41242018	26
4316	3/13/2006	TNAW	PV	41266896	26
4317	3/13/2006	TNAW	PV	41266896	26
4318	3/13/2006	TNAW	PV	41266896	26
4319	3/27/2006	Tenn American Water	PV	41277691	26
4320	4/28/2006	ASPHALT/CONCRETE REPAIRS	PV	41300409	26
4321	4/28/2006	REPAIRS	PV	41300413	26
4322	5/17/2006	ASPHALT REPAIRS	PV	41312896	26
4323	5/31/2006	TENN AMERICAN WATER	PV	41322547	26
4324	6/21/2006	TNAWC	PV	41335934	26
4325	8/14/2006	TENNESSEE AMERI	PV	41376740	26
4326	8/14/2006	TENNESSEE AMERI	PV	41376782	26
4327	8/23/2006	TNAWC	PV	41384222	26
4328	9/27/2006	SERVICE	PV	41409934	26
4329	9/27/2006	SERVICE	PV	41409934	26
4330	9/27/2006	SERVICE	PV	41410027	26
4331	10/25/2006	SERVICES	PV	41434881	26
4332	11/7/2006	TNAWC	PV	41443088	26
4333	12/7/2006	TNAW	PV	41464735	26
4334	12/19/2006	TNAWC	PV	41473905	26
4335	12/27/2006	TNAWC	PV	41480447	26
4336	3/14/2007	TNAWC	PV	41539242	26
4337	3/14/2007	TNAWC	PV	41539242	26
4338	3/22/2007	TNAWC	PV	41544684	26
4339	4/24/2007	TNAWC	PV	41571354	26
4340	8/23/2006	TNAWC APRIL PER	PV	41384708	26
4341	12/14/2006	TNAWC OCT06 PER	PV	41469844	26
4342	11/7/2006	CUST 650168 002	PV	41443070	26
4343	1/18/2007	CUST# 2254	PV	41496999	26
4344	2/15/2007	CUST 2254	PV	41518331	26
4345	8/23/2006	CUST# 03158900	PV	41384756	26
4346	9/27/2006	CUST# 03158900	PV	41410197	26
4347	9/27/2006	cust# 03158900	PV	41410239	26
4348	9/27/2006	cust# 03158900	PV	41410246	26
4349	11/7/2006	CUST 03158900	PV	41443002	26
4350	1/31/2007	3158900	PV	41507802	26

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4301	4,570.00	P
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4304	7,615.00	P
4305	2,650.00	P
4306	2,185.00	P
4307	3,510.00	P
4308	8,215.00	P
4309	4,040.00	P
4310	7,880.00	P
4311	1,125.00	P
4312	1,113.00	P
4313	3,992.00	P
4314	3,101.00	P
4315	2,735.50	P
4316	3,891.00	P
4317	2,938.25	P
4318	1,008.00	P
4319	4,581.50	P
4320	4,589.13	P
4321	1,489.25	P
4322	2,102.25	P
4323	3,008.25	P
4324	2,083.20	P
4325	1,468.13	P
4326	2,808.75	P
4327	4,182.01	P
4328	4,029.39	P
4329	1,660.51	P
4330	3,771.00	P
4331	1,061.26	P
4332	1,638.76	P
4333	2,265.38	P
4334	1,010.63	P
4335	4,654.13	P
4336	1,230.38	P
4337	1,027.50	P
4338	3,402.01	P
4339	2,550.38	P
4340	1,125.00	P
4341	1,835.00	P
4342	2,166.86	P
4343	4,386.93	P
4344	12,408.62	P
4345	2,778.70	P
4346	5,598.50	P
4347	35,420.00	P
4348	5,072.69	P
4349	3,850.71	P
4350	20,163.37	P

	A	B	C
4351	26020087.105150.21	27003156	Neptune Technology Group Inc
4352	26020087.105150.21	27003156	Neptune Technology Group Inc
4353	26020087.105150.21	27003156	Neptune Technology Group Inc
4354	26020087.105200.21	26000271	C & E Enterprises
4355	26020087.105300.21	50069012	TNT Concrete
4356	26020087.105300.21	50069012	TNT Concrete
4357	26020087.105300.21	50069012	TNT Concrete
4358	26020088.105150.21	26000485	Nabco Electric Company Inc
4359	26020088.105150.21	26003914	Georgia Metal Craft Enterprises Inc
4360	26020088.105150.21	26003914	Georgia Metal Craft Enterprises Inc
4361	26020088.105150.21	26003914	Georgia Metal Craft Enterprises Inc
4362	26020088.105150.21	27003156	Neptune Technology Group Inc
4363	26020088.105150.21	27003156	Neptune Technology Group Inc
4364	26020088.105150.21	27003156	Neptune Technology Group Inc
4365	26020088.105150.21	50004476	Dempseys Welding
4366	26020088.105150.21	50146070	Sensus Metering Systems
4367	26020088.105150.21	50223277	Damron Plbg LLC
4368	26020089.105150.31	17004404	Hewlett Packard
4369	26020089.105150.31	17004404	Hewlett Packard
4370	26020089.105150.31	17004404	Hewlett Packard
4371	26020089.105150.31	50148631	Insight Direct
4372	26020089.105150.31	50148631	Insight Direct
4373	26020089.105150.31	50148631	Insight Direct
4374	26020089.105150.31	50148631	Insight Direct
4375	26020089.105150.31	50148631	Insight Direct
4376	26020089.105150.31	50148631	Insight Direct
4377	26020089.105150.31	50148631	Insight Direct
4378	26020089.105150.31	50148631	Insight Direct
4379	26020089.105150.31	50320616	Safetyfile Inc
4380	26020090.105150.31	50097209	Wallace Tile Inc
4381	26020090.105150.31	50191115	Mark Cubberley
4382	26020090.105150.31	50200005	Security & Communications Cabling Co,LLC
4383	26020090.105275.31	50200005	Security & Communications Cabling Co,LLC
4384	26020090.105275.31	50224647	Hamilton Glass Co
4385	26020090.105275.31	50276701	Osborne Cabinet & Appliance Inc
4386	26020091.105150.31	18523002	Automotive Rentals Inc
4387	26020091.105150.31	18523002	Automotive Rentals Inc
4388	26020091.105150.31	18523002	Automotive Rentals Inc
4389	26020091.105150.31	18523002	Automotive Rentals Inc
4390	26020091.105150.31	18523002	Automotive Rentals Inc
4391	26020091.105150.31	18523002	Automotive Rentals Inc
4392	26020091.105150.31	18523002	Automotive Rentals Inc
4393	26020091.105150.31	18523002	Automotive Rentals Inc
4394	26020091.105150.31	18523002	Automotive Rentals Inc
4395	26020091.105150.31	18523002	Automotive Rentals Inc
4396	26020091.105150.31	18523002	Automotive Rentals Inc
4397	26020091.105150.31	18523002	Automotive Rentals Inc
4398	26020091.105150.31	18523002	Automotive Rentals Inc
4399	26020091.105150.31	18523002	Automotive Rentals Inc
4400	26020091.105150.31	18523002	Automotive Rentals Inc

	D	E	F	G	H
4351	2/28/2007	3158900	PV	41528442	26
4352	2/28/2007	3158900	PV	41528455	26
4353	2/28/2007	3158900	PV	41528953	26
4354	4/18/2006	TENN AMER WATER	PV	41291990	26
4355	3/27/2006	Tenn American Water	PV	41277691	26
4356	6/26/2006	TENN AMERICAN WATER	PV	41339024	26
4357	9/27/2006	SERVICE	PV	41410027	26
4358	11/7/2006	TNAWC	PV	41443039	26
4359	12/8/2006	2 DOORS	PV	41465349	26
4360	12/14/2006	TNAWC	PV	41470216	26
4361	3/8/2007	TNAWC	PV	41534287	26
4362	7/14/2006	CUST# 03158900	PV	41353289	26
4363	7/24/2006	CUST# 03158900	PV	41360404	26
4364	10/4/2006	CUST# 03158900	PV	41415391	26
4365	9/15/2006	TNAWC	PV	41401312	26
4366	7/24/2006	TNAWC CUST#806073	PV	41360408	26
4367	6/5/2006	TNAWC METERING TRUCKS	PV	41324831	26
4368	8/23/2006	TNAW W16977 21223782001	PV	41386619	26
4369	12/26/2006	CUST W16977	PV	41479658	26
4370	1/3/2007	CUST W16977	PV	41486000	26
4371	7/14/2006	ORDER# 492251	PV	41353239	26
4372	9/27/2006	956830 TNAW	PV	41409927	26
4373	9/27/2006	956830 TNAW	PV	41409941	26
4374	11/3/2006	ACCT 492251	PV	41441007	26
4375	12/26/2006	ACCT# 1437417	PV	41479656	26
4376	12/26/2006	ACCT 1376305	PV	41479671	26
4377	12/26/2006	ACCT 492251	PV	41479700	26
4378	1/3/2007	1437377	PV	41486003	26
4379	12/21/2006	TNAWC	PV	41476380	26
4380	3/13/2007	TN AMERICAN WATER	PV	41537973	26
4381	4/6/2007	21607	PV	41557378	26
4382	12/27/2006	TNAWC	PV	41480171	26
4383	8/31/2006	SECURITY CCTV TNAWC	PV	41391163	26
4384	1/12/2006	RIVERSIDE DR	PV	41228570	26
4385	5/24/2006	TNAW 24'base cabinets	PV	41318239	26
4386	1/12/2006	50399	PV	41228573	26
4387	12/14/2006	CLIENT 5D70	PV	41469778	26
4388	12/14/2006	CLIENT 5D70	PV	41469782	26
4389	12/14/2006	CLIENT 5D70	PV	41469789	26
4390	12/14/2006	CLIENT 5D70	PV	41469792	26
4391	12/14/2006	CLIENT 5D70	PV	41469798	26
4392	12/14/2006	CLIENT 5D70	PV	41469803	26
4393	12/14/2006	CLIENT 5D70	PV	41469813	26
4394	12/14/2006	CLIENT 5D70	PV	41469816	26
4395	12/14/2006	CLIENT 5D70	PV	41469820	26
4396	12/14/2006	TNAWC	PV	41469856	26
4397	12/14/2006	CLIENT D570	PV	41469859	26
4398	12/14/2006	CLIENT 5D70	PV	41469864	26
4399	12/14/2006	CLIENT 5D70	PV	41469911	26
4400	12/14/2006	CLIENT D570	PV	41469915	26

	I	J
4351	20,100.00	P
4352	4,260.00	P
4353	1,200.00	P
4354	1,005.10	P
4355	1,406.50	P
4356	2,022.25	P
4357	1,398.00	P
4358	3,467.00	P
4359	2,346.40	P
4360	2,061.50	P
4361	1,750.00	P
4362	2,327.50	P
4363	5,254.60	P
4364	60,774.63	P
4365	1,600.00	P
4366	5,922.20	P
4367	7,632.62	P
4368	1,707.14	P
4369	5,190.30	P
4370	3,218.50	P
4371	18,493.85	P
4372	6,567.84	P
4373	9,017.83	P
4374	7,438.27	P
4375	2,874.45	P
4376	11,543.91	P
4377	3,711.59	P
4378	6,965.63	P
4379	3,262.00	P
4380	3,190.00	P
4381	1,087.43	P
4382	5,083.25	P
4383	8,580.00	P
4384	1,506.92	P
4385	2,400.00	P
4386	32,486.35	P
4387	29,689.00	P
4388	29,689.00	P
4389	29,689.00	P
4390	29,689.00	P
4391	20,601.45	P
4392	16,133.49	P
4393	16,133.49	P
4394	16,130.30	P
4395	17,908.49	P
4396	16,210.09	P
4397	16,187.75	P
4398	15,693.18	P
4399	8,805.93	P
4400	8,805.93	P

	A	B	C
4401	26020091.105150.31	18523002	Automotive Rentals Inc
4402	26020091.105150.31	18523002	Automotive Rentals Inc
4403	26020091.105150.31	18523002	Automotive Rentals Inc
4404	26020091.105150.31	18523002	Automotive Rentals Inc
4405	26020091.105150.31	18523002	Automotive Rentals Inc
4406	26020091.105150.31	18523002	Automotive Rentals Inc
4407	26020091.105150.31	18523002	Automotive Rentals Inc
4408	26020091.105150.31	18523002	Automotive Rentals Inc
4409	26020091.105150.31	18523002	Automotive Rentals Inc
4410	26020091.105150.31	18523002	Automotive Rentals Inc
4411	26020091.105150.31	18523002	Automotive Rentals Inc
4412	26020091.105150.31	18523002	Automotive Rentals Inc
4413	26020091.105150.31	18523002	Automotive Rentals Inc
4414	26020091.105150.31	18523002	Automotive Rentals Inc
4415	26020091.105150.31	18523002	Automotive Rentals Inc
4416	26020091.105150.31	18523002	Automotive Rentals Inc
4417	26020091.105150.31	18523002	Automotive Rentals Inc
4418	26020091.105150.31	22000480	E H Wachs Co
4419	26020091.105150.31	26000487	Nichols Fleet Equipment Inc
4420	26020091.105150.31	26000908	Truck 'N Trailers USA
4421	26020091.105150.31	26000908	Truck 'N Trailers USA
4422	26020091.105150.31	26000908	Truck 'N Trailers USA
4423	26020091.105150.31	26000908	Truck 'N Trailers USA
4424	26020091.105150.31	26000908	Truck 'N Trailers USA
4425	26020091.105150.31	26000908	Truck 'N Trailers USA
4426	26020091.105150.31	26000908	Truck 'N Trailers USA
4427	26020091.105150.31	26000908	Truck 'N Trailers USA
4428	26020091.105150.31	26000908	Truck 'N Trailers USA
4429	26020091.105150.31	26000908	Truck 'N Trailers USA
4430	26020092.105150.31	10001341	USA Blue Book
4431	26020092.105150.31	10001341	USA Blue Book
4432	26020092.105150.31	10001341	USA Blue Book
4433	26020092.105150.31	10001341	USA Blue Book
4434	26020092.105150.31	10001341	USA Blue Book
4435	26020092.105150.31	14006904	Controlotron
4436	26020092.105150.31	18531459	Fluid Conservation System Inc
4437	26020092.105150.31	18531459	Fluid Conservation System Inc
4438	26020092.105150.31	18531459	Fluid Conservation System Inc
4439	26020092.105150.31	18531459	Fluid Conservation System Inc
4440	26020092.105150.31	26000908	Truck 'N Trailers USA
4441	26020092.105150.31	26000963	Utility Tool Company
4442	26020092.105150.31	26000963	Utility Tool Company
4443	26020092.105150.31	26000963	Utility Tool Company
4444	26020092.105150.31	27001312	Godwin Pumps of America Inc
4445	26020092.105150.31	27003156	Neptune Technology Group Inc
4446	26020092.105150.31	27003156	Neptune Technology Group Inc
4447	26020092.105150.31	50266094	Grainger
4448	26020092.105150.31	50266094	Grainger
4449	26020092.105150.31	50266094	Grainger
4450	26020092.105150.31	50266094	Grainger

	D	E	F	G	H
4401	12/14/2006	CLIENT 5D70	PV	41469922	26
4402	12/14/2006	CLIENT 5D70	PV	41469928	26
4403	12/19/2006	TNAWC	PV	41473928	26
4404	12/19/2006	TNAWC	PV	41473930	26
4405	12/19/2006	TNAWC	PV	41473931	26
4406	12/19/2006	TNAWC	PV	41473933	26
4407	12/19/2006	TNAWC	PV	41473935	26
4408	12/19/2006	TNAWC	PV	41473936	26
4409	12/19/2006	TNAWC	PV	41473937	26
4410	12/19/2006	TNAWC	PV	41473938	26
4411	12/19/2006	TNAWC	PV	41473939	26
4412	12/19/2006	TNAWC	PV	41473940	26
4413	12/19/2006	TNAWC	PV	41473941	26
4414	12/19/2006	TNAWC	PV	41473943	26
4415	12/27/2006	CLIENT 5D70	PV	41480158	26
4416	12/27/2006	CLIENT 5D70	PV	41480286	26
4417	2/28/2007	n35233	PV	41528835	26
4418	4/6/2007	28600	PV	41557330	26
4419	2/28/2007	7535	PV	41528514	26
4420	12/19/2006	TNAWC	PV	41473912	26
4421	12/19/2006	TNAWC	PV	41473913	26
4422	12/19/2006	TNAWC	PV	41473914	26
4423	12/19/2006	TNAWC	PV	41473917	26
4424	12/19/2006	TNAWC	PV	41473918	26
4425	12/19/2006	TNAWC	PV	41473919	26
4426	12/19/2006	TNAWC	PV	41473921	26
4427	12/19/2006	TNAWC	PV	41473922	26
4428	12/19/2006	TNAWC	PV	41473923	26
4429	12/19/2006	TNAWC	PV	41473924	26
4430	5/23/2006	TENN AMERICAN WATER	PV	41317395	26
4431	5/23/2006	TENN AMERICAN WATER	PV	41317396	26
4432	5/23/2006	TENN AMERICAN WATER	PV	41317397	26
4433	5/31/2006	TENN AMERICAN WATER	PV	41322545	26
4434	6/21/2006	TNAWC	PV	41335929	26
4435	2/8/2006	TENNESSEE AMERICAN WATER	PV	41246086	3
4436	1/12/2006	ORDER# 6684	PV	41228586	26
4437	4/20/2006	1101 BROAD ST CHATTANOOG	PV	41296219	26
4438	7/14/2006	ORDER# 6941	PV	41353234	26
4439	7/14/2006	ORDER# 6984	PV	41353236	26
4440	12/19/2006	TNAWC	PV	41473927	26
4441	2/15/2006	CUST# 3246	PV	41251303	26
4442	5/19/2006	CUST# 7933	PV	41313921	26
4443	5/23/2006	TENN AMERICAN WATER	PV	41317398	26
4444	11/7/2006	TNAWC	PV	41443029	26
4445	5/19/2006	CUST# 03158900	PV	41313918	26
4446	5/31/2006	CUST#03158900	PV	41322274	26
4447	5/19/2006	ACCT# 801505496	PV	41314671	26
4448	6/1/2006	ACCT#801505496	PV	41322883	26
4449	8/17/2006	ACCT# 801505496	PV	41379765	26
4450	8/29/2006	801505496 TNAWC	PV	41388861	26

	I	J
4401	8,805.93	P
4402	8,805.93	P
4403	22,888.97	P
4404	15,113.17	P
4405	15,113.17	P
4406	19,494.32	P
4407	22,666.77	P
4408	19,250.61	P
4409	24,637.75	P
4410	13,327.05	P
4411	22,771.85	P
4412	22,678.29	P
4413	23,182.27	P
4414	23,425.08	P
4415	22,687.35	P
4416	16,146.26	P
4417	78,307.73	P
4418	45,385.70	P
4419	34,444.12	P
4420	2,212.89	P
4421	2,069.72	P
4422	2,018.63	P
4423	2,203.98	P
4424	1,739.94	P
4425	2,313.40	P
4426	2,313.40	P
4427	2,212.89	P
4428	2,212.89	P
4429	2,212.89	P
4430	2,899.56	P
4431	3,469.14	P
4432	2,724.42	P
4433	1,736.58	P
4434	1,835.55	P
4435	6,556.00	P
4436	118,690.00	P
4437	311,900.00	P
4438	20,175.00	P
4439	4,173.00	P
4440	3,530.81	P
4441	3,670.00	P
4442	5,513.00	P
4443	6,488.00	P
4444	1,004.00	P
4445	2,500.00	P
4446	1,054.02	P
4447	1,124.10	P
4448	4,496.40	P
4449	1,333.40	P
4450	3,870.53	P

	A	B	C
4451	26020092.105150.31	50266094	Grainger
4452	26020092.105150.31	50282621	Trench Shoring Services
4453	26020092.105150.31	50335986	Grainger
4454	26020093.105150.11	50110721	ADT Security Services
4455	26020093.105150.11	50110721	ADT Security Services
4456	26020093.105150.11	50110721	ADT Security Services
4457	26020093.105150.11	50110721	ADT Security Services
4458	26020093.105150.31	18516961	Hach Company
4459	26020093.105150.31	18543530	Mueller Co
4460	26020093.105150.31	18543530	Mueller Co
4461	26020093.105150.31	19000165	Bristol Inc
4462	26020093.105150.31	19000165	Bristol Inc
4463	26020093.105150.31	19000165	Bristol Inc
4464	26020093.105150.31	19000165	Bristol Inc
4465	26020093.105150.31	26001743	Callahan Service Co., LLC
4466	26020093.105150.31	26001743	Callahan Service Co., LLC
4467	26020093.105150.31	50005942	Southeast Co Inc
4468	26020093.105150.31	50123718	Brown Fence Company Inc
4469	26020093.105150.31	50175087	EMS Inc
4470	26020093.105150.31	50280579	Sys-Tech Inc
4471	26020093.105150.31	50280579	Sys-Tech Inc
4472	26020093.105150.31	50334565	Quality Service
4473	26020093.105275.31	18513509	H W Alward Inc
4474	26020093.105275.31	26000321	Consolidated Technologies Inc
4475	26020093.105275.31	26000321	Consolidated Technologies Inc
4476	26020093.105275.31	26000321	Consolidated Technologies Inc
4477	26020093.105275.31	26000321	Consolidated Technologies Inc
4478	26020093.105275.31	26000321	Consolidated Technologies Inc
4479	26020093.105275.31	26000321	Consolidated Technologies Inc
4480	26020093.105275.31	26000321	Consolidated Technologies Inc
4481	26020093.105275.31	26000321	Consolidated Technologies Inc
4482	26020093.105275.31	26000321	Consolidated Technologies Inc
4483	26020093.105275.31	26000321	Consolidated Technologies Inc
4484	26020094.105150.31	19000165	Bristol Inc
4485	26020094.105275.31	50247315	Jordan Electrical Services LLC
4486	26020094.105275.31	50247315	Jordan Electrical Services LLC
4487	26020096.105275.31	10002674	Tank Industry Consultants Inc
4488	26020096.105275.31	10002674	Tank Industry Consultants Inc
4489	26020096.105275.31	10002674	Tank Industry Consultants Inc
4490	26020096.105275.31	10002674	Tank Industry Consultants Inc
4491	26020096.105275.31	10002674	Tank Industry Consultants Inc
4492	26020096.105275.31	10002674	Tank Industry Consultants Inc
4493	26020096.105275.31	10002674	Tank Industry Consultants Inc
4494	26020096.105275.31	10002674	Tank Industry Consultants Inc
4495	26020096.105275.31	10002674	Tank Industry Consultants Inc
4496	26020096.105275.31	10002674	Tank Industry Consultants Inc
4497	26020096.105275.31	10002674	Tank Industry Consultants Inc
4498	26020096.105275.31	10002674	Tank Industry Consultants Inc
4499	26020096.105275.31	10002674	Tank Industry Consultants Inc
4500	26020096.105275.31	10002674	Tank Industry Consultants Inc

	D	E	F	G	H
4451	8/29/2006	801505496 TNAWC	PV	41388862	26
4452	6/7/2006	4289 TNAW	PV	41326665	26
4453	4/6/2007	801505496	PV	41557313	26
4454	12/19/2006	1.4001E+12	PV	41473524	3
4455	12/19/2006	1.4001E+12	PV	41473685	3
4456	1/4/2007	1.4001E+12	PV	41487078	3
4457	1/4/2007	1.4001E+12	PV	41487083	3
4458	4/20/2006	ACCT# 043178-005	PV	41294843	26
4459	11/3/2006	CUST# 33840000	PV	41441002	26
4460	11/3/2006	CUST 33840000	PV	41441004	26
4461	1/12/2006	CUST# 342502	PV	41228608	26
4462	1/18/2006	ORDER# 116935RI	PV	41233337	26
4463	1/18/2006	ORDER# 116935RI	PV	41233337	26
4464	2/15/2006	CUST# 143482	PV	41251274	26
4465	3/14/2007	TNAWC	PV	41539308	26
4466	5/15/2007	WORK ORDER 1561	PV	41588241	26
4467	12/14/2006	TNAWC	PV	41470121	26
4468	2/28/2007	labor & materia	PV	41528130	26
4469	3/23/2006	SERVICES	PV	41277197	26
4470	7/14/2006	JOB# 1528	PV	41353251	26
4471	12/6/2006	1563	PV	41463192	26
4472	3/9/2007	TNAWC MAIN GATE	PV	41534793	26
4473	2/16/2006	S MAPLE AVE	PV	41253370	18
4474	8/1/2006	TNAWC	PV	41368083	26
4475	8/30/2006	TAW FILTER HOUSE #2	PV	41390708	26
4476	9/27/2006	TAW C0604901	PV	41410473	26
4477	11/7/2006	TAWC FILTER HOUSE #2	PV	41442950	26
4478	11/10/2006	TAWC FILTER HOU	PV	41444756	26
4479	11/10/2006	TAWC FILTER HOU	PV	41444759	26
4480	12/14/2006	TAW FILTER HOUSE#2	PV	41469721	26
4481	12/14/2006	TAW FILTER HOUSE#2	PV	41469740	26
4482	12/21/2006	TNAWC	PV	41476436	26
4483	1/10/2007	TAW FILTER HOUS	PV	41491519	26
4484	11/7/2006	CUST 313496	PV	41443126	26
4485	2/15/2006	HILL POINTE PUM	PV	41250607	26
4486	2/15/2006	HILL POINTE PUM	PV	41251445	26
4487	5/19/2006	PRO# 06019	PV	41313807	26
4488	5/19/2006	C# H985	PV	41313809	26
4489	8/1/2006	TN AMERICAN WATER	PV	41368050	26
4490	8/17/2006	CLIENT#H985 ALD	PV	41379731	26
4491	8/17/2006	CLIENT# H985	PV	41379734	26
4492	8/30/2006	TNAWC	PV	41390706	26
4493	9/8/2006	CUST# H985	PV	41395868	26
4494	9/27/2006	PROJ# 06019	PV	41410090	26
4495	10/4/2006	CLIENT H985 TNAWC	PV	41415416	26
4496	10/4/2006	CLIENT H985	PV	41415417	26
4497	10/5/2006	CLIENT H985 TNAWC	PV	41416071	26
4498	10/9/2006	CLIENT H985 TNAWC	PV	41418059	26
4499	11/3/2006	TNAWC CLIENT H9	PV	41441009	26
4500	11/7/2006	TNAWC CLIENT H9	PV	41443152	26

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4524	26020096.105275.31	50006519	Roberts Services Inc
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4527	26020096.105275.31	50014057	American Carbon Services
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4534	26020096.105275.31	50331044	Superior Industrial Maintenance Co
4535	26020097.105275.31	9012923	Black & Veatch Corporation
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4550	26020097.105275.31	26000321	Consolidated Technologies Inc

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4503	12/8/2006	pro# 06019	PV	41465376	26
4504	12/14/2006	TNAWC	PV	41469761	26
4505	12/14/2006	CLIENT H985	PV	41469771	26
4506	12/14/2006	TNAWC	PV	41470147	26
4507	12/14/2006	TNAWC	PV	41470150	26
4508	12/21/2006	TNAWC	PV	41476287	26
4509	12/21/2006	TNAWC	PV	41476288	26
4510	12/21/2006	TNAWC	PV	41476289	26
4511	12/21/2006	TNAWC	PV	41476422	26
4512	12/26/2006	TNAWC	PV	41479777	26
4513	12/27/2006	H985 06019 TNAW	PV	41482115	26
4514	1/3/2007	TNAWC	PV	41486325	26
4515	1/18/2007	PRO# 06019	PV	41496980	26
4516	1/18/2007	PRO# 06019	PV	41497009	26
4517	1/22/2007	TNAWC CLIENT H985	PV	41499648	26
4518	3/23/2007	TNAWC	PV	41546038	26
4519	4/6/2007	client h985	PV	41557399	26
4520	8/1/2006	TNAWC	PV	41368076	26
4521	8/30/2006	TAW ALDRICH UNIT	PV	41390716	26
4522	9/27/2006	TNAWC C0500909	PV	41410468	26
4523	12/14/2006	TAW ALDRICH UNIT	PV	41469757	26
4524	1/3/2007	TNAWC	PV	41486438	26
4525	1/3/2007	TNAWC	PV	41486441	26
4526	2/15/2007	TNAWC	PV	41518488	26
4527	10/4/2006	TNAWC PROGRESS PAYMENT #	PV	41415225	26
4528	3/30/2007	TNAWC	PV	41553510	26
4529	9/27/2006	APP 1 PERIOD TO 8/22/06	PV	41410159	26
4530	11/7/2006	TAWC APPLICATION 2	PV	41442963	26
4531	12/8/2006	APPL# 3	PV	41465360	26
4532	12/27/2006	TN AMERICAN WATER	PV	41481094	26
4533	4/12/2007	5 final	PV	41561525	26
4534	2/15/2007	TNAWC ALDRICH UNITS	PV	41518353	26
4535	12/14/2006	PROJECT 145895 TNAWC	PV	41469887	26
4536	1/10/2007	CLIENT 145895	PV	41491518	26
4537	3/8/2007	145895	PV	41534253	26
4538	3/13/2007	CLIENT 145895	PV	41537948	26
4539	8/1/2006	TNAWC	PV	41368121	26
4540	8/23/2006	TAW IDSE HYDRAU	PV	41384193	26
4541	10/4/2006	TAW IDSE HYDRAULIC MODEL	PV	41415404	26
4542	10/4/2006	TAW IDSE HYDRAULIC MODEL	PV	41415405	26
4543	10/4/2006	TAW IDSE HYDRAULIC MODEL	PV	41415406	26
4544	10/4/2006	TAW IDSE HYDRAULIC MODEL	PV	41415407	26
4545	10/19/2006	C06053 02 TN	PV	41428739	26
4546	10/25/2006	SERVICES	PV	41434910	26
4547	10/25/2006	SERVICES	PV	41434923	26
4548	12/21/2006	TNAWC	PV	41475749	26
4549	12/21/2006	TNAWC	PV	41475754	26
4550	12/21/2006	TNAWC	PV	41475758	26

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4555	26020097.105275.31	26000321	Consolidated Technologies Inc
4556	26020205.105275.21	10001826	GRW Engineers Inc
4557	26020205.105275.21	10001826	GRW Engineers Inc
4558	26020205.105275.21	10001826	GRW Engineers Inc
4559	26020205.105275.21	10001826	GRW Engineers Inc
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4562	26020205.105275.21	10001826	GRW Engineers Inc
4563	26020303.105275.21	26000545	Mayse Construction Co
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4569	26020303.105275.21	26000640	Stein Construction Co Inc
4570	26020303.105275.21	26000640	Stein Construction Co Inc
4571	26020401.105270.21	10018967	American Water Resources
4572	26020402.105150.21	19000165	Bristol Inc
4573	26020402.105275.21	26000321	Consolidated Technologies Inc
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4587	26020402.105275.21	26000376	Eslinger Contracting Co
4588	26020402.105275.21	50233842	Crom Corp
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4598	26020402.105275.31	26000321	Consolidated Technologies Inc
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4554	3/14/2007	TAW IDSE Tenn A	PV	41538408	26
4555	4/6/2007	c06053036	PV	41557270	26
4556	2/15/2006	PRO# 07697 02	PV	41251207	26
4557	3/13/2006	0769701 TAWC	PV	41267021	26
4558	4/4/2006	0769701 TAWC RINGGOLD RD	PV	41283369	26
4559	5/3/2006	PRO# 0769701	PV	41303230	26
4560	6/5/2006	PROJECT#07697-01 TNAWC	PV	41325267	26
4561	12/8/2006	PRO# 0769702	PV	41465475	26
4562	1/3/2007	TNAWC	PV	41485979	26
4563	2/2/2006	JOB# 453	PV	41242093	26
4564	2/2/2006	JOB# 453	PV	41242094	26
4565	2/2/2006	job# 453	PV	41242145	26
4566	2/2/2006	job# 453	PV	41242171	26
4567	3/13/2006	453 TNAW	PV	41266930	26
4568	1/19/2006	TASK# 500-73061	PV	41234492	26
4569	2/15/2006	CUST# 20100	PV	41251219	26
4570	3/23/2006	CUST# 20100	PV	41276478	26
4571	3/15/2006	Recl PowerPlant Accrual	PS	41270169	3
4572	3/10/2006	ORDER# 116530 S	PV	41266366	26
4573	1/19/2006	PROFESSIONAL SE	PV	41234451	26
4574	1/19/2006	PROF SVCS	PV	41234934	26
4575	2/2/2006	SERVICE 10/29-1	PV	41242034	26
4576	2/2/2006	SERVICES 10/26-	PV	41242035	26
4577	2/15/2006	PROFESSIONAL SE	PV	41251463	26
4578	3/10/2006	PROFESSIONAL SE	PV	41266319	26
4579	4/18/2006	TO FEB 24 2006	PV	41291912	26
4580	5/3/2006	CODE# C0405506	PV	41303221	26
4581	6/9/2006	TAWC MTN CREEK	PV	41328333	26
4582	6/9/2006	TAWC MTN CREEK	PV	41328340	26
4583	6/15/2006	TAWC MTN CREEK WT RPR	PV	41332086	26
4584	8/1/2006	TNAWC	PV	41368065	26
4585	8/1/2006	TNAWC	PV	41368068	26
4586	8/30/2006	TAWC CREEK WT RPR	PV	41390687	26
4587	3/2/2006	10612 TNAW	PV	41261403	26
4588	1/18/2006	5054.2	PV	41233172	26
4589	1/18/2006	JOB# 05054.1	PV	41233178	26
4590	1/18/2006	JOB# 05054.1	PV	41233180	26
4591	1/19/2006	JOB# 05054.1	PV	41234517	26
4592	2/15/2006	#6	PV	41251217	26
4593	4/4/2006	1MG WATER STORAGE 05054.	PV	41283264	26
4594	6/21/2006	9final061906	PV	41336606	26
4595	6/21/2006	est 3 final retainage	PV	41336608	26
4596	6/21/2006	est 2 05054.2	PV	41336610	26
4597	6/22/2006	est 8 050541 TNAW	PV	41336824	26
4598	11/7/2006	TAW MTN CREEK WT	PV	41442955	26
4599	12/8/2006	JOB# 730	PV	41465351	26
4600	2/15/2006	PRO# 07697 01	PV	41251205	26

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4606	26020501.105275.21	10001826	GRW Engineers Inc
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4608	26020501.105275.21	26000269	ARCADIS Geraghty & Miller Inc
4609	26020501.105275.21	26000269	ARCADIS Geraghty & Miller Inc
4610	26020501.105275.21	26000321	Consolidated Technologies Inc
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4641	26020501.105275.21	26000545	Mayse Construction Co
4642	26020501.105275.21	26000545	Mayse Construction Co
4643	26020501.105275.21	26002109	East Tennessee Grading Co Inc
4644	26020501.105275.21	26002109	East Tennessee Grading Co Inc
4645	26020501.105275.21	26002109	East Tennessee Grading Co Inc
4646	26020501.105275.21	26002109	East Tennessee Grading Co Inc
4647	26020501.105275.21	26002109	East Tennessee Grading Co Inc
4648	26020501.105275.21	26002109	East Tennessee Grading Co Inc
4649	26020501.105275.21	26002109	East Tennessee Grading Co Inc
4650	26020601.105125.21	26000316	City of Chattanooga

	D	E	F	G	H
4601	11/7/2006	TNAWC PROJECT 0	PV	41443093	26
4602	11/7/2006	TNAWC PROJECT 0	PV	41443095	26
4603	12/8/2006	PRO# 0769707	PV	41465478	26
4604	1/3/2007	TNAWC	PV	41485990	26
4605	2/28/2007	769707	PV	41528980	26
4606	2/28/2007	PRO# 0769706	PV	41528987	26
4607	3/8/2007	TNAWC	PV	41534268	26
4608	3/10/2006	PRO# CT053089.0000	PV	41266204	26
4609	5/3/2006	P# CT053089.0000	PV	41303222	26
4610	1/19/2006	PROF SVCS	PV	41234946	26
4611	3/10/2006	CODE# C03024 04	PV	41266322	26
4612	3/10/2006	CODE# C03024 03	PV	41266324	26
4613	4/18/2006	TO FEB 24 2006	PV	41291902	26
4614	5/19/2006	CODE# C0302403	PV	41313805	26
4615	6/9/2006	SHALLOWFORD ROA	PV	41328211	26
4616	7/14/2006	CODE# C0302403	PV	41353242	26
4617	8/1/2006	TNAWC	PV	41368151	26
4618	9/27/2006	TENN	PV	41410478	26
4619	11/7/2006	SHALLOWFORD RD WL DESIGN	PV	41442951	26
4620	12/14/2006	SHALLOWFORD RD WL DESIGN	PV	41469746	26
4621	12/14/2006	SHALLOWFORD RD	PV	41470234	26
4622	12/21/2006	TNAWC	PV	41476433	26
4623	1/22/2007	C03024 03 TNAWC	PV	41499650	26
4624	3/8/2007	SHALLOWFORD RD TNAWC	PV	41534275	26
4625	3/23/2007	TNAWC	PV	41546039	26
4626	5/3/2006	JOB# 10612	PV	41303251	26
4627	6/5/2006	HWY 41 FRAWLEY RD TNAWC	PV	41325259	26
4628	6/5/2006	HWY 41 FRAWLEY RD TNAWC	PV	41325260	26
4629	6/5/2006	HWY 41 FRAWLEY RD TNAWC	PV	41325261	26
4630	6/5/2006	FRAWLEY RD TNAWC	PV	41325262	26
4631	6/6/2006	TNAW 464	PV	41326292	26
4632	6/7/2006	TNAW 464 Frawley Road	PV	41326566	26
4633	6/15/2006	TNAWC IGOU GAP WATER	PV	41332059	26
4634	7/14/2006	JOB# 464	PV	41353241	26
4635	7/19/2006	TNAWC IGOU GAP WATER REL	PV	41357718	26
4636	8/23/2006	JOB#471 TNAWC	PV	41384071	26
4637	10/4/2006	TNAWC IGOU GAP WATER REL	PV	41415412	26
4638	10/5/2006	IGOU GAP RD IMPROV TNAWC	PV	41416101	26
4639	11/7/2006	TNAWC IGOU GAP WATER REL	PV	41443066	26
4640	12/4/2006	CT053089 Igou Gap Water	PV	41460463	26
4641	12/4/2006	Igou Gap Water Relo CT05	PV	41460488	26
4642	12/14/2006	TNAWC JOB 471	PV	41470124	26
4643	6/7/2006	CUST# 284 TNAWC JOB# 212	PV	41326845	26
4644	6/22/2006	est 2 Shallowford Rd	PV	41336823	26
4645	8/1/2006	CUST# 284 TNAWC	PV	41368156	26
4646	8/1/2006	CUST#284 TNAWC	PV	41368162	26
4647	8/17/2006	JOB#21255 TNAWC	PV	41379752	26
4648	10/4/2006	JOB# 21255 TNAWC	PV	41415396	26
4649	2/28/2007	284	PV	41528983	26
4650	8/23/2006	TNAWC MAY/JUNE/	PV	41384615	26

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4618	11,280.68	P
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4631	122,086.04	P
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4637	35,663.27	P
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4651	26020601.105125.21	50279061	RCB Real Estate LLC
4652	26020601.105125.21	50279301	Jan Cooper
4653	26020601.105275.21	26000545	Mayse Construction Co
4654	26020601.105275.21	26000545	Mayse Construction Co
4655	26020601.105275.21	26000545	Mayse Construction Co
4656	26020601.105275.21	26000545	Mayse Construction Co
4657	26020601.105275.21	26001027	Baker Donelson Bearman & Caldwell Berkow
4658	26020601.105275.21	50124636	Lamar Dunn & Associates Inc
4659	26020601.105275.21	50124636	Lamar Dunn & Associates Inc
4660	26020601.105275.21	50124636	Lamar Dunn & Associates Inc
4661	26020601.105275.21	50124636	Lamar Dunn & Associates Inc
4662	26020601.105275.21	50124636	Lamar Dunn & Associates Inc
4663	26020601.105275.21	50124636	Lamar Dunn & Associates Inc
4664	26020601.105275.21	50124636	Lamar Dunn & Associates Inc
4665	26020601.105275.21	50124636	Lamar Dunn & Associates Inc
4666	26020601.105275.21	50124636	Lamar Dunn & Associates Inc
4667	26020601.105275.21	50124636	Lamar Dunn & Associates Inc
4668	26020601.105275.21	50279062	Rains Appraisal Services
4669	26020602.105275.21	26000321	Consolidated Technologies Inc
4670	26020602.105275.21	26000321	Consolidated Technologies Inc
4671	26020602.105275.21	26000321	Consolidated Technologies Inc
4672	26020602.105275.21	26000321	Consolidated Technologies Inc
4673	26020602.105275.21	26000321	Consolidated Technologies Inc
4674	26020602.105275.21	26000321	Consolidated Technologies Inc
4675	26020602.105275.21	26000321	Consolidated Technologies Inc
4676	26020602.105275.21	26000321	Consolidated Technologies Inc
4677	26020602.105275.21	26000321	Consolidated Technologies Inc
4678	26020602.105275.21	26000376	Eslinger Contracting Co
4679	26020602.105275.21	26000376	Eslinger Contracting Co
4680	26020602.105275.21	26000376	Eslinger Contracting Co
4681	26020602.105275.21	26000376	Eslinger Contracting Co
4682	26020602.105275.21	26000376	Eslinger Contracting Co
4683	26020602.105275.21	26000376	Eslinger Contracting Co
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4685	26020602.105275.21	26000376	Eslinger Contracting Co
4686	26020602.105275.21	26000376	Eslinger Contracting Co
4687	26020602.105275.21	26000376	Eslinger Contracting Co
4688	26020703.105150.31	19000165	Bristol Inc
4689	26020703.105150.31	19000165	Bristol Inc
4690	26030080.105275.21	26000376	Eslinger Contracting Co
4691	26030080.105275.21	26000376	Eslinger Contracting Co
4692	26030204.105150.21	26000321	Consolidated Technologies Inc
4693	26030204.105150.21	26000321	Consolidated Technologies Inc
4694	26030204.105150.21	50093668	Roy Joe Angel Construction
4695	26030204.105150.21	50168931	USDA Rural Development
4696	26030204.105150.31	26000321	Consolidated Technologies Inc
4697	26030204.105175.21	26001027	Baker Donelson Bearman & Caldwell Berkow
4698	26030204.105175.21	26001027	Baker Donelson Bearman & Caldwell Berkow
4699	26030204.105175.21	26001027	Baker Donelson Bearman & Caldwell Berkow
4700	26030204.105175.21	26001027	Baker Donelson Bearman & Caldwell Berkow

	D	E	F	G	H
4651	5/25/2006	PURCHASE EASEMENT	PS	41320530	26
4652	5/25/2006	PURCHASE EASEMENT	PS	41320531	26
4653	8/30/2006	TNAWC TAMPA ST EXTENSION	PV	41390680	26
4654	9/27/2006	PROJECT DELMONT 24	PV	41410165	26
4655	11/7/2006	TNAWC DELMONT 24	PV	41443068	26
4656	11/10/2006	TNAWC	PV	41444769	26
4657	6/26/2006	CLIENT#2014353.000048	PV	41338992	26
4658	4/4/2006	TAW601SE12SR83	PV	41283263	26
4659	5/3/2006	ENGINEERING SERVICES	PV	41303225	26
4660	5/3/2006	ENGINEERING SERVICES	PV	41303227	26
4661	6/9/2006	TAW602SE12WD12	PV	41328199	26
4662	6/21/2006	TAW603SE12WD86	PV	41335900	26
4663	6/21/2006	TAW602SE12WD12	PV	41335902	26
4664	8/14/2006	TAW602SE12WD12	PV	41376729	26
4665	9/15/2006	TAW605SE12WD13	PV	41401281	26
4666	10/4/2006	TNAWC	PV	41415244	26
4667	11/7/2006	TAW605SE12WD13	PV	41442974	26
4668	6/5/2006	TENNESSEE AMERICAN WATER	PV	41324789	26
4669	4/18/2006	TO FEB 24 2006	PV	41291925	26
4670	5/3/2006	CODE# C0603101	PV	41303216	26
4671	5/19/2006	CODE# C0500905	PV	41313804	26
4672	6/15/2006	TNAWC HILL CITY DESIGN	PV	41332095	26
4673	7/14/2006	CODE# C0500905	PV	41353243	26
4674	8/1/2006	TNAWC	PV	41368074	26
4675	9/27/2006	TAWC C0500905	PV	41410463	26
4676	9/27/2006	TAW C0603101	PV	41410471	26
4677	11/7/2006	TAWC WHITE OAK TANK	PV	41442957	26
4678	5/3/2006	CORRIDOR J RELI	PV	41303246	26
4679	7/5/2006	TENN AWC AIR VA	PV	41347402	26
4680	7/19/2006	TNAW RIVERSIDE AVE	PV	41357723	26
4681	8/14/2006	TNAWC RIVERSIDE	PV	41376722	26
4682	8/30/2006	TNAW MAIN IN RIVERSIDE	PV	41390693	26
4683	9/18/2006	TAAWC EST.#1	PV	41402561	26
4684	9/20/2006	TNAWC	PV	41403882	26
4685	10/5/2006	TNAWC PROJECT#C06009-5	PV	41416098	26
4686	11/7/2006	TNAWC CORRIDOR J RELIEF	PV	41443056	26
4687	11/7/2006	TNAWC PROJECT C05009-5	PV	41443067	26
4688	4/11/2007	313496	PV	41560710	26
4689	4/11/2007	313496	PV	41560714	26
4690	9/20/2006	TNAWC	PV	41403865	26
4691	9/20/2006	TNAWC	PV	41403885	26
4692	1/12/2006	CODE# C05001 01	PV	41228574	26
4693	1/12/2006	CODE# C05001 01	PV	41228578	26
4694	9/27/2006	TN AMERICAN WATER	PV	41408929	26
4695	12/12/2006	ID 480580621406295	PS	41468643	26
4696	10/25/2006	July 2006 c0500	PV	41435345	26
4697	4/13/2006	SUCK CREEK	PV	41290048	26
4698	10/3/2006	2014353 000020	PV	41414195	26
4699	12/21/2006	TNAWC	PV	41475567	26
4700	12/21/2006	TNAWC	PV	41475603	26

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4658	2,982.35	P
4659	7,224.39	P
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4661	4,124.47	P
4662	1,539.79	P
4663	4,906.69	P
4664	1,125.69	P
4665	2,268.97	P
4666	4,194.70	P
4667	1,687.33	P
4668	1,200.00	P
4669	3,078.91	P
4670	1,305.00	P
4671	1,090.34	P
4672	12,180.00	P
4673	2,073.43	P
4674	3,977.24	P
4675	1,977.99	P
4676	2,610.00	P
4677	2,314.09	P
4678	9,218.50	P
4679	27,597.61	P
4680	10,221.00	P
4681	23,244.76	P
4682	49,264.34	P
4683	29,468.16	P
4684	4,724.23	P
4685	20,916.00	P
4686	2,000.64	P
4687	31,824.00	P
4688	9,184.88	P
4689	25,198.41	P
4690	17,017.83	P
4691	10,577.32	P
4692	1,275.00	P
4693	1,200.00	P
4694	4,500.00	P
4695	144,438.51	P
4696	2,299.93	P
4697	8,062.20	P
4698	1,220.70	P
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4702	26030204.105175.21	26001027	Baker Donelson Bearman & Caldwell Berkow
4703	26030204.105175.21	50322826	Reliance Title Agency Inc
4704	26030204.105275.21	26001027	Baker Donelson Bearman & Caldwell Berkow
4705	26030204.105275.21	26001027	Baker Donelson Bearman & Caldwell Berkow
4706	26030204.105275.21	26001027	Baker Donelson Bearman & Caldwell Berkow
4707	26030204.105275.21	26001027	Baker Donelson Bearman & Caldwell Berkow
4708	26030204.105275.21	26001027	Baker Donelson Bearman & Caldwell Berkow
4709	26030204.105275.21	50093668	Roy Joe Angel Construction
4710	26030204.105275.21	50093668	Roy Joe Angel Construction
4711	26030204.105275.21	50093668	Roy Joe Angel Construction
4712	26040086.105275.21	26000376	Eslinger Contracting Co
4713	26040088.105275.21	26000376	Eslinger Contracting Co
4714	26040206.105150.21	26000321	Consolidated Technologies Inc
4715	26040206.105150.21	26000321	Consolidated Technologies Inc
4716	26040206.105150.21	26000321	Consolidated Technologies Inc
4717	26040206.105150.21	26000321	Consolidated Technologies Inc
4718	26040206.105150.21	26000321	Consolidated Technologies Inc
4719	26060302.105275.21	19000165	Bristol Inc
4720	26060302.105275.21	19000165	Bristol Inc
4721	26060302.105275.21	22001213	Engineered Fluid Inc
4722	26060302.105275.21	26000321	Consolidated Technologies Inc
4723	26060302.105275.21	26000321	Consolidated Technologies Inc
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4733	26060302.105275.21	26000321	Consolidated Technologies Inc
4734	26060302.105275.21	26000321	Consolidated Technologies Inc
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4739	26060302.105275.21	26000321	Consolidated Technologies Inc
4740	26060302.105275.21	26000545	Mayse Construction Co
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4750	26060302.105275.21	26000545	Mayse Construction Co

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4701	12/21/2006	TNAWC	PV	41475617	26
4702	1/30/2007	2014353	PV	41505551	26
4703	12/11/2006	Suck Creek Utility	PS	41467709	26
4704	1/18/2006	SUCK CREEK	PV	41233284	26
4705	4/4/2006	2014353000020 SuckCreek	PV	41283261	26
4706	6/5/2006	CLIENT#2014353 000020	PV	41324786	26
4707	8/17/2006	TNAWC SUCK CREE	PV	41379721	26
4708	1/10/2007	CLIENT 2014353	PV	41491510	26
4709	9/27/2006	TN AMERICAN WATER	PV	41408931	26
4710	9/27/2006	TN AMERICAN WATER	PV	41408938	26
4711	9/27/2006	TN AMERICAN WATER	PV	41408942	26
4712	3/8/2007	TNAWC	PV	41534288	26
4713	3/8/2007	TNAWC	PV	41534288	26
4714	2/2/2006	CODE# C05058-01	PV	41242092	26
4715	3/10/2006	CODE# C05058 01	PV	41266134	26
4716	3/23/2006	CODE# C05058-01	PV	41276483	26
4717	5/17/2006	CODE# C0505801	PV	41312869	26
4718	5/22/2006	CODE#C05058-01	PV	41316528	26
4719	1/19/2006	CUST# 143482	PV	41234408	26
4720	7/19/2006	CUST#143482	PV	41357724	26
4721	7/6/2006	Walden's Ridge Utilty Co	PV	41349230	26
4722	1/19/2006	PROFESSIONAL SE	PV	41234438	26
4723	1/19/2006	PROFESSIONAL SE	PV	41234440	26
4724	1/19/2006	PROFESSIONAL SE	PV	41234447	26
4725	1/19/2006	PROFESSIONAL SE	PV	41234449	26
4726	2/2/2006	SERVICES 10/26-	PV	41242026	26
4727	2/2/2006	SERVICE 10/29-1	PV	41242028	26
4728	2/2/2006	SERVICES 10/26-	PV	41242029	26
4729	2/2/2006	SERVICE 10/29-1	PV	41242030	26
4730	2/2/2006	SERVICE 10/26-1	PV	41242033	26
4731	2/15/2006	PROFESSIONAL SE	PV	41251484	26
4732	3/10/2006	PROFESSIONAL SE	PV	41266317	26
4733	4/18/2006	TO FEB 24 06 TA	PV	41291906	26
4734	4/18/2006	TO FEB 24 2006	PV	41291910	26
4735	5/3/2006	code# c0305604	PV	41303212	26
4736	8/1/2006	TNAWC	PV	41368060	26
4737	8/1/2006	TNAWC	PV	41368114	26
4738	9/27/2006	TAWC C0305604	PV	41410480	26
4739	12/21/2006	TNAWC	PV	41476450	26
4740	1/19/2006	JOB# 450	PV	41234494	26
4741	1/19/2006	JOB# 450	PV	41234500	26
4742	1/19/2006	JOB# 450	PV	41234504	26
4743	1/19/2006	JOB# 450	PV	41234506	26
4744	2/15/2006	JOB# 450	PV	41251213	26
4745	2/15/2006	JOB# 450	PV	41251216	26
4746	4/13/2006	JOB# 450	PV	41289879	26
4747	4/13/2006	JOB# 450	PV	41289897	26
4748	4/13/2006	JOB# 450	PV	41289919	26
4749	6/14/2006	TNAWC WALDENS RIDGE	PV	41331067	26
4750	6/14/2006	TNAWC WALDENS RIDGE	PV	41331069	26

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4726	13,258.41	P
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4731	5,363.14	P
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4733	1,089.03	P
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4736	3,054.45	P
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4738	1,207.48	P
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4740	8,697.08	P
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4742	81,722.57	P
4743	402,444.95	P
4744	5,782.50	P
4745	11,342.46	P
4746	38,954.96	P
4747	8,835.30	P
4748	1,486.06	P
4749	159,131.21	P
4750	7,203.62	P

	A	B	C
4751	26060302.105275.21	26000545	Mayse Construction Co
4752	26060302.105275.21	26000545	Mayse Construction Co
4753	26060302.105275.21	26001027	Baker Donelson Bearman & Caldwell Berkow
4754	26060302.105275.21	50259666	R-W Contractors Inc
4755	26060302.105275.21	50259666	R-W Contractors Inc
4756	26060302.105275.21	50284121	Signal Mtn Nursery & Landscaping
4757	26060302.105275.31	26000321	Consolidated Technologies Inc

	D	E	F	G	H
4751	6/14/2006	TNAWC WALDENS RIDGE	PV	41331071	26
4752	6/14/2006	TNAWC WALDENS RIDGE	PV	41331074	26
4753	2/2/2006	32014353	PV	41242210	26
4754	2/15/2006	WALDEN'S RIDGE	PV	41250603	26
4755	4/18/2006	TNAW 16212	PV	41291962	26
4756	6/14/2006	TNAWC STONE EASEMENT BRO	PV	41331686	26
4757	12/21/2006	TNAWC	PV	41476447	26

	I	J
4751	28,643.89	P
4752	17,481.75	P
4753	10,245.25	P
4754	7,500.00	P
4755	1,050.14	P
4756	3,480.00	P
4757	1,184.88	P

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1	6	Champion Solutions Group	11,555.90	675250	26	6758	CONTRACT #AX17G
1	6	Deloitte Consulting	6,955.91	535000	16	6358	PROFESSIONAL SV
1	6	Lakeview Technology Inc - REMI	4,651.45	675250	26	6758	CUST #36277
1	6	Avaya Inc(Box 5332)REMIT	4,493.37	535000	16	6358	A/C #0102121687
1	6	Penncro Associates Inc	4,233.84	535000	16	6358	NOVEMBER 2005
1	6	GC Services Limited Parnership	3,975.38	535000	16	6358	PERSONNEL-NOV 2
1	6	Neal Gerber & EisenBerg LLP	3,936.96	533000	16	6338	our matter# 018
1	6	Thames Water Utilities Ltd	3,530.49	535000	16	6358	CUST #M63939
1	6	Global Knowledge Network Inc-R	3,203.68	504670	16	6048	Y6UJ9A0001ZH pr
1	6	Promenix	2,929.50	535000	16	6358	EAI FOUNDATION
1	6	Sap America Inc-REMIT	2,890.98	535000	16	6358	CONSULTING
1	6	Neal Gerber & EisenBerg LLP	2,313.17	533000	16	6338	service through
1	6	Deloitte Consulting	2,208.91	575000	16	6758	PROFESSIONAL SV
1	6	Promenix	2,061.00	535000	16	6358	EAI FOUNDATION
1	6	Language Line Services - REMIT	2,026.98	535000	16	6358	ACCT 9021000172
1	6	Towers Perrin - REMIT	1,519.08	535000	16	6358	SERVICES-OCT 20
1	6	Neal Gerber & EisenBerg LLP	1,439.55	533000	16	6338	matter# 018089
1	6	Promenix	1,392.30	575000	16	6758	DESIGN AUTH ARC
1	6	NEI Global Relocation Co	1,254.53	575670	16	6758	300-1200 J MULS
1	6	Language Line Services - REMIT	1,204.44	535000	16	6358	ACCT 902-100017
1	6	AT&T-PO Box 9001307-REMIT	1,165.43	575742	16	6758	80018253007
1	6	Global Knowledge Network Inc	1,139.71	675250	26	6758	A/C #1 360PM
2	6	Ernst & Young	5,211.00	535000	16	6358	PROJECT #126322
2	6	Penncro Associates Inc	4,273.71	535000	16	6358	DECEMBER 2005 B
2	6	GC Services Limited Parnership	3,943.28	535000	16	6358	PERSONNEL-DEC 2
2	6	American Water Capital Corp	3,658.54	575000	16	6758	ENVIRONMENT REP
2	6	Language Line Services - REMIT	2,391.42	535000	16	6358	ACCT 9021000172
2	6	Protiviti	2,317.30	532000	16	6328	CLIENT CODE AWW
2	6	NEI Global Relocation Co	2,297.37	575670	16	6758	NOV2005 -1215 J
2	6	Deloitte Consulting	1,922.91	535000	16	6358	STEP PROJECT W/
2	6	Deloitte Consulting	1,863.91	535000	16	6358	STEP PROJ W/E 1
2	6	Protiviti	1,682.14	532000	16	6328	CLIENT CODE AWW
2	6	Towers Perrin - REMIT	1,488.37	535000	16	6358	SERVICE FEES-DE
2	6	Language Line Services - REMIT	1,311.37	535000	16	6358	A/C #902-100017
2	6	AT&T(PO Box 277019)REMIT	1,165.09	575742	16	6758	80018253007
2	6	IBM Corp-PO/REMIT Lease-Maint	1,105.65	535000	16	6358	CUST 0211341BD
3	6	Ernst & Young	9,800.00	532000	16	6328	CLIENT #6010501
3	6	Penncro Associates Inc	4,114.34	535000	16	6358	JAN 2006
3	6	GC Services Limited Parnership	3,846.45	535000	16	6358	JAN 2006
3	6	Deloitte Consulting	3,286.30	535000	16	6358	ACCT 3751849931
3	6	Language Line Services - REMIT	2,521.74	535000	16	6358	902-1000172
3	6	SSI US Inc dba Spencer Stuart	2,434.05	535000	16	6358	ASSIGNMENT #165
3	6	Towers Perrin - REMIT	2,427.17	535000	16	6358	nov 2005

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3	6	Opinion Research Corporation-P	1,783.48	535000	16	6358	CUST ID 110747
3	6	International Business Machine	1,752.00	535000	16	6358	0217237-WP
3	6	Deloitte Consulting	1,543.37	535000	16	6358	ACCT 3751849931
3	6	Deloitte Consulting	1,439.80	535000	16	6358	ACCT 3751849931
3	6	NEI Global Relocation Co	1,382.68	575670	16	6758	300-1200 J MULS
3	6	United Way Camden	1,250.11	575140	16	6758	2004 United Way Campaign
3	6	AT & T	1,165.77	575742	16	6758	ACCT 8001 825 3
4	6	Misc Inv- E-town	3,200.67	501203		6018	SVC CO-E'TOWN 2
4	6	Language Line Services - REMIT	2,651.91	535000	16	6358	ACCT 9021000172
4	6	Ernst & Young	1,715.12	535000	16	6358	CLIENT 60105010
4	6	AT & T	1,167.58	575742	16	6758	80018253007
4	6	ADP	1,123.47	685430		0813	1Q06 TaxEst ThamesExpat
5	6	Ernst & Young	11,404.06	535000	16	6358	CLIENT # 601050
5	6	GC Services Limited Parnership	4,054.27	535000	16	6358	030106-033106
5	6	GC Services Limited Parnership	3,694.96	535000	16	6358	020106-022806
5	6	Penncro Associates Inc	3,678.95	535000	16	6358	AMW Alton
5	6	Elizabethtown Services	2,271.54	535000	16	6358	E-town 12/04-0
5	6	Opinion Research Corporation-P	2,259.65	535000	16	6358	110747
5	6	Language Line Services - REMIT	1,807.89	535000	16	6358	9021000172
5	6	AT & T	1,147.43	575742	16	6758	80018253007
5	6	AT & T Billing Operations Exte	1,142.77	535000	16	6358	40000016
6	6	Ernst & Young	13,735.50	535000	16	6358	CLIENT #60105010
6	6	Ernst & Young	9,057.24	535000	16	6358	CLIENT# 60105010
6	6	Ernst & Young	8,994.23	535000	16	6358	60105010
6	6	Ernst & Young	6,176.65	535000	16	6358	60105010
6	6	Penncro Associates Inc	4,041.43	535000	16	6358	May-06 billing
6	6	Penncro Associates Inc	3,810.20	535000	16	6358	feb-06 billing
6	6	GC Services Limited Parnership	3,718.72	535000	16	6358	Blaster Concept
6	6	Ernst & Young	3,283.31	535000	16	6358	CLIENT 60105010
6	6	Language Line Services - REMIT	2,159.33	535000	16	6358	9021000172
6	6	American Water Resources-REMIT	1,184.48	575742	16	6758	COMCAST MT LAUR
7	6	Ernst & Young	15,226.73	535000	16	6358	404 ADVISORY 1/
7	6	Penncro Associates Inc	3,808.11	535000	16	6358	billing period
7	6	Elizabethtown Water Co	2,649.29	501203		6018	ELIZABETHTOWN W
7	6	Language Line Services - REMIT	2,576.67	535000	16	6358	902-1000172
7	6	Thames Water Property Services	1,332.71	535000	16	6358	SERVICES 01-3/2
7	6	Kreischer Miller	1,097.60	532000	16	6328	client 60200
8	6	Iconics Inc - REMIT	6,920.00	675000	26	6758	order 120220
8	6	GC Services Limited Parnership	4,085.42	535000	16	6358	june 2006
8	6	Penncro Associates Inc	4,050.80	535000	16	6358	JUNE 06
8	6	GC Services Limited Parnership	3,954.32	535000	16	6358	PERSONAL CHGS M
8	6	Penncro Associates Inc	3,691.45	535000	16	6358	BILLING 7/31/06
8	6	Language Line Services - REMIT	2,279.53	535000	16	6358	9021000172

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8	6	Elizabethtown Water Co	1,576.78	501203		6018	SERVICE EMPLOYE
8	6	AT & T	1,191.82	575742	16	6758	80018253007
8	6	AT & T	1,145.85	575742	16	6758	80018253007
8	6	Percussion Inc-PO/REMIT	1,141.81	675000	26	6758	renewal
8	6	AT & T	1,129.00	575742	16	6758	80018253007
8	6	AWWA Research Foundation-REMI	1,008.00	535000	16	6358	PROJECT 03183
8	6	AWWA Research Foundation-REMI	1,008.00	535000	16	6358	PROJECT 03183
8	6	Resources Global Professionals	1,002.08	535001	16	6358	CLIENT #7154
9	6	Ernst & Young	18,681.74	535000	16	6358	CLIENT#60105010
9	6	Ernst & Young	16,466.23	535000	16	6358	PROJECT#1287362
9	6	Ernst & Young	14,342.50	535000	16	6358	PROJECT #126322
9	6	Ernst & Young	7,319.93	535000	16	6358	CLIENT #6010501
9	6	Ernst & Young	6,147.50	535000	16	6358	engagement No 1
9	6	GC Services Limited Parnership	3,760.38	535000	16	6358	July 2006
9	6	Language Line Services - REMIT	2,507.23	535000	16	6358	ACCT#9021000172
9	6	Insight Direct (Peripherals) -	1,654.33	675000	26	6758	1437311
9	6	Alliance Data Systems Inc -REM	1,382.12	535000	16	6358	ecis
9	6	Global Knowledge Network Inc-R	1,120.00	504670	16	6048	training
9	6	High Point Communications Grou	1,029.03	535000	16	6358	July 2006
10	6	Penncro Associates Inc	4,187.25	535000	16	6358	08/1/06-08/31/0
10	6	Language Line Services - REMIT	3,306.33	535000	16	6358	ACCT#9021000172
10	6	Itron-PO/REMIT	1,883.88	675000	26	6758	670736
10	6	Utility Business Services	1,814.40	535000	16	6358	Elizabethtown W
10	6	NEI Global Relocation	1,355.78	575670	16	6758	THOMAS PANICHEL
10	6	High Point Communications Grou	1,176.58	535000	16	6358	August 2006
10	6	Towers Perrin - REMIT	1,162.41	535000	16	6358	august 2006
10	6	High Point Communications Grou	1,132.13	535000	16	6358	SEPTEMBER 2006
10	6	Deloitte Tax LLP	1,019.74	532000	16	6328	acct 3756241660
11	6	Ernst & Young	12,497.16	535000	16	6358	60105010
11	6	Ernst & Young	11,598.95	535000	16	6358	60105010
11	6	Ernst & Young	8,745.99	535000	16	6358	CLIENT#6105010
11	6	Ernst & Young	8,337.84	535000	16	6358	60105010
11	6	Ernst & Young	6,587.25	535000	16	6358	INV US012324133
11	6	Penncro Associates Inc	3,961.23	535000	16	6358	september 2006
11	6	Ernst & Young	3,793.87	535000	16	6358	60105010
11	6	GC Services Limited Parnership	3,717.94	535000	16	6358	September 2006
11	6	GC Services Limited Parnership	3,717.94	535000	16	6358	9-1-06 to 9-30-
11	6	Ernst & Young	3,671.00	535000	16	6358	60105010
11	6	Language Line Services - REMIT	3,593.49	535000	16	6358	ACCT#9021000172
11	6	Ernst & Young	2,062.21	535000	16	6358	60105010
11	6	CNI Sales Inc - PO/REMIT	1,461.99	675000	26	6758	0031423
11	6	Global Knowledge Network Inc	1,173.47	675000	26	6758	software
11	6	Global Knowledge Network Inc-R	1,120.00	504670	16	6048	GKN

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12	6	Ernst & Young	25,937.39	535000	16	6358	C# 60105010
12	6	Ernst & Young	13,599.87	535000	16	6358	C# 60105010
12	6	GC Services Limited Parnership	4,197.45	535000	16	6358	oct 2006
12	6	GC Services Limited Parnership	4,084.38	535000	16	6358	aug 2006
12	6	Penncro Associates Inc	4,040.91	535000	16	6358	OCTOBER 2006
12	6	Deloitte Tax LLP - REMIT	4,032.00	535000	16	6358	interim billing
12	6	Penncro Associates Inc	3,980.50	535000	16	6358	NOVEMBER 2006
12	6	Ernst & Young	3,443.07	535000	16	6358	PRO# 13073286
12	6	Language Line Services - REMIT	3,343.18	535000	16	6358	ACCT#9021000172
12	6	Opinion Research Corporation-P	2,259.65	535000	16	6358	110747
12	6	SAP Deutschland AG & Co KG	1,899.61	675000	26	6758	ORD#10327189
12	6	IBM Corp-PO/REMIT Lease-Maint	1,228.75	675000	26	6758	CUST#021723700
12	6	AT & T	1,118.01	575742	16	6758	8001823007
12	6	Consolidated Technologies Inc`	1,064.54	675000	26	6758	MAINT AGRMNT 1/
12	6	United Way of Camden County	1,013.87	575140	16	6758	2006 United Way Match
1	7	Ernst & Young	14,909.26	535000	16	6358	60105010
1	7	Ernst & Young	12,077.07	535000	16	6358	60105010
1	7	Penncro Associates Inc	3,393.56	535000	16	6358	DEC 2006
1	7	Language Line Services - REMIT	2,550.54	535000	16	6358	ACCT#9021000172
1	7	Q Software Global Ltd	1,384.74	575715	16	6758	MAINTENANCE
1	7	Regulus Integrated Solutions L	1,310.85	535000	16	6358	1140000
1	7	Global Knowledge Network Inc-R	1,120.00	504670	16	6048	TRAINING
2	7	Ernst & Young	18,842.54	535000	16	6358	60105010
2	7	Ernst & Young	11,873.68	535000	16	6358	60105010
2	7	Ernst & Young	11,615.19	535000	16	6358	jan 2007
2	7	Ernst & Young	11,279.57	535000	16	6358	jan 2007
2	7	Ernst & Young	7,256.08	535000	16	6358	DEC 2006
2	7	Ernst & Young	5,890.11	535000	16	6358	jan 2007
2	7	Microsoft Licensing GP-REMIT	4,854.08	535000	16	6358	001225594
2	7	Ernst & Young	4,536.63	535000	16	6358	services
2	7	GC Services Limited Parnership	3,823.73	535000	16	6358	NOV 2006
2	7	GC Services Limited Parnership	3,619.67	535000	16	6358	dec 2006
2	7	Language Line Services - REMIT	3,012.69	535000	16	6358	ACCT#9021000172
2	7	Opinion Research Corporation-P	2,259.65	535000	16	6358	2007
2	7	Bissell, Keith Attorney	2,000.00	535000	16	6358	CONSULTING SVS
2	7	Bissell, Keith Attorney	2,000.00	535000	16	6358	feb 2007
2	7	Penncro Associates Inc	1,984.77	535000	16	6358	jan 2007
2	7	PC Helps Support LLC	1,792.00	535000	16	6358	support units
2	7	Labor, US Dept of - ERISA	1,764.60	575640	16	6758	CASE #063172D
2	7	Ernst & Young	1,399.32	535000	16	6358	DEC 2006
2	7	IBM Corp-PO/REMIT Lease-Maint	1,302.48	675000	26	6758	CUST#021723700/
2	7	Ernst & Young	1,025.51	535000	16	6358	DEC 2006
3	7	Ernst & Young	19,691.16	535000	16	6358	JAN 2007

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3	7	Ernst & Young	10,225.97	535000	16	6358	FEB 2007
3	7	Ernst & Young	9,966.69	535000	16	6358	JAN 2007
3	7	Champion Solutions Group	8,734.38	675250	26	6758	AMW06
3	7	Ernst & Young	6,589.08	535000	16	6358	FEB 2007
3	7	GC Services Limited Parnership	4,016.62	535000	16	6358	JAN 2007
3	7	NEI Globel Relocation Co	3,741.15	575670	16	6758	MOVING
3	7	Eloyalty Corp	3,141.57	531000	16	6318	FEB 2007
3	7	Language Line Services - REMIT	2,203.77	535000	16	6358	9021000172
3	7	Opinion Research Corporation-P	2,131.45	535000	16	6358	35107
3	7	Bissell, Keith Attorney	2,000.00	535000	16	6358	MAR07 CONSULTIN
3	7	Deloitte Tax LLP - REMIT	1,123.12	532000	16	6328	jan 2007
3	7	AT & T	1,098.15	575742	16	6758	80028253007
3	7	Deloitte Tax LLP - REMIT	1,066.69	535000	16	6358	SERVICES
3	7	Towers Perrin - REMIT	1,045.44	535000	16	6358	jan 2007
3	7	DLI ENGINEERING CORP. - PO/RE	1,031.08	675000	26	6758	warranty
4	7	Ernst & Young	15,973.77	535000	16	6358	60105010
4	7	Ernst & Young	15,640.60	535000	16	6358	60105010
4	7	Ernst & Young	11,052.03	535000	16	6358	60105010
4	7	Ernst & Young	10,212.00	535000	16	6358	client#60105010
4	7	Ernst & Young	10,143.98	535000	16	6358	60105010
4	7	GC Services Limited Parnership	3,956.26	535000	16	6358	staffing
4	7	GC Services Limited Parnership	3,618.76	535000	16	6358	AWW0207
4	7	Language Line Services - REMIT	3,579.65	535000	16	6358	9021000172
4	7	Bissell, Keith Attorney	2,000.00	535000	16	6358	services
4	7	Penncro Associates Inc	1,816.03	535000	16	6358	services
4	7	Deloitte Tax LLP - REMIT	1,327.66	535000	16	6358	SERVICES FEB 05
4	7	FECG LLC	1,107.20	575030	16	6608	RECRUITMENT COSTS
5	7	Ernst & Young	17,425.17	535000	16	6358	60105010
5	7	Ernst & Young	16,493.22	535000	16	6358	60105010
5	7	Ernst & Young	12,160.56	535000	16	6358	apr 2007
5	7	Ernst & Young	10,098.73	535000	16	6358	CLIENT # 60105
5	7	SAP America Inc (regional hdqt	4,808.08	675000	26	6758	ORD#10168987
5	7	GC Services Limited Parnership	4,071.86	535000	16	6358	AWW SERVICE CO
5	7	Language Line Services - REMIT	3,269.05	535000	16	6358	9021000172
5	7	SAP America Inc (regional hdqt	2,318.86	675000	26	6758	ORD#10168986
5	7	Penncro Associates Inc	1,593.65	535000	16	6358	services
5	7	Water for People - Denver	1,462.50	575140	16	6758	2007 Employee Match
5	7	Accenture, LLP-REMIT	1,346.40	535000	16	6358	april 07 instal
6	7	Ernst & Young	13,336.01	535000	16	6358	60105010
6	7	Ernst & Young	12,381.17	535000	16	6358	PROJECT 1281777
6	7	Ernst & Young	11,366.96	535000	16	6358	60105010
6	7	Ernst & Young	11,019.39	535000	16	6358	60105010
6	7	Ernst & Young	10,314.18	535000	16	6358	60105010

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6	7	Ernst & Young	8,963.37	535000	16	6358	60105010
6	7	Ernst & Young	8,371.49	535000	16	6358	60105010
6	7	Language Line Services - REMIT	3,054.33	535000	16	6358	9021000172
6	7	Alliance Data Systems Inc -REM	1,476.14	535000	16	6358	198180
6	7	Deloitte Tax LLP - REMIT	1,166.82	532000	16	6328	feb 2007
6	7	AT & T	1,128.46	575742	16	6758	80018253007
7	7	GC Services Limited Parnership	5,280.31	535000	16	6358	june 2007
7	7	GC Services Limited Parnership	5,156.99	535000	16	6358	may 2007
7	7	Language Line Services - REMIT	2,451.03	535000	16	6358	9021000172
7	7	Deloitte Tax LLP - REMIT	2,183.41	532000	16	6328	PROF SERVICES M
7	7	Bissell, Keith Attorney	2,000.00	535000	16	6358	consulting
7	7	Accenture, LLP-REMIT	1,346.40	535000	16	6358	1000142806
7	7	Accenture, LLP-REMIT	1,346.40	535000	16	6358	may 2007
7	7	Six Flags Over Mid America - R	1,314.56	504610	16	6048	Summer Fun: Six Flags
7	7	Eloyalty Corp	1,120.00	531000	16	6318	202928
7	7	AT & T	1,055.51	575742	16	6758	80018253007
8	7	Ernst & Young	22,374.88	535000	16	6358	60105010
8	7	Ernst & Young	16,892.85	535000	16	6358	60105010
8	7	Ernst & Young	10,046.47	535000	16	6358	60105010
8	7	Ernst & Young	8,489.66	535000	16	6358	60105010
8	7	Language Line Services - REMIT	2,513.17	535000	16	6358	9021000172
8	7	Salesforce.com	1,762.11	575715	16	6758	subscription
8	7	Eloyalty Corp	1,188.45	531000	16	6318	1570
9	7	Ernst & Young	21,141.46	535000	16	6358	60105010
9	7	Ernst & Young	8,759.82	535000	16	6358	60105010
9	7	Ernst & Young	7,791.51	535000	16	6358	12984761
9	7	GC Services Limited Parnership	5,514.22	535000	16	6358	CHARGES PER AGR
9	7	Language Line Services - REMIT	2,707.98	535000	16	6358	9021000172
9	7	Ernst & Young	2,608.16	535000	16	6358	60105010
9	7	Opinion Research Corporation-P	2,131.45	535000	16	6358	2007
9	7	North Highland Company, The	1,913.52	535000	16	6358	AWW05BPM
9	7	Accenture, LLP-REMIT	1,346.40	535000	16	6358	july 2007
9	7	Relevante Inc	1,202.00	535001	16	6358	harpster 8/26/0
9	7	Arbor Networks Inc	1,105.89	575715	16	6758	072407
9	7	AT & T	1,033.45	575742	16	6758	80018253007
9	7	AT & T	1,030.44	575742	16	6758	80018253007
10	7	Ernst & Young	25,536.15	535000	16	6358	60105010
10	7	Ernst & Young	7,767.59	535000	16	6358	60105010
10	7	GC Services Limited Parnership	5,324.31	535000	16	6358	AWW0807
10	7	GC Services Limited Parnership	4,922.67	535000	16	6358	sep 2007
10	7	ADP	2,892.47	685430		0813	2007 Est Tax Harris
10	7	Language Line Services - REMIT	2,404.50	535000	16	6358	9021000172
10	7	Global Knowledge Network Inc-R	2,240.00	504670	16	6048	100207

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Month	Year	Payee	TN Alloc Amt	Serv Co Obj	Serv Co Sub	USOA	Business Reason
10	7	ADP	1,743.12	685430		0813	2007 Est Tax Quarendon
10	7	Deloitte Tax LLP - REMIT	1,633.52	532000	16	6328	38740725
10	7	Deloitte Tax LLP - REMIT	1,532.34	532000	16	6328	8000510426
10	7	Sigma Communications LLC	1,172.52	575710	16	6758	24044
10	7	Ernst & Young	1,127.39	535000	16	6358	60105010
10	7	Exhibit Works Inc	1,010.89	575775	16	6751	29196
11	7	Ernst & Young	20,737.70	535000	16	6358	13406676
11	7	Ernst & Young	8,657.78	535000	16	6358	12817771
11	7	Language Line Services - REMIT	2,800.22	535000	16	6358	9021000172
11	7	Deloitte Tax LLP - REMIT	2,170.99	532000	16	6328	38740725
11	7	Deloitte Tax LLP - REMIT	2,070.23	532000	16	6328	38740725
11	7	Deloitte Tax LLP - REMIT	1,823.05	532000	16	6328	800546648
11	7	Itron-PO/REMIT	1,588.97	675000	26	6758	3109
11	7	Eloyalty Corp	1,344.69	531000	16	6318	1570
11	7	United Way of Camden County	1,254.09	575140	16	6758	2007 Company Match
11	7	AT & T	1,029.38	575742	16	6758	80018253007
12	7	Ernst & Young	21,541.77	535000	16	6358	60105010
12	7	Ernst & Young	12,438.27	535000	16	6358	60105010
12	7	Ernst & Young	9,813.01	535000	16	6358	60105010
12	7	GC Services Limited Parnership	5,760.70	535000	16	6358	aww1007
12	7	Ernst & Young	4,510.77	535000	16	6358	13406866
12	7	Ernst & Young	2,080.02	535000	16	6358	60105010
12	7	Accenture, LLP-REMIT	1,807.68	535000	16	6358	1000163786
12	7	Accenture, LLP-REMIT	1,794.24	535000	16	6358	1000168385
12	7	CNI Sales Inc - PO/REMIT	1,679.91	575715	16	6758	0031588
12	7	Accenture, LLP-REMIT	1,142.40	535000	16	6358	1000168377
12	7	Accenture, LLP-REMIT	1,132.32	535000	16	6358	1000163003
12	7	Consolidated Technologies Inc	1,064.54	675000	26	6758	maint
12	7	AT & T	1,027.17	575742	16	6758	80018253007
12	7	AT & T	1,023.03	575742	16	6758	2639255558
1	8	Ernst & Young	27,050.03	535000	16	6358	13406676
1	8	Ernst & Young	10,163.30	535000	16	6358	12817771
1	8	Ernst & Young	9,293.41	535000	16	6358	us0123588784
1	8	Ernst & Young	5,981.30	535000	16	6358	13406891
1	8	Ernst & Young	4,915.06	535000	16	6358	us0123588763
1	8	Language Line Services - REMIT	2,535.64	535000	16	6358	1000172-2007-11
1	8	Global Knowledge Network Inc-R	2,250.00	504670	16	6048	AMERICAN WATER
1	8	Ernst & Young	2,233.20	535000	16	6358	60105010
1	8	Accenture, LLP-REMIT	2,115.00	535000	16	6358	inv 1000172556
1	8	Language Line Services - REMIT	2,006.13	535000	16	6358	902-1000172
1	8	Accenture, LLP-REMIT	1,352.14	535000	16	6358	AMERICAN WATER
2	8	Ernst & Young	16,782.83	535000	16	6358	60105010
2	8	GC Services Limited Parnership	5,287.28	535000	16	6358	NOV 2007

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Month	Year	Payee	TN Alloc Amt	Serv Co Obj	Serv Co Sub	USOA	Business Reason
2	8	GC Services Limited Parnership	4,897.48	535000	16	6358	DEC 2007
2	8	Ernst & Young	4,199.09	535000	16	6358	PROJECT#1366646
2	8	Language Line Services - REMIT	2,468.07	535000	16	6358	inv 10001722008
2	8	Opinion Research Corporation-P	2,358.70	535000	16	6358	110377
2	8	Opinion Research Corporation-P	2,136.10	535000	16	6358	110747
2	8	Ernst & Young	2,055.12	535000	16	6358	CLIENT#60105010
2	8	Eloyalty Corp	1,836.25	531000	16	6318	PROJ 203119
2	8	Ernst & Young	1,479.47	535000	16	6358	CLIENT#60105010
2	8	AT & T	1,232.66	575742	16	6758	80018253007
2	8	AT&T	1,221.12	575742	16	6758	INV # 263967432
3	8	Ernst & Young	16,294.29	535000	16	6358	CLIENT#60105010
3	8	GC Services Limited Parnership	5,811.12	535000	16	6358	AWW0108
3	8	Ernst & Young	3,513.55	535000	16	6358	CLIENT#60105010
3	8	Language Line Services - REMIT	2,594.98	535000	16	6358	9021000172
3	8	Calence LLC	1,665.00	575740	16	6758	CUST#008134
3	8	Ernst & Young	1,468.75	535000	16	6358	CLIENT#60105010
3	8	Ernst & Young	1,396.10	575000	16	6758	inv us012363441

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Responsible Witness: Michael Miller

PART IV: QUESTIONS & REQUESTS REGARDING REVENUES, EXPENSES, TAXES, RATE BASE & MISCELLANEOUS

Question: EXPENSES

43. Provide all employee expense reports with invoices and receipts for the 27 months ended March 31, 2008 for the Corporate Office, Shared Services Center ("SSC"), Southeast Region, and other affiliated utility service companies by month.

Response:

The Company objects to this request on the grounds that it is over broad, unduly burdensome and seeks information that is not readily available to TAWC.

Subject to and without waiving these objections, TAWC provides the following response. TAWC and AWWSC no longer use paper expense reports. Rather, reimbursable expenses are tracked using purchase cards ("p-card") that are issued by the TAWC. Each p-card user has usage limits and provides receipts for purchases that are reviewed and electronically approved by the employee's supervisor. The volume of the information to comply with this request is voluminous and would require a very significant amount of time and expense to compile as requested. TAWC is willing to provide the CAPD with a sample of such documents.

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Responsible Witness: Michael Miller/Sheila Miller

PART IV: QUESTIONS & REQUESTS REGARDING REVENUES, EXPENSES, TAXES, RATE BASE & MISCELLANEOUS

Question: EXPENSES

44. Provide the amounts on the TRA 3.06 Surveillance Reports for December 2007, January 2008, February 2008, and March 2008 for Operations and Maintenance Expense by NARUC account, which are out of period, non-recurring, or should be normalized.

Response:

The following amounts are non-recurring and should be eliminated:

NARUC Account 6758 (575560.16 lobbying)	$300,00	(March 2008)
NARUC Account 6758 (575640.16 Penalties)	($18,244.00)	(December 2007)
NARUC Account 6758 (575640.16 Penalties)	15,460.93	(February 2008)
NARUC Account 6348 (534000.16 Mgmt Fees)	34,985.00	(December 2007)
NARUC Account 6348 (534000.16 Mgmt Fees)	64,292.00	(January 2008)
NARUC Account 6348 (534000.16 Mgmt Fees)	45,618.00	(February 2008)
NARUC Account 6348 (534000.16 Mgmt Fees)	43,654.00	(March 2008)

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Responsible Witness: Sheila Miller

PART IV: QUESTIONS & REQUESTS REGARDING REVENUES, EXPENSES, TAXES, RATE BASE & MISCELLANEOUS

Question: EXPENSES

45. Provide the TAWC Uncollectible Expense amounts in the following format from January 2007 through March 2008 by month:

(1)	(2)	(3)
Total Write Offs	**Cust. Payments**	**Net Write Offs**

Response:

Please refer to the Company's workpapers titled "TN-TRA-DR1-Q013-Uncollectibles page 1 and 2.pdf." filed in response to TRA DR 1 Question 13 for the uncollectible expense amounts through the historical test year ending November 2007. Below are the uncollectible expense amounts through March 2008.

	Total Write Offs	Cust. Payments	Net Write Offs
December 2007	$57,629.99	$3,924.51	$53,705.48
January 2008	$75,234.05	$6,852.65	$68,381.40
February 2008	$49,632.55	$9,534.14	$40,098.41
March 2008	$45,796.46	$5,729.84	$40,066.62
Total	$769,714.91	$86,219.59	$683,495.32

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Responsible Witness: Michael Miller

PART IV: QUESTIONS & REQUESTS REGARDING REVENUES, EXPENSES, TAXES, RATE BASE & MISCELLANEOUS

Question: EXPENSES

46. Provide the amount of rate case costs by NARUC account, by month, by payee in TRA Docket #06-00290. See M. Miller, Direct Testimony, page 21, lines 1-15. Reconcile your response to TN-TRA-Q013-DEFERRED RATE CASE EXPENSE, page 2 of 2.

Response:

See the attached schedule. All amounts are charged to NARUC account 186.

Tennessee American Water
CAPD DR 1, Part 4, Question 46
2006 Rate Case Expense

	Month	Total	Service Company	Legal	Cost of Money	Other	SCB Study	AMTZ	Cost of Ser Study
Moriah Group PV 41266315 - YR2006	03/06	1,450.00				1,450.00			
Service Company Bill Formula 100866 - YR2006	9/06	1,051.43	1,051.43						
Service Company Bill Formula 100866 - YR2006	9/06	753.96	753.96						
Service Company Bill Formula 100866 - YR2006	9/06	1,738.11	1,738.11						
Service Company Bill Formula 100866 - YR2006	9/06	2,419.76	2,419.76						
Gannett Fleming CO 41412084	9/06	2,465.00							2,465.00
Brattle Group PV 41420891 - YR2006	10/06	12,243.75			12,243.75				
James Saler PV 41420868 - YR 2006	10/06	3,607.34				3,607.34			
James Saler PV 41434895 - YR 2006	10/06	3,029.43				3,029.43			
Service Company Bill Formula 100866 - YR2006	10/06	1,341.22	1,341.22						
Baryenbruch & Comp PV41460062 YR 2006	11/06	24,530.00					24,530.00		
Brattle Group PV 41460063 - YR2006	11/06	11,855.00			11,855.00				
James Saler PV 41460017 - YR 2006	11/06	1,211.00				1,211.00			
Bass Berry & Sims PV 41459965 - YR2006	11/06	4,557.30		4,557.30					
Service Company Bill Formula 100866 - YR2006	11/06	101.87	101.87						
Gannett Fleming Companies	11/06	2,975.00							2,975.00
Gannett Fleming Companies	11/07	4,717.50							4,717.50
Bass Berry & Sims PV 41476377 - YR2006	12/06	186.55		186.55					
Brattle Group PV 41476286 - YR2006	12/06	24,229.50			24,229.50				
Service Company Bill Formula 100866 - YR2006	12/06	2,483.03	2,483.03						
Gannett Fleming Companies	1/07	3,996.38							3,996.38
Hardee's CC2891	1/07	2.63				2.63			
Office MAX CC2892	1/07	674.40				674.40			
Bass Berry & Sims PV 41496959 - YR2006	1/07	$15,156.67		15,156.67					
Brattle Group PV 41499623 - YR2006	1/07	$3,709.13			3,709.13				
Service Company Bill Formula 30791300 - YR2006	1/07	$953.41	953.41						
Brattle Group PV 41507527 - YR2006	1/07	$1,505.00			1,505.00				
Gannett Fleming Companies	1/07	$595.00							595.00
Office MAX CC2994	2/07	$372.01				372.01			
Office MAX CC2994	2/07	$826.49				826.49			
Office MAX CC2994	2/07	$39.68				39.68			
Baryenbruch & Comp PV41517494 YR 2006	2/07	$1,012.50					1,012.50		
Service Company Bill Formula 30795508 - YR2006	2/07	$16,865.01	16,865.01						
Gannett Fleming CO 41539249	3/07	$1,690.00							1,690.00
Bass Berry & Sims PV 41534510	3/07	$43,102.85		43,102.85					
Brattle Group	3/07	$1,206.25			1,206.25				
Service Co Expenses	3/07	$14,528.32	14,528.32						
Office Max	3/07	$79.37				79.37			
Rush Index Tabs	3/07	$435.81				435.81			
Gannett Fleming Companies	Apr-07	$720.00							720.00
Bass Berry & Sims - PV 41561515	Apr-07	$4,602.50		4,602.50					
Brattle Group - 41561507	Apr-07	$887.60			887.60				
Bass Berry & Sims - PV 41567747	Apr-07	$99,664.36		99,664.36					
Service Co Expenses - JB 30804880	Apr-07	$4,912.26	4,912.26						
Krystal Manchester -	May-07	$5.90				5.90			
Public Square Garage	May-07	$10.00				10.00			
Favorite Marke	May-07	$53.50				53.50			
Panera Bread	May-07	$138.71				138.71			
Office Depot	May-07	$89.29				89.29			
Office Depot	May-07	$41.50				41.50			
Southern Star Resteraunt	May-07	$91.39				91.39			
Southern Star Resteraunt	May-07	$129.71				129.71			
Mr T's Pizza	May-07	$63.20				63.20			
Southern Star Resteraunt	May-07	$7.56				7.56			
Southern Star Resteraunt	May-07	$106.14				106.14			
Groome Transport	May-07	$35.00				35.00			

Tennessee American Water
CAPD DR 1, Part 4, Question 46
2006 Rate Case Expense

	Month	Total	Service Company	Legal	Cost of Money	Other	SCB Study	AMTZ	Cost of Ser Study
Southern Star Resteraunt	May-07	$5.46				5.46			
Southern Star Resteraunt	May-07	$132.44				132.44			
Chatanooga Sandwich	May-07	$85.80				85.80			
Chatanooga Sandwich	May-07	$127.83				127.83			
Wal-Mart	May-07	$79.33				79.33			
Office Depot	May-07	$72.04				72.04			
Office Depot	May-07	$21.84				21.84			
Office Depot	May-07	$64.40				64.40			
Southern Star Resteraunt	May-07	$5.46				5.46			
Southern Star Resteraunt	May-07	$147.74				147.74			
Service Co. Bill	May-07	$5,178.44	5,178.44						
Chatt Times Free	May-07	$148.02				148.02			
Baryenbruch & Comp	May-07	$10,680.30					10,680.30		
James Salser	May-07	$1,857.87				1,857.87			
The Chatanoogan	May-07	$11,522.29				11,522.29			
Bass Berry Sims	Jun-07	$158,366.25		158,366.25					
Amortize rate case	Jun-07	($23,959.52)						(23,959.52)	
Recls Petty Cash	06/29/07	$6.00				6.00			
Gannett Fleming Companies	06/29/07	$7,207.68							7,207.68
Booz Allen Hamilton	06/29/07	$25,060.00				25,060.00			
Bass Berry & Sims	Jul-07	$350,731.35		350,731.35					
The Brattle Group	Jul-07	$38,559.74			38,559.74				
Bass Berry & Sims	Jul-07	$108,707.09		108,707.09					
James E Salser	Jul-07	$395.74				395.74			
Service Company Charges	Jul-07	$768.32	768.32						
Towers Perrin	Jul-07	$1,411.00				1,411.00			
Amortize rate case	Jul-07	($23,962.52)						(23,962.52)	
Bass Berry & Sims	Aug-07	$3,969.79		3,969.79					
Bass Berry & Sims	Aug-07	$10,408.11		10,408.11					
Amortize rate case	Aug-07	($23,959.52)						(23,959.52)	
Amortize rate case	Sep-07	($76,097.77)						(76,097.77)	
Amortize rate case	Sep-07	($49,325.48)						(49,325.48)	
Service Co. Bill	Sep-07	$501.74	501.74						
Adj. Amotize 06 rate case	Oct-07	$68,424.09						68,424.09	
Service Co. Bill	Oct-07	$821.21	821.21						
Amortize rate case	Oct-07	($22,054.16)						(22,054.16)	
Amortize rate case	Nov-07	($22,054.16)						(22,054.16)	
	TRF COS	($24,366.56)							(24,366.56)
	Total	$864,943.96	54,418.09	799,452.82	94,195.97	53,643.32	36,222.80	(172,989.04)	24,366.56
Balance of 2004 deferred rate case expense		$30,007.00							
		$894,950.96							

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Responsible Witness: Michael Miller

PART IV: QUESTIONS & REQUESTS REGARDING REVENUES, EXPENSES, TAXES, RATE BASE & MISCELLANEOUS

Question: EXPENSES

47. Provide all amounts for Incentive Payroll ("AIP") by AIP component: Financial, Operational, and Individual allocated and or directly charged to TAWC since its inception through March 2008 by month for expense amounts in the following format:

Capitalized Amounts:

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Year	**JDE Acct #**	**Account Description**	**Plant in Service Balance**	**Depreciation Rate**	**Accumulated Depreciation**	**Net Book Value**

Expense Amounts:

(1)	(2)	(3)	(4)	(5)
Year	**Month**	**NARUC Acct #**	**Account Description**	**Amount**

Response:

The Company objects to this question on the grounds that it is overbroad, unduly burdensome and requests information not readily available to TAWC. In order to comply with this request the Company would have to generate and compile information on over 1,300 employees of TAWC and AWWSC to determine the percentage breakdown of those AIP payments and then determine the allocation of those charges for each of the over 1,200 AWWSC employees who are subject

to charging a portion of there time to TAWC. The data is simply not available to TAWC in this format and to produce it would be unduly burdensome.

Subject to and without waiving these objections, TAWC provides the following response. The Company does not record the AIP with a breakdown between the three components of the AIP on its books and records.
However, please see the attached document that provides the requested information in the manner in which TAWC maintains it.

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AWWSC Allocated to TAWC

Expense Amounts:

Year	Month	NARUC Acct #	Account Description	Amount
2005	3	635.8	Cont Serv Other AG	126,815.69
2005	4	635.8	Cont Serv Other AG	-6,037.25
2005	5	635.8	Cont Serv Other AG	1,394.43
2005	6	635.8	Cont Serv Other AG	103.88
2005	12	635.8	Cont Serv Other AG	9,424.77
2006	1	635.8	Cont Serv Other AG	74.31
2006	2	635.8	Cont Serv Other AG	1,040.00
2006	3	635.8	Cont Serv Other AG	131,079.68
2006	4	635.8	Cont Serv Other AG	1,414.27
2006	5	635.8	Cont Serv Other AG	1,590.86
2006	6	635.8	Cont Serv Other AG	-66.12
2006	7	635.8	Cont Serv Other AG	21.51
2007	2	635.8	Cont Serv Other AG	10.76
2007	3	635.8	Cont Serv Other AG	142,598.67
2007	4	635.8	Cont Serv Other AG	1,775.77
2007	5	635.8	Cont Serv Other AG	-210.85
2007	6	635.8	Cont Serv Other AG	12.44
2007	7	635.8	Cont Serv Other AG	10.33
2007	8	635.8	Cont Serv Other AG	1,532.34
2008	1	635.8	Cont Serv Other AG	1,366.59
2008	3	635.8	Cont Serv Other AG	203,032.04
				$616,984.12

TAWC

Expense Amounts:

Year	Month	NARUC Acct #	Account Description	Amount
2005	3	601.8	Salaries-Empl AG	63,093.45
2005	4	601.8	Salaries-Empl AG	-31,234.54
2005	12	675.8	Misc Exp AG	18,750.16
2006	3	601.8	Salaries-Empl AG	49,505.32
2007	3	601.8	Salaries-Empl AG	88,775.74
2008	3	601.8	Salaries-Empl AG	148,051.95
				$336,942.08

Note:
The Company's practice is to pay out incentive payroll in March for the previous year. Some minor payouts or adjustments happened throughout the year.

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CONSUMER ADVOCATE AND PROTECTION DIVISION

Responsible Witness: Michael Miller

PART IV: QUESTIONS & REQUESTS REGARDING REVENUES, EXPENSES, TAXES, RATE BASE & MISCELLANEOUS

Question: EXPENSES

48. Provide the forecasted Incentive Payroll ("AIP") by AIP component: Financial, Operational, and Individual for the twelve months ended August 31, 2009, both allocated and or directly charged to TAWC amounts by NARUC account.

Response:

Please see the response to the previous question, CAPD-01-Part IV-Q47. The Company makes the same objections to the production of the requested data in the response as those objections raised in part 4, Question 47. Subject to and without waiving these objections, please see the following table which provides the totals for the AIP included in the attrition year in the Company's filing.

NARUC Acct - 6018

	Allocated	TAWC
8-Sep	10,313	9,234
8-Oct	10,313	9,235
8-Nov	10,313	9,235
8-Dec	10,313	9,235
9-Jan	10,314	9,235
9-Feb	10,314	9,235
9-Mar	10,314	9,235
9-Apr	10,314	9,235
9-May	10,314	9,235
9-Jun	10,314	9,235
9-Jul	10,314	9,235
9-Aug	10,314	9,235
	123,764	110,819

TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 08-00039
FIRST DISCOVERY REQUEST OF THE
CONSUMER ADVOCATE AND PROTECTION DIVISION

Responsible Witness: Sheila Miller

PART IV: QUESTIONS & REQUESTS REGARDING REVENUES, EXPENSES, TAXES, RATE BASE & MISCELLANEOUS

Question: EXPENSES

49. Provide all work papers, supporting documentation, and calculations used in the Company's calculation of Depreciation and Amortization Expenses per the books 12 Months ended 11/30/2007; Normalized Test Year; and Attrition Year per the Company's Accounting Exhibit No.2, Schedule 4, Lines 1 through 9, Page 1 of 2 in the format of the Company's Accounting Exhibit No.2, Schedule 4, Lines 1 through 65, Page 2 of 2.

Response:

See the attached depreciation calculation. The workpapers for the utility plant 13 month average balance are included in the Company's response to TRA DR 1 Question 13 and labeled as TN-TRA-01-Q013-RATE BASE BACK-UP pages 39 thru 46 of 52. The calculation of the amortization of CIAC is included in the workpapers labeled as TN-TRA-01-Q01-RATE BASE BACK-UP pages 14 thru 16 of 52.

Attrition Year Provision for Depreciation Expense
For Utility Plant in Service

Tennessee Regulatory Authority
Company: Tennessee-American Water Company
Case No:

Test Year: Twelve Months Ended: November 30, 2007
Exhibit No. 2, Schedule 4

Line No.	Account Number	Account Description	Depreciable Property at 11/30/07	Depreciation Rate	Normalized Test Year Depreciation Expense	13 Month Avg. Depreciable Property at End of Attrition Year	New Depreciation Rates	Attrition Year Depreciation Expense
1	339600	Comprehensive Planning Study	$405,132	20.00%	$81,026	0	0.00%	$0
2	304200	Pumping Structures	3,810,529	3.86%	$147,086	3,863,562	1.98%	76,499
3	304300	Water Treatment Structures	2,013,177	4.57%	$92,002	2,964,941	4.11%	121,859
4	304301	Water Treatment Structures-Painting	1,694,808	10.00%	$169,481	1,694,808	12.06%	204,394
5	304400	T & D Structures	524,790	3.51%	$18,420	524,790	2.13%	11,178
6	304600	Office Structures	149,174	3.98%	$5,937	306,629	1.13%	3,465
7	304700	Stores , Shop, & Garage Structures	312,642	4.65%	$14,538	312,642	0.73%	2,282
8	304800	Miscellaneous Structures	657,573	5.64%	$37,087	657,573	0.49%	3,222
9	306000	Lakes, Rivers, & Other Intakes	489,123	3.40%	$16,630	489,123	0.83%	4,060
10	309000	Supply Mains	602,664	5.92%	$35,678	603,834	1.87%	11,292
11	310100	Power Generation Equipment	227,422	3.44%	$7,823	227,422	12.33%	28,041
12	311200	Electric Pumping Equipment	5,662,338	1.73%	$97,958	5,717,338	2.45%	140,075
13	311300	Deisel Pumping Equipment	119,296	1.97%	$2,350	119,296	2.50%	2,982
14	311500	Other Pumping Equipment	268,063	3.94%	$10,562	317,113	1.83%	5,803
15	320100	Water Treatment Equipment	12,378,400	4.27%	$528,558	12,726,963	1.09%	138,724
16	320200	Granular Activated Carbon	0	36.42%	$0	0	0.00%	0
17	330000	T & D Reservoirs & Standpipes	5,137,849	1.80%	$92,481	5,564,977	2.08%	115,752
18	330003	T & D Reservoirs & Standpipes-Painting	1,710,126	10.00%	$171,013	1,994,569	11.08%	220,998
19	330100	Elevated Tanks & Standpipes	1,780,709	1.80%	$32,053	1,890,119	2.74%	51,789
20	330400	Clearwells	680,784	1.80%	$12,254	680,784	1.65%	11,233
21	331001	T & D Mains not Classified	1,950,624	1.41%	$27,504	2,217,881	1.50%	33,268
22	331100	T & D Mains - Mains (4" or less)	4,718,972	1.62%	$76,447	4,678,232	1.50%	70,173
23	331200	T & D Mains - Mains (6" - 8")	1,458	1.36%	$20	1,458	1.50%	22
24	331210	T & D Mains - Mains (6" - 10")	60,596,292	1.36%	$824,110	64,141,552	1.50%	962,123
25	331300	T & D Mains - Mains (10" - 16")	6,745,591	1.42%	$95,787	6,745,591	1.50%	101,184
26	331350	T & D Mains - Mains (12" or More)	23,581,824	1.42%	$334,862	25,916,974	1.50%	388,755
27	333000	Services	18,858,849	2.28%	$429,982	20,333,945	1.64%	333,477
28	334100	Meters	4,623,103	0.98%	$45,306	4,681,223	6.91%	323,473
29	334110	Meters-Metal Case/Old Style	12,651	2.45%	$310	1,324,025	6.91%	91,490
30	334120	Meters - Plastic Case	0	15.35%	$0	0	6.91%	0
31	334131	Meters-rem rdr	16,786	0.98%	$165	833,022	6.91%	57,562
32	334200	Meter Installations	10,950,262	1.64%	$179,584	10,810,746	3.23%	349,187
33	335000	Hydrants	7,420,322	2.21%	$163,989	8,077,845	2.63%	212,447
34	339200	Other P/E SS	8,526	5.92%	$505	8,526	0.00%	0
35	340100	Office Furniture	626,817	2.73%	$17,112	607,584	1.39%	8,445
36	340200	Computer & Peripheral Equipment	308,231	15.90%	$49,009	308,231	2.19%	6,750
37	340210	Computer & Mainfraim Equipment	603,486	15.90%	$95,954	603,486	2.19%	13,216
38	340220	Computer & Periph Personal	619,587	15.90%	$98,514	412,863	2.19%	9,042
39	340230	Computer & Periph Other	256,972	15.90%	$40,859	190,983	2.19%	4,183
40	340300	Computer Software	382,233	15.90%	$60,775	398,963	1.83%	7,301
41	340310	Computer Software Mainframe	3,535,059	15.90%	$562,074	3,535,059	1.83%	64,692
42	340320	Computer Software Personal	206,245	15.90%	$32,793	191,484	1.83%	3,504
43	340330	Computer Software Other	14,222	15.90%	$2,261	14,222	1.83%	260
44	340400	Data Handling Equipment	15,284	15.90%	$2,430	15,284	4.94%	755
45	340500	Other Office Equipment	137,210	4.07%	$5,584	92,691	1.39%	1,288
46	341100	Light Trucks	1,074,347	9.36%	$100,559	1,381,608	16.00%	221,057
47	341200	Heavy Trucks	733,952	9.99%	$73,322	953,058	16.62%	158,398
48	341300	Automobiles	254,777	10.54%	$26,853	299,015	11.38%	34,028
49	341400	Transportation-Other	237,242	0.70%	$1,661	237,242	7.24%	17,176
50	342000	Stores Equipment	43,392	4.98%	$2,161	43,392	0.00%	0
51	343000	Tools, Shop, & Garage Equipment	1,182,044	3.85%	$45,509	1,315,016	6.89%	90,605
52	344000	Laboratory Equipment	370,126	11.12%	$41,158	381,626	1.01%	3,854
53	345000	Power Operated Equipment	332,767	9.21%	$30,648	332,767	0.00%	0
54	346100	Communication Equipment	354,831	4.43%	$15,719	390,366	4.21%	16,434
55	346200	Communication Equipment-Telephone	155,731	14.91%	$23,219	92,350	3.51%	3,241
56	347000	Miscellaneous Equipment	1,075,581	2.89%	$31,084	1,097,181	6.33%	69,452
57	348000	Other Tangible Plant	4,918	2.89%	$142	4,918	5.10%	251
58		Amortization of CIAC			(169,437)			(186,427)
60								
61		Total Plant in Service	190,634,917		4,941,471	203,326,896		4,624,314
62					5,110,908			
63		Land	432,342		2.59%	671,496	432,342	2.27%
64		Cap Lease Asset	1,590,500			1,590,500		
65		Total UP	192,657,759			205,588,892	432,342	
		GL Balance	197,113,579					
		Walden's Ridge	-4,455,819					

TN-CAPD-01-PART IV-Q049-ATTACHMENT
Page 1 of 1

TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 08-00039
FIRST DISCOVERY REQUEST OF THE
CONSUMER ADVOCATE AND PROTECTION DIVISION

Responsible Witness: Michael Miller

PART IV: QUESTIONS & REQUESTS REGARDING REVENUES, EXPENSES, TAXES, RATE BASE & MISCELLANEOUS

Question: EXPENSES

50. Provide all work papers, supporting documentation, and calculations used in the Company's calculation of Depreciation and Amortization Expenses for the twelve months ended March 2004, December 2005, and February 2008 in the format of the Company's Accounting Exhibit No.2, Schedule 4, Lines 1 through 65, Page 2 of 2. The total amount should reconcile to the TRA Surveillance 3.06 report amounts, line 12, column (f).

Response:

The Company objects to this request on the grounds that it calls upon it to create or otherwise organize data regarding time periods outside of the Company's historical test year, seeks to have the Company create work product and seeks information that is not relevant to this rate case. The Company further objects to this request on the grounds that it is over broad and unduly burdensome, in particular, because the information requested is not readily available in the requested format and is extremely costly to gather and produce. The Company also objects to this request on the grounds that it detracts from the Company's ability to address and support its historical test-year data and the adjustments developed to arrive at a reasonable attrition year and is not required by the TRA's recognized rate case procedures.

The Company filed its petition, testimony, exhibits and workpapers fully supporting its case based on a test year ending November 30, 2007. Test year data and schedules were prepared specifically for the historical test year utilized in the Company's filing. This request seeks the compilation of data for the 12 months ended February 28, 2008, a test year (or twelve month period) after the Company's filing. It is unduly burdensome and fundamentally unfair to require the Company to respond to a data request that, in essence, requires the Company to completely redo the data collection and analysis required to file its petition based on a test year, or multiple test years, proposed by an Intervener, particularly when that test year includes dates after the petition was filed. The re-creation of every aspect of its case for multiple historical test years is not required by TRA rules and is not necessary for the CAPD to assess the Company's petition.

Subject to and without waiving these objections, the Company provides the following response. The Company does not have the data for the February 2008 period in the format requested (which would require the Company to produce an entirely different test-year for this data, including compiling it on the required filing exhibits of the TRA). The Company does not believe the requested December 2005 information requested is relevant to this case and does not have that data in the requested format. Please see the attached data for the period ended March 2004, which is the test year for TAWC's rate case number 04-00288 and the data provided as of June 2006, the test year for TAWC's rate case number 06-00290. The Company reconciliation of the 2004 and 2006 schedules to the TRA Surveillance Report is not readily available and not relevant to this proceeding.

Attrition Year Provision for Depreciation Expense
For Utility Plant in Service

Tennessee Regulatory Authority
Company: Tennessee-American Water Company
Docket No:

Test Year: Twelve Months Ended: March 31, 2004
Exhibit No. 2, Schedule 4

Line No.	Account Number	Account Description	Depreciable Property at 3/31/2004	Normalized Test Year Depreciation Expense	ADDITIONS	RETIREMENTS	Depreciable Property at Mid-Point of Attrition Year	Depreciation Rate	Attrition Year Depreciation Expense
1	303.99	Comprehensive Planning Study	$405,132	$81,026	0	0	$405,132	20.00%	$81,026
2	304.22	Pumping Structures	1,897,305	73,236	0	0	1,897,305	3.86%	73,236
3	304.31	Water Treatment Structures	1,706,175	77,972	0	0	1,706,175	4.57%	77,972
4	304.32	Water Treatment Structures-Painting	1,700,789	170,079	0	0	1,700,789	10.00%	170,079
5	304.40	T & D Structures	502,632	17,642	0	0	502,632	3.51%	17,642
6	304.51	Office Structures	151,528	6,031	0	0	151,528	3.98%	6,031
7	304.52	Stores , Shop, & Garage Structures	319,733	14,868	151,450	0	471,183	4.65%	21,910
8	304.53	Miscellaneous Structures	383,138	21,609	0	0	383,138	5.64%	21,609
9	306.20	Lakes, Rivers, & Other Intakes	281,452	9,569	0	0	281,452	3.40%	9,569
10	310.20	Power Generation Equipment	222,196	7,644	0	0	222,196	3.44%	7,644
11	311.22	Electric Pumping Equipment	5,676,202	98,198	0	0	5,676,202	1.73%	98,198
12	311.23	Deisel Pumping Equipment	119,296	2,350	0	0	119,296	1.97%	2,350
13	311.27	Other Pumping Equipment	5,145	203	0	0	5,145	3.94%	203
14	320.31	Water Treatment Equipment	12,260,179	523,510	0	0	12,260,179	4.27%	523,510
15	320.33	Granular Activated Carbon	0	0	190,000	0	190,000	36.42%	69,198
16	330.41	T & D Reservoirs & Standpipes	4,840,436	87,128	1,590,000	0	6,430,436	1.80%	115,748
17	330.42	T & D Reservoirs & Standpipes-Painting	551,948	55,195	0	0	551,948	10.00%	55,195
18	330.43	Elevated Tanks & Standpipes	170,895	3,076	0	0	170,895	1.80%	3,076
		330400 Clearwell	680,784						
19	331.40	T & D Mains not Classified	1,991,820	28,085	2,916,187	75,400	4,832,607	1.41%	68,140
20	331.41	T & D Mains - Mains (4" or less)	3,796,632	61,505	0	0	3,796,632	1.62%	61,505
21	331.44	T & D Mains - Mains (6" - 8")	826	11	0	0	826	1.36%	11
22	331.42	T & D Mains - Mains (6" - 10")	48,824,310	664,011	0	0	48,824,310	1.36%	664,011
23	331.45	T & D Mains - Mains (10" - 16")	3,087,274	43,839	564,972	12,758	3,639,488	1.42%	51,681
24	331.43	T & D Mains - Mains (12" or More)	19,813,012	281,345	0	0	19,813,012	1.42%	281,345
			102,029						
25	333.40	Services	14,819,223	337,878	438,083	0	15,257,306	2.28%	347,867
26	334.41	Meters	2,431,779	23,831	1,802,851	0	4,234,630	0.98%	41,499
27	334.42	Meters-Metal Case/Old Style	0	0	558,517	0	558,517	2.45%	13,684
28	334.43	Meters - Plastic Case	91,620	14,064	0	0	91,620	15.35%	14,064
29	334.44	Meters - Metal Case/New Style	130,726	1,281	56,000	59,339	127,387	0.98%	1,248
30	334.45	Meter Installations	6,608,879	108,386	0	0	6,608,879	1.64%	108,386
31	335.40	Hydrants	6,029,971	133,262	329,370	61,000	6,298,341	2.21%	139,193
32	339.00	Other P/E SS	8,526	505	0	0	8,526	5.92%	505
33	340.51	Office Furniture	519,029	14,169	0	0	519,029	2.73%	14,169
34	340.53	Computer & Peripheral Equipment	142,602	22,674	735,000	0	877,602	15.90%	139,539
35	340.56	Computer & Periph Personal	1,133,900	180,290	447,573	30,000	1,551,473	15.90%	246,684
36	340.57	Computer & Periph Other	137,208	21,816	0	0	137,208	15.90%	21,816
37	340.55	Computer Software	3,783,604	601,593	0	0	3,783,604	15.90%	601,593
38	340.58	Computer Software Personal	166,142	26,417	0	0	166,142	15.90%	26,417
39	340.59	Computer Software Other	89,590	14,245	0	0	89,590	15.90%	14,245
40	340.54	Other Office Equipment	137,196	5,584	127,200	0	264,396	4.07%	10,761
41	341.52	Light Trucks	1,127,656	105,549	0	33,500	1,094,156	9.36%	102,413
42	341.53	Heavy Trucks	697,241	69,654	0	0	697,241	9.99%	69,654
43	341.54	Automobiles	148,897	15,694	0	0	148,897	10.54%	15,694
44	341.55	Transportation-Other	35,388	248	0	0	35,388	0.70%	248
45	342.50	Stores Equipment	43,392	2,161	0	0	43,392	4.98%	2,161
46	343.50	Tools, Shop, & Garage Equipment	754,851	29,062	187,445	0	942,296	3.85%	36,278
47	344.50	Laboratory Equipment	351,219	39,056	0	0	351,219	11.12%	39,056
48	345.50	Power Operated Equipment	229,342	21,122	0	0	229,342	9.21%	21,122
49	346.51	Communication Equipment	321,298	14,234	0	0	321,298	4.43%	14,234
50	346.53	Communication Equipment-Telephone	141,250	21,060	0	0	141,250	14.91%	21,060
51	347.51	Miscellaneous Equipment	258,043	7,457	0	0	258,043	2.89%	7,457
52		Amortization of CIAC		(108,317)					(114,521)
53									
54		Total Plant in Service	149,829,441	4,051,107	10,094,648	271,997	158,869,279		4,437,415
55									

Attrition Year Provision for Depreciation Expense
For Utility Plant in Service

Tennessee Regulatory Authority
Company: Tennessee-American Water Company
Case No:

Test Year: Twelve Months Ended: June 30, 2006
Exhibit No. 2, Schedule 4

Line No.	Account Number	Account Description	Depreciable Property at 6/30/2006	Normalized Test Year Depreciation Expense	ADDITIONS	RETIREMENTS	Depreciable Property at Mid-Point of Attrition Year	Depreciation Rate	Attrition Year Depreciation Expense	
1	339600	Comprehensive Planning Study	$405,132	$81,026	0	0	$405,132	20.00%	$81,026	
2	304200	Pumping Structures	3,695,488	142,646	94,742	0	3,790,230	3.86%	146,303	
3	304300	Water Treatment Structures	1,707,760	78,045	69,500	128	1,777,132	4.57%	81,215	
4	304301	Water Treatment Structures-Painting	1,553,002	155,300	0	0	1,553,002	10.00%	155,300	
5	304400	T & D Structures	510,815	17,930	0	0	510,815	3.51%	17,930	
6	304600	Office Structures	149,174	5,937	0	0	149,174	3.98%	5,937	
7	304700	Stores , Shop, & Garage Structures	312,642	14,538	0	0	312,642	4.65%	14,538	
8	304800	Miscellaneous Structures	641,625	36,188	0	0	641,625	5.64%	36,188	
9	306000	Lakes, Rivers, & Other Intakes	281,452	9,569	0	0	281,452	3.40%	9,569	
10	309000	Supply Mains	514,274	30,445	108,000	35,000	587,274	5.92%	34,767	
11	310100	Power Generation Equipment	219,335	7,545	0	0	219,335	3.44%	7,545	
12	311200	Electric Pumping Equipment	5,714,839	98,867	375,735	71,450	6,019,124	1.73%	104,131	
13	311300	Deisel Pumping Equipment	119,296	2,350	0	0	119,296	1.97%	2,350	
14	311500	Other Pumping Equipment	25,516	1,005	0	0	25,516	3.94%	1,005	
15	320100	Water Treatment Equipment	12,324,130	526,240	0	0	12,324,130	4.27%	526,240	
16	320200	Granular Activated Carbon	0	0	0	0	0	36.42%	0	
17	330000	T & D Reservoirs & Standpipes	4,840,436	87,128	1,732,282	0	6,572,718	1.80%	118,309	
18	330003	T & D Reservoirs & Standpipes-Painting	997,416	99,742	745,091	177,500	1,565,007	10.00%	156,501	
19	330100	Elevated Tanks & Standpipes	170,895	3,076	0	0	170,895	1.80%	3,076	
20	330400	Clearwells	680,784	12,254	0	0	680,784	1.80%	12,254	
21	331001	T & D Mains not Classified	1,873,752	26,420	138,213	46,000	1,965,965	1.41%	27,720	
22	331100	T & D Mains - Mains (4" or less)	4,371,540	70,819	349,639	55,295	4,665,884	1.62%	75,587	
23	331200	T & D Mains - Mains (6" - 8")	1,458	20	438,010	61,000	378,468	1.36%	5,147	
24	331210	T & D Mains - Mains (6" - 10")	55,160,835	750,187	4,577,921	189,005	59,549,751	1.36%	809,877	
25	331300	T & D Mains - Mains (10" - 16")	6,071,675	86,218	687,054	181,500	6,577,229	1.42%	93,397	
26	331350	T & D Mains - Mains (12" or More)	20,712,682	294,120	1,417,172	0	22,129,854	1.42%	314,244	
27	333000	Services	17,119,151	390,317	1,250,706	37,470	18,332,387	2.28%	417,978	
28	334100	Meters	3,531,811	34,612	1,805,387	132,600	5,204,598	0.98%	51,005	
30	334120	Meters - Plastic Case	100,793	15,472	0	0	100,793	15.35%	15,472	
31	334130	Meters - Metal Case/New Style	130,241	1,276	0	0	130,241	0.98%	1,276	
32	334200	Meter Installations	8,191,429	134,339	855,290	16,000	9,030,719	1.64%	148,104	
33	335000	Hydrants	6,851,219	151,412	398,305	53,570	7,195,954	2.21%	159,031	
34	339200	Other P/E SS	8,526	505	0	0	8,526	5.92%	505	
35	340100	Office Furniture	591,837	16,157	153,500	3,000	742,337	2.73%	20,266	
36	340200	Computer & Peripheral Equipment	240,851	38,295	180,900	41,500	380,251	15.90%	60,460	
37	340210	Computer & Mainfraim Equipment	601,115	95,577	0	0	601,115	15.90%	95,577	
38	340220	Computer & Periph Personal	487,621	77,532	67,000	0	554,621	15.90%	88,185	
39	340230	Computer & Periph Other	192,291	30,574	0	0	192,291	15.90%	30,574	
40	340300	Computer Software	362,698	57,669	13,304	58,355	317,647	15.90%	50,506	
41	340310	Computer Software Mainframe	3,535,059	562,074	0	0	3,535,059	15.90%	562,074	
42	340320	Computer Software Personal	206,245	32,793	0	0	206,245	15.90%	32,793	
43	340330	Computer Software Other	14,222	2,261	0	0	14,222	15.90%	2,261	
44	340400	Data Handling Equipment	71,496	11,368	0	0	71,496	15.90%	11,368	
45	340500	Other Office Equipment	139,827	5,691	0	0	139,827	4.07%	5,691	
46	341100	Light Trucks	967,297	90,539	0	193,900	773,397	9.36%	72,390	
47	341200	Heavy Trucks	668,809	66,814	0	130,850	537,959	9.99%	53,742	
48	341300	Automobiles	176,996	18,655	0	39,800	137,196	10.54%	14,460	
49	341400	Transportation-Other	35,388	248	0	0	35,388	0.70%	248	
50	342000	Stores Equipment	43,392	2,161	0	0	43,392	4.98%	2,161	
51	343000	Tools, Shop, & Garage Equipment	1,042,747	40,146	219,779	30,900	1,231,626	3.85%	47,418	
52	344000	Laboratory Equipment	368,088	40,931	0	0	368,088	11.12%	40,931	
53	345000	Power Operated Equipment	250,922	23,110	0	0	250,922	9.21%	23,110	
54	346100	Communication Equipment	321,298	14,233	0	0	321,298	4.43%	14,233	
55	346200	Communication Equipment-Telephone	164,690	24,555	0	54,500	110,190	14.91%	16,429	
56	347000	Miscellaneous Equipment	1,012,035	29,248	13,800	0	1,025,835	2.89%	29,647	
57	348000	Other Tangible Plant	4,918	142	0	0	4,918	2.89%	142	
58		Amortization of CIAC		(148,797)					(163,076)	
60										
61		Total Plant in Service	170,488,966	4,497,524	15,691,330	1,609,323	184,570,973		4,745,117	4,908,193
62				4,646,321						
63		Land	431,912				431,912		2.5700%	
64		Cap Lease Asset	1,590,500							
65		Total UP	172,511,379				185,002,886			
		GL Balance	176,967,198							

TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 08-00039
FIRST DISCOVERY REQUEST OF THE
CONSUMER ADVOCATE AND PROTECTION DIVISION

Responsible Witness: Michael Miller

PART IV: QUESTIONS & REQUESTS REGARDING REVENUES, EXPENSES, TAXES, RATE BASE & MISCELLANEOUS

Question: EXPENSES

51. Provide the amount of net negative salvage for the twelve months ended March 2004, December 2005, and February 2008 in the format of the Company's Accounting Exhibit No.2, Schedule 4, Lines 1 through 65, Page 2 of 2.

Response:

The Company objects to this request on the grounds that it calls upon it to create or otherwise organize data regarding time periods outside of the Company's historical test year, seeks to have the Company create work product and seeks information that is not relevant to this rate case. The Company further objects to this request on the grounds that it is unduly burdensome, in particular, because the information requested is not readily available in the requested format and is extremely costly to gather and produce. The Company also objects to this request on the grounds that it detracts from the Company's ability to address and support its historical test-year data and the adjustments developed to arrive at a reasonable attrition year and is not required by the TRA's recognized rate case procedures.

The Company filed its petition, testimony, exhibits and workpapers fully supporting its case based on a test year ending November 30, 2007. Test year data and schedules were prepared specifically for the historical test year utilized in the Company's filing. This request seeks the compilation of data for the 12

months ended February 28, 2008, a test year (or twelve month period) after the Company's filing. It is burdensome and fundamentally unfair to require the Company to respond to a data request that, in essence, requires the Company to completely redo the data collection and analysis required to file its petition based on a test year, or multiple test years, proposed by an Intervener, particularly when that test year includes dates after the petition was filed. The re-creation of every aspect of its case for multiple historical test years is not required by TRA rules and is not necessary for the CAPD to assess the Company's petition.

Subject to and without waiving these objections, the Company provides the following response. See the Company's responses to TN-CAPD-01-Part II-Q34 and TN-CAPD-01-Part IV-Q31.

TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 08-00039
FIRST DISCOVERY REQUEST OF THE
CONSUMER ADVOCATE AND PROTECTION DIVISION

Responsible Witness: Michael Miller/Others

PART IV: QUESTIONS & REQUESTS REGARDING REVENUES, EXPENSES, TAXES, RATE BASE & MISCELLANEOUS

Question: EXPENSES

52. Provide the following American Water Works Company, Inc. Pension Plan amounts by calendar or fiscal year solely for TAWC operations from December 1998 through December 2008:

Accumulated benefit obligation

Change in projected benefit obligation:
Benefit obligation at beginning of year
Service cost
Interest cost
Actuarial loss (gain)
Benefits paid
Benefit obligations at end of year

Change in plan assets:
Fair value of plan assets at beginning of year
Actual return on plan assets
Employer contributions
Benefits paid
Fair Value of plan assets at end of year

Reconciliation:
Funded status
Unrecognized prior service cost
Unrecognized net loss
Net amount recognized

Response:

The Company objects to this request on the grounds that it is over broad, unduly burdensome and the information is not readily available to in the requested format.

Subject to and without waiving these objections, AWW provides pension benefits to eligible employees on a system-wide basis. The AWW Pension Plan Actuary does not prepare separate reporting for the elements of the pension plan on a subsidiary by subsidiary basis. To produce this data in the requested format would be a monumentally burdensome and costly task. Please see the attached schedule for the requested information for the AWW pension plan.

American Water Works Company, Inc. Pension Plan
Actuarial Valuation Summary
for the period January 1, 1999 to January 1, 2008

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Change in Projected benefit Obligation:										
Benefit Obligation beginning of year		487,619,392	441,278,753	303,657,035	369,746,726	451,089,099	592,811,967	679,402,488	761,549,837	864,093,226
Service Cost		13,888,016	11,429,377	13,000,684	15,862,597	18,984,540	23,524,019	24,675,893	21,951,921	25,214,558
Interest Cost		33,228,159	35,365,512	23,667,896	27,191,066	31,505,447	38,139,107	41,731,515	43,630,659	51,613,587
Actuarial Loss (Gain)		(85,357,239)	91,135,489	41,803,912	85,382,708	18,326,924	9,088,010	45,777,829	(21,087,238)	(9,070,615)
Benefits Paid		(19,227,638)	(13,300,000)	(2,483,069)	(4,591,784)	(7,338,130)	(14,751,277)	-	(22,733,961)	(28,331,669)
Other PBO Changes net		(11,128,063)	262,252,096	9,899,732	42,502,214	(80,244,087)	(30,590,662)	30,037,888	(80,782,008)	10,395,344
Benefit Obligation at end of year	487,619,392	441,278,753	303,657,035	369,746,726	451,089,099	592811967	679402488	761549837	864093226	893123743
Change in Plan Assets:										
Fair Value of assets at beginning of year	441,218,284	464,849,794	495,480,432	275,711,520	286,100,020	270,546,409	370,246,253	426,115,590	443,880,146	578,280,462
Actual Return on plan assets		49,858,276	5,817,585	(7,977,156)	(21,247,884)	55,218,298	34,475,652		50,856,333	27,252,035
Employer Contributions		-	-	-	6,150,000	12,800,000	16,042,830		50,450,000	50,787,850
Benefits paid		(19,227,638)	(13,300,000)	(2,483,069)	(4,591,784)	(7,338,130)	(14,751,277)		(22,733,961)	(28,331,669)
Other Changes net	-	-	(212,286,497)	20,848,725	4,136,057	39,019,676	20,102,132		55,827,944	-
Fair Value of plan assets at end of year	464,849,794	495,480,432	275,711,520	286,100,020	270,546,409	370,246,253	426,115,590	443,880,146	578,280,462	627,988,678
Reconciliation:										
Funded Status		(22,769,598)	54,201,679	(27,945,515)	(83,646,706)	(180,542,690)	(222,565,714)	(253,286,898)	(317,669,691)	(285,812,764)
Unrecognized prior service cost		1,835,384	1,663,099	1,490,814	2,697,643	2,457,397	3,278,306	4,396,400	2,896,927	3,100,748
Unrecognized net loss		(14,071,185)	(97,075,820)	(1,603,886)	41,553,778	128,299,247	146,631,024	155,716,377	201,496,863	180,409,625
Net amount recognized		(35,005,399)	(41,211,042)	(28,058,587)	(39,395,285)	(49,786,046)	(72,656,384)	(93,174,121)	(113,275,901)	(102,302,391)

TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 08-00039
FIRST DISCOVERY REQUEST OF THE
CONSUMER ADVOCATE AND PROTECTION DIVISION

Responsible Witness: Michael Miller

PART IV: QUESTIONS & REQUESTS REGARDING REVENUES, EXPENSES, TAXES, RATE BASE & MISCELLANEOUS

Question: EXPENSES

53. Provide the contract documents and paid invoices for the Management Audit amount of $285,000 described in TN-TRA-Q013-WORKING CAPITAL, on page 11 of 30. Include in your response the month and year starting date for the amortization of the Management Audit and the NARUC expense account charged for the monthly amortization.

Response:

Please see the attached documents. Please note the third invoice includes fees of $20,000 for the direct testimony of Mr. Van den Berg, which was not part of the fixed fee cost of preparing the study.

Booz | Allen | Hamilton

Joe Van den Berg
Vice President

Booz Allen Hamilton Inc.
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May 21, 2008

Mr. Michael Miller
Manager of Rates, Southeast Region
Tennessee American Water Company
P.O. Box 1906
Charleston, WV 25327

Dear Mr. Miller:

Thank you for the opportunity to submit our proposal for performing a management audit for the Tennessee American Water Company ("TAWC"), in response to an order from the Tennessee Regulatory Authority ("TRA"). Our proposal is comprised of five sections as outlined below which address the areas of focus defined in your request for proposal:

I. Our Understanding of the Situation

II. Approach and Deliverables

III. Resources, Timing, and Fees

IV. Additional Information

I. OUR UNDERSTANDING OF THE SITUATION

As part of its rate case completed on May 22, 2007, TAWC was ordered by the Tennessee Regulatory Authority ("TRA") to have a management audit performed in compliance with Sarbanes-Oxley requirements and to submit the audit results concurrent with any future rate case filing. This management audit, which will focus on 2005 and 2006 costs, is expected to be submitted with a TAWC rate case in March or April of 2008.

The scope of the management audit is limited to the charges billed by the American Water Works Service Company ("AWWSC") to TAWC, as management fees under the affiliated company contract of 1989 between AWWSC and TAWC. The audit should also address the need for AWWSC's Customer Call, Billing Center, and its

Transactional Accounting functions, as well as any duplication of these functions with TAWC provided functions.

II. APPROACH AND DELIVERABLES

Booz Allen Hamilton ("Booz Allen") is particularly well suited to address the requirements for TAWC's management audit. Booz Allen has performed work as recently as early 2007, supporting the analysis of the allocation of AWWSC's call center and billing costs to American Water affiliates. In this capacity, Booz Allen has developed an understanding of TAWC and its relationship with AWWSC as well as working relationships with both AWWSC and TAWC personnel. As such, we are well prepared to respond quickly and efficiently to the needs of TAWC.

Based on your Request for Proposal ("RFP"), we have identified the following five objectives of the management audit:

1. Determine whether the costs billed to TAWC resulted from prudent or imprudent AWWSC management and/or Board of Directors decisions
2. Demonstrate the reasonableness of the AWWSC to TAWC cost allocation methodology
3. Address the necessity of functions provided by AWWSC on behalf of TAWC
4. Determine the extent to which AWWSC provided functions overlap with TAWC provided functions
5. Provide an overall reasonableness assessment for the charges billed to TAWC by AWWSC

We have structured our work to directly address the objectives of the management audit and suggest providing an independent review of the following areas:

Analysis	Activities	Deliverables
Allocation Methodology	▸ Examine existing allocation methodology for regulated versus unregulated costs ▸ Define relationship between allocation factor(s) and underlying cost drivers ▸ Compare allocation methodology to other companies	▸ Evaluation of the reasonableness of the methodology for assigning AWWSC costs to TAWC
Activity Necessity and Benefits	▸ Develop comprehensive list of activities that comprise relevant AWWSC costs billed to TAWC ▸ Assess of the necessity of those	▸ Assessment of the reasonableness of the activities performed by AWWSC on behalf of TAWC

	activities against pre-defined attributes ▸ Assess the benefits for TAWC and its customers derived from the performance of those activities against pre-defined attributes	
Activity Duplication	▸ Compare activities performed by TAWC against activities performed by AWWSC to identify areas of potential duplication ▸ Evaluate whether activities are duplicative	▸ Assessment of potential activity duplication
Cost Management	▸ Map budgeting and cost control processes ay AWWSC ▸ Evaluate reasonableness of cost management processes	▸ Assessment of effectiveness of current cost management practices at AWWSC
Cost Trends	▸ Collect relevant AWWSC and TAWC cost data ▸ Collect key operational data (e.g., volumes, number and type of customers) ▸ Assess cost trends and cost levels	▸ Evaluation of cost trends to determine reasonableness

III. RESOURCES, TIMING, AND FEES

Mr. Joe Van den Berg, a Vice President in the Energy & Utilities (E&U) practice, will have overall responsibility for this engagement. He will be assisted by a Principal who has directly managed similar analyses for utilities over the last two years (Marco Bruzzano or Earl Simpkins). They will be supported by a full-time project manager and 2 consultants. Billings will indicate the number of hours worked and associated fees for the individuals assigned to this project, subject to the cap set forth below.

We will conduct the assessment over a six to eight week period, depending on availability of data. Given the desire to finalize the management audit by February 15, we propose starting as soon as the appropriate Booz Allen staff become available, with a target date of November 19, 2007.

We propose a fixed price contract for our professional fees of $285,000 based on the expected scope of work outlined above. Expenses (travel, lodging, transport, per diems, research, and report production) will be invoiced at actual cost, and are estimated at 15% of professional fees.

It is our practice to submit an invoice at the end of each month for our estimated fees and expenses for that month. We will reconcile estimated fees and expenses against those actually incurred following the completion of the assignment. Invoices are

payable upon receipt. Any out-of-pocket expenses to be incurred outside the normal expenses associated with business travel will be discussed with the Company prior to incurrence.

IV. Additional Information (as requested in Section C of the RFP)

Request	Response
Total estimated cost "not to exceed"	$285,000 (excluding expenses)
Qualification of professional employees	Resumes attached for • Joseph Van den Berg • Marco Bruzzano • Earl Simpkins • Sebastian Domenech • Eric Dowley
Listing of employees who may be able to provide expert testimony	• Joe Van den Berg
Hourly rates or fixed price contract	$285,000 fixed priced contract for professional fees (excluding expenses)
Estimate of hours of effort for each employee	Joe Van den Berg – 72 to 96 Marco Bruzzano – 96 to 128 Eric Dowley – 360 to 480 Associate – 360 to 480 Consultant – 360 to 480
Listing of potential changes of scope	Expanding dates for cost analysis to 2003 or 2004 to gain additional insights on cost trends

****

We appreciate being given the opportunity to respond to your request for proposal for this important assignment and believe we are well qualified to provide the expertise this engagement deserves. Should you have any questions, please call me at 703-902-3828.

Yours sincerely,

Booz Allen Hamilton Inc.

A. Joseph Van den Berg

A. Joseph Van den Berg

ACCEPTED AND AGREED TO THIS ____ DAY OF _____

Tennessee American Water Company

By: _____

Title:_____

JOE VAN DEN BERG

Summary

Mr. Van den Berg is a Vice President with Booz Allen at the McLean office. He has over 24 years of energy and consulting experience, with a focus on the strategic opportunities available to companies in uncertain regulatory climates. Additionally, he has strategy and operations experience in generation technology development, legislative and regulatory advocacy, marketing, economic regulation, customer operations, and market research.

Example Projects

- Regulatory Support for shared service Investments: Provided testimony in support of transition costs and ongoing O&M costs for investor-owned multi-national water company for its investments in customer care systems and infrastructure and financial systems.
- Business Unit Strategy: Led several engagements focused on developing retail strategies to serve the competitive states or provinces in which it operates. Analysis has included development of customer profitability models segmented by usage and buying characteristics, development of back office processes and systems and their related costs to serve models, matching of customer load profiles with supply availability, and customer segmentation models.
- Merger and Acquisitions: Directed merger and acquisition engagements focused on post merger integration planning including strategic framework development, synergy identification, and program management assistance. Scope also included providing expert witness testimony in state jurisdiction relating to the quantified benefits from the proposed transaction.
- Customer Operations: Directed several engagements focused on developing a customer care and operations strategy resulting in improving cost performance from bottom 25% to top 25%. Strategies implemented including standardizing business processes, simplifying governance and work activities, and implementing technology enablers. Additional scope has included leading strategy development for the potential outsourcing of the customer care functions. Roles have included scope definition, negotiation preparation and strategy, contract structuring, value proposition determination and business requirements creation.
- Business Unit Operations: Directed engagements relating to the organization and processes required to be successful in both the retail and delivery segments. Activities include management of marketing, sales and service technology integration platforms with the appropriate design of business intelligence transfer protocols, cost allocation requirements, process handoffs and interfaces, roles and responsibilities of marketing and sales functions.
- Business Transformation: Led business process redesign engagement focused on aligning business process with an integrated technology platform. Activities

included blueprinting and standardizing business processes to enable benefits from common processes, design and reporting, and functional alignment. Coordinated change management activities on enterprise level to facilitate training and knowledge transfer.

- Corporate Strategy: Developed growth strategies for integrated utilities including market entry strategies, acquisition target and screening and integration planning. Developed product and customer profitability models and pricing models to implement the strategies.
- Developed generation strategy for suppliers to the energy industry.
- Developed a market entry strategy for new generation technology.

Experience Prior to Booz Allen

Prior to joining Booz Allen, Mr. Van den Berg was a partner with Deloitte Consulting, with an emphasis in utility strategy and operations consulting. Prior to Deloitte, he was the Director of Electrotechnology Policy and Planning for the Edison Electric Institute (EEI) after starting his career with Potomac Electric Power Company.

Education

Joe Van den Berg received his MBA in Finance and Investments from George Washington University. He also holds a BS in Mechanical Engineering from Virginia Polytechnic Institute and State.

MARCO A. BRUZZANO

Summary

Mr. Bruzzano is a Principal with Booz Allen Hamilton, Inc. and has more than 15 years of experience in the energy industry. He has served utilities and petroleum clients globally on a broad range of topics, including corporate and business unit strategy, operations performance improvement, capital project optimization, and supply chain optimization.

Example Projects

- Supported the benchmarking and evaluation of processes for the Service Company of a large multi-state utility. Assesses cost trends and cost management practices. Defined activity necessity and benefits and assessed degree of overall between the Service Company and the Operating Companies. Evaluated cost allocation mechanism. Supported testimony development.
- Assessed cost trends and benchmarked costs for the Service Company of a different multi-state utility. Assessed budgeting and cost control process (including use of benchmarking). Supported testimony development.
- Led multiple engagements across an IPP's coal, gas, and oil-fired generation plants to significantly improve performance through cost reduction, capital investments, and improved operations / maintenance practices.
- Led an engagement to develop a commercialization strategy for a proprietary coal gasification technology.
- Led an engagement to identify operations performance improvement opportunities for the gas-fired generation portfolio of an IPP.
- Led multiple engagements to reduce contract service and material spend for generation plants across multiple categories (e.g, boilermaker services, scaffolding, waterblasting, piping, chemicals) for different utilities.
- Worked with utilities and petroleum companies to redesign capital project development and approval processes.

Experience Prior to Booz Allen

Prior to re-joining Booz Allen, Mr. Bruzzano was an Engagement Manager with McKinsey & Company, serving utility and petroleum clients globally. Mr. Bruzzano also worked for several years for Chevron USA, first as a design engineer and then as a long-range planner in the Richmond, Ca. refinery.

Education

Mr. Bruzzano received an MBA, with distinction, from Duke University, where he was a Fuqua Scholar, a Rollins Scholar, and the recipient of the General Motors Graduate Fellowship. He holds MS and BS degrees, with honors, in mechanical engineering from the Georgia Institute of Technology.

EARL SIMPKINS

Summary

Mr. Simpkins is a Principal with Booz Allen Hamilton. He is an experienced consultant who specializes in management, organizational, operational and financial issues. His areas of expertise include electric and gas utilities, mergers and acquisitions, business transformation and shared services.

Example Projects

- Earl led an effort to assess the reasonableness of utility service company costs to an affiliate. The assessment involved assessing the reasonableness of A&G costs across nine dimensions. The study concluded with a 10 section report supporting the A&G costs in such areas as necessity and benefit, duplication and overlap, cost comparability (benchmarking and self-performance), budget and control, cost trends and other elements to develop opinions as to the reasonableness of A&G costs. The final deliverables included developing cover testimony (to the report), the report and a set of backup books supporting the testimony and report.
- Earl led an effort to assess the necessity and benefit and outsourcing framework of A&G costs provided by a utility's service company. The effort involved understanding the nature of the activities performed by the services company and understanding the approach. The final deliverable included testimony describing the nature, necessity and benefits of service company activities (and associated costs).
- Earl led an effort to identify process improvements and establish a shared services organization for the Information Technology group of a major utility. From a performance improvement standpoint, the assessment included evaluating current operations, identifying end-state goals, documenting process gaps and developing the new process design. Once processes were optimized, the analysis turned towards the establishment of the shared services organization, creation of service-level agreements and establishing product and service costs. The ultimate result was $5 million in savings and signed service-level agreements / contracts.
- Earl has experience with multiple merger integrations, working with various functional teams to identify best practices, document / map current processes and process gaps, develop process improvements and supporting organization structure and quantify process improvement savings. This work also involves the development of merger savings tracking tools and associated implementation milestone tracking. The conclusion of the work is the development of a functional or process business case that is integrated with the larger merger integration business plan and merger progress reporting capabilities through the tracking tools.
- Earl led several assignments concerning the assessment of synergies for two (or more) utilities considering a merger or acquisition. The impact of the

combination was evaluated across labor, non-labor / corporate programs, energy supply and procurement opportunity areas. The conclusion is a board-level report summarizing savings associated with the transactions with comparisons to previous transactions and summary descriptions of the nature of savings by area.

- Earl led efforts to identify both Finance and Transmission Business Unit process improvement. These improvements resulted in increased process execution efficiency as well as organizational structure changes which Earl advised. The conclusion of the effort resulted in reduced expenses and improvements in process execution.

Experience Prior to Booz Allen

Prior to joining the firm, Mr. Simpkins was with Deloitte Consulting. He was in the Utilities practice, focusing on mergers and acquisitions, merger integration, business transformation/performance improvement, shared services and strategy.

Education

Mr. Simpkins received an MBA degree from Harvard University. He also holds a BS degree in Accounting from Florida A&M University.

SEBASTIAN DOMENECH

Mr. Domenech is Senior Associate with Booz Allen Hamilton, based in the Dallas office. He is a member of the Strategy Team. Mr. Domenech's background has helped him develop expertise in Energy, Telecom and Not-For-Profit sectors. His functional expertise includes Growth Strategy, Competitive Analysis, Synergies Assessment, Organization & Operational Model Design, and Systems Implementation. Previous assignments with Booz Allen Hamilton include:

Example Projects

- Assessment of cost reasonableness for cost recovery rate case for two large electric utilities. Mr. Domenech's work included performing due diligence to evaluate the necessity and reasonableness of service company charges billed to the utilities operating companies. Analyses included evaluation of budgeting and control processes, and evaluation of cost reasonableness through benchmarking and trending analyses
- Growth strategy and competitive analysis for a major electric utility. Performed research on new business opportunities, evaluated the attractiveness of creating a technology consortium, and performed high level competitive analysis to predict strategic moves of potential competitors
- Evaluation of contracting strategy for the construction of new nuclear power plant in U.S. Mr. Domenech participated in the design and execution of broad study of the marketplace for Mega-projects in the U.S. Study involved comprehensive desk research, and over 40 interviews with key participants of the Mega-projects marketplace, with the objective of understanding latest trends and current state of supply-demand balance of EPC services and the most prevailing terms and conditions being negotiated
- Synergy assessment for a large electric utilities merger. Mr. Domenech calculated the potential savings in materials & supplies purchasing, contracted services and professional services. Mr. Domenech also evaluated potential operational improvements through an industry wide benchmarking study
- Redesign and pilot implementation of operational model for global NGO dedicated to tackling the causes of poverty. Mr. Domenech participated in the design of new strategy development framework and the pilot implementation of the new process in the Latin America and Caribbean region. His work included developing a resource allocation model, designing economic models to evaluate operational costs, and structuring the work of two teams that participated in the pilot implementation of new operational model
- Competitive analysis of spend level and organizational practices of Government and Public Affairs (GPA) functions for oil & gas major. Mr. Domenech participated in the design and execution of benchmarking study, which involved intensive research to understand comparative levels of spend in corporate contributions, corporate advertising and GPA staffing. Study also required

interviews with GPA specialists of key peer companies, in order to identify best practices in GPA activities

- Growth strategy for the private equity arm of a large industrial conglomerate. Mr. Domenech's work included performing research and analysis to identify growth platforms across the entire energy value chain, on a global scale. His work focused mainly in evaluating opportunities in upstream and midstream Oil & Gas space, as well as biofuels production in *U.S. and Europe*
- Synergy assessment to evaluate the potential purchase of gas assets for a fast growing utility. Mr. Domenech refined a model to calculate potential savings through the acquisition of two gas distribution assets and created a model to analyze potential staff reductions. His work also included writing a Memorandum of Information required for the sale of a business division

Experience Prior to Booz Allen

Prior to joining Booz Allen Hamilton, Mr. Domenech spent four years with ExxonMobil. Mr. Domenech was a member of a team that streamlined HR processes and implemented a new HR system for *24 countries in Latin America.* During his expatriate assignment in *Rio de Janeiro, Brazil,* Mr. Domenech led the implementation of the HR Compensation and Organizational Management modules of the new HR system and played a key role in the implementation of the business workflows for the Finance & Accounting system.

Prior to that, Mr. Domenech was the specialist in HR Compensation & Benefits for *Argentina, Uruguay and Paraguay.* While holding this position, Mr. Domenech played a key roll in supporting the *European and Asian* HR teams during their transition to their newly implemented systems.

Mr. Domenech's earlier work experience includes performing financial modeling for business prospects for the largest steel group in Argentina, and working with the operations management group at Pirelli tires of Argentina.

Education

Mr. Domenech earned an MBA with high distinction from the Stephen M. Ross School of Business, at the University of Michigan. As a student, Mr. Domenech worked on an engagement in *Lisbon, Portugal* with Portugal Telecom SGPS, where he evaluated the U.S. venture capital market and telecom environment as avenues for revenue growth and partnerships. Mr. Domenech's undergraduate studies were in Industrial Engineering from the University of Buenos Aires (UBA), where he graduated within the top 5% of his class.

ERIC P. DOWLEY

Summary

Mr. Dowley is a Senior Associate with Booz Allen Hamilton, Inc. and has more than 5 years of consulting experience in the energy industry. He has served utility clients across the U.S. on a broad range of topics, including business unit strategy, operational performance improvement, and organization and process design and change.

Example Projects

- Led the analysis of costs incurred through a shared services organization on behalf of one of its regulated utility affiliates. Utilized a framework to analyze and assess the performance of the organization. Developed materials and testimony to explain and support the increasing cost trend due to factors that had not previously been considered.
- For a major US utility holding company, led the analysis and visioning stages of an organizational transformation program. Managed the analysis of historical performance, future capital challenges and changes in the employee base to demonstrate the need for an organizational change. Also developed a decision framework for planning the scope, structure, execution and staffing of a transformation program. Additionally, the team helped define the end state goals for the effort.
- Assisted in the cost reasonableness assessment of a major US utility shared services organization to support a rate case filing. This involved modeling cost trends within each service area over time and developing a view to explain why costs are reasonable. The team developed an understanding of each activity performed by the services company on behalf of the operating companies to show the value to the utility. The team also developed a model to estimate the value of providing these services through a shared services organization rather than independently.
- Developed a wholesale portfolio strategy for a major US IPP, guided by the efficient frontier concept. This involved modeling asset-level performance under various scenarios. Additionally, the team assessed the benefits of scale and scope and the trade-offs between them in wholesale portfolio design. The team recommendations focused on regional opportunities to create portfolio value.
- Created a cost structure model for a coal supplier to a major US utility.
- Managed an engagement to identify and quantify risks facing a major electric and gas utility, helping to focus human and capital resources.
- Evaluated the financial and operational performance of a comprehensive outsourcing arrangement for a major US utility to re-align roles and responsibilities.
- Participated in the offering and eventual sale of power plants, supply services and tolling agreements for several US and foreign utilities. On these projects, Mr.

Dowley focused on developing valuation models and managing due diligence procedures.

Experience Prior to Booz Allen

Prior to joining Booz Allen, Mr. Dowley was a Manager in the Advisory Services practice at KPMG, LLP, serving global utility clients. He has had significant experience in the identification, quantification and mitigation of risk across utility operations. In the utility industry, he led engagements focused on the improvement of capital budgeting processes, finance and accounting processes and meter to cash processes. Mr. Dowley has also led, or been involved with, several initiatives to identify and implement cost reduction measures. Mr. Dowley also has experience working for Navigant Consulting and TD Securities.

Education

Mr. Dowley received an MBA from Georgetown University's McDonough School of Business. He holds a BA degree, with honors, in economics from Hobart College.

Non-Disclosure Agreement

During the course of discussions between American Water Works Service Company, Inc. (AW) and Booz - Allen - Hamilton ("Supplier") relating to and for the purpose of proposing and evaluating potential supply agreements, each company may disclose to the other information it considers proprietary and confidential ("Confidential Information"). Confidential Information includes (a) all information provided by AW relating to contract terms and the identity, kind, quality and quantity of materials for which bids are sought, (b) the price submitted by each Supplier when taken together with the identity of that Supplier, and (c) all other information in tangible form marked by the disclosing party as confidential or which the disclosing party orally indicates is confidential if such information is provided orally. The company providing the Confidential Information is the "Provider" and the company receiving it is the "Recipient". We each agree, as a Recipient, as follows:

Recipient will use the Confidential Information of the Provider only in the furtherance of the purpose described above and will protect the confidentiality of Provider's Confidential Information in the same manner it protects the confidentiality of its own proprietary and confidential information.

Recipient will restrict disclosure or availability of the Confidential Information to only those subsidiaries, and employees (and, in AW's case, consultants contracted to assist in the overall evaluation and selection of qualified suppliers) who (a) have a need to know based on participation in and contribution to the project with Provider and who (b) have been informed by Recipient of Provider's proprietary interest and of Recipient's obligations of confidentiality.

Recipient is not prohibited or limited in the use of information (included but not limited to ideas, concepts, know-how, techniques, and methodologies) (I) previously known to it, (II) independently developed by it, (III) acquired by it from a third party which was not, to the best of the Recipient's knowledge, under an obligation to Provider not to disclose such information, or (IV) which is or becomes publicly available through no breach by Recipient.

Recipient shall be responsible and liable to Provider for any breach of this agreement by Recipient, including without limitation any of its affiliates, subsidiaries, directors, officers, or employees. We both recognize and acknowledge that any breach or threatened breach may result in irreparable injury to Provider for which monetary damages may be an adequate remedy, and Provider shall be entitled (without proving monetary damages) to temporary and/or permanent injunctions from a court restraining such breach or threatened breach. Injunctive relief shall not be deemed to be the exclusive remedy for any such breach or threatened breach of this Agreement, but shall be in addition to all other remedies available to Provider at law or in equity. The rights and obligations provided in this Agreement shall continue whether or not the parties enter into a supply agreement.

Agreed and Accepted by:		
Company Name	American Water	Booz Allen Hamilton
By:	Joseph C. Magee	A. Joseph Van den Berg
Title:	Senior Strategic Buyer	Vice President
Date:	10/25/06	10/27/06
Signature:		A. Joseph Van den Berg

CONTRACT APPROVAL FORM

Section I: General Contract Information

☐ CHECK THIS BOX IF THIS IS AN AMERICAN WATER STANDARD CONTRACT (NO CHANGES MADE) Contracts Non-Std RL

1) Contract Name*: Booz Allen Audit 2) Contract Number: _____

3a) Contract Owner* Michael Miller Phone number*304-340-2009

3b) Contract Owner taking responsibility after the contract is signed (if different than original Contract Owner).

Same Phone number Same

4) Secondary contact name and phone number Rochelle Kowalski/Tom McKitrick

5) Physical location of document(s) (office location and department name)*:
Southeast Region Rates – Charleston WV

6) Name of the American Water company entering into the contract*: Tennessee-American Water

7) Other company or companies signing the contract*: Not Applicable

8) Contract description*. Management Audit of TAW AWW Service Company charges as Ordered by the Tennessee Regulatory Authority

9) Relationship to other contracts (amendment, change order with new terms, etc.)*: Not Applicable

10a) Estimated Lifetime Contract Payments* $285,000

10b) Estimated Lifetime Contract Receipts* $_____

Estimated Lifetime Contract Payments should be expressed in gross

11) Effective Date*: 12 / 10 / 2007 Ct Execution RL

12) Renewal terms* (check one). ☐ Perpetual unless cancelled ☐ Annual automatic renewal unless cancelled
☐ Monthly automatic renewal unless cancelled X Not renewable
☐ Renewable with prior notice (notice date: ____/____/____)
☐ Other (describe on item 15)

13) Termination Date*: Contract for specific actions related to report to be filed with the 2008 TAWC rate case, includes no termination clause

14) Termination provisions* (check all that apply):
☐ At-will by either party ☐ At-will by AW only
☐ At-will by other party only ☐ For cause by either party
☐ For cause by AW ☐ For cause by other party
X No termination provisions in contract

15) Miscellaneous Notes: Have included specific confidentiality addendum due to sensitivity of data

*Mandatory information

CONTRACT APPROVAL FORM

16) Contract Type* (check only one box):
NOTE: See Appendix 1 for a description of each contract type
Contract types marked with an "F" require the prior input and approval of the Finance Department
Contract types marked with an "F$" require the prior input and approval of the Finance Department if the total value exceeds $100,000
Contract types marked with a "P" require the prior input and approval of the Supply Chain Department
See Instructions for description of approval process

☐	(F)(P)	Benefit/Pension Agreement
☐		Billing/Shut-Off Agreement
☐	(F)	Debt/Securities Agreement
☐		Confidentiality Agreement
☐	(F$)	Construction Agreement
☐		Developer Service/Main Extension Agreement
☐	(F$)	Easement Agreement
☐	(F)	Employment Agreement
☐	(F)	Environmental Agreement
☐	(F)	Financial Agreement
☐		Fire Protection Agreement
☐	(F)	Franchise Agreement
☐	(F)	Joint Venture Agreement
☐		Labor Agreement
☐	(F$)(P)	Lease Agreement
☐	(P)	License Agreement
☐	(F)	Merger/Acquisition/Disposition Agreement
X	(F)	Miscellaneous Agreement
☐	(F)	Operating Agreement
☐	(F$)(P)	Purchase/Sale Agreement
		Rate Agreement
☐	(F$)(P**)	Serv ices Agreement
☐	(F)	Settlement Agreement
☐	(P)	Supply Agreement
☐	(F)	Water Supply/Wastewater Agreement

**- Only when the company is receiving the services

17) If the contract contains a payment commitment by AW in future years (such as a long-term supply agreement or lease), fill out the following schedule*:

Year	Commitment Amount (in $'s)
2007	
2008	$285,000
2009	
2010	
2011	
2012	
2013	
2014	

Year	Commitment Amount (in $'s)
2015	
2016	
2017	
2018	
2019	
2020	
2021	
2022 and beyond	

*Mandatory Information

CONTRACT APPROVAL FORM

Section II: Approvals

Business Unit Review:

CONTRACT OWNER*

Michael A. Miller — 10/10/07

(Name) (Signature) (Date)

By checking this box, Contract Owner represents he/she has reviewed the Delegation of Authority and is authorized to sign the contract: ☐

CONTRACT SIGNER (only if Contract Owner does not have authority to sign contract pursuant to the DOA; see instructions)

Michael A. Miller — 10/10/07

(Name) (Signature) (Date)

Comment (use back if necessary)

Law Department Review by:

ATTORNEY*

A. W. Turner — 12/11/07

(Name) (Signature) (Date)

Comment (use back if necessary)

Finance Department Review by:

Rochelle Kowalski — 12/12/07

(Name) (Signature) (Date)

Comment (use back if necessary)
- Two Agreements
- Verbal Intent Owner signed 12/10/07

Check box if Finance Department review is not required: ☐

Supply Chain Department Review by:

(Name) (Signature) (Date)

Comment (use back if necessary)

Check box if Supply Chain Department review is not required. ☒

*Mandatory Information

Finance Review Form

The objective of the Finance Department review of contracts is to ensure the accounting and financial statement disclosures are correct. The contract review will be the responsibility of one defined person in each Business Unit (Region, AWE and Service Company/Corporate). This identified reviewer will be the primary contact for contract review and will review each contract as necessary or assign the review to someone else in the Finance Department / SSC Accounting as appropriate. For example, the contract reviewer may assign the review of a contract to a State Financial Analyst or the Director of Accounting for the Business Unit.

The identified reviewer will review the monthly index of contracts and perform a risk assessment based on the type of contract and value. Contract types which are generally identified as high risk require finance review prior to contract execution. The following provides examples of potential areas of exposure or situations in which additional review may be needed.

	YES	NO
Existence of Debt or Other Financial Covenant	☐	☑
Existence of Off-Balance Sheet Financing	☐	☑
Existence of Derivative or Option	☐	☑
Existence of Financial Guarantee / Letter of Credit	☐	☑
If yes, who is the benefactor? _____		
Existence of Asset Retirement Obligation	☐	☑
If yes, what is the estimated obligation? _____		
Existence of Future Purchase Commitment If yes, please complete schedule below	☐	☑
Existence of a Lease If yes, are we the lessor or lessee (circle one)? If lessee, please complete schedule below If yes, is it capital or operating (circle one)?	☐	☑
Does the contract represent a significant variable (economic) interest requiring additional analysis (Re: Fin 46) If yes, please contact Corporate Accounting	☐	☑
Does the contract represent a related party (ie., relative, affiliate, subsidiary) transaction	☐	☑
If yes, describe the related party _____		
Is this a material contract entered into other than in the ordinary course of business that may require disclosure on SEC Form 8-K If yes, please contact a representative in the Law and Corporate Accounting Departments	☐	☑
Validated accounting is set-up and transferred from the contract owner to the appropriate department — see below	☐	☐
Confirm Financial Planning & Analysis is aware of contract terms and conditions — see below	☐	☐

Relationship to other contracts: _____

Miscellaneous Notes: Required by Acct Firm Acct 1X6453

If there is a future obligation, purchase commitment or lease, complete the following schedule:

Year	Commitment Amount (in $'s)
2004	
2005	
2006	
2007	
2008	
2009	
2010	
2011	

Year	Commitment Amount (in $'s)
2012	
2013	
2014	
2015	
2016	
2017	
2018	
2019 and beyond	

Signature: _____ Date: 12/12/17

1/21/08

V#50385748

Booz | Allen | Hamilton

INVOICE NUMBER: 222003838
JOB NUMBER: B19053006000010000000
(Please include on payment)

MICHAEL MILLER
MANAGER OF RATES, SOUTHEAST REGION
WEST VIRGINIA AMERICAN WATER
1600 PENNSYLVANIA AVENUE
CHARLESTON, WV 25302

Electronic Payment Instructions:
(preferred method of payment)
JP Morgan Chase
ABA: 021-000-021
Acct.# 530-955-997

REMIT CHECKS TO:
Booz Allen & Hamilton Inc.
PO Box 88917
Chicago, IL 60695-1917

Payable within 10 days of receipt Invoice Date: 01/18/2008

For one-third of the professional fees associated with the Tennessee Regulatory Support engagement:

260205.186453
TJ25
new def. acct

Professional Fees[1]

Joe Van den Berg:	$8,800.00
Eric Dowley:	$43,325.00
Yves Noel:	$26,627.00
Blake Houghton:	$16,248.00

OK Mlmiller →

Expenses*

Total Due: $95,000.00

[1] Represents one-third of our total agreed upon professional fees of $285,000. Subsequent invoices will cover additional professional fees.

*Expenses will be billed upon completion of the project and included on the final invoice.

50220109 mse

Booz | Allen | Hamilton

INVOICE NUMBER: 222004067
JOB NUMBER: B19053006000010000000
(Please include on payment)

MICHAEL MILLER
MANAGER OF RATES, SOUTHEAST REGION
WEST VIRGINIA AMERICAN WATER
1600 PENNSYLVANIA AVENUE
CHARLESTON, WV 25302

Electronic Payment Instructions:
(preferred method of payment)
JP Morgan Chase
ABA: 021-000-021
Acct.# 530-955-997

REMIT CHECKS TO:
Booz Allen & Hamilton Inc.
PO Box 88917
Chicago, IL 60695-1917

Payable within 10 days of receipt

Invoice Date: 02/20/2008

For professional fees and expenses associated with the Tennessee Regulatory Support engagement. This is the second invoice, and represents one-third of the total professional fees for this engagement:

Professional Fees	$ 95,000.00
Expenses	$ 12,000.00
Total Due:	$ 107,000.00

A28AVP02
260205.186453
50385748

RVI 2/26

TJ 25

2/27/08

Vendor # 50385748

Booz | Allen | Hamilton

INVOICE NUMBER: 222004185
JOB NUMBER: B19053006000010000000
(Please include on payment)

MICHAEL MILLER
DIRECTOR OF RATES, SOUTHEAST REGION
WEST VIRGINIA AMERICAN WATER
1600 PENNSYLVANIA AVENUE
CHARLESTON, WV 25302

Electronic Payment Instructions:
(preferred method of payment)
JP Morgan Chase
ABA: 021-000-021
Acct.# 530-955-997

REMIT CHECKS TO:
Booz Allen & Hamilton Inc.
PO Box 88917
Chicago, IL 60695-1917

Payable within 10 days of receipt Invoice Date: 03/20/2008

For professional fees and expenses associated with the Tennessee Regulatory Support engagement and supporting Testimony. This invoice represents the final one-third of the total professional fees for the Regulatory Support engagement as well as the entire Testimony engagement:

Professional Fees	$ 115,000.00
Expenses	$ 18,338.00
Total Due:	$ 133,338.00

360205.184453
TJ25

3-24-08

TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 08-00039
FIRST DISCOVERY REQUEST OF THE
CONSUMER ADVOCATE AND PROTECTION DIVISION

Responsible Witness: Michael Miller/Joe Van den Berg

PART IV: QUESTIONS & REQUESTS REGARDING REVENUES, EXPENSES, TAXES, RATE BASE & MISCELLANEOUS

Question: EXPENSES

54. Provide the contract documents and paid invoices for the Preliminary Survey - Customer Service amount of $555,966 described in TN-TRA-Q013-WORKING CAPITAL, on page 11 of 30. Include in your response the month and year starting date for the amortization of the Preliminary Survey - Customer Service and the NARUC expense account charged for the monthly amortization.

Response:

The Company objects to this request on the grounds that it is over broad, unduly burdensome, not relevant to this proceeding, and not readily available to TAWC in the format requested.

Subject to and without waiving these objections, the Company provides the following response. The Company first asked for recovery of the deferred cost for the transition to the Call Center in case number 03-00118. In that case, the Company demonstrated to the satisfaction of the CAPD and the TRA that the transition to the national call center and the national shared services center were prudent, resulted in increased service, and increased efficiency and cost savings. The amortization of those costs has been recognized in TAWC's cost of service approved by the TRA in all subsequent rate cases. (*See* case numbers 04-00288 and 06-00290). The Company believes it unreasonable and irrelevant for the Company to produce a **massive** amount of data that is now 5-8 years old, and has been subjected to the Company's three past rate cases.

Please note that the same request of the Company was made in case number 06-00290. As such, please see the Company's responses to the City of Chattanooga requests in that matter, which sought this same information.

In addition, please note that the Company began amortization of the call center transition costs in August 2003, and that amortization was started based on the result in the TAWC case number 03-00118. The amortization is charged to account 675.8

Please see the attached documents which comprise the testimony, exhibits and working papers used in case number 03-00118.

In addition, please refer to the testimony and exhibits of Mr. Van den Berg which includes his study of AWWSC charges including the National Call Center as ordered by the TRA in case number 06-00290.

TENNESSEE AMERICAN WATER COMPANY
Docket No. 06-00290
City of Chattanooga Discovery Request No. 1, 2, 13

SECOND SUPPLEMENTAL RESPONSE

Responsible Witness: Michael Miller

Supplemental Response to COC Questions 1, 2, and 13:

Attached are schedules used in case number 03-00118 in support of the savings generated from the call center, the employees impacted by the transition at TAWC, and the customer service employees embedded in the historical test-year for that case, along with their salaries or hourly rates of pay. The attached schedules filed in that case were either exhibits to the testimony of Michael Miller, or in the workpapers filed with the case, and are a part of the public record in that case.

The Call Center Costs for 2004-2006 are as follows:
2004 - $782,034
2005 - $773,218
2006 - $866,606

Supplemental Response 2 to COC Questions 1, 2, and 13:

Attached are additional workpapers and the testimony of Michael A. Miller regarding the customer call center which were filed in case number 03-0118.

TENNESSEE-AMERICAN WATER COMPANY
ALTON CALL CENTER ADJUSTMENT
TEST YEAR - 7/31/2002

TEST YEAR O & M EXPENSES TO BE ELIMINATED

LABOR & LABOR RELATED COST ELIMINATED IN OTHER LABOR & LABOR RELATED ADJUSTMENTS

(PAYROLL, GROUP INSURANCE, OPEBS, ESOP/401(K),PAYROLL TAXES)

ACCOUNT	DESCRIPTION	AMOUNT $
	M & S-Oper-CA	2,602
	Misc Oper Exp-CA	3,749
	Employee Expenses	29
	Meals & Travel Deductions	38
	Meals & Travel Non-Deduct	48
	Overtime Meal	353
	Overtime Meal-CA	385
	Overtime Meal Exp	157
	Telephone-CA	27,730
	M &S-Maint-AG General	839
	TOTAL	35,930

RECOGNITION OF ADDITIONAL EXPENSES RELATED TO CONSOLIDATED CALL CENTER

CONSOLIDATED CUSTOMER SERVICE CALL CENTER EXPENSES		$616,858
FORECASTED 2003 COSTS (JULY- DECEMBER - 2003)	$308,429	
IMPUTE TWELVE MONTHS FOR ATTRITION YEAR	616,858	
AMORTIZATION OF CALL CENTER TRANSITION COSTS		87,262
TAWC SHARE	872,617	
AMORTIZATION OVER TEN YEAR PERIOD	87,262	

TENNESSEE-AMERICAN WATER COMPANY
ALTON CALL CENTER ADJUSTMENT
TEST YEAR - 7/31/2002

VOR ACCT	BUSINESS UNIT	OBJECT ACCOUNT	Description	2001 AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	2002 JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	TOTAL	Expenses to Eliminate	Not Eliminated	Total
				$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$
905.1	260203	520100.15	M & S-Oper-CA	36	0	63	680	418	274	289	518	0	82	0	242	2,602	2,520	82	2,602
903.3	260203	575000.1515	Misc Oper Exp-CA	1,185	908	310	258	72	0	0	300	114	204	158	240	3,749	3,273	476	3,749
0	260203	575340.16	Employee Expenses	0	0	0	0	0	0	0	0	467	(458)	0	0	29	0	29	29
0	260203	575350.16	Meals & Travel Deductions	0	0	0	0	0	0	0	0	19	19	0	0	38	0	38	38
0	260203	575351.16	Meals & Travel Non-Deduct	0	0	0	0	0	0	0	0	29	19	0	0	48	0	48	48
0	260203	575620.14	Overtime Meal	0	0	0	125	92	0	0	136	0	0	0	0	353	353	0	353
905.1	260203	575620.15	Overtime Meal-CA	0	0	0	0	1	135	0	125	100	0	0	24	385	285	100	385
0	260203	575620.16	Overtime Meal Exp	0	0	0	0	0	0	0	157	0	0	0	0	157	157	0	157
903.51	260203	575740.15	Telephone-CA	2,977	2,669	2,955	299	186	(186)	3,079	2,724	3,478	293	161	8,875	27,730	23,778	3,952	27,730
0	260203	620000.28	M &S-Maint-AG General	0	0	0	0	0	0	0	0	0	0	839	0	839	0	839	839
																0	0	0	0
	TOTAL			4,198	3,777	3,328	1,362	769	223	3,368	3,960	4,227	159	1,178	9,381	35,930	30,366	5,564	35,930

Total	8,396	7,554	6,656	2,724	1,536	446	6,736	7,920	8,454	318	2,356			

TENNESSEE-AMERICAN WATER COMPANY
GROUP INSURANCE
CUSTOMER SERVICE POSITIONS ELIMINATED
CALL CENTER - PAYROLL (APRIL, 2003 - JUNE, 2003)

	BILLING DETERMINANT COVERAGE	RATES EFFECTIVE 9/1/2002	PREMIUM
ACTIVE EMPLOYEES			
LIFE INSURANCE			
(1) LIFE - BASIC (NON-BARGAINING)	0	$0.295	$0
(2) LIFE - BASIC (BARGAINING)	97,383	0.295	29
(3) A.D. & D. ($10,000 COVERAGE PER EMPLOYEE)	110,000	0.020	2
(4) A.D. & D. (NON-BARGAINING)	0	0.020	0
(5) LIFE - VOLUNTARY UNDER 30		0.06	
(6) LIFE - VOLUNTARY UNDER 30-34		0.08	
(7) LIFE - VOLUNTARY UNDER 35-39		0.10	
(8) LIFE - VOLUNTARY UNDER 40-44		0.12	
(9) LIFE - VOLUNTARY UNDER 45-49		0.20	
(10) LIFE - VOLUNTARY UNDER 50-54		0.35	
(11) LIFE - VOLUNTARY UNDER 55-59		0.63	
12) LIFE - VOLUNTARY UNDER 60-64		0.75	
(13) LIFE - VOLUNTARY UNDER 65-69		1.37	
(14) LIFE - VOLUNTARY UNDER 70-74		2.21	
(15) LIFE - VOLUNTARY OVER 74		3.67	
(16) LIFE - DEPENDENT SPOUSE		0.29	
(17) LIFE - DEPENDENT CHILDREN		0.12	
(18) LIFE - SUPPLEMENTAL		0.35	
(19) LIFE - OPTIONAL		0.35	
DISABILITY			
(20) LONG TERM DISABILITY (NON UNION ONLY)	0	0.40	0
(21) SHORT TERM MANAGED	11	1.17	13
(22) A & S - COVERAGE FOR NEW JERSEY ONLY			
MEDICAL, DENTAL & PRESCRIPTION COVERAGE			
(23) EMPLOYEES WITHOUT DEPENDENT COVERAGE.	2	324.00	648
) EMPLOYEES WITH DEPENDENT COVERAGE	9	800.00	7,200
(25) EMPLOYEES WITH SINGLE DENTAL COVERAGE ONLY		22.66	
(26) EMPLOYEES WITH DEPENDENT DENTAL COVERAGE ONLY		56.66	
ACTIVES SUBTOTAL :			7,892
CONTINUATION OF COVERAGE			
MEDICAL, DENTAL & PRESCRIPTION COVERAGE			
(27) INDIVIDUAL (FORMER EMPLOYEE, SPOUSE OR DEPENDENT)		324.00	
(28) FAMILY (2 OR MORE INDIVIDUALS)		800.00	
(29) UNDER AGE 65 DEPENDENT (1) OF A DECEASED RETIREE		324.00	
(30) UNDER AGE 65 DEPENDENTS (>1) OF A DECEASED RETIREE		800.00	
(31) MEDICARE SUPPLEMENT, IN COMPREHENSIVE PLAN		248.51	
CONTINUATION OF COVERAGE SUBTOTAL :			0
TOTAL MONTHLY PREMIUM			7,892
REIMBURSEMENTS			
EMPLOYEES WITHOUT DEPENDENT COVERAGE.			(30)
EMPLOYEES WITH DEPENDENT COVERAGE			(360)
NET COMPANY PREMIUM COST			7,502
PERCENTAGE TO OPERATIONS		83.39%	6,256
PROVIDE FOR THREE MONTHS CHARGES (APRIL - JUNE, 2003)			18,768
EMPLOYEES "OPTING OUT" OF MEDICAL COVERAGE (ANNUALIZE 0 X $100/MO.)			0
TOTAL ANNUAL COST			$18,768

TENNESSEE-AMERICAN WATER COMPANY
PENSION EXPENSE
CUSTOMER SERVICE POSITIONS ELIMINATED
BY CALL CENTER - PAYROLL (APRIL, 2003 - JUNE, 2003)

Pension Funding - Latest Actuarial Study - 12 Months Ended 3/04		$515,960
Number of Active Participants in Calculation	132	
Cost per Active Participant	$3,908.79	
Customer Service Associates	11	
Revised Pension Costs		42,997
To Provide For Three Months Charges (APRIL - JUNE, 2003)		10,749
Percent to Operation & Maintenance Expenses		83.39%
Pension Costs to Operations		8,964

TENNESSEE-AMERICAN WATER COMPANY
PAYROLL TAXES
JSTOMER SERVICE POSITIONS ELIMINATED
BY CALL CENTER - PAYROLL (APRIL, 2003 - JUNE, 2003)

FICA

PAYROLL SUBJECT TO MEDICARE TAX	$97,229
TAXABLE BENEFITS	0
PRO FORMA RATE (NO LIMIT)	1.45%
PAYROLL SUBJECT TO SOC SEC TAX	97,229
TAXABLE BENEFITS	0
PRO FORMA RATE	6.20%
SOCIAL SECURITY TAX	6,028
MEDICARE TAX	1,410
TOTAL TAX	7,438
FICA LIMIT $80,400	
PERCENT TO O&M	83.39%
TO OPERATIONS	6,203

FUTA / SUTA TAXES

	FUTA	SUTA
NUMBER OF EMPLOYEES	11	11
TAXABLE BASE	1,750	2,000
	19,250	22,000
TEMPORARY EMPLOYEES		0
	19,250	22,000
RATE	0.800%	0.035%
TOTAL TAX	154	8
PERCENT TO O&M	83.39%	83.39%
TO OPERATIONS	128	7

TENNESSEE-AMERICAN WATER COMPANY
CALCULATION OF OPEB EXPENSE
USTOMER SERVICE POSITIONS ELIMINATED
BY CALL CENTER - PAYROLL (APRIL, 2003 - JUNE, 2003)

ATTRITION YEAR OPEB EXPENSES

2003 FAS 106 COSTS	$806,427
TOTAL PARTICIPANTS IN CALCULATION	354
COST PER PARTICIPANT	2,278
TOTAL PARTICIPANTS	11
^DJUSTED OPEB COST	25,058
TO PROVIDE FOR THREE MONTHS CHARGES (APRIL - JUNE, 2003)	6,265

10.90% - 13.29% based on a number of indices and methods, and indicates that the 11.00% return on equity requested by the Company in this case is justified and reasonable for the Company on a stand alone basis, based on the data he has examined.

31. Q. DO YOU CONCUR WITH MR. MOUL'S CONCLUSIONS?

A. Yes I do. The Company elected to use an 11.00% ROE, which is in Mr. Moul's range as a justified and reasonable request for ROE for the rates to be established in this case.

32. Q. THE COMPANY'S CALL CENTER AND BILLING FUNCTIONS WILL BE MOVED TO ALTON, ILLINOIS AS PART OF AWW'S CONSOLIDATED CALL CENTER. PLEASE DESCRIBE THIS MOVE AND ITS PURPOSE.

A. The Company and the other American Water System operating companies are striving to provide customer service that will be more responsive, provide increased customer service options, improve customer satisfaction, and effect cost savings wherever possible. As with many other utility systems, we are moving to a consolidated call center ("Call Center"). Beginning in July 2003, the customer inquiry and billing functions for the Company will be performed at the Call Center in Alton, Illinois. The first companies to move to this shared services format were New Jersey-American and Long Island Water Company in April, 2001,

West Virginia-American in May, 2001, Pennsylvania-American in July, 2001, and Missouri-American in November, 2001, and Illinois-American in June 2002.

The American System has as one of its primary goals to provide customer service unsurpassed in the water industry. At the same time, we hope to provide that service at the lowest reasonable cost. The Call Center will help us meet both of these important goals.

33. Q. HOW DOES THE COMPANY AND THE OTHER AMERICAN SUBSIDIARIES CURRENTLY OPERATE THE CUSTOMER SERVICE AND BILLING FUNCTIONS?

A. The Company and the other subsidiaries not yet a part of the Call Center currently operate independent call centers and billing functions in their respective service territories.

34. Q. WHY IS THIS A PROBLEM AND HOW WILL THE CONSOLIDATION IMPROVE SERVICE?

A. Although the Company currently provides acceptable customer service, there are limitations on that service because of the size of the Company. The current customer service function is operated five days a week from 8:00 a.m. to 4:30 p.m. The Company provides only emergency coverage after normal working hours and on weekends. In today's business environment, customers

demand more in the way of service availability and increased functionality. The American System has historically maintained a common customer service and billing software platform; however, programming has been handled either locally or regionally. This has led to numerous versions of the common software platform, and has been a problem when multi-state acquisitions or software upgrades have been required. In essence, multiple conversions have been required to facilitate the various software versions. This has cost time and money for the subsidiaries. In short, it has limited our ability to take full advantage of the economies of scale available to the American System.

The Call Center will be operated on the ORCOM customer service and billing software. The software program will be uniform for all subsidiaries, and this will make future software migrations and acquisition integration projects easier to accomplish and less costly.

In addition to the software improvements, the Call Center will provide full customer service on a twenty-four hour, seven day a week basis. There will also be enhancements for automated call answering, automated payment options, communications with field operations, and bill editing processes through significant improvements in the various technologies employed. The individual operating companies could not provide this enhanced

service on a cost-effective basis. The Call Center will increase the availability of full service to the customers on an around-the-clock basis, and provide the additional services that our customers demand in today's environment.

35. Q. DOES THIS MEAN THAT THE COMPANY WILL HAVE NO LOCAL PRESENCE FOR CUSTOMER SERVICE?

A. No. The Company will still have its Corporate Office in Chattanooga. There will still be a clerical staff to coordinate billing and collections for the entities for which we perform this function. We will still provide customer contact as required, resolve customer issues relayed from Alton, and respond to Commission inquires. In addition, the field personnel will continue to be available to address the needs of our customers. The local payment locations will remain unchanged. This transition should be transparent to the customers.

36. Q. DOES THE CASE AS FILED INCLUDE THE COST PROJECTIONS FOR THE CALL CENTER, AND ADJUSTMENTS TO THE TEST YEAR EXPENSES?

A. Yes. The attrition year includes the cost of the National Call Center since the Company will make that transition in the second quarter of 2003.

37. Q. WOULD YOU PLEASE DESCRIBE THE IMPACT OF THE MOVE TO THE NATIONAL CALL CENTER?

A. Yes. Attached to this testimony is Exhibit MAM-4 which provides the detail of the cost to make the transition and its impact. The schedule indicates a reduction in expense of $748,642 from the elimination of 11 employees' salaries and payroll related overhead, elimination of temporary positions, and reduction in various miscellaneous expenses. The Company's forecasted cost for the service provided by the Call Center is $616,858. This cost is allocated to the Company based on its number of customers to the total customer base served by the Center. These business case estimates have been very close to the actual cost for the companies already served by the Center.

38. Q. YOU ALSO INCLUDE TRANSITION COSTS FOR THE MOVE TO THE CALL CENTER. PLEASE DESCRIBE WHAT MAKES UP THESE COSTS AND THE RATE TREATMENT THE COMPANY IS REQUESTING IN THIS CASE.

A. As with any project of this type, there are costs required to make the transition possible and to make it go smoothly. The Company's allocated portion of these one-time costs is $872,617. Those costs are made up of severance costs, moving costs for those associates electing to relocate to Alton, consulting costs to set up the processes and training, and in-house costs charged for setup

and training.

The Company requests that the Commission recognize the $872,617 as a necessary cost of making the transition and afford regulatory asset status for those costs. The Company requests also that those costs be amortized over a ten-year period starting with July 2003, and be included in the new rates recognized in this case, with the unamortized amount included as rate base.

39. Q. ARE THERE ADDITIONAL SAVINGS THAT WERE PART OF THE AWW BUSINESS CASE FOR THE CALL CENTER ALREADY BUILT INTO THE TEST YEAR EXPENSES?

A. Yes. AWW bid its lockbox service on a national basis in late 2000. The low bidder for all Southeast Region Companies was BB&T. The move to BB&T has resulted in a net savings of approximately $89,000 annually that has already been reflected in the test year expenses.

40. Q. WHY SHOULD THE COMMISSION APPROVE THE RATE MAKING TREATMENT REQUESTED FOR THE CALL CENTER?

A. Tennessee-American is a relatively small company and simply does not have the customer base to provide the level of service that will be provided by the Consolidated Call Center on a stand-

alone basis. The level of service provided to the customers will be increased and this will be accomplished at a savings to the ratepayers. The availability of full customer service functions on a 24/7 basis and technological enhancements to benefit customer contact, payment options, and other customer contact functions are what the Company believes the customers demand and expect.

41. Q. THE COMPANY MOVED ITS TRANSACTIONAL ACCOUNTING FUNCTIONS TO THE NATIONAL SHARED SERVICES CENTER LOCATED IN MARLTON, NEW JERSEY EFFECTIVE NOVEMBER, 2001. PLEASE DESCRIBE THIS MOVE AND ITS PURPOSE?

A. In 1999 and 2000 AWW undertook a review of its accounting functions to determine how it could improve its transactional accounting functions, take advantage of economies of scale where possible, and improve the uniformity of its software applications at the various operating subsidiaries. The Company had previously installed JD Edwards accounting software, but like its customer accounting and billing functions, local and regional MIS and programming had, in essence, created several different versions of the software. This created difficulties with consolidated accounting and multi-jurisdictional acquisition integrations. AWW determined that there were economies of scale savings, and operational efficiencies to be derived from

TENNESSEE AMERICAN WATER COMPANY
Docket No. 06-00290
City of Chattanooga Discovery Request No. 1, 2, 13

SUPPLEMENTAL RESPONSE

Responsible Witness: **Michael Miller**

Supplemental Response to COC Questions 1, 2, and 13:

Attached are schedules used in case number 03-00118 in support of the savings generated from the call center, the employees impacted by the transition at TAWC, and the customer service employees embedded in the historical test-year for that case, along with their salaries or hourly rates of pay. The attached schedules filed in that case were either exhibits to the testimony of Michael Miller, or in the workpapers filed with the case, and are a part of the public record in that case.

The Call Center Costs for 2004-2006 are as follows:

2004 - $782,034

2005 - $773,218

2006 - $866,606

TENNESSEE-AMERICAN WATER COMPANY
CUSTOMER SERVICE POSITIONS ELIMINATED
BY CALL CENTER - PAYROLL (APRIL, 2003 - JUNE, 2003)

NO.	ADDRESS	EMPLOYEE NAME	APRIL - JUNE '03 WAGE RATE	TOTAL EFFECTIVE HOURS	EFFECTIVE HOURS APRIL - JUNE '03	ATTRITION YEAR WAGES TOTAL	SUBJECT TO FICA	BASE PAY	PAYROLL CODE	1-ANNUAL. 2-TERM. 3-NEW OR REPLACE.	FULL TIME EMPLOYEE COUNT
1	26000060	Cotton, Marilyn D.	16.96	1,552.0	388.0	8,853	8,853	8,853	28	1	1
2	26000027	Freeman, Patricia A.	16.96	2,029.8	507.4	8,606	8,606	8,853	28	0	1
3	26000100	Head, Nancy S.	16.96	2,095.0	523.8	8,884	8,884	8,853	28	0	1
4	26000101	Henderson, Frank W.	16.96	2,059.0	514.8	8,731	8,731	8,853	28	0	1
5	26000113	Jacobs, Margaret R.	16.96	2,101.1	525.3	8,909	8,909	8,853	28	0	1
6	26000073	Jones, Erleen W.	16.96	2,101.9	525.5	8,912	8,912	8,853	28	0	1
7	26000112	Kelley, Myra V.	16.96	2,049.3	512.3	8,689	8,689	8,853	28	0	1
8	26000105	Tawater, Melanie R.	16.96	2,092.0	523.0	8,870	8,870	8,853	28	0	1
9	26000117	Williams, Faye J.	16.96	2,127.8	531.9	9,021	9,021	8,853	28	0	1
10	26000149	Williams, K. Denise	16.96	2,091.1	522.8	8,867	8,867	8,853	28	0	1
11	26000140	Smith, Sandra L.	16.96	2,096.0	524.0	8,887	8,887	8,853	28	0	1
					0.0	0	0	0			
					0.0	0	0	0			
		TOTAL		22,394.9	5,598.8	97,229	97,229	97,383			11

TENNESSEE-AMERICAN WATER COMPANY
CUSTOMER SERVICE EMPLOYEES - CHATTANOOGA

AUTHORIZED LEVEL - 17

	ADDRESS	EMPLOYEE NAME	PAYROLL IN CASE	TEST YEAR WAGES TOTAL	U-UNION S-SALARY	TEST YEAR REGULAR HOURS	POSITION
1	26000028	**Bartley, Rachel M.**	84,048	81,295	S		Customer Service Superintenden
2	26000075	**Herndon, J. Monty**	56,547	54,556	S		Customer Service Supervisor
3	26000184	**Caudle, Elizabeth L.**	62,676	59,470	S		Customer Service Supervisor
4	26000060	Cotton, Marilyn D.	0	26,412	U	1,552.00	Customer Service Representativ
5	26000027	Freeman, Patricia A.	0	34,373	U	2,029.00	Customer Service Representativ
6	26000100	Head, Nancy S.	0	35,442	U	2,080.00	Customer Service Representativ
7	26000101	Henderson, Frank W.	0	35,380	U	2,056.00	Customer Service Representativ
8	26000113	Jacobs, Margaret R.	0	35,544	U	2,088.00	Customer Service Representativ
9	26000073	Jones, Erleen W.	0	35,556	U	2,088.00	Customer Service Representativ
10	26000112	Kelley, Myra V.	0	34,689	U	2,036.50	Customer Service Representativ
11	26000105	Tawater, Melanie R.	0	35,529	U	2,078.50	Customer Service Representativ
12	26000179	**Butcher, Judith B. (Thomas)**	36,816	37,575	U	2,088.00	Customer Service Representativ
13	26000117	Williams, Faye J.	0	36,034	U	2,085.75	Customer Service Representativ
14	26000149	Williams, K. Denise	0	35,378	U	2,087.75	Customer Service Representativ
15	26000086	**Millsaps, Cheryl B.**	36,447	37,693	U	2,087.50	Customer Service Representativ
16	26000140	Smith, Sandra L.	0	35,460	U	2,077.25	Customer Service Representativ
17				20,196	U	1,178.25	Resigned April 2002
18	26000152	Steed, Cynthia A.	41,219	37,313	U	2,086.00	Meter Reader
19	26000078	Morrison, Leah T.	41,859	37,401	U	2,085.00	Field Services Representative
	Total			745,296			
	Less: Employees in Case and those moved to other positions			345,303			
	Test Year Wages of Employees to be eliminated			399,993			

TENNESSEE-AMERICAN WATER COMPANY
ADDITIONAL COST (SAVINGS) RELATIVE
TO THE CONVERSION TO THE CONSOLIDATED CALL CENTER

TAWC Reduction in Payroll & Benefits		$662,609
Expense Reduction	(Shown Below)	34,976
Temporary Positions		51,057
Reduction in Expenses		748,642
Estimated Cost to be Allocated from the Consolidated Call Center		616,858
Increased Cost (Savings) Before Amortization of Transition Cost		(131,784)
Start-Up Cost for Consolidated Call Center (one time transition cost) $872,617 divided by 10 year amortization		87,262
Additional Cost (Savings)		($44,522)

Reduction in TAWC Payroll:

Name	Test Year	Proforma Wages	FICA	SUTA	FUTA	Workmen's Comp	Group Insurance	OPEB's	401K	ESOP	Pensions
Cotton, Marilyn D.	$26,412	$35,412	$2,670	$3	$56	$556	$8,416	$6,336	$643	0	$2,759
Freeman, Patricia A.	34,373	34,424	2,595	3	56	540	8,416	6,336	625	0	2,682
Head, Nancy S.	35,442	35,536	2,679	3	56	558	8,416	6,336	645	0	2,768
Henderson, Frank W.	35,380	34,924	2,633	3	56	548	8,416	6,336	634	0	2,721
Jacobs, Margaret R.	35,544	35,636	2,687	3	56	559	8,416	6,336	647	0	2,776
Jones, Erleen W.	35,556	35,648	2,688	3	56	560	8,416	6,336	647	0	2,777
Kelley, Myra V.	34,689	34,756	2,620	3	56	546	8,416	6,336	631	0	2,708
Tawater, Melanie R.	35,529	35,480	2,675	3	56	557	8,416	6,336	644	0	2,764
Williams, Faye J.	36,034	35,468	2,674	3	56	557	8,416	6,336	644	0	2,763
Williams, K. Denise	35,378	35,548	2,680	3	56	558	8,416	6,336	645	0	2,769
Smith, Sandra L.	35,460	35,412	2,670	3	56	556	8,416	6,336	643	0	2,759
Hudson, Chris W.	20,196	20,196	1,523	3	56	317	8,416	6,336	366	0	1,573
Total	399,993	408,441	30,794	34	672	6,413	100,987	76,035	7,414	0	31,819
Overheads		254,168									
Total Reduction in Labor		662,609	7.54%	0.01%	0.16%	1.57%	24.73%	18.62%	1.82%	0.00%	7.79%

Postage	$0
Telephone	27,730
Employee expenses	0
Overtime Meals	895
Office Supplies & Expenses	6,351
Total Reduction in expenses	$34,976

TENNESSEE-AMERICAN WATER COMPANY
COMPARISON OF ANNUAL COST FOR THE CONVERSION
TO A CONSOLIDATED CALL CENTER AND "SHARED SERVICES" CENTER

CONSOLIDATED TELEPHONE CALL CENTER ("CTC")

Forecasted annual cost for operating the CTC		$616,858	
Plus Amortization of the transition cost	$872,617 / 10 years =	87,262	
Total Cost for CTC			$704,120
To reflect the elimination of 12 positions Plus overhead at TAWC		(662,609)	
To eliminate temporary positions		(51,057)	
To eliminate various O & M expenses-base year 12 months ended July 31, 2002		(34,976)	
Total Cost eliminated			(748,642)
Annual cost (savings) due to conversion to consolidated call center			($44,522)

SHARED SERVICES CENTER ("SS")

Forecasted TAWC annual cost from the SS		$338,526	
Plus Amortization of the transition cost	$359,480 / 10 years =	35,948	
Forecasted TAWC annual finance department cost from the Southeast Region		111,359	
Total cost for SS and finance function			485,833
To reflect the elimination of 4 positions Plus overhead at TAWC		(264,057)	
To eliminate regional accounting functions - Marlton office		(372,246)	
Total Cost eliminated			(636,303)
Annual cost (savings) due to conversion to consolidated shared services center			($150,470)

TENNESSEE AMERICAN WATER COMPANY
Docket No. 06-00290
City of Chattanooga Discovery Request No. 1

Responsible Witness: **Michael Miller**

Question:

1. For each month from January 1, 2000, until all customer service functions were transferred to the National Call Center, ***identify*** all ***TAWC*** personnel involved in functions transferred to the National Call Center, the hours each devoted to such activities, and the base hourly rate of wages or salaries (without overhead) paid to each such employee.

Response:

TAWC objects to this question on the grounds that the requested information is overly burdensome, and not relevant to the current proceeding. Notwithstanding the objection, TAWC provides the following response. TAWC has included in the historical test-year filing in the case the actual cost of its local operations and the National Call Center. TAWC is fully prepared to address those costs in this case, but believes the requested information from January 1, 2000 to August 2003 would be burdensome to produce, has been fully addressed in two previous general rate cases, and is not relevant to the current proceeding. TAWC moved to the National Call Center in August 2003, and fully addressed that transition in its 2003 rate case, docket number 03-00118. In addition, the Call Center costs were fully embedded in the 2004 rate case, docket number 04-00288.

TENNESSEE AMERICAN WATER COMPANY
Docket No. 06-00290
City of Chattanooga Discovery Request No. 1

Responsible Witness: **Michael Miller**

Question:

2. Provide all ***Documents*** reflecting, recording, referring to, reporting, or relating to change in the level of expense to ***TAWC*** from the shift to the National Call Center of ***TAWC*** customer services functions.

Response:

TAWC objects to this question on the grounds that the requested information is ambiguous, overly broad, overly burdensome and not relevant to the current proceeding. This request is overly burdensome and overly broad in that it would involve a document search involving hundreds of employees at TAWC and AWWSC for information related the Call Center that is not readily available to TAWC, regarding a subject that has been fully addressed in two prior rate cases of TAWC. Notwithstanding the objection, please see the response to question 1.

TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 08-00039
FIRST DISCOVERY REQUEST OF THE
CONSUMER ADVOCATE AND PROTECTION DIVISION

Responsible Witness: Michael Miller/Others

PART IV: QUESTIONS & REQUESTS REGARDING REVENUES, EXPENSES, TAXES, RATE BASE & MISCELLANEOUS

Question: EXPENSES

55. Provide the contract documents and paid invoices for the Preliminary Survey - Financial Service amounts of $208,308 described in TN-TRA-Q013-WORKING CAPITAL, on page 11 of 30. Include in your response the month and year starting date for the amortization of the Preliminary Survey - Financial Service and the NARUC expense account charged for the monthly amortization.

Response:

The Company objects to this request on the grounds that it is over broad, unduly burdensome, not relevant to this proceeding, and because the information is not readily available to TAWC in the format requested.

Subject to and without waiving these objections, the Company provides the following response. The Company first asked for recovery of the deferred cost for the transition to the Shared Services Center in case number 03-00118. In that case the Company demonstrated to the satisfaction of the CAPD and the TRA that the transition to the national call center and the national shared services center were prudent, and resulted in increased service, increased efficiencies and cost savings. The amortization of those costs has been recognized in TAWC's cost of service approved by the TRA in all subsequent rate cases. (*See* case numbers 04-00288 and 06-00290). The Company believes it unreasonable and irrelevant for the Company to produce a **massive**

amount of data that is now 5-8 years old, and has been subjected to three past rate cases of the Company.

Please see the attached documents that include the testimony and exhibits demonstrating the prudence, improved efficiencies and cost savings associated with the move to a national shared services center for AWW and TAWC. These documents include the testimony, exhibits and working papers presented by TAWC and Mr. Miller in case number 03-00118.

In addition, please note that the Company began amortization of the shared services center transition costs in August 2003, and that amortization was started based on the result in the TAWC case number 03-00118. The amortization is charged to account 675.8

Please see the attached documents which comprise the testimony, exhibits and working papers used in case number 03-00118.

In addition, please refer to the testimony and exhibits of Mr. Van den Berg, which includes his study of AWWSC charges including the National Shared Services Center as ordered by the TRA in case number 06-00290.

alone basis. The level of service provided to the customers will be increased and this will be accomplished at a savings to the ratepayers. The availability of full customer service functions on a 24/7 basis and technological enhancements to benefit customer contact, payment options, and other customer contact functions are what the Company believes the customers demand and expect.

41. Q. THE COMPANY MOVED ITS TRANSACTIONAL ACCOUNTING FUNCTIONS TO THE NATIONAL SHARED SERVICES CENTER LOCATED IN MARLTON, NEW JERSEY EFFECTIVE NOVEMBER, 2001. PLEASE DESCRIBE THIS MOVE AND ITS PURPOSE?

A. In 1999 and 2000 AWW undertook a review of its accounting functions to determine how it could improve its transactional accounting functions, take advantage of economies of scale where possible, and improve the uniformity of its software applications at the various operating subsidiaries. The Company had previously installed JD Edwards accounting software, but like its customer accounting and billing functions, local and regional MIS and programming had, in essence, created several different versions of the software. This created difficulties with consolidated accounting and multi-jurisdictional acquisition integrations. AWW determined that there were economies of scale savings, and operational efficiencies to be derived from

providing transactional accounting functions on a national level and decided to move these functions to a Shared Services Center. Prior to this transition, the accounting, budgets, and finance functions were being performed by the Tennessee-American employees and the Region Service Companies in Marlton, NJ, and Charleston, WV.

42. Q. HOW WILL THESE AREAS FUNCTION GOING FORWARD?

A. Transactional accounting (general accounting, payroll, AP, inventory, purchasing, AR, etc.), and actual historical information for budgets and rate cases will be provided by the Shared Services Center utilizing a uniform JD Edwards software platform. Review and approval of the financial statements, rate case adjustments and budget forecasting, and Board Meeting information and presentations will be the responsibility of the Vice-President and Treasurer/Comptroller and a minimal staff located at the Southeast Service Company office, and two employees at Tennessee-American

43. Q. DOES THE CASE AS FILED INCLUDE THE COST PROJECTIONS FOR THE SHARED SERVICES CENTER, AND ADJUSTMENTS TO THE ATTRITION YEAR EXPENSES?

A. Yes. Attached to this testimony is Exhibit MAM-4 that indicates

the annual impact of the transition to the Shared Service Center.

44. Q. WOULD YOU PLEASE DESCRIBE THE INFORMATION CONTAINED IN EXHIBIT MAM-4?

A. This exhibit indicates a reduction in expenses of $636,303 comprised of the elimination of 4 employees, and the Marlton, NJ, Regional Service Company charges for accounting. The exhibit also indicates the forecasted expenses from the Shared Services Center of $338,526, and the accounting cost from the Southeast Region of $111,349. This calculation produces an annual savings of $150,470.

45. Q. YOU ALSO INCLUDE TRANSITION COSTS FOR THE MOVE TO THE SHARED SERVICES CENTER. PLEASE DESCRIBE WHAT MAKES UP THESE COSTS AND THE RATE TREATMENT THE COMPANY IS REQUESTING IN THIS CASE?

A. There are costs required to make the transition go smoothly. The Company's allocated portion of these one-time costs is $359,480. These costs are made up of severance costs, moving costs for those associates electing to move to the Shared Services Center, consulting costs to set-up the processes and training, and in-house costs charged to set-up and training.

The Company is requesting that the Commission recognize the $359,480 as a necessary cost of making the transition and afford regulatory asset status for these costs. The Company is requesting that these costs be amortized over a ten-year period starting when the new rates become effective, with the unamortized amounts included in rate base.

46. Q. WHY SHOULD THE COMMISSION APPROVE THE RATE MAKING TREATMENT REQUESTED FOR THE SHARED SERVICE CENTER?

A. The transition to the Shared Service Center provides increased functionality and economies of scale of the accounting functions of the Company. Moving the accounting software to a uniform platform will save the Company money on future software migrations, rate case and budget preparation, and acquisition integrations. The Company will receive these benefits at a reduced cost to the ratepayers.

47. Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

A. Yes.

TENNESSEE REGULATORY AUTHORITY

STATE OF TENNESSEE

COUNTY OF HAMILTON

BEFORE ME, the undersigned authority, duly commissioned and qualified in and for the State and County aforesaid, personally came and appeared Michael A. Miller who, being by me first duly sworn deposed and said that:

He is appearing as a witness on behalf of Tennessee-American Water Company before the Tennessee Regulatory Authority, and if present before the Authority and duly sworn, his testimony would set forth in the annexed transcript consisting of twenty-nine pages.

Michael A. Miller

Sworn to and subscribed before me
this 3rd day of February 2003.

Virginia L. Scealf
Notary Public

My commission expires April 7, 2004.

TENNESSEE-AMERICAN WATER COMPANY
COMPARISON OF ANNUAL COST FOR THE CONVERSION
TO A CONSOLIDATED CALL CENTER AND "SHARED SERVICES" CENTER

CONSOLIDATED TELEPHONE CALL CENTER ("CTC")

Forecasted annual cost for operating the CTC	$616,858	
Plus Amortization of the transition cost $872,617 / 10 years =	87,262	
Total Cost for CTC		$704,120
To reflect the elimination of 12 positions Plus overhead at TAWC	(662,609)	
To eliminate temporary positions	(51,057)	
To eliminate various O & M expenses-base year 12 months ended July 31, 2002	(34,976)	
Total Cost eliminated		(748,642)
Annual cost (savings) due to conversion to consolidated call center		($44,522)

SHARED SERVICES CENTER ("SS")

Forecasted TAWC annual cost from the SS	$338,526	
Plus Amortization of the transition cost $359,480 / 10 years =	35,948	
Forecasted TAWC annual finance department cost from the Southeast Region	111,359	
Total cost for SS and finance function		485,833
To reflect the elimination of 4 positions Plus overhead at TAWC	(264,057)	
To eliminate regional accounting functions - Marlton office	(372,246)	
Total Cost eliminated		(636,303)
Annual cost (savings) due to conversion to consolidated shared services center		($150,470)

TENNESSEE-AMERICAN WATER COMPANY
ADDITIONAL COST (SAVINGS) RELATIVE
TO THE CONVERSION TO THE SHARED SERVICES CENTER

TAWC Reduction in Payroll & Benefits	$264,057
Marlton NJ Regional Accounting	372,246
Reduction in Expenses	636,303
Estimated Cost to be Allocated from the Shared Services Center	338,526
Additional Financial Services Cost from Southeast Region - Charleston WV	111,359
Increased Cost (Savings) Before Amortization of Transition Cost	(186,418)
Start-Up Cost for Shared Services Center (one time transition cost) $359,480 divided by 10 year amortization	35,948
Additional Cost (Savings)	($150,470)

Reduction in TAWC Payroll:

Name	Proforma Wages	FICA	SUTA	FUTA	Workmen's Comp	Group Insurance	OPEB's	401K	ESOP	Pensions
Accounting Clerk position (Upshaw)	$37,459	$2,824	$3	$56	$588	$8,416	$6,336	$680	$0	$2,918
Accounting Clerk position (Millsaps)	37,459	2,824	3	56	588	8,416	6,336	680	0	2,918
Accounting Clerk position (Thomas)	37,459	2,824	3	56	588	8,416	6,336	680	0	2,918
Accounting Superintendent (Ellis)	59,160	4,460	3	56	929	8,416	6,336	1,074	1,175	4,609
Total	171,537	12,932	11	224	2,693	33,662	25,345	3,114	1,175	13,363
Overheads	92,520									
Total Reduction in Labor	264,057	7.54%	0.01%	0.13%	1.57%	19.62%	14.78%	1.82%	0.68%	7.79%

Tennessee-American Water Company
Revenue and Productivity Gains

Rebuttal Exhibit
MAM-6

Labor:		
Labor Expense in Current Case	5,066,666	
Labor Overhead Rate	1.49	
Labor with Labor O/H (group ins., pensions, FICA, 401k, FUTA, etc.)	7,549,332	
Number of Employees Previous Case		155
Less: Employees offset by Call Center and Shared Services Costs		16
Total Employees, net of Shared Services		139
Employees in Current Case & Comparable in Previous Case	119	139
Reduction of Employees from Normal Operations		(20)
Average Cost per Employee Current Case	**63,440**	
Reduction of Employees from Normal Operations since previous case	**20**	
Labor & labor O/H Savings since Last Case	**1,268,795**	
Revenue Growth Since 1996 Case per Rebuttal Exhibit MAM-6	**661,682**	
Net Savings from Customer Call Center and Shared Services Center per Direct Exhibit MAM-4	**194,992**	
Savings in Interest Expense Since 1996 Case	**247,972**	
Identifiable Growth/Savings Since 1996 Case	**2,373,441**	

TENNESSEE-AMERICAN WATER COMPANY
ADDITIONAL COST (SAVINGS) RELATIVE
TO CONVERSION TO SHARED SERVICES

Twelve months ended October, 2001 -- Marlton office - Regional Accounting (Office Closed in December 2001	$360,442	
Adjusted for inflation @	3.275%	$372,246
Chattanooga expenses eliminated by Shared Services center		264,057
Less: Forecasted Management Fees for Shared Services		338,526
Savings in Services Provided		(297,776)
Start-Up Cost for Shared Services (one time transition cost) $359,480 divided by 10 year amortization		35,948
Additional Cost (Savings)		($261,828)

SOURCE OF INFORMATION:
*Service Company Bill
** Estimated cost provided by Shared Services

TENNESSEE-AMERICAN WATER COMPANY
Additional Financial Services Cost from Southeast Region - Charleston WV

Name	Payroll Amount
M. Miller	$67,330
R. Ferrell	61,715
E. Oxley	44,005
T. Bailey	93,040
S. Valentine	51,460
C. Sanders	58,577
S. Tyree	34,019
P. Hedrick	26,367
N. Strickland	59,749
Total	496,262
Ratio including overheads	1.269
Amount Including Overheads	629,807
TAWC Allocation	17.68143%
Payroll allocated to TAWC	111,359

Overheads	
Insurance	60,567
Group Insurance	205,631
Pension	116,081
401 (K) & ESOP	103,953
FICA	132,912
SUTA	9,944
Total	629,088
Labor Cost	2,337,739

TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 08-00039
FIRST DISCOVERY REQUEST OF THE
CONSUMER ADVOCATE AND PROTECTION DIVISION

Responsible Witness: Michael Miller

PART IV: QUESTIONS & REQUESTS REGARDING REVENUES, EXPENSES, TAXES, RATE BASE & MISCELLANEOUS

Question: EXPENSES

56. Provide the Deferred Rate Case Expense balance at 11/30/07 of $894,951 described in TN-TRA-Q013-DEFERRED RATE CASE EXPENSE, on page 1 of 2 by TRA Docket. Include in your response the month and year starting date for the amortization of each TRA Docket Rate Case Expense.

Response:

Docket No. 04-00288	$30,007	Amortization began 3/05
Docket No. 06-00290	$864,944	Amortization began 6/07

TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 08-00039
FIRST DISCOVERY REQUEST OF THE
CONSUMER ADVOCATE AND PROTECTION DIVISION

Responsible Witness: Sheila Miller

PART IV: QUESTIONS & REQUESTS REGARDING REVENUES, EXPENSES, TAXES, RATE BASE & MISCELLANEOUS

Question: TAXES OTHER THAN INCOME

57. Provide a schedule of all Ad Valorem property tax bills by jurisdiction by tax year of 2006 and 2007.

Response:

See attached schedule. Due to the 4-4-5 accounting calendar in 2005, Catoosa County, City of Rossville, Walker County, and Lookout Mountain have two payments in 2006, at which time the Company converted back to the fiscal year-end accounting close. The Company's 2006 accounting year started on December 10, 2005 and ended on December 31, 2006.

Tennessee American Water Co
CAPD Dr 1 Part 4 Question 57
Property Taxes Paid

	12 mo ending 12/9/05	12 mo ending 12/31/06		12 mo ending 12/31/07	
City of Rossville	5,401	10,128	pd 12/13/05 & 12/15/06	4,621	
Dade County	213	201		174	
Sandra Self-Catoosa Co	3,993	7,747	pd 12/13/05 & 12/15/06	1,496	
Lookout Mtn	2,685	4,798	pd 12/13/05 & 12/28/06	2,378	
Walker Co	23,797	48,026	pd 12/13/05 & 12/15/06	23,259	
Tallan Holdings Co	27,787	27,445		27,445	
Marion Co	2,198	3,826		3,457	
Town of Lookout Mtn	16,536	9,841		11,765	
Daisy Madison-Chatt City	10,875	11,389			pd '2/11/08
Carl Levi-Hamilton Co	95	794		680	
Daisy Madison-Chatt City	924,232	923,042		967,575	
Carl Levi-Hamilton Co	1,342,165	1,434,872		1,477,792	
	2,359,978	2,482,110		2,520,642	

TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 08-00039
FIRST DISCOVERY REQUEST OF THE
CONSUMER ADVOCATE AND PROTECTION DIVISION

Responsible Witness: Michael Miller

PART IV: QUESTIONS & REQUESTS REGARDING REVENUES, EXPENSES, TAXES, RATE BASE & MISCELLANEOUS

Question: INCOME TAXES

58. Reconcile the income tax amounts of TN-TRA-Q013-INCOME TAXES, on pages 9-10 of 20 to the income tax amounts on the Company's Exhibit No. 2, Schedule 6, page 2 of 2 for the test year ended November 30, 2007.

Response:

See attached Updated Exhibit No. 2 Schedule 6, Page 2 of 2. Lines 83, 85 and 87 have been added to Exhibit No. 2 to reflect the actual calculation of federal and state income tax shown on Line 83. Line 85 is the income taxes per books. The reason for the variance of $68,778 for Federal Income Taxes shown on Line 87 is because the month of November 2007 Schedule M items are estimated in order for the Company to close its books each month on a timely basis. A true-up to actual occurs the following month. The State Income Taxes are developed each month as are the Federal Income Taxes.

Tennessee Regulatory Authority
Company: Tennessee-American Water Company
Case No:

Computation of Current Federal and State Income Taxes Based on Current Rate for the Normalized and Attrition Years and Proposed Rates for the Attrition Year

Test Year: Twelve Months Ended: November 30, 2007
Exhibit No. 2, Schedule 6
Page 2 of 2

Line No.	Description	Per Books Test Year Present Rates		Normalized Year Present Rates			Attrition Year Present Rates		Attrition Year Proposed Rates	
		Federal	State	Federal	State		Federal	State	Federal	State
2	Operating Revenues	$37,109,098	$37,109,098	$36,910,843	$36,910,843		$37,142,460	$37,142,460	$44,787,319	$44,787,319
4	Operation and Maintenance Expenses	20,820,445	20,820,445	19,705,947	19,705,947		20,515,160	20,515,160	20,628,994	20,628,994
5	Depreciation and Amortization	4,915,650	4,915,650	5,047,504	5,047,504		4,730,347	4,730,347	4,730,347	4,730,347
6	Taxes, Other than Income	4,133,274	4,133,274	3,846,116	3,846,116		4,204,063	4,204,063	4,420,664	4,420,664
7	State Income Taxes - Current	(45,581)	(45,581)	239,911	239,911		182,238	182,238	657,675	657,675
8	State Income Taxes - Deferred	440,469	440,469	251,374	251,374		251,374	251,374	251,374	251,374
9	Federal Income Taxes - Current	2,067,769	2,067,769	1,361,380	1,361,380		1,018,215	1,018,215	3,411,861	3,411,861
10	Federal Income Taxes - Deferred	(336,248)	(336,248)	409,148	409,148		556,063	556,063	556,063	556,063
11	Investment Tax Credit	(76,368)	(76,368)	(76,368)	(76,368)	1,574,278	(76,368)	(76,368)	(76,368)	(76,368)
12	Subtotal	31,919,410	31,919,410	30,785,012	30,785,012		31,381,092	31,381,092	34,580,610	34,580,610
13	Total Income Before Deductions	5,189,688	5,189,688	6,125,831	6,125,831		5,761,368	5,761,368	10,206,709	10,206,709
15	Total Other Income	79,250	79,250							
17	Total Other Deductions	61,880	61,880							
19	Total Taxes Applicable to Other Income and Deductions	9,937	9,937							
21	Total Interest Charges	3,776,907	3,776,907	4,081,966	4,081,966		4,081,966	4,081,966	4,081,966	4,081,966
23	Net Income	1,420,214	1,420,214	2,043,865	2,043,865		1,679,402	1,679,402	6,124,743	6,124,743
25	State Income Taxes	622,037	622,037	491,285	491,285		433,612	433,612	909,049	909,049
26	Federal Income Taxes	1,655,153	1,655,153	1,694,160	1,694,160		1,497,910	1,497,910	3,891,556	3,891,556
28	Pretax income	3,697,403	3,697,403	4,229,310	4,229,310		3,610,924	3,610,924	10,925,348	10,925,348
29	Statutory Additions (Deductions):									
30	Permanent Difference									
31	617.001 Book Over Tax Travel and Entertainment	4,297	4,297	4,297	4,297		4,297	4,297	4,297	4,297
32	618.006 Nondeductible Dues	14,301	14,301	14,301	14,301		14,301	14,301	14,301	14,301
33	618.008 Lobbying Expenses	(162,544)	(162,544)	(162,544)	(162,544)		(162,544)	(162,544)	(162,544)	(162,544)
34	638.006 Nondeductible Penalties	124,042	124,042	124,042	124,042		124,042	124,042	124,042	124,042
36	Total Permanent Differences	(19,904)	(19,904)	(19,904)	(19,904)		(19,904)	(19,904)	(19,904)	(19,904)
38	Financial Taxable Income	3,677,499	3,677,499	4,209,406	4,209,406		3,591,020	3,591,020	10,905,444	10,905,444
40	Temporary Differences									
41	604.004 Contributions and Advances	199,693	199,693	199,693	199,693		199,693	199,693	199,693	199,693
42	606.001 Book Over Tax Depreciation	0	0	0	0		0	0	0	0
43	612.001 Book Over Tax Bad Debts	56,249	56,249	56,249	56,249		56,249	56,249	56,249	56,249
44	618.002 Amortization of Regulatory Assets - AFUDC	(1,312)	(1,312)	(1,312)	(1,312)		(1,312)	(1,312)	(1,312)	(1,312)
45	618.070 Deferred Maintenance Expense	(626)	(626)	(626)	(626)		(626)	(626)	(626)	(626)
46	618.025 Management Study Expense	0	0	0	0		0	0	0	0
47	618.028 Accrued OPEB Expense	287,938	287,938	287,938	287,938		287,938	287,938	287,938	287,938
48	618.029 Incentive Plan Expense	73,259	73,259	73,259	73,259		73,259	73,259	73,259	73,259
49	618.030 Regulatory Pension Expense	(22,200)	(22,200)	(22,200)	(22,200)		(22,200)	(22,200)	(22,200)	(22,200)
50	618.032 Miscellaneous Deferred Expenses	1,223,646	1,223,646	1,223,646	1,223,646		1,223,646	1,223,646	1,223,646	1,223,646
51	626.001 Tax Over Book Depreciation	(687,568)	(687,568)	(687,568)	(687,568)		(1,107,326)	(1,107,326)	(1,107,326)	(1,107,326)
52	638.014 Cost of Removal	(7,212)	(7,212)	(7,212)	(7,212)		(7,212)	(7,212)	(7,212)	(7,212)
53	638.015 AFUDC over Interest Capitalized for Taxes	(101,809)	(101,809)	(101,809)	(101,809)		(101,809)	(101,809)	(101,809)	(101,809)
54	638.016 Refund of Taxable Advances	0	0	0	0		0	0	0	0
55	638.022 Accrued Vacation Pay Expense	(38,774)	(38,774)	(38,774)	(38,774)		(38,774)	(38,774)	(38,774)	(38,774)
56	638.027 Abandonment Losses	(188,249)	(188,249)	(188,249)	(188,249)		(188,249)	(188,249)	(188,249)	(188,249)
57	Net Negative Salvage	345,065	345,065	345,065	345,065		345,065	345,065	345,065	345,065
58	638.036 Miscellaneous Deferred Expenses	67,640	67,640	67,640	67,640		67,640	67,640	67,640	67,640
	- Cost of Service Study	(16,345)	(16,345)	(16,345)	(16,345)		(16,345)	(16,345)	(16,345)	(16,345)
	- Gains and Losses	2,000	2,000	2,000	2,000		2,000	2,000	2,000	2,000
	- Rate Case Expense	(1,271,232)	(1,271,232)	(1,271,232)	(1,271,232)		(1,271,232)	(1,271,232)	(1,271,232)	(1,271,232)
59	State depreciation in excess of federal		(834,647)		(438,633)			(287,771)		(287,771)
60	Total Temporary Differences	(79,837)	(914,484)	(79,837)	(518,470)		(499,595)	(787,366)	(499,595)	(787,366)
63	Federal Taxable Income Before SIT	3,597,662	2,763,015	4,129,569	3,690,936		3,091,425	2,803,654	10,405,849	10,118,078
65	Correction to books	378,054	150,397				0		0	
66	State Income Tax	189,372		239,911			182,238		657,675	
67	Taxable Income	3,786,344	2,913,412	3,889,658	3,690,936		2,909,187	2,803,654	9,748,174	10,118,078
69	Computation of Taxes:									
70	State Income Tax @ 6.50%		189,372		239,911			182,238		657,675
71	Federal Income Tax @ 35.00%	1,325,221		1,361,380			1,018,215		3,411,861	
72		0		0	0		0	0	0	0
73	Total Current Income Tax	1,325,221	189,372	1,361,380	239,911		1,018,215	182,238	3,411,861	657,675
76	Deferred SIT (on timing differences)		59,441	as calc on recon from Joan						
77	Deferred SIT Reg Assets/Liabilities		53,028	per books	0					
78	Deferred SIT Other		138,905	per books						
79	Deferred FIT (on timing differences) including ITC	(179,873)		as calc on recon from Joan						
80	Deferred FIT Reg Assets/liabilities	454,755		per books						
81	Deferred FIT Other	134,265		per books						
83	Total Income Taxes	1,734,369	440,746							
85	Per Books Income Taxes	1,665,591	394,387							
87	Changes due to the actual tax return for the twelve months ended 11/07	68,778	46,359							

TN-CAPD-01-PART IV-Q058-ATTACHMENT
Page 1 of 1

TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 08-00039
FIRST DISCOVERY REQUEST OF THE
CONSUMER ADVOCATE AND PROTECTION DIVISION

Responsible Witness: Michael Miller

PART IV: QUESTIONS & REQUESTS REGARDING REVENUES, EXPENSES, TAXES, RATE BASE & MISCELLANEOUS

Question: INCOME TAXES

59. Provide the basis and supporting documentation for the AMT amount of $958,182 included in TN-TRA-Q013-INCOME TAXES, on page 10 of 20.

Response:

AMT Calculation:

Annualized Taxable Income at November 30, 2007	4,053,500
Adjustments and Preferences	
Accel. Deprec Post 86 Property	*1,040,831
Basis Adjustment	*160,312
Annualized Alternative Minimum Taxable Income	5,254,643
Ace Preference	(28,200)
Annualized Alternative Minimum Taxable Income	5,226,443
Alternative Minimum Tax Rate	20%
Alternative Minimum Tax Before Allocation	1,045,289
Allocated Alternative Minimum Tax	373,975
AMT Before Allocation Eleven Mo Ending 11/30/07	958,182
Allocated AMT Eleven Mo Ending 11/30/07	342,810

*Amounts from 2006 separate company tax return Form 4626, line 2a and 2e.

The AMT amount was included in current FIT by error. There was an offsetting adjustment to deferred FIT that washed this out for total Federal Tax expense. The Company discovered this error while preparing the case and eliminated the AMT amounts from both the current and deferred FIT provisions for the historical

test-year. This correction also avoided this error from being carried into the attrition year FIT calculations.

TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 08-00039
FIRST DISCOVERY REQUEST OF THE
CONSUMER ADVOCATE AND PROTECTION DIVISION

Responsible Witness: Michael Miller

PART IV: QUESTIONS & REQUESTS REGARDING REVENUES, EXPENSES, TAXES, RATE BASE & MISCELLANEOUS

Question: INCOME TAXES

60. Provide a detailed reconciliation of the effective tax rate for the attrition year at present rates to the federal statutory tax rate of 35%.

Response:

Pretax Income	3,610,924
Total Temporary Differences	(499,595)
Taxable Income	3,111,329
Total Federal Income Tax-per Exhibit 2 Sch 6 pg 2	1,497,910
Effective Tax Rate 1,497,910/3,111329	48.14%
Total Federal Income Tax	1,497,910
Amortization of ITC	76,368
Federal benefit on state tax:	
State Def Tax Expense 375,565 x 35%	131,447
Def FIT on Additional Temporary Differences	
(Def FIT additional forecasted UPIS)	146,915
FAS 109 Amortizations-per books	(589,020)
Fed Income Taxes on Pre Tax Income	1,263,620
ETR 1,263,620/3,610,924	34.99%
Actual calculated tax 3,610,924 x 35%	1,263,823
Variance	(203)

TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 08-00039
FIRST DISCOVERY REQUEST OF THE
CONSUMER ADVOCATE AND PROTECTION DIVISION

Responsible Witness: Michael Miller

PART IV: QUESTIONS & REQUESTS REGARDING REVENUES, EXPENSES, TAXES, RATE BASE & MISCELLANEOUS

Question: INCOME TAXES

61. Provide the detailed calculations of the Deferred Federal Income Tax amount and the Deferred State Income Tax amount for the attrition year at present rates as shown on the Company's Exhibit No.2, Schedule 6, page 2 of 2. Include in your response any allocated Deferred Federal Income Tax included in the company's exhibits and the basis for the allocated amounts.

Response:

The Deferred Federal adjustment for the attrition year is included in the working papers TN-TRA-01-Q013-INCOME TAXES, Page 15 of 20. The adjustment shown on the above referenced work papers determined the additional deferred FIT related to the attrition year plant additions (tax depreciation less book depreciation X 35%). The adjustment was then added to the normalized test-year deferred income tax expense of $409,148 as shown on Exhibit 2, Schedule 6, page 2 of 2. The Deferred State Income Tax for the attrition year is the same as the historical test-year per books adjusted for any prior year adjustments. The deferred SIT is also shown on Exhibit 2, Schedule 6, page 2 of 2.

TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 08-00039
FIRST DISCOVERY REQUEST OF THE
CONSUMER ADVOCATE AND PROTECTION DIVISION

Responsible Witness: Sheila Miller/Michael Miller

PART IV: QUESTIONS & REQUESTS REGARDING REVENUES, EXPENSES, TAXES, RATE BASE & MISCELLANEOUS

Question: RATE BASE

62. Provide the information for Plant in Service and Accumulated Depreciation by JDE account in the following format as of July 2002, March 2004, June 30, 2006:

(1)	(2)	(3)	(4)	(5)	(6)
JDE Acct #	**Account Description**	**Plant in Service Balance**	**Acc. Deprec. Balance**	**Current Deprec. Rate**	**Net Book Value**

The response should incorporate the format and subsidiary accounts of the Company's Accounting Exhibit No. 2, Schedule 4.

Response:

The Company objects to this request on the grounds that it is over broad, unduly burdensome and seeks information that is not readily available to the Company in the requested format. Furthermore, the Company objects to this request to the extent that it seeks information that is not relevant to this proceeding. The Company also objects to this request on the grounds that it calls upon the Company to create or otherwise organize data regarding time periods outside of the Company's historical test year.

Subject to and without waiving its objections, TAWC provides the following response. The requested information relates to the attrition years in the last three Company rate cases and is not relevant to this proceeding.

Please see the response the Company previously provided to request TN-CAPD-01-Part II-Q20, which provides the accumulated depreciation by plant account from the TRA Annual Report for the last 10 years. Also, please refer to the response previous supplied by the Company to request TN-TRA-01-Q13-rate base back-up, pages 47 -52 of 52. This information provides the utility plant balances and accumulated depreciation balances at the end of the historical test-year and monthly through August 2009, the end of the attrition year in this case. In past TAWC rate cases, the Company had filed its rate base components as of the mid-point of the attrition year. In case number 06-00290, the CAPD proposed a thirteen month average of rate base for the attrition year. Director Miller's motion in case number 06-00290 indicates that the CAPD's thirteen month average rate base approach was accepted, and that motion was approved by the TRA. The Company filed this case consistent with the thirteen month average attrition year rate base approved by the TRA in case number 06-00290. Also, see the attached schedules, which are the depreciation calculations filed in the Company's past three rate cases and apply to the three periods requested by the CAPD.

Attrition Year Provision for Depreciation Expense
For Utility Plant in Service

Tennessee Public Service Commission
Company: Tennessee-American Water Company
Case No:

Test Year: Twelve Months Ended: July 31, 2002
Exhibit No. 2, Schedule 4

Line No.	Account Number	Account Description	Depreciable Property at 7/31/2002	Normalized Test Year Depreciation Expense	ADDITIONS	RETIREMENTS	Depreciable Property at Mid-Point of Attrition Year	Depreciation Rate	Attrition Year Depreciation Expense
1	303.99	Comprehensive Planning Study	$405,132	$81,026	0	0	$405,132	20.00%	$81,026
2	304.22	Pumping Structures	1,872,283	72,270	0	0	1,872,283	3.86%	72,270
3	304.31	Water Treatment Structures	1,706,175	77,972	0	0	1,706,175	4.57%	77,972
4	304.32	Water Treatment Structures-Painting	1,700,789	170,079	0	0	1,700,789	10.00%	170,079
5	304.40	T & D Structures	502,632	17,642	0	0	502,632	3.51%	17,642
6	304.51	Office Structures	151,528	6,031	0	0	151,528	3.98%	6,031
7	304.52	Stores , Shop, & Garage Structures	319,733	14,868	0	0	319,733	4.65%	14,868
8	304.53	Miscellaneous Structures	383,138	21,609	0	0	383,138	5.64%	21,609
9	306.20	Lakes, Rivers, & Other Intakes	281,452	9,569	0	0	281,452	3.40%	9,569
10	310.20	Power Generation Equipment	222,196	7,644	0	0	222,196	3.44%	7,644
11	311.22	Electric Pumping Equipment	5,633,388	97,458	27,148	0	5,660,536	1.73%	97,927
12	311.23	Deisel Pumping Equipment	119,296	2,350	0	0	119,296	1.97%	2,350
13	311.27	Other Pumping Equipment	5,145	203	0	0	5,145	3.94%	203
14	320.31	Water Treatment Equipment	12,244,225	522,828	0	0	12,244,225	4.27%	522,828
15	320.33	Granular Activated Carbon	0	0	0	0	0	36.42%	0
16	330.41	T & D Reservoirs & Standpipes	4,840,436	87,128	1,040	0	4,841,476	1.80%	87,147
17	330.42	T & D Reservoirs & Standpipes-Painting	551,948	55,195	569,654	0	1,121,602	10.00%	112,160
18	330.43	Elevated Tanks & Standpipes	162,313	2,922	0	0	162,313	1.80%	2,922
19	331.40	T & D Mains not Classified	2,010,419	28,347	1,219,521	173,000	3,056,940	1.41%	43,103
20	331.41	T & D Mains - Mains (4" or less)	3,757,167	60,866	0	0	3,757,167	1.62%	60,866
21	331.44	T & D Mains - Mains (6" - 8")	826	11	408,010	32,000	376,836	1.36%	5,125
22	331.42	T & D Mains - Mains (6" - 10")	47,208,894	642,041	0	0	47,208,894	1.36%	642,041
23	331.45	T & D Mains - Mains (10" - 16")	1,344,135	19,087	0	0	1,344,135	1.42%	19,087
24	331.43	T & D Mains - Mains (12" or More)	19,657,171	279,132	535,212	100,000	20,092,383	1.42%	285,312
25	333.40	Services	13,477,382	307,284	603,154	0	14,080,536	2.28%	321,036
26	334.41	Meters	2,422,703	23,742	0	0	2,422,703	0.98%	23,742
27	334.42	Meters-Metal Case/Old Style	0	0	0	0	0	2.45%	0
28	334.43	Meters - Plastic Case	91,620	14,064	0	0	91,620	15.35%	14,064
29	334.44	Meters - Metal Case/New Style	189,205	1,854	51,100	59,339	180,966	0.98%	1,773
30	334.45	Meter Installations	5,810,815	95,297	527,121	0	6,337,936	1.64%	103,942
31	335.40	Hydrants	5,753,841	127,160	76,365	61,000	5,769,206	2.21%	127,499
32	339.00	Other P/E SS	8,526	505	0	0	8,526	5.92%	505
33	340.51	Office Furniture	519,029	14,169	0	0	519,029	2.73%	14,169
34	340.53	Computer & Peripheral Equipment	142,137	22,600	2,128,969	0	2,271,106	15.90%	361,106
35	340.56	Computer & Periph Personal	1,216,780	193,468	0	0	1,216,780	15.90%	193,468
36	340.57	Computer & Periph Other	137,208	21,816	0	53,090	84,118	15.90%	13,375
37	340.55	Computer Software	525,510	166,850	0	0	525,510	31.75%	166,850
38	340.58	Computer Software Personal	166,142	52,750	0	5,388	160,754	31.75%	51,040
39	340.59	Computer Software Other	89,590	28,445	0	0	89,590	31.75%	28,445
40	340.54	Other Office Equipment	137,196	5,584	0	0	137,196	4.07%	5,584
41	341.52	Light Trucks	1,099,523	102,915	21,000	6,400	1,114,123	9.36%	104,282
42	341.53	Heavy Trucks	697,241	69,654	0	0	697,241	9.99%	69,654
43	341.54	Automobiles	163,795	17,264	0	0	163,795	10.54%	17,264
44	341.55	Transportation-Other	35,388	248	0	0	35,388	0.70%	248
45	342.50	Stores Equipment	43,392	2,161	0	0	43,392	4.98%	2,161
46	343.50	Tools, Shop, & Garage Equipment	741,035	28,530	40,500	0	781,535	3.85%	30,089
47	344.50	Laboratory Equipment	333,455	37,080	0	0	333,455	11.12%	37,080
48	345.50	Power Operated Equipment	229,342	21,122	0	4,000	225,342	9.21%	20,754
49	346.51	Communication Equipment	469,333	20,791	0	0	469,333	4.43%	20,791
50	346.53	Communication Equipment-Telephone	176,263	26,281	0	0	176,263	14.91%	26,281
51	347.51	Miscellaneous Equipment	258,584	7,473	21,500	0	280,084	2.89%	8,094
52		Amortization of CIAC		(101,256)					(107,357)
53									
54		Total Plant in Service	140,015,456	3,584,129	6,230,294	494,217	145,751,533		4,015,720
55									
56		Land	483,242				483,242		2.7600%
57		Cap Lease Asset	1,590,500						
58		Total UP	142,089,198				146,234,775		

Attrition Year Provision for Depreciation Expense
For Utility Plant In Service

Tennessee Regulatory Authority
Company: Tennessee-American Water Company
Docket No:

Test Year: Twelve Months Ended: March 31, 2004
Exhibit No. 2, Schedule 4

Line No.	Account Number	Account Description	Depreciable Property at 3/31/2004	Normalized Test Year Depreciation Expense	ADDITIONS	RETIREMENTS	Depreciable Property at Mid-Point of Attrition Year	Depreciation Rate	Attrition Year Depreciation Expense
1	303.99	Comprehensive Planning Study	$405,132	$81,026	0	0	$405,132	20.00%	$81,026
2	304.22	Pumping Structures	1,897,305	73,236	0	0	1,897,305	3.86%	73,236
3	304.31	Water Treatment Structures	1,706,175	77,972	0	0	1,706,175	4.57%	77,972
4	304.32	Water Treatment Structures-Painting	1,700,789	170,079	0	0	1,700,789	10.00%	170,079
5	304.40	T & D Structures	502,632	17,642	0	0	502,632	3.51%	17,642
6	304.51	Office Structures	151,528	6,031	0	0	151,528	3.98%	6,031
7	304.52	Stores , Shop, & Garage Structures	319,733	14,868	151,450	0	471,183	4.65%	21,910
8	304.53	Miscellaneous Structures	383,138	21,609	0	0	383,138	5.64%	21,609
9	306.20	Lakes, Rivers, & Other Intakes	281,452	9,569	0	0	281,452	3.40%	9,569
10	310.20	Power Generation Equipment	222,196	7,644	0	0	222,196	3.44%	7,644
11	311.22	Electric Pumping Equipment	5,676,202	98,198	0	0	5,676,202	1.73%	98,198
12	311.23	Deisel Pumping Equipment	119,296	2,350	0	0	119,296	1.97%	2,350
13	311.27	Other Pumping Equipment	5,145	203	0	0	5,145	3.94%	203
14	320.31	Water Treatment Equipment	12,260,179	523,510	0	0	12,260,179	4.27%	523,510
15	320.33	Granular Activated Carbon	0	0	190,000	0	190,000	36.42%	69,198
16	330.41	T & D Reservoirs & Standpipes	4,840,436	87,128	1,590,000	0	6,430,436	1.80%	115,748
17	330.42	T & D Reservoirs & Standpipes-Painting	551,948	55,195	0	0	551,948	10.00%	55,195
18	330.43	Elevated Tanks & Standpipes	170,895	3,076	0	0	170,895	1.80%	3,076
		330400 Clearwell	680,784						
19	331.40	T & D Mains not Classified	1,991,820	28,085	2,916,187	75,400	4,832,607	1.41%	68,140
20	331.41	T & D Mains - Mains (4" or less)	3,796,632	61,505	0	0	3,796,632	1.62%	61,505
21	331.44	T & D Mains - Mains (6" - 8")	826	11	0	0	826	1.36%	11
22	331.42	T & D Mains - Mains (6" - 10")	48,824,310	664,011	0	0	48,824,310	1.36%	664,011
23	331.45	T & D Mains - Mains (10" - 16")	3,087,274	43,839	564,972	12,758	3,639,488	1.42%	51,681
24	331.43	T & D Mains - Mains (12" or More)	19,813,012	281,345	0	0	19,813,012	1.42%	281,345
			102,029						
25	333.40	Services	14,819,223	337,878	438,083	0	15,257,306	2.28%	347,867
26	334.41	Meters	2,431,779	23,831	1,802,851	0	4,234,630	0.98%	41,499
27	334.42	Meters-Metal Case/Old Style	0	0	558,517	0	558,517	2.45%	13,684
28	334.43	Meters - Plastic Case	91,620	14,064	0	0	91,620	15.35%	14,064
29	334.44	Meters - Metal Case/New Style	130,726	1,281	56,000	59,339	127,387	0.98%	1,248
30	334.45	Meter Installations	6,608,879	108,386	0	0	6,608,879	1.64%	108,386
31	335.40	Hydrants	6,029,971	133,262	329,370	61,000	6,298,341	2.21%	139,193
32	339.00	Other P/E SS	8,526	505	0	0	8,526	5.92%	505
33	340.51	Office Furniture	519,029	14,169	0	0	519,029	2.73%	14,169
34	340.53	Computer & Peripheral Equipment	142,602	22,674	735,000	0	877,602	15.90%	139,539
35	340.56	Computer & Periph Personal	1,133,900	180,290	447,573	30,000	1,551,473	15.90%	246,684
36	340.57	Computer & Periph Other	137,208	21,816	0	0	137,208	15.90%	21,816
37	340.55	Computer Software	3,783,604	601,593	0	0	3,783,604	15.90%	601,593
38	340.58	Computer Software Personal	166,142	26,417	0	0	166,142	15.90%	26,417
39	340.59	Computer Software Other	89,590	14,245	0	0	89,590	15.90%	14,245
40	340.54	Other Office Equipment	137,196	5,584	127,200	0	264,396	4.07%	10,761
41	341.52	Light Trucks	1,127,656	105,549	0	33,500	1,094,156	9.36%	102,413
42	341.53	Heavy Trucks	697,241	69,654	0	0	697,241	9.99%	69,654
43	341.54	Automobiles	148,897	15,694	0	0	148,897	10.54%	15,694
44	341.55	Transportation-Other	35,388	248	0	0	35,388	0.70%	248
45	342.50	Stores Equipment	43,392	2,161	0	0	43,392	4.98%	2,161
46	343.50	Tools, Shop, & Garage Equipment	754,851	29,062	187,445	0	942,296	3.85%	36,278
47	344.50	Laboratory Equipment	351,219	39,056	0	0	351,219	11.12%	39,056
48	345.50	Power Operated Equipment	229,342	21,122	0	0	229,342	9.21%	21,122
49	346.51	Communication Equipment	321,298	14,234	0	0	321,298	4.43%	14,234
50	346.53	Communication Equipment-Telephone	141,250	21,060	0	0	141,250	14.91%	21,060
51	347.51	Miscellaneous Equipment	258,043	7,457	0	0	258,043	2.89%	7,457
52		Amortization of CIAC		(108,317)					(114,521)
53									
54		Total Plant in Service	149,829,441	4,051,107	10,094,648	271,997	158,869,279		4,437,415
55									

Attrition Year Provision for Depreciation Expense
For Utility Plant in Service

Tennessee Regulatory Authority
Company: Tennessee-American Water Company
Case No:

Test Year: Twelve Months Ended: June 30, 2006
Exhibit No. 2, Schedule 4
Page 2 of 2

Line No.	Account Number	Account Description	Depreciable Property at 6/30/2006	Normalized Test Year Depreciation Expense	ADDITIONS	RETIREMENTS	Depreciable Property at Mid-Point of Attrition Year	Depreciation Rate	Attrition Year Depreciation Expense
1	339600	Comprehensive Planning Study	$405,132	$81,026	0	0	$405,132	20.00%	$81,026
2	304200	Pumping Structures	3,695,488	142,646	94,742	0	3,790,230	3.86%	146,303
3	304300	Water Treatment Structures	1,707,760	78,045	69,500	128	1,777,132	4.57%	81,215
4	304301	Water Treatment Structures-Painting	1,553,002	155,300	0	0	1,553,002	10.00%	155,300
5	304400	T & D Structures	510,815	17,930	0	0	510,815	3.51%	17,930
6	304600	Office Structures	149,174	5,937	0	0	149,174	3.98%	5,937
7	304700	Stores , Shop, & Garage Structures	312,642	14,538	0	0	312,642	4.65%	14,538
8	304800	Miscellaneous Structures	641,625	36,188	0	0	641,625	5.64%	36,188
9	306000	Lakes, Rivers, & Other Intakes	281,452	9,569	0	0	281,452	3.40%	9,569
10	309000	Supply Mains	514,274	30,445	108,000	35,000	587,274	5.92%	34,767
11	310100	Power Generation Equipment	219,335	7,545	0	0	219,335	3.44%	7,545
12	311200	Electric Pumping Equipment	5,714,839	98,867	375,735	71,450	6,019,124	1.73%	104,131
13	311300	Deisel Pumping Equipment	119,296	2,350	0	0	119,296	1.97%	2,350
14	311500	Other Pumping Equipment	25,516	1,005	0	0	25,516	3.94%	1,005
15	320100	Water Treatment Equipment	12,324,130	526,240	0	0	12,324,130	4.27%	526,240
16	320200	Granular Activated Carbon	0	0	0	0	0	36.42%	0
17	330000	T & D Reservoirs & Standpipes	4,840,436	87,128	1,732,282	0	6,572,718	1.80%	118,309
18	330003	T & D Reservoirs & Standpipes-Painting	997,416	99,742	745,091	177,500	1,565,007	10.00%	156,501
19	330100	Elevated Tanks & Standpipes	170,895	3,076	0	0	170,895	1.80%	3,076
20	330400	Clearwells	680,784	12,254	0	0	680,784	1.80%	12,254
21	331001	T & D Mains not Classified	1,873,752	26,420	138,213	46,000	1,965,965	1.41%	27,720
22	331100	T & D Mains - Mains (4" or less)	4,371,540	70,819	349,639	55,295	4,665,884	1.62%	75,587
23	331200	T & D Mains - Mains (6" - 8")	1,458	20	438,010	61,000	378,468	1.36%	5,147
24	331210	T & D Mains - Mains (6" - 10")	55,160,835	750,187	4,577,921	189,005	59,549,751	1.36%	809,877
25	331300	T & D Mains - Mains (10" - 16")	6,071,675	86,218	687,054	181,500	6,577,229	1.42%	93,397
26	331350	T & D Mains - Mains (12" or More)	20,712,682	294,120	1,417,172	0	22,129,854	1.42%	314,244
27	333000	Services	17,119,151	390,317	1,250,706	37,470	18,332,387	2.28%	417,978
28	334100	Meters	3,531,811	34,612	1,805,387	132,600	5,204,598	0.98%	51,005
30	334120	Meters - Plastic Case	100,793	15,472	0	0	100,793	15.35%	15,472
31	334130	Meters - Metal Case/New Style	130,241	1,276	0	0	130,241	0.98%	1,276
32	334200	Meter Installations	8,191,429	134,339	855,290	16,000	9,030,719	1.64%	148,104
33	335000	Hydrants	6,851,219	151,412	398,305	53,570	7,195,954	2.21%	159,031
34	339200	Other P/E SS	8,526	505	0	0	8,526	5.92%	505
35	340100	Office Furniture	591,837	16,157	153,500	3,000	742,337	2.73%	20,266
36	340200	Computer & Peripheral Equipment	240,851	38,295	180,900	41,500	380,251	15.90%	60,460
37	340210	Computer & Mainfraim Equipment	601,115	95,577	0	0	601,115	15.90%	95,577
38	340220	Computer & Periph Personal	487,621	77,532	67,000	0	554,621	15.90%	88,185
39	340230	Computer & Periph Other	192,291	30,574	0	0	192,291	15.90%	30,574
40	340300	Computer Software	362,698	57,669	13,304	58,355	317,647	15.90%	50,506
41	340310	Computer Software Mainframe	3,535,059	562,074	0	0	3,535,059	15.90%	562,074
42	340320	Computer Software Personal	206,245	32,793	0	0	206,245	15.90%	32,793
43	340330	Computer Software Other	14,222	2,261	0	0	14,222	15.90%	2,261
44	340400	Data Handling Equipment	71,496	11,368	0	0	71,496	15.90%	11,368
45	340500	Other Office Equipment	139,827	5,691	0	0	139,827	4.07%	5,691
46	341100	Light Trucks	967,297	90,539	0	193,900	773,397	9.36%	72,390
47	341200	Heavy Trucks	668,809	66,814	0	130,850	537,959	9.99%	53,742
48	341300	Automobiles	176,996	18,655	0	39,800	137,196	10.54%	14,460
49	341400	Transportation-Other	35,388	248	0	0	35,388	0.70%	248
50	342000	Stores Equipment	43,392	2,161	0	0	43,392	4.98%	2,161
51	343000	Tools, Shop, & Garage Equipment	1,042,747	40,146	219,779	30,900	1,231,626	3.85%	47,418
52	344000	Laboratory Equipment	368,088	40,931	0	0	368,088	11.12%	40,931
53	345000	Power Operated Equipment	250,922	23,110	0	0	250,922	9.21%	23,110
54	346100	Communication Equipment	321,298	14,233	0	0	321,298	4.43%	14,233
55	346200	Communication Equipment-Telephone	164,690	24,555	0	54,500	110,190	14.91%	16,429
56	347000	Miscellaneous Equipment	1,012,035	29,248	13,800	0	1,025,835	2.89%	29,647
57	348000	Other Tangible Plant	4,918	142	0	0	4,918	2.89%	142
58		Amortization of CIAC		(148,797)					(163,076)
60									
61		Total Plant in Service	170,488,966	4,497,524	15,691,330	1,609,323	184,570,973		4,745,117
62				4,646,321					
63		Land	431,912				431,912		2.5700%
64		Cap Lease Asset	1,590,500						
65		Total UP	172,511,379				185,002,886		
		GL Balance	176,967,198						
		Walden's Ridge	-4,455,819						

TN-CAPD-01-PART IV-Q062-ATTACHMENT
Page 3 of 3

TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 08-00039
FIRST DISCOVERY REQUEST OF THE
CONSUMER ADVOCATE AND PROTECTION DIVISION

Responsible Witness: Sheila Miller/Michael Miller

PART IV: QUESTIONS & REQUESTS REGARDING REVENUES, EXPENSES, TAXES, RATE BASE & MISCELLANEOUS

Question: RATE BASE

63. Provide the Plant in Service and Accumulated Depreciation by JDE account in the following format as of November 2007, December 2007, January 2008, February 2008, and March 2008:

(1) JDE Acct #	(2) Account Description	(3) Plant in Service Balance	(4) Acc. Deprec. Balance	(5) Current Deprec. Rate	(6) Net Book Value

The response should incorporate the format and subsidiary accounts of the Company's Accounting Exhibit No. 2, Schedule 4.

Response:

The Company objects to this request on the grounds that it is unduly burdensome, in particular, because the information requested is not readily available to the Company in the requested format and would be extremely costly to gather and produce. Furthermore, the Company objects to this request on the grounds that it calls upon the Company to create or otherwise organize data regarding time periods outside of the Company's historical test year, seeks to have the Company create work product and seeks information that is not relevant to this rate case. The Company also objects to this request on the grounds that it detracts from the Company's ability to address and support its historical test-year data and the adjustments developed to arrive at a reasonable attrition year and is not required by the TRA's recognized rate case procedures.

The Company filed its petition, testimony, exhibits and workpapers fully supporting its case based on a test year ending November 30, 2007. Test year data and schedules were prepared specifically for the historical test year utilized in the Company's filing. This request seeks the compilation of data in a format not readily available to the Company for each of the four months past the end of the historical test-year. It is burdensome and fundamentally unfair to require the Company to respond to a data request that, in essence, requires the Company to completely redo the data collection and analysis required to file its petition based on a test year, or multiple test years, proposed by an Intervener, particularly when that test year includes dates after the petition was filed. The re-creation of every aspect of its case for multiple historical test years is not required by TRA rules and is not necessary for the CAPD to assess the Company's petition.

Subject to and without waiving its objections, the Company provides the following response. The Company only compiles the accumulated deprecation by JDE account in reports specific to rate case filings, the periods for which the CAPD requests this information is not readily available to TAWC and can not be produced without considerable time and cost to TAWC. In addition, the information for December 2007 will be provided in the response to TN-CAPD-01-part IV-Q71. The attrition year calculations for the requested information can be found in the response to TN-TRA-01-Q013-Rate Base Back-Up, pages 47-52 of 52. The information for total utility plant and accumulated depreciation for December 2007 and January through March 2008 can be found in the monthly reports filed with the TRA (report PSC-3.06).

TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 08-00039
FIRST DISCOVERY REQUEST OF THE
CONSUMER ADVOCATE AND PROTECTION DIVISION

Responsible Witness: Michael Miller

PART IV: QUESTIONS & REQUESTS REGARDING REVENUES, EXPENSES, TAXES, RATE BASE & MISCELLANEOUS

Question: RATE BASE

64. Provide the forecasted and/or actual, plant additions, plant retirements, salvage, costs of removal by JDE account, by month from January 2007 through August 2009.

Response:

The Company objects to this request on the grounds that it is unduly burdensome and is not readily available in the requested format. Subject to and without waiving these objections, please see the following response.

The actual plant additions and retirements for January 2007 through December 2007 are included in the response to TN-TRA-01-Q051. The forecasted plant additions and retirements are included in the working papers filed in response to TN-TRA-01-Q013 and referenced as TN-TRA-01-Q013-RATE BASE BACKUP, Pages 31 to 45 of 52. Please refer to the response previously supplied to TN-CAPD-01-Part II-Q34-Attachment. The recap of cost of removal is supplied. Also, please refer to pages 79 and 80 of 80, which provide the cost of removal by JDE account for 2007. The only cost of removal net of salvage included in the Company's filing for the period December 2007-August 2008 is the NNS amount included in the current depreciation rates. For the attrition year the only cost of removal net of salvage included in the Company's filing is the NNS amount included in the revised depreciation rates proposed by Mr. Spanos. The result of the impact of NNS included in the depreciation rates credits accumulated

depreciation for the attrition year thereby reducing rate base. The Company did not adjust accumulated depreciation for the impact of actual cost of removal net of salvage for the period December 2007 through August 2009. Because cost of removal has historically exceeded salvage by a large amount and because that trend is expected to continue through the attrition year as plant is retired with extremely low original cost, the Company has understated its rate base for the attrition year in this case.

TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 08-00039
FIRST DISCOVERY REQUEST OF THE
CONSUMER ADVOCATE AND PROTECTION DIVISION

Responsible Witness: John Watson

PART IV: QUESTIONS & REQUESTS REGARDING REVENUES, EXPENSES, TAXES, RATE BASE & MISCELLANEOUS

Question: RATE BASE

65. Provide a summary of "TDOT Reimbursable Projects" from November 2006 through August 2009 detailing the total cost of each project, the reimbursable cost by the TDOT by project, amount reimbursed by JDE account and reimbursement amounts due, and the net amount due by the ratepayers. See J. Watson's direct testimony, pages 10-11.

Response:

The TDOT reimbursements below were all embedded as credits to the contributions-mains, account 271 in arriving at the attrition year rate base.

TDOT Reimbursable Projects

Name	Total Cost	Reimbursable Cost	Amount Reimbursed
Cummings Highway	$826,967	$826,967	$0
Lee Highway	$407,091	$407,091	$0
E Brainerd Road	$1,627,000	$1,627,000	$0
St. Elmo Avenue	$25,000	$25,000	$0

TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 08-00039
FIRST DISCOVERY REQUEST OF THE
CONSUMER ADVOCATE AND PROTECTION DIVISION

Responsible Witness: John Watson/Michael Miller

PART IV: QUESTIONS & REQUESTS REGARDING REVENUES, EXPENSES, TAXES, RATE BASE & MISCELLANEOUS

Question: RATE BASE

66. The Direct Testimony of John Watson at page 13, lines 15-19, states in pertinent part that "The Company has excluded the rate base assets associated directly with service to the Walden's Ridge Utility District." Provide the Plant in Service and Accumulated Depreciation rate base amounts by subsidiary JDE account as of March 31, 2008 that are directly attributable to providing water services to Walden's Ridge.

Response:

The Company objects to this question on the grounds that it is not relevant to this proceeding. Attached is a schedule of the Walden's Ridge plant in service and accumulated depreciation by JDE account as of November 30, 2007. This amount was eliminated from the rate filing and is not part of the rate base requested by the Company for the attrition year in this case.

Tennessee American Water Company
CAPD Dr 1 Part 4 Question 66
Walden's Ridge Utility Plant

Task	Description	UPIS	In Service Date	Amount			Acc Depr Adjustment
50071498	16" DI Main Mtn Springs Rd to Tank Access Rd	331300	12/3/2005	$216,131.93	$216,131.93	1.50%	8,105
50071499	12" DI Main Tank Access Rd to Canebreak Dr	331300	12/3/2005	$175,742.74		1.50%	
		331300	4/6/2006	-$7,853.00		1.50%	
		331300	6/30/2006	$19,055.11	$186,944.85	1.50%	7,010
50071501	16" DI Main Canebreak Dr to Booster Station	331300	12/3/2005	$496,741.65		1.50%	
		331300	2/3/2006	$9,349.36		1.50%	
		331300	3/9/2006	-$9,349.36		1.50%	
		331300	4/6/2006	-$302.92		1.50%	
		331300	5/26/2006	$1,619.81	$498,058.54	1.50%	18,677
50071502	12" DI Main E Brow Rd to Clegg St	331300	12/3/2005	$283,293.26		1.50%	
		331300	2/3/2006	$11,698.65		1.50%	
		331300	3/9/2006	-$11,698.65		1.50%	
		331300	4/6/2006	-$7,056.05		1.50%	
		331300	5/26/2006	$451.54		1.50%	
		331300	6/30/2006	$7,851.95	$284,540.70	1.50%	10,670
50072719	Hydrant at WRUD Pump Station	335000	12/3/2005	$296.88	$296.88	2.63%	20
50073560	Construct and Install WR Pump Station	330000	12/3/2005	$1,385,993.96		2.08%	
		330000	2/3/2006	$114,585.60		2.08%	
		330000	3/9/2006	-$114,585.60		2.08%	
		330000	4/6/2006	-$104,447.16		2.08%	
		330000	5/26/2006	$42,460.91		2.08%	
		330000	6/30/2006	$32,289.66		2.08%	
		330000	7/28/2006	$0.00		2.08%	
		330000	8/25/2006	$0.00	$1,356,297.37	2.08%	70,527
50075848	16" Steel Main from Pump Station to WRUD	331300	12/3/2005	$1,863,530.92		1.50%	
		331300	2/3/2006	$460,967.41		1.50%	
		331300	3/9/2006	-$460,967.41		1.50%	
		331300	4/6/2006	-$176,665.81		1.50%	
		331300	5/26/2006	$18,194.68		1.50%	
		331300	6/30/2006	$178,594.87		1.50%	
		331300	7/28/2006	$0.00	$1,883,654.66	1.50%	70,637
50084901	SCADA Equipment	340300	12/3/2005	$16,816.88		1.83%	
		340300	2/3/2006	$13,578.87		1.83%	
		340300	3/9/2006	-$6,997.54		1.83%	
		340300	4/6/2006	$4,013.67		1.83%	
		340300	5/26/2006	$2,482.66	$29,894.54	1.83%	1,368
				$4,455,819.47	$4,455,819.47		187,014

TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 08-00039
FIRST DISCOVERY REQUEST OF THE
CONSUMER ADVOCATE AND PROTECTION DIVISION

Responsible Witness: Sheila Miller/Michael Miller

PART IV: QUESTIONS & REQUESTS REGARDING REVENUES, EXPENSES, TAXES, RATE BASE & MISCELLANEOUS

Question: RATE BASE

67. Provide the forecasted and or actual, plant additions, plant retirements, salvage, costs of removal by subsidiary JDE account, by month from January 2007 through August 2009 that are attributable to providing water services to Walden's Ridge.

Response:

There are no forecasted or actual plant additions, retirements, salvage, or cost of removal from January 2007 through August 2009 that are attributable to Walden's Ridge included in the Company's rate filing.

TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 08-00039
FIRST DISCOVERY REQUEST OF THE
CONSUMER ADVOCATE AND PROTECTION DIVISION

Responsible Witness: Michael Miller

PART IV: QUESTIONS & REQUESTS REGARDING REVENUES, EXPENSES, TAXES, RATE BASE & MISCELLANEOUS

Question: RATE BASE

68. Provide all work papers, calculations, and documentation supporting the Payment or (Lead) Days on lines 4 through 32 of Exhibit No. 1, Schedule 3, Page 3 of 6 and lines 12 through 29 of Exhibit No. 1, Schedule 3, Page 4 of 6.

Response:

The lead/lag study on which the Company has determined its working cash in this case was prepared prior to Mr. Miller's involvement with TAWC in his current position. The Company has been unable to locate the requested workpapers.

TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 08-00039
FIRST DISCOVERY REQUEST OF THE
CONSUMER ADVOCATE AND PROTECTION DIVISION

Responsible Witness: Sheila Miller

PART IV: QUESTIONS & REQUESTS REGARDING REVENUES, EXPENSES, TAXES, RATE BASE & MISCELLANEOUS

Question: RATE BASE

69. Reconcile the net additions of TN-TRA-Q013-RATE BASE BACK-UP, on page 40 of 52 for December 2007 by JDE Account to the net additions on page 31 of 52 for December 2007 by JDE Account. Provide a detailed written explanation in your reconciliation.

Response:

The net additions detailed on pages 31 of 52 in the working papers TN-TRA-Q013-RATE BASE BACK-UP was the original file that contained an estimated amount of net additions for December 2007. The net additions detailed on page 40 of 52 in working papers TN-TRA-Q013-RATE BASE BACK-UP are the actual December 2007 net additions. In preparing the rate base for this filing, the Company used the actual December 2007 net additions due to the large amount of retirements recorded in that month. The difference between the estimated net additions and actual net additions for December was $27,005.90. Therefore, these pages will not coincide by account.

TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 08-00039
FIRST DISCOVERY REQUEST OF THE
CONSUMER ADVOCATE AND PROTECTION DIVISION

Responsible Witness: Michael Miller/John Spanos

PART IV: QUESTIONS & REQUESTS REGARDING REVENUES, EXPENSES, TAXES, RATE BASE & MISCELLANEOUS

Question: RATE BASE

70. Provide the basis for continuing depreciation expense in the Company's attrition year forecast on JDE Account 339200, JDE Account 340210, JDE Account 340310, JDE Account 340320, JDE Account 340330, and JDE Account 342000 when the net book value is zero and there are no forecasted plant additions to the account during the attrition year.

Response:

In Mr. Spanos' depreciation study, he combined the 340200 (computer equipment) series accounts into one depreciation rate determination, and the 340300 (software) series accounts into one depreciation rate determination. The Company applied Mr. Spanos's depreciation rates per his study for his account series 340200 and 340300 depreciation rates to the decimalization of those accounts that appear on the Company's books.

By combining the 340200 and 340300 series accounts into one depreciation rate Mr. Spanos' has taken into account any depreciation reserve adjustments and service life adjustments required for those accounts. This in fact resulted in a reduction in depreciation rates for the 340200 and 340300 series accounts from the current depreciation rate of 15.90% to depreciation rates in series 340200 accounts of 2.19% and the series 340300 accounts of 1.83%. The changes in computer equipment and software depreciation rates proposed by Mr. Spanos in

this case are a primary driver of the lower depreciation expense requested in this case.

If the Company would have combined the various decimalizations of the 340200 and 340300 accounts as Mr. Spanos did, its calculation of depreciation expense for the attrition year would have resulted in the exact same depreciation expense as the Company has included in its attrition year filing. The Company used a 0.00% depreciation rate for its attrition year depreciation expense for accounts 339200 and 342000 which is in compliance with Mr. Spanos' recommendations.

TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 08-00039
FIRST DISCOVERY REQUEST OF THE
CONSUMER ADVOCATE AND PROTECTION DIVISION

Responsible Witness: Sheila Miller/Michael Miller

PART IV: QUESTIONS & REQUESTS REGARDING REVENUES, EXPENSES, TAXES, RATE BASE & MISCELLANEOUS

Question: RATE BASE

71. Reconcile the Accumulated Depreciation balances by JDE Account of TN-TRA-Q013-RATE BASE BACK-UP, on pages 47-48 of 52 for December 2007 with the Alloc. Book Reserve amounts in the Company's Depreciation Study, Pages III-144 through III-198. Include in your response a detailed explanation for each reconciliation amount.

Response:

The Company objects to this request on the grounds that it is over broad and unduly burdensome and that the information is not readily available in the format that is requested. Subject to and without waiving these objections, Mr. Spanos' 2007 balances reflect the numbers through the historical test-year ended November 2007. The balances referenced to the Company's filing are for the year ended December 2007. The differences between the balances relates to December 2007 activity related to December depreciation expense, retirements, cost of removal and salvage. See the attached reconciliation.

The total variance of $187,011 in the column labeled 'Variance Rate Base to 12.31.07 Reserve Balance" is the Walden's Ridge amounts that were eliminated from the rate filing. The Depreciation Study balances were updated with the December 2007 reserve activity in the column labeled 'Depr Study plus 12.31.07 Reserve'. The last column depicts the variances with the rate base schedule referenced above, TN-TRA-Q013-RATE BASE BACK-UP, on pages 47-48 of 52

and the updated Depreciation Study amounts. Variances are due to multiple accounts being rolled into one in the Depreciation Study (i.e. mains, computer equipment, computer software), or due to the elimination of Walden's Ridge accumulated depreciation from the rate base in the Company's filing. The overall difference is $1,213, account 339500, which was not included in the Depreciation Study, but has a beginning reserve balance.

Tennessee American Water Company
Reserve by Plant Account
CAPD DR 1 Part 4 Question 71
Note- Includes December Adjustment for additional Depreciation true-up

JDE/PP G/L Account	11.30.07 Reserve Balance	December Provision-Dec	December December-Add Depr Adj	December Retirements	December Removal Cost	December Salvage	December Adjustment	12.31.07 Reserve Balance	Rate Base Schedule	Variance Rate Base to 12.31.07 Reserve Bal	Depr Study Plus 12.31.07 Reserve	Variance Depr Study @ 12/07 to Rate Base	
301000	$ -	$ -	$ -	$ -	$ -	$ -		-					
303300	$ -							-					
303400	$ -							-					
303500	$ -							-					
303501	$ -							-					
303502	$ -	$ -	$ -	$ -	$ -	$ -		-					
303600	$ -							-					
304100	$ -	$ -	$ -	$ -	$ -	$ -		-					
304200	$ 1,072,368.90	$ 12,427.79	$ 239.94	$ (136.83)	$ -	$ -		1,084,900	1,084,900	$ (0)	$ 1,052,800	$ 32,100	
304300	$ 1,230,113.75	$ 7,665.08	$ (0.09)	$ (466.69)	$ -	$ -		1,237,312	1,237,312	$ 0	$ 1,156,409	$ 80,903	
304301	$ 1,197,605.92	$ 14,123.40	$ (0.03)	$ -	$ -	$ -		1,211,729	1,211,729	$ 0	$ 1,324,732	$ (113,003)	
304400	$ 387,127.02	$ 1,535.01	$ (0.01)	$ -	$ -	$ -		388,662	388,662	$ 0	$ 388,662	$ -	
304500	$ -	$ 565.34	$ 300.79	$ -	$ -	$ -		866		$ 866	$ 866	$ (866)	
304510	$ -	$ -	$ -	$ -	$ -	$ -		-		$ -	$ -	$ -	
304600	$ 129,221.05	$ 451.64	$ -	$ -	$ -	$ -		129,673	130,539	$ (866)	$ 129,673	$ 866	
304700	$ 272,744.00	$ 1,211.48	$ 0.08	$ -	$ -	$ -		273,956	273,956	$ (0)	$ 273,956	$ 0	
304800	$ 575,755.42	$ 3,090.59	$ 0.03	$ -	$ -	$ -		578,846	578,846	$ 0	$ 578,846	$ 0	
306000	$ 240,044.95	$ 1,385.85	$ (0.02)	$ -	$ -	$ -		241,431	241,431	$ (0)	$ 241,431	$ 0	
309000	$ 56,035.97	$ 2,978.92	$ -	$ -	$ -	$ -		59,015	59,015	$ (0)	$ 59,015	$ 0	
310000	$ 28,387.64	$ 651.95	$ (0.07)	$ -	$ -	$ -		29,040	29,040	$ (0)	$ 29,040	$ (0)	
311200	$ 2,358,000.68	$ 8,163.20	$ 0.05	$ -	$ -	$ -		2,366,164	2,366,164	$ (0)	$ 2,366,164	$ (0)	
311300	$ 50,950.54	$ 195.85	$ (0.05)	$ -	$ -	$ -		51,146	51,146	$ 0	$ 51,147	$ (1)	
311500	$ 79,952.96	$ 880.14	$ 0.01	$ -	$ -	$ -		80,833	80,833	$ 0	$ 80,833	$ (0)	
311530	$ -	$ -	$ -	$ -	$ -	$ -		-		$ -	$ -	$ -	
320100	$ 9,415,405.13	$ 44,371.06	$ (0.06)	$ -	$ -	$ -		9,459,776	9,459,776	$ 0	$ 9,459,776	$ -	
320200	$ -	$ -	$ -	$ -	$ -	$ -		-		$ -	$ -	$ -	
330000	$ 1,777,835.02	$ 9,723.76	$ (0.01)	$ (11,641.37)	$ -	$ -		1,775,917	1,705,390	$ 70,527	$ 1,775,917	$ (70,527)	Walden's Ridge
330003	$ 412,411.33	$ 16,621.41	$ 2,355.82	$ -	$ -	$ -		431,389	431,389	$ (0)	$ 431,388	$ 1	
330100	$ 503,592.90	$ 2,835.18	$ -	$ -	$ -	$ -		506,428	506,428	$ 0	$ 506,428	$ (0)	
330400	$ 193,199.06	$ 1,021.18	$ -	$ -	$ -	$ -		194,220	194,220	$ 0	$ 194,220	$ (0)	
331001	$ 356,882.68	$ 2,272.72	$ 0.09	$ (16,381.19)	$ -	$ -		342,774	342,774	$ 0	$ 19,368,751	$ (19,025,977)	
331100	$ 928,359.60	$ 6,434.46	$ 0.60	$ (1,607.87)	$ -	$ -		933,187	933,187	$ (0)	$ 4,827	$ 928,360	
331200	$ 416.33	$ 1.65	$ 0.02	$ -	$ -	$ -		418	418	$ (0)	$ 2	$ 417	
331210	$ 11,672,649.12	$ 68,991.58	$ 445.46	$ (312.31)	$ -	$ -		11,741,774	11,741,774	$ (0)	$ 69,125	$ 11,672,649	
331300	$ 1,960,086.42	$ 11,614.54	$ 0.03	$ -	$ -	$ -		1,971,701	1,856,602	$ 115,099	$ 11,615	$ 1,844,987	(115,099) variance Walden's Ridge
331350	$ 4,331,916.56	$ 27,904.93	$ 6.17	$ (321.43)	$ -	$ -		4,359,506	4,492,826	$ (133,320)	$ 27,590	$ 4,465,236	
331400	$ 132,548.72	$ 771.52	$ 0.03	$ -	$ -	$ -		133,320		$ 133,320	$ 772	$ (772)	
333000	$ 7,299,506.26	$ 36,107.91	$ 209.60	$ -	$ -	$ -		7,335,824	7,335,824	$ (0)	$ 7,335,824	$ 0	
334100	$ 655,550.32	$ 3,823.00	$ (37.54)	$ (10.93)	$ -	$ -		659,325	487,156	$ 172,169	$ 553,057	$ (65,901)	
334110	$ 1,127.95	$ 2,703.22	$ 14.20	$ -	$ (68,726.41)	$ 122.22		(64,759)		$ (64,759)	$ (65,887)	$ 65,887	
334120	$ (73,683.10)	$ -	$ -	$ -	$ -	$ -		(73,683)		$ (73,683)	$ -	$ -	
334130	$ (33,726.63)	$ -	$ -	$ -	$ -	$ -		(33,727)		$ (33,727)	$ -	$ -	
334131	$ 13.71	$ 13.86	$ -	$ -	$ -	$ -		28	28	$ (0)	$ 14	$ 14	
334200	$ 988,630.08	$ 13,388.97	$ 0.01	$ -	$ (1,788.30)	$ 21,464.02		1,021,695	1,021,695	$ (0)	$ 1,021,695	$ 0	
335000	$ 1,723,513.79	$ 14,049.05	$ 169.03	$ (83.52)	$ -	$ -		1,737,648	1,737,628	$ 20	$ 1,737,649	$ (21)	Walden's Ridge
339200	$ 168,313.63	$ 42.06	$ -	$ -	$ -	$ -		168,356	15,542	$ 152,814	$ 15,542	$ (0)	
339500	$ 1,213.00							1,213		$ 1,213	$ -	$ -	
339600	$ 305,760.10	$ -	$ -	$ (405,131.83)	$ -	$ -		(99,372)	54,656	$ (154,028)	$ 53,442	$ 1,214	should be account 339500
340100	$ 490,462.10	$ 1,195.44	$ 0.04	$ (101,696.13)	$ -	$ -		389,961	389,961	$ 0	$ 389,961	$ (0)	
340200	$ 293,839.00	$ 3,923.78	$ (0.03)	$ (12,097.17)	$ -	$ -		285,666	285,666	$ (0)	$ 1,551,702	$ (1,266,036)	
340210	$ 568,731.76	$ 7,996.18	$ -	$ -	$ -	$ -		576,728	576,728	$ (0)	$ 7,996	$ 568,732	
340220	$ 510,500.26	$ 4,239.47	$ 1,021.08	$ (299,635.96)	$ -	$ -		216,125	216,125	$ (0)	$ (294,375)	$ 510,501	
340230	$ 186,804.19	$ 2,530.53	$ 145.64	$ (12,898.81)	$ -	$ -		176,582	176,582	$ (0)	$ (10,223)	$ 186,805	
340300	$ 408,770.02	$ 5,460.69	$ -	$ -	$ -	$ -		414,231	412,863	$ 1,368	$ 3,968,721	$ (3,555,858)	(1,368) variance Walden's Ridge
340310	$ 3,343,879.40	$ 46,839.52	$ 0.06	$ -	$ -	$ -		3,390,719	3,390,719	$ (0)	$ 46,840	$ 3,343,880	
340320	$ 195,091.12	$ 2,537.17	$ (0.04)	$ (9,372.43)	$ -	$ -		188,256	188,256	$ (0)	$ (6,835)	$ 195,091	
340330	$ 15,518.97	$ 376.29	$ -	$ -	$ -	$ -		15,895	15,895	$ 0	$ 376	$ 15,519	
340400	$ 8,808.09	$ 202.51	$ -	$ -	$ -	$ -		9,011	9,011	$ (0)	$ 9,011	$ 0	
340500	$ 114,911.87	$ 314.38	$ -	$ (44,518.66)	$ -	$ -		70,708	70,708	$ (0)	$ 70,708	$ 0	
341100	$ 202,610.92	$ 8,036.74	$ (0.04)	$ (60,738.93)	$ -	$ -		149,911	149,911	$ (0)	$ 149,911	$ 0	
341200	$ 147,963.46	$ 6,596.51	$ -	$ -	$ -	$ -		154,560	154,560	$ (0)	$ 154,560	$ 0	
341300	$ 65,390.16	$ 2,237.78	$ 0.07	$ -	$ -	$ -		67,628	67,628	$ 0	$ 67,628	$ 0	
341400	$ 34,528.93	$ 138.39	$ (0.03)	$ -	$ -	$ -		34,667	34,667	$ 0	$ 34,667	$ (0)	
342000	$ 47,204.67	$ 180.08	$ -	$ -	$ -	$ -		47,385	47,385	$ 0	$ 47,385	$ (0)	
343000	$ 362,622.81	$ 3,783.27	$ 18.19	$ -	$ -	$ -		366,424	366,424	$ 0	$ 366,424	$ (0)	
344000	$ 334,056.11	$ 3,412.37	$ -	$ (1,884.48)	$ -	$ -		335,584	335,584	$ -	$ 335,584	$ 0	

Tennessee American Water Company
Reserve by Plant Account
CAPD DR 1 Part 4 Question 71
Note- Includes December Adjustment for additional Depreciation true-up

JDE/PP G/L Account	11.30.07 Reserve Balance	December Provision-Dec	December December-Add Depr Adj	December Retirements	December Removal Cost	December Salvage	December Adjustment	12.31.07 Reserve Balance	Rate Base Schedule	Variance Rate Base to 12.31.07 Reserve Bal	Depr Study Plus 12.31.07 Reserve	Variance Depr Study @ 12/07 to Rate Base	
345000	$ 324,534.96	$ 2,553.98	$ 0.06	$ -	$ -	$ -		327,089	327,089	$ -	$ 327,089	$ (0)	
346100	$ 259,942.43	$ 1,301.27	$ -	$ (2,343.73)	$ -	$ -		258,900	258,900	$ (0)	$ 258,900	$ 0	
346190	$ -	$ -	$ -	$ -	$ -	$ -		-		$ -	$ 126,849	$ (126,849)	
346200	$ 126,849.35	$ 1,064.87	$ (0.01)	$ (70,026.85)	$ -	$ -		57,887	57,887	$ 0	$ (68,962)	$ 126,849	
347000	$ 172,620.85	$ 2,613.85	$ (21.32)	$ (364.60)	$ -	$ -		174,849	185,571	$ (10,722)	$ 185,559	$ 12	
348000	$ 10,970.24	$ 11.84	$ -	$ -	$ -	$ -		10,982	260	$ 10,722	$ 272	$ (12)	
Total	$ 58,626,442.44	$ 425,567.21	$ 4,867.75	$ (1,051,671.72)	$ (70,514.71)	$ 21,586.24	$ -	57,956,277	57,769,266	187,011	57,955,064	(185,798)	
								57,769,266		Walden's Ridge		187,011	Walden's Ridge
							Walden's Ridge	187,011				1,213	Account 339500

TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 08-00039
FIRST DISCOVERY REQUEST OF THE
CONSUMER ADVOCATE AND PROTECTION DIVISION

Responsible Witness: John Watson/Michael Miller

PART IV: QUESTIONS & REQUESTS REGARDING REVENUES, EXPENSES, TAXES, RATE BASE & MISCELLANEOUS

Question: RATE BASE

72. Provide all cost documentation supporting the Citico Water Treatment Improvements for 2008 and 2009 by month. Include a detailed narrative of the Phase II construction start date, completion date, contractor name, and contract documents with supporting documentation.

Response:

Below are the cash flow projections for both the Phase I and Phase II projects related to the Citico Treatment Plant Improvement Projects. In the Company's attrition year, the Company included $1,850,000 of plant for Phase I of the project. Please refer to the Company's response to TN-TRA-01-Q13-Rate Case Back-up, Page 37 of 52, which shows the additions for Phase I. Phase I of the project is currently under construction. The plant additions of $1.850 million for Phase I work included in the attrition year relates to work on settling basins, which will be in service prior to the end of the attrition year.

In addition, the Company included in the attrition year an additional $7,837,500 of CWIP as of August 2009 related to Phase I. The attrition year also includes an additional $300,000 for CWIP for Phase II. There was a corresponding reduction to O&M expense related to AFUDC on CWIP included in the rate base.

No engineering work has begun for Phase II work. Therefore, at this time, no construction start date, completion date, contractor name, and contract documents has been developed for this work.

Please see the Company's response to TN-TRA-01-Q53 for details concerning the Citico Plant Improvement Project.

CASH FLOW PROJECTIONS

Jan-08	$	-	Jan-09	$	682,000.00
Feb-08	$	150,000.00	Feb-09	$	682,000.00
Mar-08	$	175,000.00	Mar-09	$	682,000.00
Apr-08	$	175,000.00	Apr-09	$	682,000.00
May-08	$	175,000.00	May-09	$	682,000.00
Jun-08	$	175,000.00	Jun-09	$	682,000.00
Jul-08	$	25,000.00	Jul-09	$	682,000.00
Aug-08	$	25,500.00	Aug-09	$	682,000.00
Sep-08	$	500,000.00	Sep-09	$	682,000.00
Oct-08	$	500,000.00	Oct-09	$	682,000.00
Nov-08	$	1,000,000.00	Nov-09	$	682,000.00
Dec-08	$	423,038.00	Dec-09	$	682,000.00
	$	3,323,538.00		$	8,184,000.00

TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 08-00039
FIRST DISCOVERY REQUEST OF THE
CONSUMER ADVOCATE AND PROTECTION DIVISION

Responsible Witness: Sheila Miller/Michael Miller

PART IV: QUESTIONS & REQUESTS REGARDING REVENUES, EXPENSES, TAXES, RATE BASE & MISCELLANEOUS

Question: RATE BASE

73. Provide all work papers and documentation to calculate a 13 month average for CWIP for the attrition year i.e. end of month CWIP balances for the months July 2008 through August 2009.

Response:

Attached is the calculation of the 13 month average CWIP for the attrition year. Please see the capital spending plan (budget) attached to the response to TN-TRA-01-Q018-attachment, page 4 of 12 and 8 of 12, which are the basis for the capital spending column and the contribution/advances column. The Plant additions were taken from TN-TRA-01-Q013-Rate Base Back-up, pages 31-38 of 52.

Please note that the Company had included a CWIP 13-month average balance for the attrition year of $9,083,000. The Company recognizes that it made an error in this calculation in the Company's rate base request.

Tennessee American Water Company
CWIP

	Net Additions	Capital Spending	Cont/adv	CWIP Bal	
				4,829,032	Bal @ 7/08
8-Aug	1,675,075	1,429,000	300,000	5,305,140	
8-Sep	838,875	1,428,100	250,000	5,644,365	
8-Oct	859,962	1,306,700	250,000	5,841,103	
8-Nov	612,445	1,821,100	215,000	6,834,758	
8-Dec	1,912,842	797,676	101,038	5,618,554	
9-Jan	316,035	1,664,500	166,667	6,800,352	
9-Feb	534,901	1,664,500	166,667	7,763,284	
9-Mar	492,522	1,681,166	166,667	8,785,261	
9-Apr	641,186	1,681,166	166,667	9,658,574	
9-May	802,284	1,706,166	166,667	10,395,789	
9-Jun	964,560	1,706,170	166,667	10,970,732	
9-Jul	1,071,903	1,564,500	166,667	11,296,662	
9-Aug	3,655,075	1,564,500	166,667	9,039,420	Bal @ 8/09
					103,953,999
				13 mo avg	7,996,461

TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 08-00039
FIRST DISCOVERY REQUEST OF THE
CONSUMER ADVOCATE AND PROTECTION DIVISION

Responsible Witness: John Watson/Sheila Miller

PART IV: QUESTIONS & REQUESTS REGARDING REVENUES, EXPENSES, TAXES, RATE BASE & MISCELLANEOUS

Question: RATE BASE

74. Provide the forecasted JDE Account(s) for the budgeted $2,000,000 extension deposits in 2008 (TN-TRA-01-Q018-ATTACHMENT Page 2 of 12).

Response:

The JDE account for the budgeted $2,000,000 extension deposits in 2008 is 252120 non-taxable extensions.

TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 08-00039
FIRST DISCOVERY REQUEST OF THE
CONSUMER ADVOCATE AND PROTECTION DIVISION

Responsible Witness: Michael Miller

PART IV: QUESTIONS & REQUESTS REGARDING REVENUES, EXPENSES, TAXES, RATE BASE & MISCELLANEOUS

Question: RATE BASE

75. Provide the basis for all allocated Accumulated Deferred Tax liabilities and assets to TAWC at March 31, 2008 and for the attrition year ended August 31, 2009.

Response:

The Company objects to this question related to the information at March 31, 2008 on the grounds that it is unduly burdensome. The information is not readily available to the Company without extremely time-consuming and costly efforts to create that data. In addition, the requested information as of March 31, 2008 is not relevant to the TRA's processing of this rate case regarding the use of an appropriate historical test-year adjusted for known and measurable or reasonable adjustments in arriving at the attrition year for this case. The otherwise requested information for the historical test-year and adjustments used in arriving at the attrition year level requested in this case can be found in the Company's workpapers filed in response to TN-TRA-01-Q013-Income Taxes, page 14-20 of 20.

TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 08-00039
FIRST DISCOVERY REQUEST OF THE
CONSUMER ADVOCATE AND PROTECTION DIVISION

Responsible Witness: John Watson

PART IV: QUESTIONS & REQUESTS REGARDING REVENUES, EXPENSES, TAXES, RATE BASE & MISCELLANEOUS

Question: RATE BASE

76. The Direct Testimony of John Watson at page 14 indicates that certain capital projects are needed to meet current water quality regulations and address future water quality regulations of the Tennessee Department of Environment and Conservation and the United States Environment Protection Agency. Please identify each capital project for 2008-2009 that is needed to meet such current and future regulations, including but not confined to, a description of the capital project, a description of the plant additions or improvements involved, identification of the particular current of future Tennessee or federal regulation associated with the project, and the amount of capital expenditure by JDE account number.

Response:

At Citico Station, the installation of jet mixers in the Raw Water Control Building for rapid mixing, the replacement of flocculators in Basins No. 1 and No. 2, and the replacement of Basin No. 3 with flocculation, plate settlers, and continuous sludge removal equipment in Basin 3a and 3b, and supporting electrical improvements are needed for continued compliance with filtered water turbidity regulations identified in the TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION BUREAU OF ENVIRONMENT DIVISION OF WATER SUPPLY CHAPTER 1200-5-1-.31 Filtration and Disinfection. The USEPA Rule involved is the Interim Enhanced Surface Water Treatment Rule (IEWTR). The estimated value for the above work is $13,190,094.

The installation of a liquid chemical unloading facility at Citico Water Treatment Station that provides secondary containment of the unloading process is needed for compliance with TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION requirements as identified by the Sanitary Survey Manual for Community and Non-Community Non-Transit Water Supplies and Tennessee Department of Environment and Conservation Rule 1200-5-1, .17(3), (17) and (19). The estimated value for the above work is $190,124.

The installation of chlorination improvements at Citico Station allow for delayed application of chlorine prior to filtration for Basins No. 1, No. 2 and No. 3. This improvement is a method to reduce disinfection byproducts in the plant effluent and in the distribution system, and will be used to comply with the Stage 2 Disinfection Byproduct Rule as identified in TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION BUREAU OF ENVIRONMENT DIVISION OF WATER SUPPLY CHAPTER 1200-5-1-.38 Stage 2 Disinfection Byproducts Requirement (LRAA). The USEPA equivalent regulation is the Stage 2 Disinfection/Disinfection By-Product Rule. The estimated value for the above work is $79,131.

TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 08-00039
FIRST DISCOVERY REQUEST OF THE
CONSUMER ADVOCATE AND PROTECTION DIVISION

Responsible Witness: John Watson

PART IV: QUESTIONS & REQUESTS REGARDING REVENUES, EXPENSES, TAXES, RATE BASE & MISCELLANEOUS

Question: RATE BASE

77. The Direct Testimony of John Watson at page 12, lines 16-27 and page 13, lines 1-13, lists six capital expenditures during 2007 totaling $6.0 million. Provide a breakdown of the $6.0 million in capital expenditures made during 2007 by month by JDE account number.

Response:

See the attached schedules.

Tennessee-American Water Company
Docket NO. 08-00039
CAPD Question: Rate Base #77
2007 Plant Additions-Meters

Plant A/C	Project Description	Work Order	Work Order Description	Jan	Feb	Mar	Apr	May	Jun	Jul	August	Sept	Oct	Nov	Dec	Total 2007
334-Meters	26020087 - Meters - Repla	40733899	Meters-New-Hamilton Cnty, TN ALL	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	#N/A	50028863	Ins 73' 6" DI Lancaster St	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 4,141		$ 4,141
	26020082 - Network - Exte	50046112	INS 285' 8", DWIGHT AVE	$ -	$ -	$ 568	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -		$ 568
	26020087 - Meters - Repla	26005235	Renew Mtr Install TN 5/8"	$ 4,048	$ 941	$ 3,236	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -		$ 8,226
	26020087 - Meters - Repla	26005236	Renew Mtr Install - GA - 5/8"	$ (28)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -		$ (28)
	26020087 - Meters - Repla	26005257	Renew Meter Install TN 1"	$ (1,092)	$ 3,350	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -		$ 2,259
	26020087 - Meters - Repla	26005277	Renew Mtr Intall TN 2"	$ (699)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -		$ (699)
	26020087 - Meters - Repla	50044752	New Renew Mtr Install TN 5/8"	$ 2,888	$ 84,885	$ 4,652	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -		$ 92,425
	26020087 - Meters - Repla	50044753	New Renew MtrInstall-GA - 5/8"	$ (490)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -		$ (490)
	26020087 - Meters - Repla	50044754	3/4" Meter Install Tn New	$ (492)	$ 3,532	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -		$ 3,040
	26020087 - Meters - Repla	50044757	New Renew Meter Install TN 1"	$ (790)	$ 14,527	$ 22,874	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -		$ 36,611
	26020087 - Meters - Repla	50044760	New Renew Mtr Intall TN 2"	$ 44,884	$ 29,409	$ 3,949	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -		$ 78,242
	26020087 - Meters - Repla	50089231	NEW REPLACEMENT METERS 5/8"	$ (371,330)	$ -	$ 25,153	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -		$ (346,177)
	26020087 - Meters - Repla	50089232	NEW REPLACEMENT METERS 3/4"	$ (153)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -		$ (153)
	26020087 - Meters - Repla	50089233	NEW REPLACEMENT METERS 1"	$ (550)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -		$ (550)
	26020087 - Meters - Repla	50089235	NEW REPLACEMENT METERS 2"	$ (1,052)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -		$ (1,052)
	26020087 - Meters - Repla	50104982	NEW REPLACEMENT METERS 3"	$ -	$ 1,494	$ 111	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -		$ 1,605
	26020088 - Meters New	26005233	Meter Install - TN 5/8"	$ 19,796	$ 60,713	$ 50,390	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -		$ 130,899
	26020088 - Meters New	26005234	Meter Install - GA 5/8"	$ (385)	$ 525	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -		$ 140
	26020088 - Meters New	26005255	Meter Install -TN 1"	$ 1,131	$ 3,634	$ 3,254	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -		$ 8,019
	26020088 - Meters New	26005275	Meter Install TN 2"	$ (5,212)	$ 3,117	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -		$ (2,095)
	26020088 - Meters New	50118131	PURCHASE 6" PROTECTUS METER	$ -	$ -	$ 4,281	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -		$ 4,281
	26020088 - Meters New	50121861	INS SETTING 4"- 1463 MACKSMITH	$ 3,173	$ -	$ 2,341	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -		$ 5,515
	26020088 - Meters New	50125118	INS SETTING 6" 1022 JUBILEE DR	$ -	$ 4,803	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -		$ 4,803
	26030086 - Services New	50079777	SERVICE 3/4"	$ -	$ -	$ 1,304	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -		$ 1,304
	26030088 - Meters New	50079763	Meter 5/8" install	$ -	$ 1,885	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -		$ 1,885
	26040086 - Services New	50079770	SERVICE 3/4"	$ -	$ -	$ 1,937	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -		$ 1,937
	26040088 - Meters New	50079761	Meter 5/8" Install	$ -	$ 1,096	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -		$ 1,096
	26020087 - Meters - Repla	26005235	Renew Mtr Install TN 5/8"	$ -	$ -	$ -	$ 77,412	$ -	$ (76,000)	$ -	$ -	$ -	$ -	$ -		$ 1,412
	26020087 - Meters - Repla	26005257	Renew Meter Install TN 1"	$ -	$ -	$ -	$ 5,000	$ -	$ (5,000)	$ -	$ -	$ -	$ -	$ -		$ -
	26020087 - Meters - Repla	26005277	Renew Mtr Intall TN 2"	$ -	$ -	$ -	$ 3,446	$ -	$ (2,000)	$ -	$ -	$ -	$ -	$ -		$ 1,446
	26020087 - Meters - Repla	50044752	New Renew Mtr Install TN 5/8"	$ -	$ -	$ -	$ 5,685	$ -	$ -	$ -	$ -	$ -	$ -	$ -		$ 5,685
	26020087 - Meters - Repla	50044757	New Renew Meter Install TN 1"	$ -	$ -	$ -	$ 1,154	$ -	$ -	$ -	$ -	$ -	$ -	$ -		$ 1,154
	26020087 - Meters - Repla	50044760	New Renew Mtr Intall TN 2"	$ -	$ -	$ -	$ 1,920	$ -	$ -	$ -	$ -	$ -	$ -	$ -		$ 1,920
	26020087 - Meters - Repla	50089231	NEW REPLACEMENT METERS 5/8"	$ -	$ -	$ -	$ 11,825	$ -	$ -	$ -	$ -	$ -	$ -	$ -		$ 11,825
	26020088 - Meters New	26005177	Meters - 5/8"	$ -	$ -	$ -	$ 96,540	$ -	$ (96,540)	$ -	$ -	$ -	$ -	$ -		$ -
	26020088 - Meters New	26005189	Meters - 3/4"	$ -	$ -	$ -	$ 710	$ -	$ (710)	$ -	$ -	$ -	$ -	$ -		$ -
	26020088 - Meters New	26005200	Meters - 1"	$ -	$ -	$ -	$ 8,162	$ -	$ (8,162)	$ -	$ -	$ -	$ -	$ -		$ -
	26020088 - Meters New	26005210	Meters - 1 1/2"	$ -	$ -	$ -	$ 983	$ -	$ (983)	$ -	$ -	$ -	$ -	$ -		$ -
	26020088 - Meters New	26005221	Meters - 2"	$ -	$ -	$ -	$ 3,635	$ -	$ (3,635)	$ -	$ -	$ -	$ -	$ -		$ -
	26020088 - Meters New	26005233	Meter Install - TN 5/8"	$ -	$ -	$ -	$ 172,511	$ -	$ (137,500)	$ -	$ -	$ -	$ -	$ -		$ 35,011
	26020088 - Meters New	26005255	Meter Install -TN 1"	$ -	$ -	$ -	$ 39,717	$ -	$ (35,000)	$ -	$ -	$ -	$ -	$ -		$ 4,717
	26020088 - Meters New	26005276	Meter Installation GA 2"	$ -	$ -	$ -	$ 32,500	$ -	$ (32,500)	$ -	$ -	$ -	$ -	$ -		$ -
	26020088 - Meters New	50115353	INSTALL SETTING 4"-1655 MOSSY	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 99	$ -	$ -		$ 99
	26020088 - Meters New	50118131	PURCHASE 6" PROTECTUS METER	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ (6,567)	$ -	$ (347)	$ (6,914)
	26020088 - Meters New	50121371	PUR 4" PROTECTUS METER	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 3,385		$ 3,385
	26020088 - Meters New	50125118	INS SETTING 6" 1022 JUBILEE DR	$ -	$ -	$ -	$ 2,375	$ -	$ -	$ -	$ -	$ -	$ -	$ -		$ 2,375
	26029606 - CHAT-Filter #2	26005064	FILT HSE #2 OBSERVATION	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -		$ -
	26030088 - Meters New	50079763	Meter 5/8" install	$ -	$ -	$ -	$ -	$ 499	$ -	$ -	$ -	$ 1,056	$ -	$ -		$ 1,555

Tennessee-American Water Company
Docket NO. 08-00039
CAPD Question: Rate Base #77
2007 Plant Additions-Meters

Plant A/C	Project Description	Work Order	Work Order Description	Jan	Feb	Mar	Apr	May	Jun	Jul	August	Sept	Oct	Nov	Dec	Total 2007
	26040088 - Meters New	50079761	Meter 5/8" Install	$ -	$ -	$ -	$ -	$ (43)	$ -	$ -	$ -	$ 410	$ -	$ -		$ 367
	RP-2602-G1 - Services an	40736199	Meters-New-Chattanooga ALL	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 42,756	$ 42,756
	RP-2602-G1 - Services an	40737099	Meters-Repl-Chattanooga ALL	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,299,947	$ 1,299,947
	RP-2602-H1 - Services an	40733899	Meters-New-Hamilton Cnty, TN ALL	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	RP-2602-H1 - Services an	40733999	Meters-New-Catoosa Cnty, GA ALL	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,708	$ 1,708
	RP-2602-H1 - Services an	40737099	Meters-Repl-Chattanooga ALL	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 83,138	$ 83,138
	RP-2602-H1 - Services an	50126097	CAPITAL LABOR O/H 2006 ADJ	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 46,935	$ 46,935
	RP-2602-I1 - Meters - New	40733899	Meters-New-Hamilton Cnty, TN ALL	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	RP-2602-I1 - Meters - New	40733999	Meters-New-Catoosa Cnty, GA ALL	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 20,979	$ 37	$ -	$ -	$ 117	$ 21,133
	RP-2602-I1 - Meters - New	40734099	Meters-New-Lookout Mtn, GA ALL	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 3,714		$ 3,714
	RP-2602-I1 - Meters - New	40734199	Meters-New-Lookout Mtn, TN ALL	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 8,785	$ 2,111	$ 10,896
	RP-2602-I1 - Meters - New	40734299	Meters-New-East Ridge, TN ALL	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 8,592	$ 11	$ -	$ -	$ 1,012	$ 9,615
	RP-2602-I1 - Meters - New	40734399	Meters-New-Ridgeside, TN ALL	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 773	$ 41	$ 814
	RP-2602-I1 - Meters - New	40734499	Meters-New-Rossville, GA ALL	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 3,250	$ -	$ 219	$ (3,469)	$ 793	$ 793
	RP-2602-I1 - Meters - New	40734699	Meters-New-Red Bank, TN ALL	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 782	$ 18	$ -	$ -	$ 135	$ 936
	RP-2602-I1 - Meters - New	40736199	Meters-New-Chattanooga ALL	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 248,521	$ 51,045	$ 61,080	$ 17,965	$ 40,390	$ 419,002
	RP-2602-I1 - Meters - New	40736299	Meters-Repl-Ft Oglethorpe, GA ALL	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	RP-2602-I1 - Meters - New	40736599	Meters-Repl-Lookout Mtn, GA ALL	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 370	$ 370
	RP-2602-I1 - Meters - New	41184699	PUR 6" PROTECTUS METER	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 9,942		$ 9,942
	RP-2602-I1 - Meters - New	41328699	PUR 4" PROTECTUS METER HIGHLANE	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 3,478	$ -		$ 3,478
	RP-2602-I1 - Meters - New	41871699	INS 4" METER - HILLSDALE APTS.	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 3,459	$ 183	$ 3,642
	RP-2602-J1 - Meters - Rep	40736099	Meters-Repl-East Ridge, TN ALL	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 258	$ 117	$ 375
	RP-2602-J1 - Meters - Rep	40736399	Meters-Repl-Hamilton Cnty, TN ALL	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	RP-2602-J1 - Meters - Rep	40736499	Meters-Repl-Catoosa Cnty, GA ALL	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 419	$ 7	$ 425
	RP-2602-J1 - Meters - Rep	40736599	Meters-Repl-Lookout Mtn, GA ALL	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 234	$ 234
	RP-2602-J1 - Meters - Rep	40736699	Meters-Repl-Ridgeside, TN ALL	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 4,559	$ -	$ -	$ -	$ -	$ 4,559
	RP-2602-J1 - Meters - Rep	40736799	Meters-Repl-Rossville, GA ALL	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 278	$ -	$ -	$ -	$ 352	$ 630
	RP-2602-J1 - Meters - Rep	40736999	Meters-Repl-Red Bank, TN ALL	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 8,273	$ 1,945	$ 10,218
	RP-2602-J1 - Meters - Rep	40737099	Meters-Repl-Chattanooga ALL	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 734,398	$ 512,328	$ 109,950	$ 18,849	$ (1,364,197)	$ 11,329
A/C Total				$ (306,352)	$ 213,911	$ 124,050	$ 463,532	$ 499	$ (398,030)	$ -	$ 1,021,360	$ 565,004	$ 168,160	$ 76,495	$ 157,747	$ 2,086,376

Tennessee-American Water Company
Docket NO. 08-00039
CAPD Question: Rate Base #77
2007 Plant Additions-Computer Equipment

Plant A/C	Project Description	Work Order	Work Order Description	Jan	Feb	Mar	Apr	May	Jun	Jul	August	Sept	Oct	Nov	Dec	Total 2007
340-Office an	26020089 - ITS Equipment & Systems	50125318	PUR (2) 33XX	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 45,374	$ 45,374
	26020003 - CHAT-Design Eastridge Tank	50105482	PUR SCADA SYS JENKINS RD TANK	$ (26,403)	$ -	$ 2,944	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ (23,459)
	26020088 - Meters New	50109396	PUR HANDHELD COMPUTERS & EQUIP	$ (2,846)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ (2,846)
	26020089 - ITS Equipment & Systems	50107082	CONVERTING PHONE SYSTEM	$ -	$ -	$ 364	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 364
	26020089 - ITS Equipment & Systems	50112001	PUR UPS FOR METER SHOP	$ 7,060	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 7,060
	26020089 - ITS Equipment & Systems	50116024	PUR HP 3800N PRINTERS	$ 3,017	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 3,017
	26020089 - ITS Equipment & Systems	50118026	PUR HP 6320 LAPTOPS	$ -	$ -	$ 5,560	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 5,560
	26020089 - ITS Equipment & Systems	50118027	PUR TOUGHBOOK LAPTOP COMPUTERS	$ -	$ -	$ 13,033	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 13,033
	26020089 - ITS Equipment & Systems	50118029	PUR IBM DOMAIN CONTROLLER	$ -	$ -	$ 4,309	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 4,309
	26020089 - ITS Equipment & Systems	50118679	COMPUTER - 3 HP DC7600 WMONIT	$ -	$ -	$ 3,645	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 3,645
	26020090 - Offices & Operations Centers	50122991	PUR FILE CABINETS ENGINEERING	$ -	$ -	$ 2,259	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 2,259
	26020090 - Offices & Operations Centers	50124423	PUR LATERAL FILES CROSS-CONN	$ -	$ -	$ 934	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 934
	26020090 - Offices & Operations Centers	50124426	PUR FAX MACHINE CROSS-CONN	$ -	$ -	$ 657	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 657
	26020094 - Process Plant - Additions	50081872	PUR SCADA EQUIP PINE BREEZE RD	$ (115)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ (115)
	26020401 - Business Process Efficiency P	50077539	Mercury Project - TN	$ -	$ (179)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ (179)
	26020089 - ITS Equipment & Systems	50127002	PUR KVM EQUIPMENT	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 542	$ -	$ -	$ -	$ -	$ 542
	26020089 - ITS Equipment & Systems	50127006	PUR (3) HP NC6320 LAPTOPS	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 6,419	$ -	$ -	$ -	$ -	$ 6,419
	26020089 - ITS Equipment & Systems	50127010	PUR (3) HP PORT REPLICATORS	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 398	$ -	$ -	$ -	$ -	$ 398
	26020089 - ITS Equipment & Systems	50127012	PUR EQUIPMENT TO ORGANIZE	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 796	$ -	$ -	$ -	$ -	$ 796
	26020090 - Offices & Operations Centers	50121175	PUR & INSTALL CARPET DOWNTOWN	$ -	$ -	$ -	$ -	$ -	$ 5,729	$ 97	$ -	$ -	$ -	$ -	$ -	$ -	$ 5,826
	26020090 - Offices & Operations Centers	50121176	PUR FURNITURE DOWNTOWN OFFICE	$ -	$ -	$ -	$ -	$ -	$ 12,281	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 12,281
	26020703 - SCADA EQUIPMENT & SYSTEMS	50125317	PUR DUAL MONITORS/SCADA PC'S	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 2,370	$ -	$ -	$ -	$ -	$ 2,370
	26020703 - SCADA EQUIPMENT & SYSTEMS	50125318	PUR (2) 33XX	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 45,374	$ -	$ -	$ -	$ -	$ (45,374)	$ -
	RP-2602-I1 - Meters - New	41591599	pur (4) AC/DC power adapters	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 547	$ 547
	RP-2602-I1 - Meters - New	41633599	pur (11) HP DC7700 desktop PCs	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 12,716	$ 12,716
	RP-2602-J1 - Meters - Replaced	41591299	pur (5) network cabinets	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 5,641	$ 5,641
	RP-2602-J1 - Meters - Replaced	41592099	pur (4) HP Deskjet 460CB printers	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,296	$ 1,296
	RP-2602-K1 - ITS Equipment and Systems	40957399	pur 2 APC Smart-UPS 3000VA	$ -	$ -	$ -	$ -	$ -	$ -	$ 3,646	$ -	$ -	$ -	$ -	$ -	$ -	$ 3,646
	RP-2602-K1 - ITS Equipment and Systems	41191199	pur (20) HP DC7700 Desktop PCs	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 24,583	$ -	$ -	$ -	$ -	$ 24,583
	RP-2602-K1 - ITS Equipment and Systems	41591299	pur (5) network cabinets	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 5,641	$ -	$ (5,641)	$ -
	RP-2602-K1 - ITS Equipment and Systems	41591599	pur (4) AC/DC power adapters	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 547	$ -	$ (547)	$ -
	RP-2602-K1 - ITS Equipment and Systems	41592099	pur (4) HP Deskjet 460CB printers	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,296	$ -	$ (1,296)	$ -
	RP-2602-K1 - ITS Equipment and Systems	41633599	pur (11) HP DC7700 desktop PCs	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 12,716	$ -	$ (12,716)	$ -
	RP-2602-K1 - ITS Equipment and Systems	41633699	pur (5) HP nc6320 laptop computers	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 10,654	$ -	$ 550	$ 11,204
	RP-2602-N1 - Offices and Operations Centers	41684699	Purchase Lighted Exit Signs	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,994	$ 1,824	$ 202	$ 4,019
	RP-2602-N1 - Offices and Operations Centers	41960899	PUR SHREDDER	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 2,748	$ 145	$ 2,893
	RP-2602-P1 - Tools and Equipment	41229699	PUR METER CARD STORAGE CABINET	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 4,534	$ 204	$ (683)	$ -	$ -	$ -	$ 4,056
A/C Total				$ (19,286)	$ (179)	$ 33,706	$ -	$ -	$ 21,656	$ 45,471	$ 39,642	$ 204	$ 32,165	$ 4,572	$ 897	$ 158,847	

Tennessee-American Water Company
Docket NO. 08-00039
CAPD Question: Rate Base #77
2007 Plant Additions-TDOT Relocations

Plant A/C	Project Descnption	Work Order	Work Order Description	Jan	Feb	Mar	Apr	May	Jun	Jul	August	Sept	Oct	Nov	Dec	Total 2007
A/C 331-Mains	26020501 - TN DOT Relocations	50100098	INS 16" DI IN SHALLOWFORD RD	$ 3,709	$ 74,599	$ 37,774	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 116,083
	26020501 - TN DOT Relocations	50100098	INS 16" DI IN SHALLOWFORD RD	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 76,402	$ -	$ -	$ -	$ 76,402
	26020501 - TN DOT Relocations	50104549	RELOCATE 8" MAIN IGOU GAP RD	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 13,178	$ -	$ -	$ -	$ 13,178
A/C 331-Mains-Total				$ 3,709	$ 74,599	$ 37,774	$ -	$ -	$ -	$ -	$ -	$ 89,580	$ -	$ -	$ -	$ 205,663

Tennessee-American Water Company
Docket NO. 08-00039
CAPD Question: Rate Base #77
2007 Capital Expenditures-Vehicles

Plant A/C	Project Description	Work Order	Work Order Description	Jan	Feb	Mar	Apr	May	Jun	Jul	August	Sept	Oct	Nov	Dec	Total 2007
341-Vehicles	RP-2602-O1 - Vehicles	41484299	PUR DUMP TRUCK FOR DISTRIBUTION							$ 26,157	$ 48,795	$(74,952)	$194,562	$(112,013)	$270,093	$ 352,642
	RP-2602-O1 - Vehicles	41484499	PUR DUMP TRUCT FOR DISTRIBUTION							$ 26,157	$ 48,795	$ 7,597	$ (7,127)			$ 75,422
	RP-2602-O1 - Vehicles	41485399	PUR SERVICE TRUCK FOR DISTRIBUTION							$ 26,157	$(26,157)					$ -
	RP-2602-O1 - Vehicles	41488399	PUR SERVICE TRUCK FOR DISTRIBUTION							$ 26,157	$(26,157)					$ -
	RP-2602-O1 - Vehicles	41488899	PUR SERVICE TRUCK FOR DISTRIBUTION							$ 26,157	$(26,157)					$ -
	RP-2602-O1 - Vehicles	41489099	PUR CASE BACKHOE FOR DISTRIBUTION							$ 26,157	$(26,157)			$ 83,695		$ 83,695
	RP-2602-O1 - Vehicles	50049963	Accrual Work Order Job 91			$ 0	$ -	$ -	$ (0)							$ -
	RP-2602-O1 - Vehicles	50065991	PUR 4X4 TRUCK FOR DISTRIBUTION	$ -												$ -
	RP-2602-O1 - Vehicles	50066027	PUR 4X4 TRUCK FOR ENGINEERING	$ -												$ -
	RP-2602-O1 - Vehicles	50066033	PUR CHEVY BLAZER FOR ADMIN.	$ -												$ -
	RP-2602-O1 - Vehicles	50066035	PUR CHEVY BLAZER FOR ADMIN.	$ -												$ -
	RP-2602-O1 - Vehicles	50066037	PUR DUMP TRUCK - DISTRIBUTION	$ -												$ -
	RP-2602-O1 - Vehicles	50117733	PURCHASE SILVERADO 4X4 6' BED	$ (2,105)												$ (2,105)
	RP-2602-O1 - Vehicles	50117749	PURCHASE CHEVROLET COLORADO	$ (1,509)												$ (1,509)
	RP-2602-O1 - Vehicles	50117980	PURCHASE SILVERADO 4X4 6'BED	$ (2,097)												$ (2,097)
	RP-2602-O1 - Vehicles	50117996	PURCHASE SILVERADO 4X4 6' BED	$ (2,097)												$ (2,097)
	RP-2602-O1 - Vehicles	50118012	PURCHASE SILVERADO 4X4 6'BED	$ (2,114)												$ (2,114)
	RP-2602-O1 - Vehicles	50118014	PURCHASE SILVERADO 4X2 8'BED	$ (1,507)												$ (1,507)
	RP-2602-O1 - Vehicles	50118020	PURCHASE SILVERADO 4X2 8'BED	$ (1,507)												$ (1,507)
	RP-2602-O1 - Vehicles	50118028	PURCHASE COLORADO 4X2 6'BED	$ (1,055)												$ (1,055)
	RP-2602-O1 - Vehicles	50118034	PURCHASE EQUINOX	$ (2,208)												$ (2,208)
	RP-2602-O1 - Vehicles	50118039	PURCHASE EQUINOX- COMMERCIAL	$ (1,945)												$ (1,945)
	RP-2602-O1 - Vehicles	50118040	PURCHASE BUICK LACROSSE	$ (1,464)												$ (1,464)
	RP-2602-O1 - Vehicles	50118044	PURCHASE SILVERADO 4X4 6'BED	$ (2,206)												$ (2,206)
	RP-2602-O1 - Vehicles	50118046	PURCHASE SILVERADO 4X4 8' BED	$ (1,812)												$ (1,812)
	RP-2602-O1 - Vehicles	50118051	PURCHASE SILVERADO 4X4 8'BED	$ (2,096)												$ (2,096)
	RP-2602-O1 - Vehicles	50118068	PURCHASE FULL SIZE BACKHOE	$ (81,874)	$ 78,308											$ (3,566)
	RP-2602-O1 - Vehicles	50118107	PURCHASE TOWMASTER TRAILER	$ -												$ -
	RP-2602-O1 - Vehicles	50118110	PURCHASE TOWMASTER TRAILER	$ (788)												$ (788)
	RP-2602-O1 - Vehicles	50118111	PURCHASE TOWMASTER TRAILER	$ (788)												$ (788)
	RP-2602-O1 - Vehicles	50118113	PURCHASE TOWMASTER TRAILER	$ (762)												$ (762)
	RP-2602-O1 - Vehicles	50118118	PURCHASE TERRAMITE BACKHOE	$ (2,440)												$ (2,440)
	RP-2602-O1 - Vehicles	50118119	PURCHASE TERRAMITE BACKHOE	$ (2,440)												$ (2,440)
	RP-2602-O1 - Vehicles	50118121	PURCHASE TERRAMITE BACKHOE	$ (2,440)												$ (2,440)
	RP-2602-O1 - Vehicles	50118124	PURCHASE TERRAMITE BACKHOE	$ (2,440)												$ (2,440)
	RP-2602-O1 - Vehicles	50118140	PURCHASE CHEVROLET COLORADO	$ (1,368)												$ (1,368)
	RP-2602-O1 - Vehicles	50118168	PURCHASE CHEVROLET COLORADO	$ (1,367)												$ (1,367)
	RP-2602-O1 - Vehicles	50118194	PURCHASE CHEVROLET COLORADO	$ (1,374)												$ (1,374)
	RP-2602-O1 - Vehicles	50118196	PURCHASE CHEVROLET COLORADO	$ (1,368)												$ (1,368)
	RP-2602-O1 - Vehicles	50118199	PURCHASE CHEVROLET SILVERADO	$ (1,372)												$ (1,372)
	RP-2602-O1 - Vehicles	50118206	PURCHASE CHEVROLET SILVERADO	$ (1,370)												$ (1,370)
	RP-2602-O1 - Vehicles	50118209	PURCHASE CHEVROLET COLORADO	$ (1,722)												$ (1,722)
	RP-2602-O1 - Vehicles	50118229	PURCHASE CHEVROLET MALIBU	$ (1,333)												$ (1,333)
	RP-2602-O1 - Vehicles	50124740	PUR NEW VALVE TRUCK FOR DIST		$ 42,883	$(16,878)	$64,944		$28,348			$(13,806)				$ 105,491
A/C Total				**$(130,965)**	**$121,191**	**$(16,878)**	**$64,944**	**$ -**	**$28,348**	**$156,944**	**$ (7,041)**	**$(81,161)**	**$187,435**	**$ (28,318)**	**$270,093**	**$ 564,592**

Tennessee-American Water Company
Docket NO. 08-00039
CAPD Question: Rate Base #77
2007 Plant Additions- Reoccuring Construction Programs

JDE/Plant Account	Project	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total-2007
331-Mains	26020081 - CHAT-Network-Replace/Renewal	$ (87,919.66)	$ 23,024.20	$ 698,519.36	$ 159,446.44	$ 60,259.84	$ 152,341.24	$ 246,920.83	$ 221,826.10	$ 147,880.31	$ 43,065.62	$ 47,359.22	$ 61,617.07	$ 1,774,340.57
331-Mains	RP-2602-B1 - Mains - Replaced / Restored					$ 23,212.37	$ 52,631.60	$ 17,207.49		$ 22,512.88	$ 20,136.72	$ 2,393.67	$ 425,037.85	$ 563,132.58
Total		$ (87,919.66)	$ 23,024.20	$ 698,519.36	$ 159,446.44	$ 83,472.21	$ 204,972.84	$ 264,128.32	$ 221,826.10	$ 170,393.19	$ 63,202.34	$ 49,752.89	$ 486,654.92	$ 2,337,473.15

Tennessee-American Water Company
Docket NO. 08-00039
CAPD Question: Rate Base #77
2007 Plant Additions-Tanks

Plant A/C	Project Description	Work Order	Work Order Description	Jan	Feb	Mar	Apr	May	Jun	Jul	August	Sept	Oct	Nov	Dec	Total 2007
330-Tanks	26020003 - CHAT-Design Eastridge Tank	50066549	CONSTRUCTION - JENKINS RD TANK	$ (48,735)	$ 15,864	$ 6,396	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ (26,475)
	26020003 - CHAT-Design Eastridge Tank	50100881	INS 16" DI TO JENKINS RD TANK	$ 2,533	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 2,533
	26020096 - Tank Rehabilitation/Painting	50110681	PAINTING ALDRIDGE UNITS 1 & 2	$ -	$ -	$ 634,445	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 634,445
	26020096 - Tank Rehabilitation/Painting	50110691	PUR UNDERDRAINS ALDRIDGE 1&2	$ -	$ -	$ 191,415	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 191,415
	26020096 - Tank Rehabilitation/Painting	50110692	PUR CARBON - ALDRIDGE 1 & 2	$ -	$ -	$ 47,565	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 47,565
	26060302 - Walden's Ridge Utility	50073560	CONSTR WALDENS RIDGE PUMP STA	$ 829	$ 1,179	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 2,008
	26020003 - CHAT-Design Eastridge Tank	50066549	CONSTRUCTION - JENKINS RD TANK	$ -	$ -	$ -	$ 17,537	$ 12,233	$ -	$ -	$ -	$ -	$ -	$ -	$ (29,770)	$ -
	26020096 - Tank Rehabilitation/Painting	50110681	PAINTING ALDRIDGE UNITS 1 & 2	$ -	$ -	$ -	$ 72,817	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,737	$ 74,554
	RP-2602-B1 - Mains - Replaced / Restored	50066549	CONSTRUCTION - JENKINS RD TANK	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 139,180	$ 139,180
	RP-2602-R1 - Capitalized Tank Rehabilitation	41640599	PAINTING & REHAB WHITE OAK TANK	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 282,705	$ 282,705
Account Total				$ (45,373)	$ 17,043	$ 879,821	$ 90,354	$ 12,233	$ -	$ -	$ -	$ -	$ -	$ -	$ 393,853	$ 1,347,930

TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 08-00039
FIRST DISCOVERY REQUEST OF THE
CONSUMER ADVOCATE AND PROTECTION DIVISION

Responsible Witness: John Watson

PART IV: QUESTIONS & REQUESTS REGARDING REVENUES, EXPENSES, TAXES, RATE BASE & MISCELLANEOUS

Question: RATE BASE

78. The Direct Testimony of John Watson at page 11, lines 23-27 and page 12, lines 1-14, lists five major capital investment projects completed during 2007. State the capital expenditure for each project and a breakdown of each projects' capital expenditures by month by JDE account number.

Response:

Please see the attached schedule. Please see the response to TN-CAPD-01-Part IV-Q77 for the recap of total 2007 meter and main replacement capital expenditures.

Tennessee-American Water Company
Docket NO. 08-00039
CAPD Question: Rate Base #78
2007 Plant Additions- Reoccuring Construction Programs

JDE/Plant Account	Project	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total-2007
335-Hydrants	26020083 - Hydrants - Replacement	$ 4,546.92	$ 2,671.14	$ 13,193.96	$ 7,005.21							$ -		$ 27,417.23
Total		$ 4,546.92	$ 2,671.14	$ 13,193.96	$ 7,005.21	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 27,417.23

Tennessee-American Water Company
Docket NO. 08-00039
CAPD Question: Rate Base #78
2007 Plant Additions- Brainerd Road Project

Plant A/C	Project Description	Work Order	Work Order Description	Jan	Feb	Mar	Apr	May	Jun	Jul	August	Sept	Oct	Nov	Dec	Total 2007
331	26020081 - CHAT-Network-Replace/Renewal	50107415	INS 780'8" TIE-INS BRAINERD RD	$ (7,393)	$ 3,035	$ 16,327	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	-	$ 11,969
331	26020081 - CHAT-Network-Replace/Renewal	50115923	INS 2,013' 12" BRAINERD RD	$ (24,402)	$ -	$ 324,997	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	-	$ 300,595
331	26020081 - CHAT-Network-Replace/Renewal	50115923	INS 2,013' 12" BRAINERD RD	$ -	$ -	$ -	$ (7,276)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	-	$ (7,276)
Project Total				$ (31,795)	$ 3,035	$ 341,324	$ (7,276)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 305,288

Tennessee-American Water Company
Docket NO. 08-00039
CAPD Question: Rate Base #78
2007 Plant Additions- Frawley Road Project

Plant A/C	Project Description	Work Order	Work Order Description	Jan	Feb	Mar	Apr	May	Jun	Jul	August	Sept	Oct	Nov	Dec	Total 2007
331	RP-2602-B1 - Mains - Replaced / Restored	41680999	INS 4,550' 12" DI IN FRAWLEY RD.	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 403,485	$ 403,485
Project Total				$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 403,485	$ 403,485

Tennessee-American Water Company
Docket NO. 08-00039
CAPD Question: Rate Base #78
2007 Plant Additions- Tyner Road Project

Plant A/C	Project Description	Work Order	Work Order Description	Jan	Feb	Mar	Apr	May	Jun	Jul	August	Sept	Oct	Nov	Dec	Total 2007
331	26020003 - CHAT-Design Eastridge Tank	50113420	INS 3,714' 16" IN TYNER RD	$ -	$ -	$ -	$ -	$ -	$ 846,452	$ 3,889	$ 178	$ 110,123	$ -	$ -	-	$ 960,643
Project Total				$ -	$ -	$ -	$ -	$ -	$ 846,452	$ 3,889	$ 178	$ 110,123	$ -	$ -	$ -	$ 960,643

TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 08-00039
FIRST DISCOVERY REQUEST OF THE
CONSUMER ADVOCATE AND PROTECTION DIVISION

Responsible Witness: John Watson

PART IV: QUESTIONS & REQUESTS REGARDING REVENUES, EXPENSES, TAXES, RATE BASE & MISCELLANEOUS

Question: RATE BASE

79. Four of the five major capital investment projects completed during 2007 as identified in the Direct Testimony of John Watson at pages 11-12 involve water mains (projects nos. 2-5) and one of the capital expenditures listed in the Direct Testimony of John Watson at pages 12-13 during 2007 involves the replacement of 27,200 feet of water mains (project no. 6) at an amount of $2.529 million. Does the $2.529 million in capital expenditures for water mains include any expenditures for any portion of the major capital investment projects completed during 2007 involving water mains? If so, please identify the amount of capital expenditure and the capital project involved.

Response:

At the top of page 12 of Mr. Watson's testimony, item 2, he generically describes the main, meter, services and equipment replacement programs. On pages 12-13, items 1 and 6, Mr. Watson quantifies the capital spending for the meter and main replacement programs generically described in item 2 at the top of page 12. In items 3-5 at the top of page 12, Mr. Watson lists three major main replacement projects that are not duplicative of the main replacement capital spending quantified on page 13, item 6.

TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 08-00039
FIRST DISCOVERY REQUEST OF THE
CONSUMER ADVOCATE AND PROTECTION DIVISION

Responsible Witness: John S. Watson

PART IV: QUESTIONS & REQUESTS REGARDING REVENUES, EXPENSES, TAXES, RATE BASE & MISCELLANEOUS

Question: RATE BASE

80. The Direct Testimony of John Watson at pages 4-5 states: "Capital expenditures of the Company are planned and scrutinized to assure that needed facilities are identified, that facilities are scheduled for construction....The primary planning vehicle of this Company in this area is our least/cost comprehensive planning study." Please produce all documents, including but not confined to, capital budgets, analyses, and planning studies associated with the $21.687 million in major capital investment projects planned for 2008-2009 discussed in the Direct Testimony of John Watson at pages 13-14.

Response:

The response was previously provided in answer to TN-TRA-01-Q052 and TN-TRA-01-Q053. The 2000 Comprehensive Planning Study was provided in response to TN-COC-01-Q10 in a prior case (docket number 06-00290).

TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 08-00039
FIRST DISCOVERY REQUEST OF THE
CONSUMER ADVOCATE AND PROTECTION DIVISION

Responsible Witness: John S. Watson

PART IV: QUESTIONS & REQUESTS REGARDING REVENUES, EXPENSES, TAXES, RATE BASE & MISCELLANEOUS

Question: RATE BASE

81. The Direct Testimony of John Watson at page 22, lines 19-24 states: "A review has been made by the Company regarding the meters and pumping units that it has in service at its' [sic] pumping stations. As a result of that review, the Company has determined that it needs to increase the expense for the programmed preventative maintenance on these pumps and motors if it is to maintain them properly." Please provide all documents related to this review.

Response:

Attached is a listing of the maintenance activities, pumping units and locations, as well as the preventative maintenance activities and testing the Company is performing to determine the necessary monitoring and maintenance repairs for its pump and motors.

Maintenance Services

(Types of Services Provided)

- Reliability & Conditioned Based Maintenance
- Equipment and Control System Repair
- SCADA System Integration
- Design Review, Inspection & Commissioning
- Technical Training & Development

Maintenance Service Function

Statement of Purpose

The Maintenance Service function is responsible for providing and promoting mechanical, electrical, instrumentation, and process control maintenance employed in a strategy of predictive (conditioned based), preventive (time based), and corrective (repair) maintenance in a combination that yields optimum equipment/process reliability and maximum economic performance, thereby contributing to the company's goal of providing our customers the highest quality water & service at excellent value.

Goals & Objectives

- Direct or perform preventive/predictive/conditioned based maintenance on electrical, mechanical or instrumentation equipment as set forth by industrial standards and the policies and procedures .

- Direct or perform repair maintenance on electrical, mechanical or instrumentation equipment or systems as required in order to maintain the integrity of the water purification and delivery systems.

- Participate in the design, programming, installation and start up of selected distributed process control (SCADA) systems.

- Assist in construction projects: may include planning, reviewing, inspection, installation, start up and information gathering as required.

- Participate in the technical training & development of self and others.

- Stimulate, support and strengthen collaboration and interpersonal communications.

Maintenance Services

- **Multi-skilled technical maintenance group shared by operations:**
- **Types of services provided:**

➢**Reliability & Conditioned Based Maintenance**

Periodic health based diagnostic assessments (e.g.thermography, vibraton, ultrasound, etc.)
Goals: Prevent functional failure where the consequences of failure are severe
Prioritize maintenance efforts based on the consequences of functional failure

➢**Equipment and Control System Repair**

Direct, perform, or assist in repairs

➢**SCADA System Integration**

Perform all SCADA system programming and start-up
May install SCADA equipment or systems

➢**Design Review, Inspection & Commissioning/start-up**

Review all project specifications and drawings (that includes electrical and instrumentation)
Provide inspection and start–up services of electrical and instrumentation equipment
May include some installation of equipment (e.g. chemical analyzer, motor starter, etc.)

➢**Technical Training & Development**

Coordinate and/or provide technical maintenance training (e.g. pump, electrical, and instrumentation maintenance, maintenance management, etc.)

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MAINTENANCE PROGRAMS
PREDICTIVE/PREVENTIVE
Conditioned Based Maintenance Programs

- Instrument calibration
- Thermographic (infrared) inspections
- Ultrasonic leak detection
- Vibration analysis
- Motor testing and inspection
- Wire-to-water efficiencies
- Motor starter and switchgear inspections
- Protective relay testing
- Transformer inspection
- Insulating oil testing
- Lubricating oil testing
- Stationary battery testing
- Precision alignment
- Earth ground testing – as required
- Power and harmonic surveys – as required

LIST OF TAW PUMP STATIONS

Pump Name	Street Address	Tax Parcel #	Comments	Suction Pressure Zone	Discharge Pressure Zone	Controlling Tank	Unit Number	Pump ON Level (ft)	Pump OFF Level (ft)	H.P.	Volts	GPM	Head
Berkley Circle	Berkely Circle		domestic pumps	Hill City	Berkley Circle	na	1	always ON		5	230	100	110
Cameron Hill	GATEWAY AVE & MLK BLVD			Citico	Cameron Hill	pressure switch	1	100 psi	140 psi	25	480	400	145
							2			20	480	500	145
							3			60	480	1,200	120
							4			3	460	50	
Citico	RIVERSIDE DR	136-P-A-001	Citico PS at WTP	WTP	Citico	operator select	11	75 -80 psi	maintain Citico press	900		14,236	210
							16			600		9,028	231
							17			600		9,028	231
							18			400		5,972	231
							19			400		5,972	231
							20			250		3,888	231
							21			700		10,000	240
Crestview	KNOLLWOOD DRIVE	118A-P-005		Hill City	Crestview	pressure switch	1	100 psi	140 psi	20	480	250	180
							2			15	480	250	180
Crestwood	CRESTWOOD AVE	127A-D-001	Press Tank & P.S	Hill City	Crestwood	pressure switch	1	115 psi	135 psi	15	480	200	185
							2			15	480	200	185
Cumberland Road	Cumberland Rd			St. Elmo (Elder Mtn Standpipe)	Elder Mtn	na	1	always ON		7.5	230	150	120
East Ridge	MAIN STREET	156F-D-018	Kyle St. and Main St. (East Ridge Booster - Serves South Missionary Ridge and East Ridge Pressure Zones)	Citico (Missionary Ridge Storage Tanks)	East Ridge	ER RESV	5	8	14.5	125	440	2,100	205
							6			200	440	3,000	210
							7			200	440	3,150	210
							8			200	460	3,150	210
Elder Mountain	ELDER MTN RD & ISBELL RD			St. Elmo (Elder Mtn receiving tank)	Elder Mtn (Elder Mtn Standpipe)	Elder Mtn	1	63	77	60	480	125	1275
							2			60	480	125	1275
Elmendorf	ELMENDORF ST	128P-L-012		Citico	north end of Missionary Ridge	pressure switch	1	135 psi	200 psi	60	440	400	227.5
							2			60	440	400	227.5
Hill City	DELMONT ST	135E-E-001	N. Chattanooga P.S.	Citico	Hill City	White Oak/Mtn Creek	3	25	30	75	440	500	265
							6			125	440	160	250
							7			150	440	1,925	250
							8			300	440	3,000	250
Johnson Boulevard	Johnson Blvd & Dayton Blvd		inline station	Hill City	Johnson Blvd	na	1	always ON		2	230	30	110
Lookout Mountain	GUILD TRAIL/HWY 58	167B-B-007	St. Elmo & Lookout Mtn PS (PS with 8" line);	Citico	Lookout Mtn	Lookout Mtn	4	79	88	250	2300	460	1500
							6			405	2300	950	1480
							8			450	2300	1,000	1425

LIST OF TAW PUMP STATIONS

Pump Name	Street Address	Tax Parcel #	Comments	Suction Pressure Zone	Discharge Pressure Zone	Controlling Tank	Unit Number	Pump ON Level (ft)	Pump OFF Level (ft)	H.P.	Volts	GPM	Head
Maple Hill	Cummings Highway & Kelly's Ferry Road		Domestic Pumps Only	St. Elmo	Maple Hill	Merc. switch	1	100	130	7.5		50	210
							2			7.5		50	210
Minnekahda	MINNEKAHDA DR.	127I-G-023	Domestic Pumps Only	Hill City (White Oak Tank)	Minnekahda	Merc. switch	1	100	130	7.5	220	200	100
							2			5	220	150	150
Mission Ridge	MAIN STREET	156F-D-018	Kyle St. and Main St. (East Ridge Booster - Serves South Missionary Ridge and East Ridge Pressure Zones)	Citico (Missionary Ridge Storage Tanks)	Missionary Ridge	MR#2	3	65	95	60	440	400	410
							4			100	440	700	435
							6			200	440	1,400	425
New York Avenue	2996 NEW YORK AVE	128O-C-004		Citico	East Ridge	na	1	75 psi	140 psi	200	n/a (diesal)	2,100	200
							2			200	460	2,800	235
							3			350	460	4,200	235
Panorama	EAST BRAINERD RD	158E-A-010		East Ridge	Panorama	na	1	105 psi	125 psi	5	220	150	80
							2			3	230	100	120
Red Bank	PICKERING AVE	118A-N-010		Hill City (Red Bank Tank)	Hill City (White Oak)	operator select	3	as needed to lower tank level		25	440	800	100
							4			25	440	800	100
Rolling Acres	Cummings Highway & Old Kelly's Ferry Road	153 029	Domestic PS; Rolling Acres Trailer Park	St.Elmo	Rolling Acres	na	1	140 psi	205 psi	15	240	125	270
							2			15	240	125	270
Rossville	CHICKAMAUGA AVE (HWY 27)	2-004-063		Citico	Ft. Oglethorpe and Rossville	na	5	130 psi	170 psi	60	440	900	170
							6			75	440	1,040	170
Ryall Springs	SHADY REST RD	159O-C-025.01		East Ridge	Ryall Springs	Ryall Springs	1	30	38	20	440	250	200
							2			30	440	435	200
							3			50	440	800	200
							4			50	440	800	200
South End	Bedford Street and Dayton	167K-C-015		(South End Reservior)	Citico	operator select	1	mainitain Citico press		40	460	2,800	42
							2			40	460	2,800	42
South Mission Ridge	HWY 27 near Crest Rd/Chickamauga Ave.			Citico	Missionary Ridge	SMR	7	56	72	125	440	800	460
							10			150	460	1,000	450
							11			150	460	1,000	450

LIST OF TAW PUMP STATIONS

Pump Name	Street Address	Tax Parcel #	Comments	Suction Pressure Zone	Discharge Pressure Zone	Controlling Tank	Unit Number	Pump ON Level (ft)	Pump OFF Level (ft)	H.P.	Volts	GPM	Head
St. Elmo	GUILD TRAIL/HWY 58	167B-B-008	St. Elmo & Lookout Mtn PS (PS with 12" line)	Citico	St.Elmo	St Elmo/Lookout Valley	4	28	38	60	220	542	325
							5			100	2300	800	350
							6			150	2300	1,050	380
Stuart Heights	OZARK CIRCLE and Haywood		domestic pumps	Hill City	Stuart Heights	manual select		only used if Crestwood out		3	220	72	100
						pressure switch	2			5	220	100	100
Summitt Avenue	SUMMIT AVE & DAYTON ST.	118I-F-009	inline station	Hill City	Summit Ave	na	1	always ON		1.5	230	30	140
Walden Ridge	Mountain Creek Road			Hill City	Walden Ridge Utility District	Walden Ridge - Hollister Tank	1	28	36	700	4160	1,400	1420
							2	28	38	700	4160	1,400	1420
Windridge	Pineville Rd		domestic pumps for Windridge Apts	Hill City	Windridge	na	1	105 psi	150 psi	15	230	200	160
							2			15	230	200	160
							3			50	230	1,000	140
Windy Hill	Windy Hill		inline station	Ryall Springs	Windy Hill	na	1	always ON		1.5	230	30	140

CENTRIFUGAL PUMPS AND DRIVES - INSPECTION, MAINTENANCE AND EFFICIENCY TESTING

Pumps are the largest power consumers in water treatment plants and pump stations and need to be monitored and properly maintained to ensure their efficiency and reliability. The life and satisfactory service of any mechanical equipment are enhanced and extended by periodic inspection and maintenance. The scope of programs extends from the daily looking, listening and feeling to a complete teardown and rebuilding of the unit.

The following tasks will normally be accomplished by the Water Company plant operators or plant maintenance personnel:

1. Daily or weekly monitoring and recordkeeping
2. Normal lubrication and cleaning
3. Periodic efficiency testing
4. Packing stuffing boxes
5. Pump exercising
6. Inspection of coupling guards

Operating and inspection history, running time, loss of efficiency, vibration etc., are to be utilized when determining the frequency of the pump inspections and the extent and timing of associated maintenance (the attached Trouble Check List and Pump Inspection Report will assist in making this determination).

Major inspections outlined at the end of this report will be made by trained and/or qualified Company personnel or a prequalified outside pump inspection and repair contractor. Pump repairs will be initiated by actual machine condition as determined by the inspections. Before disassembling the pump, it should be determined whether suction or discharge conditions are the cause of any problems.

Weekly Monitoring

The Water Company will be equipped with accurate portable vibration analysis equipment and electrical equipment necessary to measure power factor (PF), amps, volts, calibrated flow and pressure measurement equipment.

Weekly monitoring will include listening for unusual noises, checking the pump and motor for hot bearings or excessive vibration, inspecting stuffing boxes for excessive or inadequate leakage, and verification of operation of fresh water lubrication systems. A check of pressure, flow, input power (volts and amps), and power factor will be made to determine that the pump is operating normally where facilities and equipment permit. If pump operation is critical to the overall operation of the system, then consideration is to be given to carrying out daily monitoring. In case of smaller pumps, where the capital cost of the pumps does not justify the additional cost of conducting the weekly monitoring, the water company will establish the appropriate monitoring requirement. If problems or abnormalities are observed, the employee monitoring the pump(s) will notify the supervisor. The Water Company will maintain adequate records of the weekly inspections.

Several vibration analyzers can be used to monitor vibration in mils displacement or in velocity such as in/sec. Recommended vibration limits for different types of pumps, as recommended by the Hydraulic Institute, are attached.

Lubrication and Cleaning

There are three basic types of bearing lubrication - water, oil, or grease. On vertical pumps, water is usually used to lubricate the submerged bearings, and oil or grease lubricates the motor bearings. In rare cases, oil may be used to lubricate the column bearings on vertical pumps, but this is not recommended. Oil lubrication systems must be monitored closely or if possible replaced by fresh water lubrication.

Bearing lubricants and frequency of application usually are recommended by the pump manufacturer. If the recommendation is not included with the instruction book, then the manufacturer will be contacted for a specific recommendation.

A maintenance record will be prepared for each pumping unit, will include type of lubricant to be used and will be made available to all personnel responsible for operation of the equipment.

Oil levels will be checked at least weekly unless the pump is critical to the operation or experience dictates otherwise. Oil levels will be maintained within the recommended operating range. Oil will be changed and bearings cleaned at operating periods recommended by the pump manufacturer unless operating experience indicates otherwise.

Grease bearings will be checked for heating, and will be regreased, as recommended by the manufacturer. When regreasing or adding grease to a bearing, the drain plug will be opened and grease added until new grease starts to flow through the opening. The machine will be allowed to operate at least 20 minutes before replacing the drain plug so that excess lubricant can escape. Bearing operating complaints are best handled by the maintenance personnel or a manufacturer's representative.

Some flexible couplings will require lubrication. These will be lubricated in accordance with the manufacturer's instructions.

Pumps, motors, and the areas around them need to be properly maintained. In particular, any oil or grease on the floor may be an indication of a maintenance problem and must be cleaned up immediately to prevent slipping or falling into the equipment. Prompt follow-up to determine the cause of leakage or spillage will then be performed.

If enclosed tubing is used for a vertical turbine pump, weekly inspection of the water lubrication system will be conducted. Availability and/or operation of the water lubrication system during power failure is also very important and will be evaluated. If pump operation is critical, automatic shut down of the pump upon lubrication loss is recommended. Ambient temperatures within pump rooms and booster stations should be regulated. High temperatures can lead to rapid insulation breakdown. Airflow through motors should be checked. Periodic cleaning of air inlet and outlet screens is necessary to insure proper cooling.

Periodic Efficiency Tests

Wire to water efficiency will be checked at periods not to exceed one (1) year. Pumps performance testing will include bowl, pump, and wire to water efficiencies for a minimum of three (3) performance points on the pump curve with at least two points located to the left of the Best Efficiency Point (BEP) and/or certified design point. A verification of the power factor input power (volts and amps) will be conducted with any performance or efficiency test. Accurate measurement of power input factors (volts, amps, and power factor) is needed to ensure that pump drives are not being overloaded or operated within the service factor range. More frequent checks will be performed where considered necessary. Reviewing previous readings will indicate if the efficiency of a unit is dropping and maintenance is required.

The attached form, Wire to Water Efficiency Calculation, is self-explanatory. A periodic pump and power survey (form also attached) will permit an overview of pumping operations and assist in ensuring operation of a plant at maximum efficiency. Pump testing on vertical turbine pumps will also include the verification of the impeller lift setting to determine if any changes from the previous test have occurred. Changes in impeller lift settings are indications of premature wear on the impeller or wear rings which increase the hydraulic losses in the bowl, thus reducing the pump performance and efficiency.

Packing Stuffing Boxes

Each pump manufacturer lists in his instruction book a method of packing or repacking stuffing boxes. Procedures may vary, but they usually are similar. Stuffing boxes will be repacked when excessive leakage cannot be controlled by regulating and reasonably tightening the packing glands or when the packing has hardened from a lack of moisture, caused by a pump sitting idle for too long. A small amount of leakage is necessary for seal lubrication.

The attached method for packing a pump is for reference only and the method recommended by the manufacturer must be used to prevent voiding a warranty.

Pump Exercising

Pumps and their prime movers are to be exercised on a regular basis to ensure correct operation on demand. They will be operated under load for thirty (30) minutes at least once every two (2) months which will ensure that normal operating temperatures, particularly those for internal combustion engines, are attained. All associated valves required to operate the pump normally will also be operated. Factors which may affect exercising of pumps include water demand patterns, electric power utility rate schedules, and whether off line due to seasonal use. Periods of operation will be selected to minimize the effects of these factors. For example, it may be necessary to run a pump for three (3) separate ten (10) minute periods suitably spaced to avoid increased electricity maximum demand charges and unfavorable impact on the electric motor and its control equipment. Consideration should be given to combining pump exercising with exercising of emergency/stand-by electrical generators. The impact on the distribution system e.g. increased pressure, surges, water hammer, etc. is also to be considered. Consideration should be given to monthly rotation of pumps which are not operated on a regular basis.

Coupling Guards

The security and adequacy of coupling guards is to be checked weekly.

PACKING A PUMP

The importance of packing the pump correctly cannot be overemphasized. Many packing failures are due to incorrect installation of the packing. The following steps have been devised to ensure effective installation of approved and correct type of packings on pumps:

A. REMOVE ALL THE OLD PACKING FROM THE STUFFING BOX.

Clean box and shaft thoroughly and examine shaft or sleeve for wear or scoring. Replace shaft or sleeve if wear is excessive. Metallizing sleeves with a hard chrome surface is also acceptable.

B. USE THE CORRECT CROSS-SECTION OF PACKING OR DIE-FORMED RINGS

To determine the correct packing size, measure the diameter of the shaft (inside the stuffing box area if possible) and then measure the diameter of the stuffing box (to give the O.D. of the ring). Subtract the I.D. measurement from the O.D. measurement and divide by two. The result is the required size.

C. WHEN USING COIL OR SPIRAL PACKING, ALWAYS CUT THE PACKING INTO SEPARATE RINGS. INSTALL SO THAT ENDS OF ADJACENT RINGS DO NOT LINE UP.

Never wind a coil of packing into a stuffing box. Rings can be cut with butt (square), bias or diagonal joints, depending on the method used for cutting. The best way to cut packing rings is to cut them on a mandrel with the same diameter as the shaft in the stuffing box area. If there is no shaft wear, rings can be cut on the shaft outside the stuffing box.

Hold the packing tightly on the mandrel, but do not stretch excessively. Cut the ring and insert it into the stuffing box, making certain it fits the packing space properly. Each additional ring can be cut in the same manner, or the first ring can be used as a master from which the balance of the rings are cut.

If the butt cut rings are cut on a flat surface, be certain that the side of the master rings, and not the O.D. or I.D. surface, is laid on the rings to be cut. This is necessary so that the end of the rings can be reproduced.

When cutting diagonal joints, use a maple mitre board so that each successive ring can be cut at the correct angle.

It is necessary that the rings be cut to the correct size. Otherwise, service life is reduced. This is where die-cut rings are of great advantage, as they give you the exact size ring for the O.D. of the shaft and the I.D. of the stuffing box. There is no waste due to incorrectly cut rings.

D. INSTALL ONE RING AT A TIME.

Make sure it is clean, and has not picked up any dirt in handling. If desired, lubricate the shaft and the inside of the stuffing box.

Seat rings firmly (except PTFE filament and graphite yarn packings, which should be snugged up very gently, then tightened gradually after the pump is in service). Joints of successive rings should be staggered and kept at least 90 degrees apart. Each individual ring should be firmly seated with a tamping tool. When enough rings have been individually seated so that the nose of the gland will reach them, individual tamping should be supplemented by the gland.

E. AFTER THE LAST RING IS INSTALLED

Take up bolts finger tight or very slightly snugged up. Do not jam the packing into place by excessive gland loading. Start pump, and take up bolts until leakage is decreased to a tolerable minimum. Make sure gland bolts are taken up evenly. STOPPING LEAKAGE ENTIRELY AT THIS POINT WILL CAUSE THE PACKING TO BURN UP.

F. ALLOW PACKING TO LEAK FREELY WHEN STARTING UP A NEWLY PACKED PUMP

Excessive leakage during the first hour of operation will result in a better packing job over a longer period of time. Take up gradually on the gland as the packing seats, until leakage is reduced to a tolerable level. In the absence of specific manufacturer's instructions, generally acceptable leakage would be 1 - 2 drops per second.

G. WHEN SPECIFIED BY THE PUMP MANUFACTURER, PROVIDE MEANS OF LUBRICATING THE SHAFT AND PACKING THROUGH THE LANTERN RING BY SUPPLYING WATER, OIL GREASE OR LIQUID HANDLED IN THE PUMP.

Fittings for this purpose are standard on many pumps.

H. IF THE STUFFING BOX HAS A LANTERN RING

Make sure that the lantern ring is slightly behind the fluid inlet so that it will move under the inlet as follower pressure is applied.

I. REPLACE PACKING WHEN LEAKAGE CANNOT BE CONTROLLED BY FURTHER TAKEUP ON THE FOLLOWER GLAND USING MINIMAL FORCE.

J. MECHANICAL SEALS

Mechanical seals are used in many pumps as an alternative to packing. Unlike packing, which requires some leakage, leakage in a mechanical seal should be negligible. Normal leakage in a mechanical seal should not exceed a drop per minute. Mechanical seals have a limited life and tend to fail suddenly, with no prior warning.

Those responsible for the maintenance of pumps employing mechanical seals must be familiar with the manufacturers' instructions for seal replacement and maintenance. An adequate supply of spare parts must be on hand so that mechanical seals on essential pumps can be quickly repaired if they fail.

TROUBLE CHECKLIST

A. NO LIQUID DELIVERY

Shut pump off immediately!

1. Loss of prime.
   - Blockage or closed valve on pump suction side
   - Air leak in suction line
   - Insufficient submergence of inlet pipe
   - Stuffing box packing worn or dry, allowing air leakage into pump (suction lift)
   - Problem with pump priming system during start-up
   - Foot valve leaking
   - Suction lift too high
   - Total system head is higher than pump design head

2. Pump not developing sufficient head. (Check discharge pressure.)
   - Debris or air blockage in pump
   * - Motor speed too low
   * - Wrong direction of rotation
   - Mechanical damage
     - Impeller damage
     - Damaged wear ring
   - Impeller loose on shaft
   - Parallel operation of pumps unsuitable for such operation

* When connected to electric motors, check whether motor wiring is correct and receives full voltage. When connected to steam turbines, make sure that turbine receives full steam pressure.

B. NOT ENOUGH LIQUID DELIVERED

Pump operating near shut-off. Compare total operating head and flow with nameplate data.

1. If flow is less than nameplate and head is higher:
   - Open discharge valve, if possible, or operate a smaller pump
   - Pump impeller may be too large if frequent operation is required at reduced flow
   - Use lower speed if possible

2. If both head and flow are lower than nameplate.
   - Inspect wear rings and replace, if necessary
   - Inspect impeller
   - Check for air leakage through stuffing box
   * - Motor speed too low
   * - Wrong direction of rotation
   - Pump or suction pipe not completely filled with liquid
   - Inadequate suction conditions
   - Air in suction line
   - Check priming system
   - Parallel operation of pumps unsuitable for such operation
   - Casing gasket defective, permitting internal leakage

* When connected to electric motors, check whether motor wiring is correct and receives full voltage. When connected to steam turbines, make sure that turbine receives full steam pressure.

C. NOT ENOUGH PRESSURE

Pump not producing sufficient head.

1. Mechanical damage:
   - Worn wear rings
   - Damaged impeller
   - Shaft bent
2. Impeller blockage
*3. Speed too low
4. Wrong direction of rotation
5. Discharge line break
6. Excessive amount of air

* When connected to electric motors, check whether motor wiring is correct and receives full voltage. When connected to steam turbines, make sure that turbine receives full steam pressure.

D. PUMP WORKS AWHILE, THEN QUITS

Usually due to air leakage during operation.

1. Loss of seal water to packing, or worn packing.
2. Insufficient submergence of inlet pipe.

3. Dissolved air in liquid.
4. Mechanical seal leaks. (on suction lift)
5. Inadequate suction conditions

E. PUMP TAKES TOO MUCH POWER

1. Speed too high.
2. Head lower than rating; pumps too much liquid.
3. Liquid heavier than anticipated. Check viscosity and specific gravity.
4. Mechanical defects:
   - Shaft bent
   - Rotating element binds
   - Stuffing box too tight
   - Pump and driving unit misaligned
   - Packing improperly installed
   - Type of packing incorrect for operating conditions
   - Wearing rings worn
5. Pump operating near shut-off point.

F. PUMP LEAKS EXCESSIVELY AT STUFFING BOX

1. Packing or mechanical seal is worn or not properly lubricated
2. Packing or mechanical seal is incorrectly inserted
3. Packing or mechanical seal is not right type for liquid handled
4. Sleeve scored
5. Packing not properly run in

6. Misalignment
7. Worn bearings
8. Cooling liquid not provided to water cooled stuffing boxes
9. Excessive clearance at bottom of stuffing boxes between shaft and casing, causing shaft to be forced into pump interior
10. Packing gland loose
11. Dirt or grit in sealing liquid, leading to scoring of shaft or shaft sleeve

G. PUMP IS NOISY

1. Hydraulic noise - cavitation, suction lift too high. Check with vacuum or compound gauge.

   Hydraulic recirculation - pump operating out of normal range. Check rate of delivery against nameplate rating. Pump should not operate frequently at less than 70% or more than 130% of rated capacity. Switch to a different pump, if possible.

2. Mechanical defects:

   Shaft bent

   Rotating parts bind, are loose or broken

   Bearings worn out

   Pump and driving unit misaligned

   Improper lubrication

   Foundation not rigid/misaligned

   Impeller damaged

H. Pump Overheats and Seizes

1. Inadequate priming
2. Inadequate suction conditions
3. Inadequate pump capacity
4. Misalignment
5. Bearings damaged

I. Bearings Have Short Life

1. Misalignment
2. Shaft bent
3. Driver misaligned
4. Inadequate lubrication

WIRE TO WATER EFFICIENCY CALCULATION

(WATER COMPANY)
PLANT IDENTIFICATION

Pump No. _____ Service: (Low) (Main) (High) (Booster)

Location: _____ Rating: _____ GPM _____ THD

Field Data:

Volts _____ GPM _____

PF _____ Discharge Pressure(D) _____

Amps _____ Suction Pressure(S) _____
(Pumping water level for vertical pumps)

$$\text{Water HP} = \frac{\text{GPM} \times \text{*PSI}}{1714} \text{ (D-S)} = _____$$

$$\text{Wire HP} = \frac{\text{Volts} \times \text{Amps} \times \text{PF}}{431} = _____$$

$$\text{Wire/Water Effy.} = \frac{\text{Water HP}}{\text{Wire HP}} \times 100 = _____$$

Test Point #2 GPM = _____ PSI (D-S) = _____

Test Point #3 GPM = _____ PSI (D-S) = _____

*For vertical pumps, add the distance between the discharge gauge and the water pumping level (converted to psi), to the discharge pressure.

-Elevation difference between suction and discharge gauge should be considered.
-Use recently calibrated gauges.
-Operate pump at three points on its curve to see if pump is maintaining its original curve characteristics and efficiencies. Use the same operating points on repeated tests to obtain repetitive data.

DATE _____

PUMP & POWER SURVEY

Water Company: _____

Facility: _____

Pump No. _____ Voltage _____ Power Factor _____

DATE	CURRENT		HORSEPOWER		FLOW		HEAD		GAL/KW	EFFICIENCY	
	Measured	Design	Calculated	Design	Actual	Design	Actual	Design		Calculated	Design

PUMP INSPECTION REPORT

Division _____ File No. _____

Station _____ Date _____

Unit No. _____

Nameplate Driver: _____

Pump: _____

OPERATIONAL DATA:

	Before Inspection	After Maintenance
Shut off head (psi)		
Suction lift, or psi		
Pressure, discharge		
Delivery, mgd (gpm)		
RPM		
Volts		
Amps.		
Clearances:		
Thrust Brg.		
Brg. Inboard		
Brg. Outboard		
Wear Ring Inboard		
Wear Ring Outboard		
Coupling Alignment:		
Angularity - Horiz.		
Angularity - Vert.		
Horizontal Offset		
Vertical Offset		
Vibration		

OBSERVED CONDITIONS: _____

Impellers: _____

Sleeves: _____

Interior of Pump: _____

Bearings: _____

Shaft: _____

Motor: _____

Other:

RECOMMENDED
REPAIRS:

REMARKS:

TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 08-00039
FIRST DISCOVERY REQUEST OF THE
CONSUMER ADVOCATE AND PROTECTION DIVISION

Responsible Witness: Sheila Miller/Michael Miller/John Watson

PART IV: QUESTIONS & REQUESTS REGARDING REVENUES, EXPENSES, TAXES, RATE BASE & MISCELLANEOUS

Question: OTHER

82. Provide a historical and a forecast summary of Total Gallons of Water Treated; Total Gallons of Water Billed; and Total Gallons of Water Unaccounted For, by month for the period February 2007 through August 2009. Identify in your response the actual month amounts and the forecasted month amounts.

Response:

The requested information for the historical test-year and adjustments used in arriving at the attrition year level requested in this case can be found in the Company's workpapers filed in response to TN-TRA-01-Q013-Fuel & Power, page 13 of 49.

Please see the attached schedule which includes updated actual information through April 2008.

Tennessee American Water Company
Gallons of water treated, gallons of water billed, and gallons of unaccounted for water
CAPD DR 1 Part 4 Question 82 & 83
In 1,000 gallons

Date	Water Treated	Water Billed	Unaccounted for Water	Auth unbilled consumption	
Feb-07	1,031,406	742,562	273,775	15,069	28.0%
Mar-07	1,140,780	796,770	324,275	19,735	30.2%
Apr-07	1,098,825	869,287	212,423	17,115	20.9%
May-07	1,328,608	849,511	458,118	20,979	36.1%
Jun-07	1,385,274	1,142,455	224,163	18,656	17.5%
Jul-07	1,288,568	1,104,653	158,084	25,831	14.3%
Aug-07	1,458,290	1,084,239	345,538	28,513	25.6%
Sep-07	1,352,979	1,103,523	230,066	19,390	18.4%
Oct-07	1,289,945	1,125,020	143,652	21,273	12.8%
Nov-07	1,165,530	880,480	268,749	16,301	24.5%
Dec-07	1,096,940	862,890	216,051	17,999	21.3%
2007 Total	14,731,718	11,554,259	2,939,380	238,079	21.6%
Jan-08	1,138,212	835,872	285,671	16,669	26.6%
Feb-08	1,040,299	1,040,414	(14,274)	14,159	0.0%
Mar-08	1,081,663	819,041	240,599	22,023	24.3%
Apr-08	1,077,057	893,186	165,007	18,864	17.1%
May-08	1,123,728	872,013	251,715		22.4%
Jun-08	1,225,820	951,236	274,584		22.4%
Jul-08	1,181,546	916,880	264,666		22.4%
Aug-08	1,247,002	967,673	279,329		22.4%
Sep-08	1,230,272	954,691	275,581		22.4%
Oct-08	1,299,194	1,008,175	291,019		22.4%
Nov-08	1,324,620	1,027,905	296,715		22.4%
Dec-08	1,318,037	1,022,796	295,241		22.4%
2008 Total	14,287,450	11,309,882	2,905,853		20.3%
Jan-09					
Feb-09					
Mar-09					
Apr-09					
May-09					
Jun-09					
Jul-09					
Aug-09					
Sep-09					
Oct-09					
Nov-09					
2009 Total	14,407,907	11,393,851	3,014,056		20.9%

TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 08-00039
FIRST DISCOVERY REQUEST OF THE
CONSUMER ADVOCATE AND PROTECTION DIVISION

Responsible Witness: John S. Watson

PART IV: QUESTIONS & REQUESTS REGARDING REVENUES, EXPENSES, TAXES, RATE BASE & MISCELLANEOUS

Question: OTHER

83. Provide the actual volume and percentage of unaccounted for water for TAWC for the year 2007 and forecasted percentage of unaccounted for water for TAWC for 2008 and 2009.

Response:

See table below. Actual unaccounted for water and authorized unbilled consumption are tracked separately for actual results reported monthly. Forecasts/budgets are not prepared with the breakdown between unaccounted for water and authorized unbilled usage.

Date	Water Treated	Water Billed	Unaccounted for Water	Auth unbilled consumption	
2007 Total	14,731,718	11,554,259	2,939,380	238,079	21.6%
2008 Total	14,287,450	11,309,882	2,905,853		20.3%
2009 Total	14,407,907	11,393,851	3,014,056		20.9%

TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 08-00039
FIRST DISCOVERY REQUEST OF THE
CONSUMER ADVOCATE AND PROTECTION DIVISION

Responsible Witness: Michael Miller

PART IV: QUESTIONS & REQUESTS REGARDING REVENUES, EXPENSES, TAXES, RATE BASE & MISCELLANEOUS

Question: OTHER

84. Provide the trial balances as of March 31, 2008 for TAWC, Corporate Office, Shared Services Center ("SSC"), Southeast Region, and other affiliated utility service companies.

Response:

Please see attached file. Although the Service Company expenses are recorded by location, the balance sheet accounts are recorded at the company level.

Comparative Balance Sheet
For the Period Ending 03/31/2008

American Water Works Serv Co.

	Description	Current Year	Prior Year
	ASSETS		
1	Utility Plant		
2	Construction work in progress		1,416,954
3	Accumulated depreciation		
4	Utility plant acquisition adjustment		
5	Other utility plant adjustments		
6	Sub-total Utility Plant		1,416,954
7	Non-Utility property	76,215,351	46,080,057
8	Other investments		
	Current Assets		
10	Cash and cash equivalents	15,637,370	61,706,942
11	Temporary investments		
12	Customer accounts receivable		
13	Allowance for uncollectible accounts		
14	Unbilled revenues		
15	FIT refund due from assoc. companies	4,793,632	577,893-
16	Miscellaneous receivables	4,314,119	1,711,328-
17	Materials and supplies		
19	Other	4,998,467	8,658,798
20	Sub-total	29,743,588	68,076,519
22	Deferred debits		
23	Debt and preferred stock		
24	Expense of rate proceeding		
25	Prelim survey & invest charges		
26	Reg Asset-income tax recovery		
27	Other	1,426,285	1,203,314
29	Sub-total	1,426,285	1,203,314
30	Total Assets	107,385,224	116,776,844
32	CAPITAL AND LIABILITIES		
33	Common Stock	10,000	10,000
34	Paid in capital		
35	Retained Earnings	88	3,321
36	Unearned Compensation		
37	Reacquired C/S & Accum Comp Inc		
38	Total common equity	10,088	13,321
39	Preferred stock		
40	Long term debt	47,334,153	43,032,899
41	Total capitalization	47,344,241	43,046,220
42	Current liabilities		
43	Bank debt		
44	Current portion of LTD	13,383,940	9,940,244
45	Accounts Payable	19,889,503	18,780,027
46	Taxes accrued	4,609,655	15,305,203
47	Interest accrued		
48	Customer deposits		
49	Dividends declared		
51	Other	14,278,162	10,856,511
52	Sub-total	52,161,260	54,881,985
54	Deferred credits		
55	Customer adv. for construction		
56	Deferred income taxes	13,818,439-	15,832,718-
57	Deferred investment tax credits		
58	Reg.liab-inc.tax.refund thru rates		
59	Other	21,698,164	34,681,357
60	Sub-total	7,879,725	18,848,639
62	Contributions in aid of construction		
	Total capital and liabilities	107,385,226	116,776,844

American Water Works Company
American Water Works Service Co
Total Co (USGAAP)
Trial Balance
For the Period Ending 03/31/2008

Description	March Activity	March Balance	Prior Year Activity	Prior Year Balance
00003 American Water Works Serv Co.				
B02 CWIP				
105050 CWIP Accr	1,585,368.05	4,561,476.64	1,013,887.80	1,275,603.72
105150 CWIP M&S & Purchases	1,640,697.37	18,435,783.16	150,429.34	150,429.34
105260 CWIP Overhead-Bldg AWR		86,829.49	2,463.07	2,463.07
105270 CWIP Service Co Chgs	237,004.06	1,614,253.58	12,542.76	12,542.76
105390 CWIP Tran PY Chg-Bldgs		14,613.98		
105900 CWIP Transfer to UPIS	7,189,120.93CR	14,566,057.19CR	24,085.28CR	24,085.28CR
105950 CWIP Nonreg Reclass	3,726,051.45	10,146,899.66CR		
B02 CWIP			1,155,237.69	1,416,953.61
B07 Non Utility Property, Net				
121200 NUP-Buildings	69,827.00	462,110.14		
121300 NUP-Cap Lease 5yr		76,284,556.89	1,498,466.50	61,276,708.28
121301 NUP-Cap Lease 7yr		180,687.08		150,298.08
121302 NUP-Cap Lease 10yr	13,854.95	33,485,794.10		28,588,102.35
121400 NUP-Lease Impr	614,688.37	954,814.60		16,327.17
121500 NUP-Other	232,177.51	2,593,923.42		
121501 NUP-Other 5 yr	382,859.59	763,579.95		
121504 NUP-Other Hardware	5,768,895.77	7,864,170.46		
121505 NUP-Other Software	106,817.74	1,121,136.26		
121950 CWIP NUP -Nonreg Reclass	3,726,051.45CR	10,146,899.66		
122200 Acc Depr NUP-Buildings	1,327.04CR	3,024.61CR		
122250 Acc Depr NUP-Other	310,451.87CR	591,568.35CR		
122300 Acc Amort NUP-Cap lease	1,459,763.49CR	57,047,728.81CR	948,707.58CR	43,951,378.77CR
B07 Non Utility Property, Net	1,691,527.08	76,215,350.79	549,758.92	46,080,057.11
B10 Cash & Cash Equivalents				
131402 Cash in Transit-Interco	14,303,355.10CR	15,637,370.14	5,257,271.69CR	61,714,980.77
131998 Cash Clear-Pinnacl/ARP	.18CR		607,505.03CR	8,139.03CR
134100 Petty Cash				100.00
B10 Cash & Cash Equivalents	14,303,355.28CR	15,637,370.14	5,864,776.72CR	61,706,941.74
B15 FIT Refund Due From Assoc Co				
145000 FIT Refund Receivable	4,038,322.00	4,038,322.00	282,908.00CR	584,705.00CR
145100 SIT Refund Receivable	107,114.01	755,309.58	7,612.00	6,812.00
B15 FIT Refund Due From Assoc Co	4,145,436.01	4,793,631.58	275,296.00CR	577,893.00CR
B16 Miscellaneous Receivables				
146100 Misc A/R-System	1,246,701.87	2,595,291.66	3,756.07CR	864,984.17
146105 Misc A/R-Retro Ins	97,550.64	342,422.68	177,941.39CR	
146115 Misc A/R-Medicare Subsidy	34,467.09CR	205,450.39		86,810.88
146370 Accum prov-uncoll misc a/r	7,923.69CR	330,747.70CR		528,741.08CR
146500 A/R Assoc Cos	758,789.47CR	91,557.44	77,895.23	309,370.24
146510 A/R Assoc Cos-AWWI	2,553,375.82	1,409,081.81	2,701,803.96CR	2,443,752.13CR
146512 A/R from AWE Payroll Taxes	1,062.30	1,062.30		
146540 A/R from AWW Def Comp				
B16 Miscellaneous Receivables	3,097,510.38	4,314,118.58	2,805,606.19CR	1,711,327.92CR
B19 Prepayments				
165100 Prepaid Taxes	19,985.15CR	1,811.57CR	18,757.45CR	.02CR
165200 Prepaid Insurance	159,158.09CR	1,349,457.17	46,412.89CR	1,315,550.09
165500 Prepaid Other	19,554.17CR	1,588,840.09	1,686,917.84	2,631,089.09
174100 Deferred Vacation Pay	797,724.99CR	1,939,785.47	854,590.31CR	4,589,962.44
174200 Curr State Def Tax		122,196.00		122,196.00
B19 Prepayments	996,422.40CR	4,998,467.16	767,157.19	8,658,797.60
B27 Other Deferred Debits				
184003 Interdistrict Clearing				
184100 Eng Clearing Dist OH	62,597.17	122,322.53		
186405 DDA-RIA Software Licen		8,105.76	4,448.54CR	8,897.06
186426 DDA-FAS 112 Costs		1,295,857.00		1,295,857.00
186704 DDN-Undistributed Items				
186705 DDN-IC Rec/Pay Clearing			220,840.59	101,439.77CR
186707 DDN-Ins Oth Than Grp Reg			1,430.09CR	
B27 Other Deferred Debits	62,597.17	1,426,285.29	214,961.96	1,203,314.29
B33 Common Stock				
201200 Com Stk Subs Interco		10,000.00CR		10,000.00CR
B33 Common Stock		10,000.00CR		10,000.00CR
B35 Retained Earnings				

American Water Works Company
American Water Works Service Co
Total Co (USGAAP)
Trial Balance
For the Period Ending 03/31/2008

Description	March Activity	March Balance	Prior Year Activity	Prior Year Balance
210240 R/E Since Acquisition		88.71CR		10.28
B35 Retained Earnings		88.71CR		10.28
B40 Long Term Debt				
224200 Cap Lease Oblig-In	1,149,570.68	47,334,153.03CR	417,185.46CR	43,032,899.17CR
B40 Long Term Debt	1,149,570.68	47,334,153.03CR	417,185.46CR	43,032,899.17CR
B43 Bank Debt				
231200 Notes Pay-Assoc Cos			578,357.96CR	
B43 Bank Debt			578,357.96CR	
B44 Current Portion LTD				
232400 Curr Cap Lease Oblig-In	17,370.08	13,383,939.68CR	294,337.61CR	9,940,244.20CR
B44 Current Portion LTD	17,370.08	13,383,939.68CR	294,337.61CR	9,940,244.20CR
B45 Accounts Payable				
234100 Accts Pay-Gen System	328,869.93	3,471,101.89CR	5,722,412.89CR	11,512,087.86CR
234110 Accts Pay-Pcard	11,175.12	235,605.33	30,226.62CR	235,192.58
234115 Accts Pay-Pcard Clearing	17,538.83CR	37,578.42CR	15,477.86CR	23,571.04CR
234300 Accts Pay-Misc	3,029,391.72CR	9,646,356.42CR	422,019.90CR	5,787,174.62CR
234350 Accts Pay-Proj Exp Accr	1,585,368.05CR	4,561,476.64CR	1,013,887.80CR	1,275,603.72CR
234500 Accts Pay-Assoc Cos	445.64CR	891.27CR	1,164,333.33	1,383.67CR
280999 Interco Rec/Pay	2,400,297.13CR	2,407,703.64CR	1,426,250.38CR	415,398.88CR
B45 Accounts Payable	6,692,996.32CR	19,889,502.95CR	7,465,942.12CR	18,780,027.21CR
B46 Accrued Taxes				
236110 Gross Inc & Receipts Tax				56,984.00
236120 FUTA	6,406.52CR	93,513.07CR	1,869.07CR	93,795.44CR
236130 FICA	9,219.52	122,401.97CR	231,075.80	128,198.54CR
236140 SUTA	126,185.72CR	529,153.67CR	101,762.44CR	489,197.50CR
236144 Payroll Tax Clearing				
236151 Gen Tax - Property	10,975.00CR	119,852.70CR	1,975.00CR	41,925.00CR
236152 Gen Tax - Sales/Use	3,438.14CR	316,945.47	452,282.23	415,938.94CR
236153 Gen Tax - Franchise	2,000.00	799.00		
236155 Gen Tax - Capital Stk	40.00	40.00		
236156 Gen Tax - Expat Taxes	1,921.40CR	96,842.91CR	161,299.09CR	161,299.09CR
236170 Gen Tax - Other		207,475.98CR	152,411.83	220,534.31CR
236210 Accr FIT - Current Yr	2,226,105.00			
236220 Accr FIT - Pr Yrs		3,446,489.25CR		12,515,486.25CR
236230 Accr SIT - Current Yr	406,635.00			
236240 Accr SIT - Pr Yrs			176,759.00	794,290.00CR
236310 Curr Def FIT	49,226.00	299,360.00CR	68,672.00	489,172.00CR
236320 Curr Def SIT/LIT		12,350.00CR		12,350.00CR
B46 Accrued Taxes	2,544,298.74	4,609,655.08CR	814,295.26	15,305,203.07CR
B51 Misc Current Liabilities				
241100 Accrued Vacation Pay	797,724.99	1,939,785.47CR	854,590.31	4,589,962.44CR
241206 Accr Wages	429,101.09CR	2,199,015.65CR	713,489.38CR	1,802,647.04CR
241207 Accr Insurance	2,612.42		787.54	1,216.97CR
241212 Accr DCP Contribution	34,576.96	123,957.07CR	4,226.97CR	89,365.20CR
241213 Accr EIP Contribution				
241220 WH PR-Tax Coll Pay SIT	431,232.02CR	1,289,384.99CR	305,938.48	1,623,710.07CR
241227 Accr Employer 401k Match	13,313.44CR	249,398.82CR	21,631.53CR	231,921.94CR
241250 A/P Check Clearing	109,947.98CR	1,961,809.10CR	1,197,826.28CR	1,878,982.73CR
241251 P/R Check Clearing	1,681,922.98CR	1,944,472.52CR	2,055,930.84	581,792.28CR
241261 Accr Insurance Retro			340,396.61	57,066.32CR
241298 Overhead Clearing			153.84	153.84
241322 Incentive Plan Cash Annual	9,234,865.47	2,604,602.08CR		
241323 Retention/completion Bonus	4,247,692.70	1,965,736.38CR		
B51 Misc Current Liabilities	11,651,955.03	14,278,162.08CR	1,620,623.46	10,856,511.15CR
B56 Deferred Income Taxes				
253203 Def FIT-Norm Property	79,707.00	3,357,565.00CR	42,307.00	2,611,890.00CR
253301 Def FIT-Other	6,382,273.00CR	13,920,275.95	129,455.00	15,247,501.95
253309 Def FIT-AMT				
253701 Def SIT-Other	430,383.00CR	3,326,276.55	3,011.00	3,271,587.55
253706 Def SIT-Vacation Pay	25,795.00	70,549.00CR	13,542.00CR	74,482.00CR
B56 Deferred Income Taxes	6,707,154.00CR	13,818,438.50	161,231.00	15,832,717.50
B59 Other Deferred Credits				
262120 DCA-Accr Pension Def Benefit	911,397.92CR	17,797,458.66CR	3,756,117.81	19,541,161.29CR
262210 DCA-Accr OPEB	254,136.34CR	551,094.03CR	415,343.00	551,099.67CR
262215 DCA-Accr OPEB Med Subsidy		375,416.00CR		222,309.40CR

Description	March Activity	March Balance	Prior Year Activity	Prior Year Balance
00003 American Water Works Serv Co.				
B59 Other Deferred Credits				
262313 DCA-FAS 112 Costs		1,295,857.00CR		1,295,857.00CR
262317 Def Comp (prior 1/1/08)	35,587.43CR	68,584.07CR	42,333.33CR	101,047.07CR
262321 DCA-Inc Plan Cash LT	5,549,313.81	1,481,092.32CR	132,839.56CR	5,913,108.20CR
262322 DCA-Inc Plan Cash Annual			8,703,165.10	2,838,529.00CR
262323 Retention/Completion			281,216.44CR	4,218,245.65CR
262398 DCA-Other	8,529.29CR	128,661.65CR		
B59 Other Deferred Credits	4,339,662.83	21,698,163.73CR	12,418,236.58	34,681,357.28CR

Tennessee-American Water Co.

Description	Current Year	Prior Year
ASSETS		
1 Utility Plant	200,856,496	190,986,422
2 Construction work in progress	1,798,540	1,578,516
3 Accumulated depreciation	57,706,919-	54,492,688-
4 Utility plant acquisition adjustment	74,850	
5 Other utility plant adjustments		
6 Sub-total Utility Plant	145,022,967	138,072,250
7 Non-Utility property		
8 Other investments		74,850
Current Assets		
10 Cash and cash equivalents	272,587	322,955
11 Temporary investments		
12 Customer accounts receivable	2,229,512	2,418,066
13 Allowance for uncollectible accounts	226,413-	341,259-
14 Unbilled revenues	1,786,549	1,430,002
15 FIT refund due from assoc. companies	1,693	283,525
16 Miscellaneous receivables	88,724	51,608
17 Materials and supplies	331,563	291,867
19 Other	475,821	717,181
20 Sub-total	4,960,036	5,173,945
22 Deferred debits		
23 Debt and preferred stock	173,835	203,308
24 Expense of rate proceeding	745,629	492,062
25 Prelim survey & invest charges		
26 Reg Asset-income tax recovery	9,802,671	10,361,335
27 Other	3,999,283	3,793,549
29 Sub-total	14,721,418	14,850,254
30 Total Assets	164,704,421	158,171,299
32 CAPITAL AND LIABILITIES		
33 Common Stock	13,754,235	13,754,235
34 Paid in capital	15,788,918	8,288,918
35 Retained Earnings	20,214,943	19,249,773
36 Unearned Compensation		
37 Reacquired C/S & Accum Comp Inc		
38 Total common equity	49,758,096	41,292,926
39 Preferred stock	1,381,600	1,381,600
40 Long term debt	45,028,465	52,689,610
41 Total capitalization	96,168,161	95,364,136
42 Current liabilities		
43 Bank debt	7,728,655	9,705,721
44 Current portion of LTD	7,661,061	1,142,171
45 Accounts Payable	714,657	923,012
46 Taxes accrued	4,424,178	1,831,747
47 Interest accrued	477,987	356,907
48 Customer deposits		
49 Dividends declared		
51 Other	1,197,757	1,428,253
52 Sub-total	22,204,295	15,387,811
54 Deferred credits		
55 Customer adv. for construction	6,795,063	5,996,469
56 Deferred income taxes	24,110,267	25,595,503
57 Deferred investment tax credits	1,097,172	1,173,540
58 Reg.liab-inc.tax.refund thru rates	2,571,938	3,400,470
59 Other	3,406,469	3,018,410
60 Sub-total	37,980,909	39,184,392
62 Contributions in aid of construction	8,351,057	8,234,959
Total capital and liabilities	164,704,422	158,171,298

American Water Works Company
Tennessee American Water-Co 26
Total Company (USGAAP)
Trial Balance
For the Period Ending 03/31/2008

	Description	March Activity	March Balance	Prior Year Activity	Prior Year Balance
00026	Tennessee-American Water Co.				
B01	Utility Plant Original Cost				
101000	Land & Ld Rights P		73,444.37		73,444.37
303300	Land & Ld Rights P		18,009.00		18,009.00
303400	Land & Ld Rights WT		55,449.65		55,449.65
303500	Land & Ld Rights TD		140,323.91		127,323.91
303501	Land TD		133,093.58		133,093.58
303502	Rights of Way TD		25,021.90		25,021.90
303600	Land & Land Rights AG		7,419.89		
304100	Struct & Imp SS	7,419.89	3,844,915.62	714.74	3,810,529.28
304200	Struct & Imp P		2,000,808.05	26,497.12	2,001,274.74
304300	Struct & Imp WT		1,694,807.62		1,694,807.62
304301	Struct & Imp WT Depr Pntng		524,790.43		510,815.36
304400	Struct & Imp TD		45,344.03		
304500	Struct & Imp AG		1,590,500.00		1,590,500.00
304510	Struct & Imp AG Cap Lease		136,173.91		149,173.91
304600	Struct & Imp Offices		312,642.38		312,642.38
304700	Struct & Imp Store,Shop,Gar		657,573.08		657,573.08
304800	Struct & Imp Misc		489,122.97		489,122.97
306000	Lake, River & Other Intakes		603,834.40		602,663.86
309000	Supply Mains		227,421.97		
310000	Power Generation Equip				227,421.97
310100	Power Generation Equip Othe		5,662,338.38	59,406.18CR	5,631,195.36
311200	Pump Equip Electric		119,296.31		119,296.31
311300	Pump Equip Diesel		254,506.81	83,307.18	254,506.81
311500	Pump Equip Other		12,395,595.34		12,378,400.21
320100	WT Equip Non-Media		6,482,504.83	238,979.71	6,494,146.20
330000	Dist Reservoirs & Standpipe		1,637,309.36	634,444.92	1,637,309.36
330003	Dist Res & Stand Orig Repai		1,890,119.28	6,396.33	1,750,939.70
330100	Elevated Tanks & Standpipes		680,783.96		680,783.96
330400	Clearwell		1,931,949.74	49,128.85CR	1,959,714.31
331001	TD Mains Not Classified by	3.84CR	4,721,301.53	33,595.73	4,674,282.42
331100	TD Mains 4in & Less	22,592.60	1,457.83		1,457.83
331200	TD Mains 6in to 8in		59,765,128.16	512,801.00	59,125,058.01
331210	TD Mains 6in to 10in (TN)	45,952.91	9,815,098.97	37,774.36	9,738,520.16
331300	TD Mains 10in to 16in		22,813,419.36	399,758.90	21,721,501.23
331350	TD Mains 12in & Grtr (TN)	962,123.60	651,993.85		651,239.57
331400	TD Mains 18in & Grtr		18,217,569.56	71,397.39	18,039,423.88
333000	Services	39,798.98CR	4,641,646.48	29,071.06	4,617,844.73
334100	Meters	45,225.79CR	1,378,992.24		9,173.39
334110	Meters Bronze Case	11,229.05	13,326.67		
334131	Meters Other-Rem Rdr Unts		10,123,793.39	94,505.23	9,078,764.37
334200	Meter Installations	362,177.33	7,350,507.80	37,936.46	7,279,427.84
335000	Hydrants	21,476.29	8,526.30		8,526.30
339200	Other P/E SS				405,131.83
339600	Other P/E CPS		496,185.03	4,214.36	598,089.22
340100	Office Furniture & Equip	4,263.91CR	296,134.25		308,231.42
340200	Comp & Periph Equip		603,485.60		601,115.19
340210	Comp & Periph Mainframe		288,572.14	26,547.05	562,974.17
340220	Comp & Periph Personal		185,999.92		200,973.62
340230	Comp & Periph Other		412,127.22	2,944.17	412,127.22
340300	Computer Software		3,535,058.66		3,535,058.66
340310	Comp Software Mainframe		190,122.43		206,244.92
340320	Comp Software Personal	1,362.06CR	14,221.83		14,221.83
340330	Comp Software Other		15,283.88		15,283.88
340400	Data Handling Equipment		89,831.18		137,210.02
340500	Other Office Equipment	2,860.18CR	994,716.42	18,554.21CR	1,074,346.67
341100	Trans Equip Lt Duty Trks		611,461.01		628,461.01
341200	Trans Equip Hvy Duty Trks		254,776.59		254,776.59
341300	Trans Equip Autos		237,241.98		214,418.70
341400	Trans Equip Other		43,392.21		43,392.21
342000	Stores Equipment		1,221,966.36		1,161,050.13
343000	Tools,Shop,Garage Equip	48,845.83	368,241.68		368,087.87
344000	Laboratory Equipment		332,766.90		332,766.90
345000	Power Operated Equipment		352,487.48		354,831.21
346100	Comm Equip Non-Telephone		82,421.72		152,448.57
346200	Comm Equip Telephone		1,028,221.40		1,023,783.00
347000	Misc Equipment		4,918.13		4,918.13
348000	Other Tangible Property				
101100	Reg Asset-AFUDC-Debt		46,099.00		46,099.00
	Reg Asset-AFUDC-Debt				
106000	Struct & Imp SS				
304100	Struct & Imp SS	5,177.39CR	2,242.50		
304200	Struct & Imp P		18,646.23		
304300	Struct & Imp WT		11,902.45		
304500	Struct & Imp AG	4,596.90	132,542.99		
311200	Pump Equip Electric		48.80		
311500	Pump Equip Other		13,556.55		
311520	Pumping Equipment SS		90,154.73		
311530	Pumping Equipment WT		48.80CR		

Description	March Activity	March Balance	Prior Year Activity	Prior Year Balance
00026 Tennessee-American Water Co.				
B01 Utility Plant Original Cost				
106000 WT Equip Non-Media				
320100 WT Equip Non-Media		74,100.18		
330003 Dist Res & Stand Orig Repai		361,940.13		
331001 TD Mains Not Classified by		553.86		
331100 TD Mains 4in & Less	24,609.41	114,214.88		
331210 TD Mains 6in to 10in (TN)	176,993.74	2,180,838.83		
331350 TD Mains 12in & Grtr (TN)	855,483.75CR	889,768.53		
333000 Services	128,378.20CR	822,429.90		
334100 Meters		4,903.84		
334110 Meters Bronze Case	328,959.27CR	98.39		
334131 Meters Other-Rem Rdr Unts		3,645.85		
334200 Meter Installations	28,910.63CR	54,171.30		
335000 Hydrants	7,461.32	343,930.33		
340100 Office Furniture & Equip	2,896.34CR	22,125.97		
340220 Comp & Periph Personal		31,399.86		
340230 Comp & Periph Other	27,216.50	32,199.86		
341200 Trans Equip Hvy Duty Trks		575,161.30		
341400 Trans Equip Other		83,694.88		
343000 Tools,Shop,Garage Equip	48,845.83CR	6,080.50		
344000 Laboratory Equipment	4,788.03	12,982.05		
346190 Remote Control & Instrument		64,270.54		
346200 Comm Equip Telephone		3,282.27		
347000 Misc Equipment	4,908.84	62,061.35		
B01 Utility Plant Original Cost	240,226.07	200,856,495.98	2,113,796.47	190,986,421.50
B02 CWIP				
105050 CWIP Accr-Infra				
21 CWIP Accr-Infra	11,299.75CR	239,725.74	272,415.01	310,572.01
31 CWIP Accr-Plant	123,346.96CR	43,552.85	6,291.31	7,048.31
105110 CWIP History				
1 CWIP History		873,391.07		4,063.93CR
31 CWIP History-Plant		4,063.93		4,063.93
105125 CWIP Permits & Fees				
1 CWIP Permits & Fees		139,371.47		139,371.47
21 CWIP Permits-Infrastr	2,325.00	568,109.36	4,357.03	478,043.31
105150 CWIP M&S & Purchases				
CWIP M&S & Purchases		512.98CR		
1 CWIP M&S & Purchases		11,775,885.53		12,653,340.53
11 CWIP M & S-Bldgs		48,681.22		48,681.22
21 CWIP M & S-Infrastr	228,346.76	9,731,935.09	100,928.10	7,198,815.39
31 CWIP M & S-Plant	20,931.68	5,824,208.26	16,294.80	4,751,060.30
105175 CWIP Professional Services				
1 CWIP Professional Services		7,762.52		7,762.52
21 CWIP Prof Svc-Infrastr		208,326.55		205,219.45
31 CWIP Prof Svc-Plant		3,557.81		3,118.50
105200 CWIP Co Labor				
1 CWIP Co Labor		2,132,747.00		2,132,747.00
21 CWIP Co Labor-Infrastr	48,416.55	3,104,792.71	41,117.62	2,479,547.13
31 CWIP Co Labor-Plant	686.76	689,682.61		678,459.50
105250 CWIP Co Labor OH				
1 CWIP Co Labor OH		1,536,397.70	92,858.47	1,536,572.87
21 CWIP Labor OH-Infrastr	29,812.84	2,131,666.18	67,268.26CR	1,680,199.46
31 CWIP Labor OH-Plant	175.38	266,874.70		266,699.32
105260 CWIP Overhead				
1 CWIP Overhead		565,577.28		565,577.28
11 CWIP Overhead-Bldgs		7,590.50		7,590.50
21 CWIP Overhead-Infrastr	57,382.93	5,115,243.15	108,966.04	4,111,298.71
31 CWIP Overhead-Plant	32,067.94	982,374.12	787.90CR	646,157.80
105270 CWIP AWWSC Chg-Infrastr				
21 CWIP AWWSC Chg-Infrastr		362,970.21		358,299.84
31 CWIP AWWSC Chg-Plant	10,443.56	92,708.51		65,192.34
105275 CWIP Contracted Services				
1 CWIP Contracted Services		8,050,346.99		8,050,346.99
21 CWIP Contr Svc-Infrastr	318,073.32	26,765,780.11	860,369.40	22,599,460.83
31 CWIP Contr Svc-Plant	305,919.50	4,791,487.79	57,697.66	3,545,841.82
105280 CWIP Retainage				
1 CWIP Retainage		24,826.46		24,826.46
21 CWIP Retainage-Infrastr		75,944.12		75,944.12
105300 CWIP Paving				
1 CWIP Paving		81,374.39		81,374.39
21 CWIP Paving-Infrastr	6,344.63	882,063.73	11,819.65	702,902.65
105350 CWIP AFUDC Debt				
1 CWIP AFUDC Debt		323,399.93		323,399.93
21 CWIP AFUDC Debt-Infrastr	150.44	205,436.33	2,391.09	192,715.51
31 CWIP AFUDC Debt-Plant	697.82	289,857.05	1,825.56	280,510.46
105375 CWIP AFUDC Equity				
1 CWIP AFUDC Equity		329,891.24		329,891.24

Description	March Activity	March Balance	Prior Year Activity	Prior Year Balance
00026 Tennessee-American Water Co.				
B02 CWIP				
105375 CWIP AFUDC Eqty-Infrastr				
21 CWIP AFUDC Eqty-Infrastr	162.77	241,988.30	3,092.26	227,172.82
31 CWIP AFUDC Eqty-Plant	755.04	300,859.90	2,360.54	290,470.81
105390 CWIP Trans Prior Yr Chgs				
1 CWIP Trans Prior Yr Chgs		58,009.12		58,009.12
21 CWIP Tran PY Chg-Infrastr		348,002.73CR		348,002.73CR
31 CWIP Tran PY Chg-Plant		42,429.68		42,429.68
105900 CWIP Transfer to UPIS				
CWIP Transfer to UPIS		553.86CR		
1 CWIP Transfer to UPIS		25,780,055.89CR		25,780,055.89CR
21 CWIP Tran UPIS-Infrastr	452,888.60CR	49,602,181.88CR	1,234,567.54CR	39,948,626.87CR
31 CWIP Tran UPIS-Plant	43,752.77CR	11,391,043.62CR	1,013,990.34CR	9,501,469.70CR
B02 CWIP	431,404.84	1,798,540.25	733,829.50CR	1,578,516.40
B03 Accumulated Depreciation				
108105 AD UPIS-Acc Depr-Not Classifd				
AD UPIS-Acc Depr-Not Classi		42,266,608.78CR	31,020.24	42,263,077.51CR
01 AD UPIS-AccDepr-Oper Bldgs	32,257.60CR	2,019,557.23CR	34,323.28CR	1,633,511.59CR
02 AD UPIS-AccDepr-Admin Bldgs	4,133.66CR	226,147.17CR	3,505.61CR	179,774.45CR
04 AD UPIS-AccDepr-Fin Leases	513.04CR	2,278.82CR		
05 AD UPIS-AccDepr-Infrastruct	158,736.23CR	9,739,459.74CR	158,631.15CR	7,801,710.64CR
06 AD UPIS-AccDepr-Op Water Pr	81,469.84CR	4,602,604.72CR	85,269.32CR	3,646,133.36CR
07 AD UPIS-AccDepr-Oth Op Equi	42,283.63CR	2,325,057.00CR	37,967.00CR	1,802,808.60CR
08 AD UPIS-AccDepr-Office Equi	78,679.07CR	3,979,894.96CR	79,887.54CR	3,092,356.61CR
108110 AD UPIS-Removal Cost				
AD UPIS-Removal Cost		670,400.56		670,400.56
108115 AD UPIS-Salvage				
AD UPIS-Salvage	11,487.54CR	37,006.15CR		3,932.37CR
108120 AD UPIS-Scrap Meters				
AD UPIS-Scrap Meters		48,539.51CR	8,715.78CR	43,218.52CR
108125 AD UPIS-Salv Ins Rec				
AD UPIS-Salv Ins Rec		33,331.94CR		33,331.94CR
108130 AD UPIS-Salv Rtrn Stk				
AD UPIS-Salv Rtrn Stk		20,799.10CR		20,799.10CR
108135 AD UPIS-Salv Trade-In				
AD UPIS-Salv Trade-In		27,975.00CR		27,975.00CR
108140 AD UPIS-Salv Sale				
AD UPIS-Salv Sale		9,860.00CR		9,860.00CR
108145 AD UPIS-Orig Cost-Not Classifd				
AD UPIS-Orig Cost-Not Class	256,415.30	8,022,537.55	134,761.41	6,348,929.24
108190 Acc Depr Reg Asset				
Acc Depr Reg Asset	98.00CR	18,076.18CR	98.00CR	16,900.18CR
110110 Acc Amort UP Cap Lease				
Acc Amort UP Cap Lease	8,836.11CR	1,042,660.98CR	8,836.11CR	936,627.66CR
B03 Accumulated Depreciation	162,079.42CR	57,706,919.17CR	251,452.14CR	54,492,687.73CR
B04 UPAA				
114100 UPAA-ATL				
UPAA-ATL			123,169.57CR	
114300 UPAA Post 1/1/06				
UPAA Post 1/1/06		74,850.17		
115100 Accum Amort UPAA-ATL				
Accum Amort UPAA-ATL			2,052.82	
B04 UPAA		74,850.17	121,116.75CR	
B08 Other Investments				
123140 Goodwill				
Goodwill			123,170.17	74,850.17
B08 Other Investments			123,170.17	74,850.17
B10 Cash & Cash Equivalents				
131326 First Union Bank				
001 First Union Bank				8,715.11
002 SunTrust		3,579.70		
003 BB&T				
004 Deutsche Bank	4,330.12CR	9,042.11CR	40,067.52CR	71,530.26
005 Cash-Mellon Lockbox	165,850.23	265,280.97		
131998 Cash Clear-NSF Checks				
001 Cash Clear-NSF Checks	925.68	1,082.17	219.16	288.57
003 Cash Clear-Misc DR/CR			57.45CR	57.45CR
004 Cash Clear-MI's	205.35CR	205.35CR		
005 Cash Clear-ORCOM	358.28CR	358.28CR		
006 Cash Clear-Interco	11,851.88	12,049.97	91.76CR	68.77CR
008 Cash Clear-General			52,003.67	242,346.92

Description	March Activity	March Balance	Prior Year Activity	Prior Year Balance
00026 Tennessee-American Water Co.				
B10 Cash & Cash Equivalents				
134100 Petty Cash				
Petty Cash		200.00		200.00
B10 Cash & Cash Equivalents	173,734.04	272,587.07	12,006.10	322,954.64
B12 Customer Accounts Receivable				
141000 Customer A/R				
Customer A/R	510,911.02CR	2,229,595.25	62,528.84	2,419,440.73
141999 Customer A/R Clearing				
Customer A/R Clearing	1,511.24	83.33CR	117.55	1,375.07CR
B12 Customer Accounts Receivable	509,399.78CR	2,229,511.92	62,646.39	2,418,065.66
B13 Allowance for Uncollectible A/				
143000 Accum prov-uncoll accts				
Accum prov-uncoll accts	32,230.70	226,412.61CR	30,276.01	341,259.28CR
B13 Allowance for Uncollectible A/	32,230.70	226,412.61CR	30,276.01	341,259.28CR
B14 Accrued Utility Revenue				
144000 Accrued Utility Revenue				
Accrued Utility Revenue	291,989.78	1,786,548.56	12,260.24	1,430,002.09
B14 Accrued Utility Revenue	291,989.78	1,786,548.56	12,260.24	1,430,002.09
B15 FIT Refund Due From Assoc Co				
145000 FIT Refund Receivable				
FIT Refund Receivable	53,624.00CR		606.16CR	89,459.70
145100 SIT Refund Receivable				
SIT Refund Receivable	6,414.00CR	1,693.00	1,840.07CR	194,065.24
B15 FIT Refund Due From Assoc Co	60,038.00CR	1,693.00	2,446.23CR	283,524.94
B16 Miscellaneous Receivables				
146100 Misc A/R-System				
Misc A/R-System	7,438.57	15,641.31	25,671.89CR	19,975.24
146115 Misc A/R-Medicare Subsidy				
Misc A/R-Medicare Subsidy	8,694.87CR	61,979.48		24,173.35
146120 Misc A/R-Collections by Others				
Misc A/R-Collections by Oth				
146370 Accum prov-uncoll misc a/r				
Accum prov-uncoll misc a/r				1,292.05CR
146500 A/R Assoc Cos				
AW46 A/R Assoc Cos-AW46	3,958.89	3,958.89		
SLPP A/R Assoc Cos-SLPP	7,456.05CR	7,144.73	3,508.11	8,750.96
B16 Miscellaneous Receivables	4,753.46CR	88,724.41	22,163.78CR	51,607.50
B17 Materials & Supplies				
151100 Plant Material				
Plant Material	38,268.63	256,768.13	8,144.15CR	224,863.63
151300 Chemicals				
Chemicals	14,396.81CR	74,794.80	5,125.83CR	70,975.49
153000 Other Mat & Supplies				
Other Mat & Supplies				3,972.53CR
B17 Materials & Supplies	23,871.82	331,562.93	13,269.98CR	291,866.59
B19 Prepayments				
165100 Prepaid Taxes				
Prepaid Taxes	48,185.08CR	144,555.29	33,775.67CR	101,327.01
165200 Prepaid Insurance				
Prepaid Insurance	49,224.66CR	77,632.56	66,338.35	210,471.10
165300 Prepaid PUC/PSC Assessments				
Prepaid PUC/PSC Assessments	70,121.00	59,265.50	60,008.08	49,758.24
165500 Prepaid Other				
Prepaid Other	7,639.74CR	52,742.07	117,746.91	146,309.71
174100 Deferred Vacation Pay				
Deferred Vacation Pay	58,514.69CR	65,598.05	91,813.88CR	133,286.59
174200 Curr State Def Tax				
Curr State Def Tax		12,599.00		12,599.00
174300 Curr Fed Def Tax				
Curr Fed Def Tax		63,429.00		63,429.00
B19 Prepayments	93,443.17CR	475,821.47	118,503.79	717,180.65
B23 Debt & Preferred Stock Exp				
181110 Unamort Debt Exp-Out				

Description	March Activity	March Balance	Prior Year Activity	Prior Year Balance
Unamort Debt Exp-Out	926.71CR	60,597.68	936.53CR	72,216.10
181120 Unamort Debt Exp-In				
AW46 Unamort Debt AW46	416.34CR	15,014.88	61,007.18	131,092.06
181121 Unamort Debt AW46 NoIAS				
AW46 Unamort Debt AW46 NoIAS	1,030.21CR	98,222.37		
B23 Debt & Preferred Stock Exp	2,373.26CR	173,834.93	60,070.65	203,308.16
B24 Deferred Rate Proceedings				
182000 Deferred Rate Proceedings				
Deferred Rate Proceedings	232,210.84CR	745,629.30	221,844.85	492,061.91
B24 Deferred Rate Proceedings	232,210.84CR	745,629.30	221,844.85	492,061.91
B25 Preliminary Survey & Invest				
183000 Prelim Survey & Invest				
Prelim Survey & Invest				
B25 Preliminary Survey & Invest				
B26 Deferred Regulatory Asset				
186030 Reg Asset-AFUDC-Eq-CWIP				
Reg Asset-AFUDC-Eq-CWIP	97,744.26CR	7,731.77	3,454.89	90,090.10
186035 Reg Asset-AFUDC-Equity				
Reg Asset-AFUDC-Equity	98,325.78	1,007,866.19		909,540.41
186040 Reg Asset-Plt Flow-Diff				
Reg Asset-Plt Flow-Diff	43,588.00CR	4,869,005.48	43,550.00CR	5,373,431.48
186045 Reg Asset-Other				
Reg Asset-Other	7,569.00CR	1,424,201.07	7,569.00CR	1,515,029.07
186051 Reg Asset-St Tax Chg				
Reg Asset-St Tax Chg	3,686.00	2,679,301.00	3,686.00	2,635,069.00
186055 Reg Asset-Accum Amort				
Reg Asset-Accum Amort	2,568.98CR	185,434.09CR	1,214.00CR	161,825.25CR
B26 Deferred Regulatory Asset	49,458.46CR	9,802,671.42	45,192.11CR	10,361,334.81
B27 Other Deferred Debits				
183280 DEF-Customer Service Project				
DEF-Customer Service Projec	8,175.97CR	523,262.08	8,175.97CR	621,373.72
183281 DEF-Financial Services Project				
DEF-Financial Services Proj	3,063.36CR	196,055.04	3,063.36CR	232,815.36
184100 Eng Clearing Dist OH				
Eng Clearing Dist OH	15,439.29	60,860.74	7,985.41	7,082.48
184101 Eng Clearing Eng OH				
Eng Clearing Eng OH	6,544.11	2,629.54	6,140.72CR	7,874.67CR
184102 Mngmt Studu - AMR				
Mngmt Studu - AMR	409.62CR	63.37CR	2,048.43CR	1,158.65CR
184103 Mngmt Study - Pipe Assmnt				
Mngmt Study - Pipe Assmnt	37.34	140.92	50.39	168.68
185110 RWIP History				
RWIP History				
185125 RWIP Permits, Fees & Premiums				
RWIP Permits, Fees & Premiu		5,398.00		5,398.00
21 RWIP Permits, Fees & Premiu	265.00	2,915.00		
185150 RWIP M & S and Purchases				
RWIP M & S and Purchases		14,724.58	13,515.61CR	15,190.18
21 RWIP M & S and Purchases	62.00	2,395.26		
185200 RWIP Co Labor				
RWIP Co Labor		283,698.88	26,773.05	272,494.65
21 RWIP Co Labor	11,329.68	113,100.11		
185250 RWIP Co Labor OH				
RWIP Co Labor OH		171,382.49	15,715.66	164,787.68
21 RWIP Co Labor OH	5,773.43	71,658.09		
185275 RWIP Contracted Services				
RWIP Contracted Services		704,755.87	2,348.87	660,887.02
21 RWIP Contracted Services		15,983.50		
31 RWIP Contracted Services		114,270.79		
185300 RWIP Paving				
RWIP Paving		37,411.17		31,583.67
21 RWIP Paving	187.50	1,503.76		
185315 RWIP Salvage				
RWIP Salvage		125.40CR		
185320 RWIP Scrap Meters				
21 RWIP Scrap Meters		32,948.38CR		
185340 RWIP Sale				
RWIP Sale		4,000.00CR		4,000.00CR
185999 RWIP Clear Removal & Salvage				
RWIP Clear Removal & Salvag		1,133,524.11CR	17,102.52CR	1,132,051.55CR
21 RWIP Clear Removal & Salvag	18,635.79CR	69,129.27CR		
186405 DDA-RIA Software Licen				
DDA-RIA Software Licen	279.18			2,791.73

Description	March Activity	March Balance	Prior Year Activity	Prior Year Balance
00026 Tennessee-American Water Co.				
B27 Other Deferred Debits				
186408 DDA-Def Service Co Pension				
DDA-Def Service Co Pension	12,351.33CR	558,144.88		619,935.87
186422 DDA-Pension Payment				
DDA-Pension Payment	65,236.17CR	1,943,305.01	17,709.00CR	2,298,394.52
186426 DDA-FAS 112 Costs				
DDA-FAS 112 Costs		24,894.00		24,894.00
186431 DDA-Depreciation Study				
DDA-Depreciation Study	53,116.25	64,963.31		
186432 DDA-Cost of Service Study				
DDA-Cost of Service Study	5,337.09	28,620.20	1,175.70	12,383.80
186453 DDA-Management Study				
DDA-Management Study	12,000.00	297,000.00		
186492 DDA-Add'l Security Costs				
DDA-Add'l Security Costs				
186703 DDN-Prelim Financing E				
DDN-Prelim Financing E				
186704 DDN-Undistributed Items				
DDN-Undistributed Items				
186705 DDN-IC Rec/Pay Clearing				
DDN-IC Rec/Pay Clearing			32,777.73CR	32,777.73CR
186707 DDN-Ins Oth Than Grp Reg				
DDN-Ins Oth Than Grp Reg				1,230.53
186711 DDN-Acquisition Costs				
DDN-Acquisition Costs				
186898 DDN-Oth LT Assets				
DDN-Oth LT Assets				
B27 Other Deferred Debits	2,498.63	3,999,282.69	46,484.26CR	3,793,549.29
B33 Common Stock				
201200 Com Stk Subs Interco				
AW02 Com Stk Subs AW02		13,754,235.04CR		13,754,235.04CR
B33 Common Stock		13,754,235.04CR		13,754,235.04CR
B34 Paid In Capital				
205120 Prem C/S Sub Interco				
AW02 Prem C/S Sub AW02		4,770,766.00CR		4,770,766.00CR
205150 Prem P/S Sub Interco				
AW02 Prem P/S Sub AW02		7,692.00CR		7,692.00CR
205300 Gain on Resale/Cancel				
Gain on Resale/Cancel				
AW02 Gain on Res/Can AW02		1,590.00CR		1,590.00CR
205440 Misc PIC				
AW02 Misc PIC AW02	7,500,000.00CR	11,008,870.47CR		3,508,870.47CR
B34 Paid In Capital	7,500,000.00CR	15,788,918.47CR		8,288,918.47CR
B35 Retained Earnings				
210210 R/E at Acquisition				
AW02 R/E at Acq AW02		506,375.76		506,375.76
210240 R/E Since Acquisition				
R/E Since Acquisition		21,167,139.85CR		19,928,227.96CR
B35 Retained Earnings		20,660,764.09CR		19,421,852.20CR
B39 Preferred Stock				
215410 Pref Stk Sub Outside				
Pref Stk Sub Outside		1,381,600.00CR		1,381,600.00CR
B39 Preferred Stock		1,381,600.00CR		1,381,600.00CR
B40 Long Term Debt				
221110 Bonds-Outside				
Bonds-Outside		8,200,000.00CR		14,700,000.00CR
221120 Bonds-Inside				
AW46 Bonds-Inside AW46	1,020,000.00	36,040,000.00CR	1,020,000.00	37,060,000.00CR
224100 Cap Lease Oblig-Out				
Cap Lease Oblig-Out	12,381.97	788,465.13CR	10,551.57	929,610.05CR
B40 Long Term Debt	1,032,381.97	45,028,465.13CR	1,030,551.57	52,689,610.05CR
B43 Bank Debt				
231200 Notes Pay-Assoc Cos				
Notes Pay-Assoc Cos			4,539,992.98CR	9,705,720.75CR
AW46 Notes Pay AW46	4,605,173.75	7,728,654.97CR		
B43 Bank Debt	4,605,173.75	7,728,654.97CR	4,539,992.98CR	9,705,720.75CR

American Water Works Company
Tennessee American Water-Co 26
Total Company (USGAAP)
Trial Balance
For the Period Ending 03/31/2008

Description	March Activity	March Balance	Prior Year Activity	Prior Year Balance
00026 Tennessee-American Water Co.				
B44 Current Portion LTD				
232100 Curr Portion LTD-Out				
Curr Portion LTD-Out		6,500,000.00CR		
232200 Curr Portion LTD-In				
AW46 Curr Portion LTD-AW46		1,020,000.00CR		1,020,000.00CR
232300 Curr Cap Lease Oblig-Out				
Curr Cap Lease Oblig-Out	1,746.97CR	141,061.48CR	875.71CR	122,171.06CR
B44 Current Portion LTD	1,746.97CR	7,661,061.48CR	875.71CR	1,142,171.06CR
B45 Accounts Payable				
234100 Accts Pay-Gen System				
Accts Pay-Gen System	245,229.47	306,077.28CR	109,136.45	270,996.88CR
234110 Accts Pay-Pcard				
Accts Pay-Pcard	2,716.16	5,138.50	2,268.72CR	1,262.03
234200 Accts Pay-Contract Retention				
Accts Pay-Contract Retentio				
234300 Accts Pay-Misc				
Accts Pay-Misc	66,492.98	246,401.10CR	1,707.91	102,044.73CR
002 Accts Pay-Misc W/O's			38,785.00	38,785.00
006 Accts Pay-Wrkbskt Accr	10,785.11	6,007.62CR	8,119.59CR	20,374.32CR
007 Accts Pay-Pcard Accr	2,136.85CR	7,573.54CR	481.66	1,715.41CR
008 Accts Pay-I/C Loan Clearing	322,576.99	415,761.47		
234350 Accts Pay-Proj Exp Accr				
Accts Pay-Proj Exp Accr	134,646.71	283,149.59CR	317,491.32CR	356,276.32CR
234400 Accts Pay-AWWS				
AW03 Accts Pay-AW03	79,597.34CR	40,605.47CR	139,606.79	76,207.01
234500 Accts Pay-Assoc Cos				
AW46 Accts Pay AW46	2,228.17CR	4,456.33CR	1,163.19CR	3,348.98CR
241249 CFO-WLPP Payable				
006 CFO-WLPP Payable			47,211.92CR	180,709.18CR
010 CFO-SLPP Payable			29,188.12CR	108,108.62CR
012 CFO-In Home Payable			3,588.76CR	12,066.88CR
014 CFO-WL/SL Payable			780.00CR	780.00CR
016 CFO-WL/SL/INH Payable			63.96CR	63.96CR
241253 CFO-WLPP In AW21				
AW21 CFO-WLPP In AW21	43,166.30	111,543.39CR		
241254 CFO-SLPP In AW21				
AW21 CFO-SLPP In AW21	29,680.59	75,810.58CR		
241255 CFO-In Home In AW21				
AW21 CFO-In Home In AW21	4,710.51	14,575.18CR		
241256 CFO-WL/SL In AW21				
AW21 CFO-WL/SL In AW21	2,377.88	27,402.87CR		
241257 CFO-WL/SL/IH In AW21				
AW21 CFO-WL/SL/IH In AW21	61.24CR	4,234.77CR		
280999 Interco Rec/Pay				
Interco Rec/Pay	10,820.34CR	7,719.32CR	37,163.39	17,219.10
B45 Accounts Payable	767,538.76	714,657.07CR	82,994.38CR	923,012.14CR
B46 Accrued Taxes				
236120 FUTA				
FUTA	316.06	6,218.39CR	71.67CR	6,340.30CR
236130 FICA				
FICA	1,471.84CR	8,583.32CR	13,326.37	6,958.72CR
236140 SUTA				
SUTA	147.16	3,111.16CR	605.14CR	3,112.68CR
236151 Gen Tax - Property				
Gen Tax - Property	210,053.48CR	632,455.66CR	300,788.13CR	631,100.55CR
236152 Gen Tax - Sales/Use				
Gen Tax - Sales/Use	2,811.36CR	34,307.21CR	103,182.77	189,595.12
236153 Gen Tax - Franchise				
Gen Tax - Franchise	27,500.00CR	162,053.39CR	29,988.00CR	19,318.39CR
236170 Gen Tax - Other				
Gen Tax - Other		36,386.00CR		79,735.00CR
236210 Accr FIT - Current Yr				
Accr FIT - Current Yr	1,815.00CR	1,815.00CR	30,121.00	151,007.00
236220 Accr FIT - Pr Yrs				
Accr FIT - Pr Yrs		3,322,826.99CR		1,438,601.99CR
236230 Accr SIT - Current Yr				
Accr SIT - Current Yr			5,403.00	90,080.00
236240 Accr SIT - Pr Yrs				
Accr SIT - Pr Yrs	15,000.00	216,421.01CR		77,261.00CR
B46 Accrued Taxes	228,188.46CR	4,424,178.13CR	179,419.80CR	1,831,746.51CR
B47 Accrued Interest				
237200 Int Accr-LTD-Outside				
Int Accr-LTD-Outside	131,720.84	252,099.36CR	131,720.84	252,099.34CR

Description	March Activity	March Balance	Prior Year Activity	Prior Year Balance
00026 Tennessee-American Water Co.				
B47 Accrued Interest				
237300 Int Accr-LTD-Inside				
AW46 Int Accr-LTD-AW46	494,526.35	225,887.56CR	226,257.70	104,807.21CR
B47 Accrued Interest	626,247.19	477,986.92CR	357,978.54	356,906.55CR
B51 Misc Current Liabilities				
241100 Accrued Vacation Pay				
Accrued Vacation Pay	58,514.69	65,598.05CR	91,813.88	133,286.59CR
241201 Accr Water Purchases				
Accr Water Purchases	3,380.13	2,732.87CR	202.00	4,013.00CR
241202 Accr Power				
Accr Power	14,330.61CR	190,533.02CR	101,642.46	195,620.75CR
241203 Accr Legal				
Accr Legal	7,163.96	32,636.00CR	188,876.37CR	188,876.37CR
241206 Accr Wages				
Accr Wages	19,239.59CR	112,200.24CR	36,673.35CR	91,040.00CR
241207 Accr Insurance				
Accr Insurance	4.16CR	4.16CR	299.27CR	4.27CR
241210 Accr Waste Disposal				
Accr Waste Disposal	5,529.16CR	33,115.83CR	9,911.34CR	20,452.40CR
241211 Accr Retiree Medical Reimb				
Accr Retiree Medical Reimb	458.54CR	1,375.00CR	.24	999.84CR
241212 Accr DCP Contribution				
Accr DCP Contribution	2,893.32	9,554.65CR	30.48	8,845.74CR
241214 Accr Bank Fees				
Accr Bank Fees	9,855.80	36,223.03CR	23,483.27	24,367.33CR
241220 WH PR-Tax Coll SIT AL				
AL WH PR-Tax Coll SIT AL	109.96CR	396.98CR	110.30CR	410.63CR
GA WH PR-Tax Coll SIT GA	2,567.31		270.45	2,261.19CR
001 WH PR-Union Dues			2,835.00	
005 WH PR-Flex Spending Account	258.07	516.14CR		731.52CR
006 WH PR-401k Contribution	7,124.32	37,203.32CR	3,585.78CR	48,716.11CR
008 WH PR-Garnishments			2,351.46	
010 WH PR-Tax Coll Pay FIT			24,471.84	
013 WH PR-Tax Coll Pay FICA			16,131.89	
999 WH PR-Miscellaneous			146.00	
241227 Accr Employer 401k Match				
Accr Employer 401k Match	3,390.14	12,303.43CR	846.96CR	14,200.13CR
241228 Accrued PFD Div Requirements				
Accrued PFD Div Requirement	11,513.33	5,564.78CR	11,513.33	5,564.79CR
241230 Unclaimed Credits Pay				
Unclaimed Credits Pay	3,864.54CR	12,359.63CR	125.27CR	10,152.72CR
241234 Unclaimed Ext Dep Refund Pay				
Unclaimed Ext Dep Refund Pa		326.05CR		15,172.00CR
241236 Unbilled Items-System				
Unbilled Items-System			1,751.01	6,626.85CR
241237 Unbilled Stock C-System				
Unbilled Stock C-System	10,667.12	27,203.36CR	20,289.05CR	63,699.66CR
241238 Unbilled Stock E-System				
Unbilled Stock E-System	17,515.97CR	21,478.16CR	3,978.70CR	40,420.08CR
241241 CFO-Cust Asst NonPledged				
005 CFO-Cust Asst NonPledged	130.00CR	372.00CR	6.00CR	144.00CR
006 CFO-Cust Asst Pledged	158.00CR	488.00CR	18.00CR	175.00CR
241244 CFO-Sales Tax				
CFO-Sales Tax	15,466.32	147,426.29CR	15,122.58CR	96,440.72CR
241248 CFO-Mun Tax				
CFO-Mun Tax				
241249 CFO-Mgmt Contracts				
001 CFO-MC/Swr Rev/Cash	1,070,116.22	3,607,472.04CR	304,242.06CR	3,684,984.84CR
002 CFO-MC/Swr A/R	952,850.85CR	2,035,566.41	119,397.61	2,314,499.93
004 CFO-MC/Swr ChgOff	39,011.63	1,813,215.54	58,104.33	1,338,117.15
005 CFO-WLPP Receivable	3,828.33CR	25,695.44	1,861.85	43,850.64
009 CFO-SLPP Receivable	3,199.03CR	18,040.18	1,527.84	26,694.07
011 CFO-In Home Receivable	456.09CR	4,205.11	184.85	2,899.04
013 CFO-WL/SL Receivable	464.58	10,932.70	552.00	564.00
015 CFO-WL/SL/INH Receivable	340.18	1,929.73	47.97	47.97
241250 A/P Check Clearing				
A/P Check Clearing	317,440.13CR	692,670.98CR	2,339,961.58	427,437.83CR
241251 P/R Check Clearing				
P/R Check Clearing	4,812.40	13,729.64CR	130,002.67	17,629.61CR
241261 Accr Insurance Retro				
Accr Insurance Retro	60,314.03	665.00CR	35,618.97	52,651.40CR
241322 Incentive Plan Cash Annual				
Incentive Plan Cash Annual	127,573.52	43,193.45CR		
B51 Misc Current Liabilities	96,312.11	1,197,756.99CR	2,379,817.95	1,428,252.57CR
B55 Advances for Construction				

Description	March Activity	March Balance	Prior Year Activity	Prior Year Balance
252120 Adv for Const-NT Ext				
Adv for Const-NT Ext	42,850.98	5,130,372.05CR	328,891.53CR	5,618,577.47CR
252130 Adv for Const-NT Services				
Adv for Const-NT Services		20,515.22CR		27,488.34CR
252150 Adv for Const-NT Hydrants				
Adv for Const-NT Hydrants	2,084.07CR	319,292.84CR	18,384.43CR	350,402.81CR
252170 Adv for Const-NT WIP				
Adv for Const-NT WIP	186,501.96CR	1,258,606.69CR		
252270 Adv for Const-Tax WIP				
Adv for Const-Tax WIP	22,424.00CR	66,275.94CR		
B55 Advances for Construction	168,159.05CR	6,795,062.74CR	347,275.96CR	5,996,468.62CR
B56 Deferred Income Taxes				
252204 Def FIT-Other Property				
Def FIT-Other Property		16,812,437.31CR		16,812,437.31CR
253113 Def FIT-Interim Def				
Def FIT-Interim Def			7,683.89CR	109,099.39
253202 Def FIT-Flow thru Depr				
Def FIT-Flow thru Depr		1,388,200.00CR		1,388,200.00CR
253203 Def FIT-Norm Property				
Def FIT-Norm Property		4,930.00		4,930.00
253301 Def FIT-Other				
Def FIT-Other	135,905.00	1,957,348.29CR	4,780.00	3,696,426.29CR
253309 Def FIT-AMT				
Def FIT-AMT		116,460.00		116,460.00
253602 Def SIT-Flow thru Depr				
Def SIT-Flow thru Depr		253,168.00CR		253,168.00CR
253604 Def SIT-Other Property				
Def SIT-Other Property		3,077,535.00CR		3,077,535.00CR
253613 Def SIT-Interim Def				
Def SIT-Interim Def			10,176.65	14,609.95
253701 Def SIT-Other				
Def SIT-Other	15,844.00	742,968.14CR	982.00	612,836.14CR
B56 Deferred Income Taxes	151,749.00	24,110,266.74CR	8,254.76	25,595,503.40CR
B57 Deferred ITC				
255101 Unamortized ITC - 3%				
Unamortized ITC - 3%	258.00	36,961.00CR	258.00	40,057.00CR
255102 Unamortized ITC - 4%				
Unamortized ITC - 4%	397.00	87,189.00CR	397.00	91,953.00CR
255103 Unamortized ITC - 10%				
Unamortized ITC - 10%	5,709.00	973,022.00CR	5,709.00	1,041,530.00CR
B57 Deferred ITC	6,364.00	1,097,172.00CR	6,364.00	1,173,540.00CR
B58 Deferred Regulatory Liability				
256211 Reg Liab-Exc Def AFUDC FIT				
Reg Liab-Exc Def AFUDC FIT	1,222.00	465,653.75CR	1,222.00	480,317.75CR
256220 Reg Liab-Deficit Def FIT				
Reg Liab-Deficit Def FIT	1,437.00CR	547,328.00	1,437.00CR	564,572.00
256232 Reg Liab-Exc Def Depr SIT				
Reg Liab-Exc Def Depr SIT	642.08CR	278,952.52		
256240 Reg Liab-Other				
Reg Liab-Other			806,338.81CR	806,338.81CR
256250 Reg Liab-ARO/NNS				
Reg Liab-ARO/NNS	3,702.02CR	2,290,945.88CR	15,718.79CR	1,992,126.71CR
256310 Reg Liab-ITC Gross-Up 3%				
Reg Liab-ITC Gross-Up 3%	165.00	23,385.11CR	165.00	25,365.11CR
256311 Reg Liab-ITC Gross-Up 4%				
Reg Liab-ITC Gross-Up 4%	254.00	55,745.20CR	254.00	58,793.20CR
256312 Reg Liab-ITC Gross-Up 10%				
Reg Liab-ITC Gross-Up 10%	3,301.00	562,488.19CR	3,301.00	602,100.19CR
B58 Deferred Regulatory Liability	839.10CR	2,571,937.61CR	818,552.60CR	3,400,469.77CR
B59 Other Deferred Credits				
262120 DCA-Accr Pension Def Benefit				
DCA-Accr Pension Def Benefi	56,136.83CR	1,866,648.01CR	277,576.00	2,181,109.52CR
262210 DCA-Accr OPEB				
DCA-Accr OPEB	70,458.50CR	333,935.46CR	137,094.83	333,935.49CR
262215 DCA-Accr OPEB Med Subsidy				
DCA-Accr OPEB Med Subsidy		104,856.00CR		58,355.00CR
262304 DCA-Wtr & WW Chgs Bill				
DCA-Wtr & WW Chgs Bill	133,885.16		115,655.43	
262313 DCA-FAS 112 Costs				
DCA-FAS 112 Costs		24,894.00CR		24,894.00CR
262317 Def Comp (prior 1/1/08)				
Def Comp (prior 1/1/08)		384,592.51CR		384,592.51CR
262321 DCA-Inc Plan Cash LT				

American Water Works Company
Tennessee American Water-Co 26
Total Company (USGAAP)
Trial Balance
For the Period Ending 03/31/2008

Description	March Activity	March Balance	Prior Year Activity	Prior Year Balance
DCA-Inc Plan Cash LT	396.00CR	396.00CR		
262322 DCA-Inc Plan Cash Annual				
DCA-Inc Plan Cash Annual			115,391.74	35,523.78CR
262398 DCA-Other				
DCA-Other	9,599.27	691,147.44CR		
265700 Misc Operating Reserves				
Misc Operating Reserves	308,159.75			
B59 Other Deferred Credits	324,652.85	3,406,469.42CR	645,718.00	3,018,410.30CR
B62 CIAC				
271110 CIAC-NT Mains				
CIAC-NT Mains		3,574,802.19CR	1,000.00CR	3,546,888.19CR
271120 CIAC-NT Ext Dep				
CIAC-NT Ext Dep		1,748,422.00CR		1,748,422.00CR
271130 CIAC-NT Services				
CIAC-NT Services		487,648.62CR		481,648.62CR
271140 CIAC-NT Meters				
CIAC-NT Meters		95,036.27CR		81,036.27CR
271150 CIAC-NT Hydrants				
CIAC-NT Hydrants		366,667.23CR		364,497.36CR
271160 CIAC-NT Other				
CIAC-NT Other		1,234,752.19CR		1,234,752.19CR
271210 CIAC-Tax Mains				
CIAC-Tax Mains	176.90CR	1,485,777.73CR		1,433,689.32CR
271230 CIAC-Tax Services				
CIAC-Tax Services	8,604.00CR	1,287,879.56CR	7,617.00CR	1,117,249.56CR
271240 CIAC-Tax Meters				
CIAC-Tax Meters	658.00CR	89,857.20CR	915.00CR	80,692.20CR
271250 CIAC-Tax Hydrants				
CIAC-Tax Hydrants		188,121.83CR		188,121.83CR
271260 CIAC-Tax Other				
CIAC-Tax Other		98,914.00		98,914.00
272060 Accum Amort CIAC-Other				
Accum Amort CIAC-Other	89,320.50CR	1,877,501.29	9,368.63	1,764,052.93
272100 Accum Amort CIAC-Taxable				
Accum Amort CIAC-Taxable	4,413.57	231,492.99	4,262.75	179,071.33
B62 CIAC	94,345.83CR	8,351,056.54CR	4,099.38	8,234,959.28CR
00026 Tennessee-American Water Co.	300,660.29CR	445,821.02CR	17,707.31CR	172,079.41CR

TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 08-00039
FIRST DISCOVERY REQUEST OF THE
CONSUMER ADVOCATE AND PROTECTION DIVISION

Responsible Witness: Sheila Miller

PART IV: QUESTIONS & REQUESTS REGARDING REVENUES, EXPENSES, TAXES, RATE BASE & MISCELLANEOUS

Question: OTHER

85. Provide a detailed calculation showing each component of the Gross Revenue Deficiency Factor of 1.71974555 as found on Company Exhibit No. 1, Schedule 1, Page 1 of 1.

Response:

RATE BASE REQUESTED		119,881,506
RATE OF RETURN REQUESTED		8.514%
WTD DEBT COST		3.405%
UNCOLLECTBLE RATIO		1.489%
GROSS RECEIPTS TAXES		2.876%
REVENUES:		1.00000000
EXPENSES:		
UNCOLLECTIBLES @		0.01489000
		0.98511000
GROSS RECEIPTS TAXES		0.02833275
		0.95677725
STATE INCOME TAX RATE		0.06219052
		0.89458673
FEDERAL INCOME TAX RATE	35.00%	0.31310536
		0.58148137
REVENUE CONVERSION		1.71974555

TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 08-00039
FIRST DISCOVERY REQUEST OF THE
CONSUMER ADVOCATE AND PROTECTION DIVISION

Responsible Witness: Sheila Miller/Michael Miller

PART IV: QUESTIONS & REQUESTS REGARDING REVENUES, EXPENSES, TAXES, RATE BASE & MISCELLANEOUS

Question: OTHER

86. Provide a detailed explanation of why the Company budgeted Operating Revenues of $36,800,173 for the calendar year 2008 (TN-TRA-01-Q018-ATTACHMENT Page 1 of 12) are less than the normalized test year ended November 30, 2007 amount of $36,910,843 per Company Exhibit No. 2, Schedule 2, Page 1 of 1.

Response:

The Company objects to this question on grounds that the requested data is not readily available in the format requested and is not relevant to this proceeding. The Company prepared its case using a test-year ended November 2007 adjusted for test-year normalizations, including Dr. Spitznagel's weather normalization adjustments, and adjusted for customer growth and other factors expected to occur in the attrition year all in compliance with the TRA rules in preparing and filing rate cases. The Company's attrition year going-level revenues with adjustments are reflected in the above mentioned Schedule 2, and supported by the working papers provided in response to TRA DR 1 Question 13, TN-TRA-01-Q013-Revenues pages 1-99.

Notwithstanding the objection, the Company provides the following response. The 2008 budget referenced in the question was prepared in July 2007 using 2006 as a base period on which to project 2008 revenues. The rate case was prepared using an entirely different base period, the twelve months ended

November 2007, with the additional benefit of having weather normalization factors prepared by a highly qualified expert, Dr. Spitznagel. Slightly different results would be expected given the differences in the base periods, and the small difference in this case speaks well to the effectiveness of TAWC's budgeting process.

TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 08-00039
FIRST DISCOVERY REQUEST OF THE
CONSUMER ADVOCATE AND PROTECTION DIVISION

Responsible Witness: Michael Miller/John Watson

PART IV: QUESTIONS & REQUESTS REGARDING REVENUES, EXPENSES, TAXES, RATE BASE & MISCELLANEOUS

Question:

87. Provide documentation of management approval of the Company's budget for the years 2008, 2009 and 2010 as provided (TN-TRA-01-Q018-ATTACHMENT Pages 1 - 12). Include in your response omitted budget Schedules 1 through 5 for each year.

Response:

The Company will produce copies of the minutes of its Board of Directors meetings in response to Part IV, Question 93 pursuant to the entry of an appropriate Protective Order. pursuant to the Protective Order. In response to this question, the Company directs the CAPD to the minutes dated February 4, 2008, which on page 2 (last Resolution on that Page) indicate the Board of Directors of TAWC approved the 2008 Annual Business Plan. Also, please see attached the budget Schedules 1 through 5 for each year.

SCHEDULE 1
ACCOUNTS RECEIVABLE AND COLLECTIONS

Tennessee-American
PLAN YEAR: 2008

DATE : 17-May-08
TIME : 5:55 PM

	DESCRIPTION	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL	
1	BEGINNING BALANCE (Input JAN)	**1,743,745**	1,783,306	1,646,279	1,310,162	1,591,333	1,602,919	1,514,707	1,664,611	1,564,611	1,856,619	1,620,112	1,698,420	1,743,745	1
2	ADD: REVENUES (SCH6, L6-L4) - (SCH5, L8)	2,772,080	2,657,697	2,794,029	2,696,254	2,851,317	3,071,470	3,030,727	3,118,240	3,131,838	3,188,041	2,973,807	3,137,604	35,423,101	2
														0	
3	TN SALES TAX (9.25%)	256,417	245,837	258,448	249,403	263,747	284,111	280,342	288,437	289,695	294,894	275,077	290,228	3,276,637	3
4	GROSS REC TAX (3%)	83,162	79,731	83,821	80,888	85,539	92,144	90,922	93,547	93,955	95,641	89,214	94,128	1,062,693	4
5	TRA FEES (.002%)	5,544	5,315	5,588	5,393	5,703	6,143	6,061	6,236	6,264	6,376	5,948	6,275	70,846	5
6														0	6
7	TOTAL TAXES effective rate in parentheses	345,124	330,883	347,857	335,684	354,989	382,398	377,325	388,221	389,914	396,911	370,239	390,632	4,410,176	7
8															8
9															9
10	LESS: DEPOSIT REFUNDS														10
11	CHARGE OFFS	41,200	41,200	41,200	41,200	41,200	41,200	41,200	41,200	41,200	41,200	41,200	41,200	494,400	11
12	OTHER														12
13	BALANCE AVAILABLE	4,819,748	4,730,686	4,746,965	4,300,899	4,756,438	5,015,587	4,881,559	5,129,872	5,045,162	5,400,372	4,922,958	5,185,456	41,082,623	13
14	COLLECTION RATIO (INPUT)	0.630	0.652	0.724	0.630	0.663	0.698	0.659	0.695	0.632	0.700	0.655	0.679		14
15	LESS COLLECTIONS	3,036,442	3,084,407	3,436,803	2,709,566	3,153,519	3,500,880	3,216,948	3,565,261	3,188,543	3,780,260	3,224,538	3,520,924	39,418,091	15
16	SUB TOTAL	1,783,306	1,646,279	1,310,162	1,591,333	1,602,919	1,514,707	1,664,611	1,564,611	1,856,619	1,620,112	1,698,420	1,664,532	1,664,532	16
17	MISC. ADJUSTMENTS														17
18	ENDING BALANCE	1,783,306	1,646,279	1,310,162	1,591,333	1,602,919	1,514,707	1,664,611	1,564,611	1,856,619	1,620,112	1,698,420	1,664,532	1,664,532	18
	PRIOR YEAR														
19	JAN SALES	**259,954**													19
20	JAN GROSS	**84,310**													20
21	FRANCHISE FEE (JAN-MAR)														21
22	COLLECTIONS	3,036,442	3,084,407	3,436,803	2,709,566	3,153,519	3,500,880	3,216,948	3,565,261	3,188,543	3,780,260	3,224,538	3,520,924	39,418,091	22
23														0	23
24	TOTAL SEWER BILLING														24
25	SEWER COLLECTIONS (INPUT PY)	1,367,855	1,961,116	2,459,750	1,686,039	1,847,666	1,700,000	1,367,855	1,961,116	1,700,000	1,686,039	1,847,666	2,459,750	22,044,852	25
26	LANDFILL COLLECTIONS (INPUT PY)													0	26
27	**TOTAL COLLECTIONS**	**4,404,297**	**5,045,523**	**5,896,553**	**4,395,605**	**5,001,185**	**5,200,880**	**4,584,803**	**5,526,377**	**4,888,543**	**5,466,299**	**5,072,204**	**5,980,674**	**61,462,943**	27

Tennessee-American
PLAN YEAR: 2008

SCHEDULE 2 FEDERAL INCOME TAX		TAXABLE INCOME PERIOD	1 SUB TOTAL TAXABLE INCOME	2 TAX @ 35.00%	3 TOTAL TAX ANNUALIZED	4 SURTAX EXEMPTION	5 NET TAX	6 PERCENT OF TAX DUE	7 NET TAX DUE	8 DEDUCT: PRIOR PAYMENTS ADD: (REFUNDS)	9 NET PAYMENT (REFUND)
1st INSTALL CURRENT YEAR - APR		1/1-3/31	(83,415)	(29,195)	XXXXX	XXXXX	(29,195)	105.0%	(30,655)	XXXXX	(30,655)
2nd INSTALL CURRENT YEAR - JUN		1/1-3/31	(83,415)	(29,195)	XXXXX	XXXXX	(29,195)	105.0%	(30,655)	XXXXX	(30,655)
3rd INSTALL CURRENT YEAR - SEP		1/1-6/30	(169,228)	(59,230)	(118,460)	XXXXX	(118,460)	100.0%	(118,460)	(61,310)	(57,150)
4th INSTALL CURRENT YEAR - DEC		1/1-9/30	549,961	192,486	256,648		256,648	100.0%	256,648	(118,460)	375,108
5th INSTALL NEXT YEAR - MAR		1/1-12/31	1,373,551	480,743	480,743		480,743	100.0%	480,743	256,648	224,095

SCHEDULE 2A STATE INCOME TAX		TAXABLE INCOME PERIOD	1 TAXABLE INCOME AMOUNT	2 TAX 6.50%	3 TOTAL TAX ANNUALIZED	4 PERCENT OF TAX TAKEN	5 NET TAX DUE	6 DEPOSIT REQUIRED	7 NET DEPOSIT	8 DEDUCT: PRIOR PAYMENTS ADD: (REFUNDS)	9 NET PAYMENT (REFUND)
1st INSTALL CURRENT YEAR - JUN		1/1-5/31	(648,519)	(42,154)	(101,169)	85%	(85,994)	50%	(42,997)	0	(42,997)
2nd INSTALL CURRENT YEAR - SEP		1/1-8/31	(75,031)	(4,877)	(7,315)	85%	(6,218)	75%	(4,664)	(42,997)	38,333
3rd INSTALL CURRENT YEAR - DEC		1/1-11/30	672,222	43,694	47,667	85%	40,517	100%	40,517	(4,664)	45,180
FINAL PAYMNT		1/1-12/31	1,039,437	67,563	67,563	100%	67,563	100%	67,563	40,517	27,047

SCHEDULE 2B COMMON DIVIDENDS		NET INCOME TO COMMON EQUITY 3 MOS ENDED 12/31/07	NET INCOME TO COMMON EQUITY 6 MOS ENDED 3/31/08	NET INCOME TO COMMON EQUITY 9 MOS ENDED 6/30/08	NET INCOME TO COMMON EQUITY 12 MOS ENDED 9/30/08	ADJUSTMENTS SEE NOTE: A	TOTAL EARNINGS AVAILABLE FOR COMMON EQUITY	DEDUCT 25%	EARNINGS AVAILABLE FOR COMMMON DIVIDENDS	DEDUCT: PRIOR DIVIDEND PAYMENTS	COMMON DIVIDEND PAYMENT **
MARCH	**2008**	1,261,734	XXXX	XXXX	XXXX	0	1,261,734	315,433	946,300	XXXXX	946,300
JUNE	**2008**	XXXX	1,288,077	XXXX	XXXX	0	1,288,077	322,019	966,058	946,300	19,757
SEPTEMBER	**2008**	XXXX	XXXX	1,546,090	XXXX	0	1,546,090	386,522	1,159,567	966,058	193,509
DECEMBER	**2008**	XXXX	XXXX	XXXX	2,206,427	0	2,206,427	551,607	1,654,820	1,159,567	739,171

NOTE: A CUMULATIVE ADJUSTMENTS						
not applicable - new policy						1,898,738
ADD: AMORTIZATION OF:						
PREFERRED STOCK EXP. (INPUT)						
UTILITY PLANT ADJ. (INPUT)						
PROPERTY LOSSES (INPUT)						
LOSS ON DISP OF PROPERTY						
GAIN ON SALE						
TOTAL		0	0	0	0	

SCHEDULE 3
CASH FORECAST

TENNESSEE-AMERICAN WATER COMPANY
PLAN YEAR: 2008

DESCRIPTION	JAN	FEB	MAR	APRIL	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL	
CASH RECEIPTS:														01
CUST A/R - (L13,SC1)	3,036,442	3,084,407	3,436,803	2,709,566	3,153,519	3,500,880	3,216,948	3,565,261	3,188,543	3,780,260	3,224,538	3,520,924	39,418,091	02
MISC A/R (L4,168)	114,756	114,756	114,756	114,756	114,756	114,756	114,756	114,756	114,756	114,756	114,756	114,756	1,377,072	03
COLLECTIONS FOR OTHERS (L25+L26,SC1	1,686,690	1,567,328	1,737,439	1,462,665	1,675,191	1,711,566	1,746,952	2,011,175	1,726,876	1,732,129	1,632,498	1,733,643	20,424,152	04
													0	05
SECURITIES (Bonds and Preferred)	0	0	0		0	0	0	0	0	0	0	0	0	06
OTHER (L32,SC3B)	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	36,000	07
Equity			7,500,000										7,500,000	08
TOTAL	4,840,888	4,769,491	12,791,998	4,289,987	4,946,466	5,330,202	5,081,656	5,694,192	5,033,175	5,630,145	4,974,792	5,372,323	68,755,315	09
CASH DISBURSEMENTS:														
PENSIONS (INPUT)													0	10
RATE CASE (INPUT)	0												0	11
OTHER O&M (L31,SC3C)	1,920,453	1,957,258	1,759,582	2,080,770	2,097,779	1,955,989	1,932,293	2,088,598	1,956,770	1,925,345	2,019,059	1,989,508	23,683,404	12
FIT (INPUT MAR) (SC2,COL9)	0			(30,655)		(30,655)			(57,150)			599,202	480,743	13
SIT (INPUT APR) (SC2A.COL9)	0					(42,997)			38,333			72,227	67,563	14
OTHER TAX (L18,SC3B)	407,970	2,948,574	31,566	33,760	33,371	31,783	417,041	30,165	31,475	32,805	29,038	33,616	4,061,165	15
LTD INTEREST (Bonds)	18,069	422,319	915,557	18,069	18,069	345,589	18,715	422,965	846,129	18,715	18,715	134,340	3,197,251	16
STD INT (L9,SC3A)	41,424	47,000	41,184	29,258	30,250	45,769	63,449	66,626	70,230	72,383	73,213	76,980	657,766	17
COLLECTIONS FOR OTHERS (L27,SC3B)	1,824,215	1,691,066	1,853,460	1,593,084	1,795,953	1,868,109	1,941,180	2,203,598	1,901,474	1,928,525	1,805,866	1,900,235	22,306,764	18
PRIOR YEAR (INPUT)													0	19
SINKING FUND (Preferred&Sinking Funds)	0	0	0	0	0	0	0	0	0	0	0	0	0	20
DIVIDEND-PREF (DEBT PMT)	0	0	17,270	0	0	17,270	0	0	17,270	0	0	17,270	69,080	21
DIVIDENDS-COM (SC2B)			946,300			19,757			193,509			739,171	1,898,738	22
LTD MATURITIES	10,469	10,551	1,030,635	10,719	10,804	6,511,534	11,627	11,718	11,811	11,905	11,999	12,093	7,655,865	23
OTHER DISB (L11,SC3B)	3,667	4,667	27,967	9,167	3,667	24,267	4,667	3,667	12,767	213,500	3,500	11,600	323,103	24
													0	
TOTAL	4,226,268	7,081,435	6,623,522	3,744,172	3,989,893	10,746,416	4,388,972	4,827,337	5,022,619	4,203,178	3,961,390	5,586,242	64,401,443	25
INTERNALLY GENERATED FUNDS	614,620	(2,311,944)	6,168,476	545,815	956,573	(5,416,214)	692,684	866,855	10,556	1,426,967	1,013,402	(213,919)	4,353,872	26
ADD: EXTENSION DEPOSITS	93	74,652	91,021	57,152	61,044	300,000	300,000	300,000	250,000	250,000	215,000	101,038	2,000,000	27
CONST REIMBURSEMENTS	0	0	0	0	0	0	0	0	0	0	0	0	0	28
TOTAL	93	74,652	91,021	57,152	61,044	300,000	300,000	300,000	250,000	250,000	215,000	101,038	2,000,000	29
FUNDS AVAILABLE FOR CONSTRUCTION	614,713	(2,237,292)	6,259,497	602,967	1,017,617	(5,116,214)	992,684	1,166,855	260,556	1,676,967	1,228,402	(112,881)	6,353,872	30
LESS:CONSTR (L59,SC3D)	249,893	669,024	649,309	843,092	1,044,070	1,462,833	1,965,325	1,421,186	1,418,121	1,292,704	1,808,989	781,795	13,606,340	31
RETIRE (INPUT) 2000 SBP													0	32
EXT REFS (INPUT) 2000 SBP	83,000	83,000	83,000	83,000	83,000	83,000	83,000	83,000	83,000	83,000	83,000	87,000	1,000,000	33
PRIOR YR (INPUT)		0	0		0	0	0	0	0	0	0	0	0	34
TOTAL	332,893	752,024	732,309	926,092	1,127,070	1,545,833	2,048,325	1,504,186	1,501,121	1,375,704	1,891,989	868,795	14,606,340	35
													0	
BALANCE GENERATED	281,820	(2,989,316)	5,527,188	(323,125)	(109,453)	(6,662,047)	(1,055,641)	(337,331)	(1,240,565)	301,263	(663,587)	(981,676)	(8,252,468)	36
														37
BEG CASH (INPUT JAN ONLY)	536,000	261,820	261,504	261,692	261,567	262,114	262,067	259,426	255,095	254,259	255,522	253,935	536,000	38
ADD: BALANCE GENERATED (L36,SC3)	281,820	(2,989,316)	5,527,188	(323,125)	(109,453)	(6,662,047)	(1,055,641)	(337,331)	(1,240,565)	301,263	(663,587)	(981,676)	(8,252,470)	39
SALE OF INVESTMENTS			0	0	0	0	0	0	0	0	0	0	0	40
BANK LOANS		2,989,000		323,000	110,000	6,662,000	1,053,000	333,000	1,239,729		662,000	982,000	14,353,729	41
SUB-TOTAL	817,820	261,504	5,788,692	261,567	262,114	262,067	259,426	255,095	254,259	555,522	253,935	254,259	9,486,260	42
LESS: BANK LOANS REPAYMENT	(556,000)		(5,527,000)							(300,000)			(6,383,000)	43
INVESTMENTS													0	44
ENDING CASH BALANCE	**261,820**	**261,504**	**261,692**	**261,567**	**262,114**	**262,067**	**259,426**	**255,095**	**254,259**	**255,522**	**253,935**	**254,259**	**254,259**	45
CREDIT LINE REQUIRED	9,334,069	11,749,000	12,681,827	6,545,000	6,655,000	13,317,000	14,370,000	14,792,965	15,942,729	15,961,444	16,304,729	17,286,729	17,286,729	46
ACCUMULATED BANK LOANS	8,760,000	11,749,000	6,222,000	6,545,000	6,655,000	13,317,000	14,370,000	14,703,000	15,942,729	15,642,729	16,304,729	17,286,729	17,286,729	47
ACCUMULATED INVESTMENTS	0	0	0	0	0	0	0	0	0	0	0	0	0	48

	SCHEDULE 4 - TAX WORKSHEET (PAGE 2)	TENNESSEE-AMERICAN WATER COMPANY													
	BELOW THE LINE TAXES	PLAN YEAR: 2008													
74	+ INTEREST INCOME (L39,168)	0	0	0	0	0	0	0	0	0	0	0	0	0	74
75	+ M&J INCOME (L42,168)	0	0	0	0	0	0	0	0	0	0	0	0	0	75
76	+ CLUB DUES	0	0	600	0	0	600	0	0	600	0	0	600	2,400	76
77	- MISC. DEDUCTIONS (L48,168)	515	515	33,475	2,060	1,030	18,025	1,030	2,060	7,725	1,030	1,030	7,725	76,220	77
78	-													0	78
79	**= BTL TAXABLE INCOME**	**(515)**	**(515)**	**(32,875)**	**(2,060)**	**(1,030)**	**(17,425)**	**(1,030)**	**(2,060)**	**(7,125)**	**(1,030)**	**(1,030)**	**(7,125)**	**(73,820)**	79
80	SIT RATE														80
81	6.50%														81
82	STATE INCOME TAX	(33)	(33)	(2,137)	(134)	(67)	(1,133)	(67)	(134)	(463)	(67)	(67)	(463)	(4,798)	82
83	ADJUSTMENTS	0												0	83
84	**= L50-168**	**(33)**	**(33)**	**(2,137)**	**(134)**	**(67)**	**(1,133)**	**(67)**	**(134)**	**(463)**	**(67)**	**(67)**	**(463)**	**(4,798)**	84
85														0	85
86	TOTAL STATE INCOME TAX (L58,SC4)	7,612	(28,056)	8,792	(4,559)	(22,701)	15,456	24,942	(5,988)	20,625	34,570	(10,360)	22,033	62,366	86
87	LESS: BELOW THE LINE SIT (L96,SC4)	(33)	(33)	(2,137)	(134)	(67)	(1,133)	(67)	(134)	(463)	(67)	(67)	(463)	(4,798)	87
88	**= L42-169**	**7,646**	**(28,022)**	**10,929**	**(4,425)**	**(22,634)**	**16,588**	**25,009**	**(5,854)**	**21,088**	**34,637**	**(10,293)**	**22,496**	**67,165**	88
89	BTL TAXABLE INCOME (L88,SC4)	(515)	(515)	(32,875)	(2,060)	(1,030)	(17,425)	(1,030)	(2,060)	(7,125)	(1,030)	(1,030)	(7,125)	(73,820)	89
90	BTL SIT (L96,SC4)	(33)	(33)	(2,137)	(134)	(67)	(1,133)	(67)	(134)	(463)	(67)	(67)	(463)	(4,798)	90
91	= BELOW LINE FIT TAXABLE INCOME	(482)	(482)	(30,738)	(1,926)	(963)	(16,292)	(963)	(1,926)	(6,662)	(963)	(963)	(6,662)	(69,022)	91
92	FIT RATE													0	92
93	0.35														93
94	FEDERAL INCOME TAX	(169)	(169)	(10,758)	(674)	(337)	(5,702)	(337)	(674)	(2,332)	(337)	(337)	(2,332)	(24,158)	94
95	ADJUSTMENTS													0	95
96	**= L51-168**	**(169)**	**(169)**	**(10,758)**	**(674)**	**(337)**	**(5,702)**	**(337)**	**(674)**	**(2,332)**	**(337)**	**(337)**	**(2,332)**	**(24,158)**	96
97	LINE 71 (TOTAL FIT)	53,304	(142,275)	59,775	(13,434)	(112,913)	96,313	148,329	(21,272)	124,659	201,124	(45,245)	132,378	480,743	97
98	LESS LINE 96 ABOVE	(169)	(169)	(10,758)	(674)	(337)	(5,702)	(337)	(674)	(2,332)	(337)	(337)	(2,332)	(24,158)	98
99	**= L49-169**	**53,472**	**(142,106)**	**70,534**	**(12,760)**	**(112,576)**	**102,015**	**148,666**	**(20,598)**	**126,991**	**201,461**	**(44,908)**	**134,709**	**504,900**	99

CALCULATION OF TEMP TAXES

	DESCRIPTION	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL	
1	+L62-168 (NET INCOME)	6,642	12,602	24,369	799	72,243	202,241	186,162	239,335	252,110	280,318	189,498	260,684	1,727,003	1
2	+ L48-169 (TOTAL SIT)	745	1,384	4,749	219	7,811	22,811	20,022	25,789	27,487	30,115	20,380	28,406	189,918	2
3	+ L53-169 (TOTAL FIT)	3,753	6,969	23,908	1,105	39,320	114,835	100,793	129,823	138,374	151,601	102,593	143,001	956,074	3
4	+ L50-168 (SIT BTL)	(33)	(33)	(2,137)	(134)	(67)	(1,133)	(67)	(134)	(463)	(67)	(67)	(463)	(4,798)	4
5	+ L51-168 (FIT BTL)	(169)	(169)	(10,758)	(674)	(337)	(5,702)	(337)	(674)	(2,332)	(337)	(337)	(2,332)	(24,158)	5
6	TOTAL STATE TAXABLE INCOME	10,939	20,752	40,131	1,315	118,970	333,052	306,573	394,138	415,177	461,629	312,067	429,296	2,844,039	6
7	x .061	6.51%	6.51%	6.51%	6.51%	6.51%	6.51%	6.51%	6.51%	6.51%	6.51%	6.51%	6.51%	6.51%	7
8	= STATE TAX	712	1,351	2,612	86	7,744	21,679	19,955	25,655	27,024	30,048	20,313	27,943	185,120	8
9	- L48-169 (TOTAL SIT)	745	1,384	4,749	219	7,811	22,811	20,022	25,789	27,487	30,115	20,380	28,406	189,918	9
10	- L50-168 (SIT BTL)	(33)	(33)	(2,137)	(134)	(67)	(1,133)	(67)	(134)	(463)	(67)	(67)	(463)	(4,798)	10
11	**= L46-169**	**(0)**	**0**	**0**	**0**	**(0)**	**(0)**	**0**	**(0)**	**0**	**(0)**	**0**	**(0)**	**(0)**	11
12															12
13	TOTAL STATE TAXABLE INCOME	10,939	20,752	40,131	1,315	118,970	333,052	306,573	394,138	415,177	461,629	312,067	429,296	2,844,039	13
14	- STATE TAX	712	1,351	2,612	86	7,744	21,679	19,955	25,655	27,024	30,048	20,313	27,943	185,120	14
15	= TOTAL FEDERAL TAXABLE INCOME	10,227	19,402	37,519	1,229	111,226	311,374	286,618	368,484	388,153	431,581	291,754	401,353	2,658,920	15
16	x .38	35.05%	35.05%	35.05%	35.05%	35.05%	35.05%	35.05%	35.05%	35.05%	35.05%	35.05%	35.05%	35.05%	16
17	= FEDERAL TAX	3,584	6,800	13,150	431	38,983	109,132	100,456	129,149	136,042	151,264	102,256	140,669	931,917	17
18	- L53-169 (TOTAL FIT)	3,753	6,969	23,908	1,105	39,320	114,835	100,793	129,823	138,374	151,601	102,593	143,001	956,074	18
19	- L51-168 (FIT BTL)	(169)	(169)	(10,758)	(674)	(337)	(5,702)	(337)	(674)	(2,332)	(337)	(337)	(2,332)	(24,158)	19
20	**= L57-169**	**(0)**	**(0)**	**0**	**0**	**(0)**	**(0)**	**0**	**(0)**	**0**	**(0)**	**0**	**(0)**	**(0)**	20

SCHEDULE 5
FORM 169

Tennessee-American
ANNUAL BUSINESS PLAN
PLAN YEAR: 2008

	DESCRIPTION	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEP	OCT	NOV	DEC	TOTAL	
1	RESIDENTIAL	1,142,655	1,073,578	1,110,467	1,101,962	1,152,489	1,271,043	1,299,477	1,311,600	1,324,617	1,313,019	1,211,624	1,226,611	14,539,143	1
2	COMMERCIAL	886,418	844,658	920,955	868,665	928,025	986,555	967,182	1,007,071	1,005,536	1,028,659	980,427	1,037,017	11,461,166	2
3	INDUSTRIAL	310,918	309,679	308,162	299,582	304,600	334,368	301,227	316,722	319,989	345,897	310,949	389,798	3,851,891	3
4	FIRE SERVICE	126,355	126,355	126,355	126,355	126,355	126,355	126,355	126,355	126,355	126,355	126,355	126,355	1,516,255	4
5	PUBLIC AUTH	177,262	174,955	199,618	171,218	211,377	224,677	208,014	228,021	226,869	245,640	215,981	229,352	2,512,984	5
6	SALES FOR RESALE	128,472	128,472	128,472	128,472	128,472	128,472	128,472	128,472	128,472	128,472	128,472	128,472	1,541,662	6
7	OTHER														7
8	UNBILLED														8
9	TOTAL L2-168	2,772,080	2,657,697	2,794,029	2,696,254	2,851,317	3,071,470	3,030,727	3,118,240	3,131,838	3,188,041	2,973,807	3,137,604	35,423,101	9
10	PRODUCTION LABOR														10
11	DISTRIBUTION LABOR														11
12	COMMERCIAL LABOR														12
13	ADMIN & GEN LABOR														13
14	TOTAL L8-168														14
15	REGULATORY TAX BEN														15
16	REGULATORY AMORT														16
17	OTHER														17
18	TOTAL L16-168														18
19	CUST ACCT COMP														19
20	UNCOLLECTIBLES	41,200	41,200	41,200	41,200	41,200	41,200	41,200	41,200	41,200	41,200	41,200	41,200	494,400	20
21	OTHER														21
22	TOTAL L18-168	41,200	41,200	41,200	41,200	41,200	41,200	41,200	41,200	41,200	41,200	41,200	41,200	494,400	22
23	MISC PRODUCTION														23
24	MISC DISTRIBUTION														24
25	MISC COMMERCIAL														25
26	LEGAL EXPENSE														26
27	OTHER														27
28	MISC GENERAL														28
29	OTHER														29
30	TOTAL L21-168														30
31	MAINT LAB.: PROG														31
32	NON-PROG														32
33	TOTAL L24-168														33
34	MAINT OTH.: PROG														34
35	NON-PROG														35
36	TOTAL L25-168														36
37	TAXES: PROP & C/S	243,052	243,052	243,052	243,052	243,052	243,052	243,052	243,052	243,052	243,052	243,052	243,052	2,916,621	37
38	GROSS RECEIPTS	31,241	31,241	31,241	31,241	31,241	31,241	31,241	31,241	31,241	31,241	31,241	31,241	374,887	38
39	PAYROLL	30,011	26,226	28,582	22,361	22,094	20,376	21,282	22,094	19,471	22,939	22,319	21,638	279,394	39
40	MISCELLANEOUS	31,011	30,781	30,781	30,781	30,781	30,781	30,781	30,781	30,781	30,781	30,781	30,781	369,599	40
41	TOTAL L29-168	335,314	331,299	333,655	327,434	327,167	325,450	326,355	327,167	324,544	328,013	327,392	326,711	3,940,501	41
42	SIT: CURRENT (L96,SC4)	7,646	(28,022)	10,929	(4,425)	(22,634)	16,588	25,009	(5,854)	21,088	34,637	(10,293)	22,496	67,165	42
43	DEF. ACC. DEPR.														43
44	DEF. TANK PAINTING														44
45	DEF. PREMAT. PROP														45
46	DEF. OTHER (MACRO)	(6,900)	29,406	(6,180)	4,645	30,445	6,223	(4,987)	31,643	6,399	(4,523)	30,673	5,910	122,754	46
47	ADJ. PRIOR (INP)														47
48	TOTAL L30-168	745	1,384	4,749	219	7,811	22,811	20,022	25,789	27,487	30,115	20,380	28,406	189,918	48
49	FIT: CURRENT (SCH 4)	53,472	(142,106)	70,534	(12,760)	(112,576)	102,015	148,666	(20,598)	126,991	201,461	(44,908)	134,709	504,900	49
50	DEFERRED (L58,SC5)	(43,356)	155,439	(40,261)	20,229	158,260	19,183	(41,509)	156,785	17,747	(43,497)	153,865	14,655	527,542	50
51	DEFERRED ITC (L65.SC5)	(6,364)	(6,364)	(6,364)	(6,364)	(6,364)	(6,364)	(6,364)	(6,364)	(6,364)	(6,364)	(6,364)	(6,364)	(76,368)	51
52	ADJ. PRIOR (INP)														52
53	TOTAL L31-168	3,753	6,969	23,908	1,105	39,320	114,835	100,793	129,823	138,374	151,601	102,593	143,001	956,074	53
54	DEFERR: ACC DEPR (INP)														54
55	TANK PAINTING (INP)														55
56	PREMAT. PROP. (INP)														56
57	OTHER (MACRO)	(43,356)	155,439	(40,261)	20,229	158,260	19,183	(41,509)	156,785	17,747	(43,497)	153,865	14,655	527,542	57
58	TOTAL L50-169	(43,356)	155,439	(40,261)	20,229	158,260	19,183	(41,509)	156,785	17,747	(43,497)	153,865	14,655	527,542	58
59	ITC: CURRENT														59
60	ADJ. PRIOR YEARS														60
61	TOTAL ITC														61
62	DEF. ITC: CURRENT (INP)														62
63	AMORT. (CR)	(6,364)	(6,364)	(6,364)	(6,364)	(6,364)	(6,364)	(6,364)	(6,364)	(6,364)	(6,364)	(6,364)	(6,364)	(76,368)	63
64	ADJ. PRIOR YEARS														64
65	TOTAL L51-169	(6,364)	(6,364)	(6,364)	(6,364)	(6,364)	(6,364)	(6,364)	(6,364)	(6,364)	(6,364)	(6,364)	(6,364)	(76,368)	65
66	AMORT.: PLANT ADJ.(INP)														66
67	PFD. STK. EXP.														67
68	OTHER (INP)														68
69	TOTAL L46-168														69

SCHEDULE 6
FORM 168

Tennessee-American
ANNUAL BUSINESS PLAN
PLAN YEAR: 2008

	DESCRIPTION	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL	
1	OPERATING REVENUES														1
2	WATER (L9,SC5)	2,772,080	2,657,697	2,794,029	2,696,254	2,851,317	3,071,470	3,030,727	3,118,240	3,131,838	3,188,041	2,973,807	3,137,604	35,423,101	2
3	SEWER	0	0	0	0	0	0	0	0	0	0	0	0	0	3
4	OTHER	114,756	114,756	114,756	114,756	114,756	114,756	114,756	114,756	114,756	114,756	114,756	114,756	1,377,072	4
5	MANAGEMENT	0	0	0	0	0	0	0	0	0	0	0	0	0	5
6	TOTAL	2,886,836	2,772,453	2,908,785	2,811,010	2,966,073	3,186,226	3,145,483	3,232,996	3,246,594	3,302,797	3,088,563	3,252,360	36,800,173	6
7	OPERATING EXPENSE														7
8	LABOR (L14,SC5)	429,033	373,937	404,874	385,992	411,717	386,137	401,780	411,717	375,044	422,115	409,967	406,191	4,818,506	8
9	PURCHASED WATER	3,588	3,846	4,567	4,670	4,670	4,361	4,464	4,567	4,567	3,846	4,155	4,464	51,762	9
10	FUEL & POWER	168,467	152,145	174,724	166,828	178,094	189,827	193,056	189,146	201,961	177,773	185,952	168,759	2,146,731	10
11	CHEMICALS	86,344	80,321	92,015	85,704	102,866	97,630	100,125	95,366	99,875	85,950	95,665	93,845	1,115,706	11
12	WASTE DISPOSAL	16,406	15,660	20,017	17,339	20,257	27,134	42,143	20,353	10,215	26,030	20,099	18,017	253,670	12
13	MANAGEMENT FEES	425,970	407,334	420,118	410,544	408,040	412,565	405,480	387,860	395,092	404,888	380,421	432,567	4,890,879	13
14	GROUP INSURANCE	139,903	139,903	139,903	139,903	139,903	139,903	139,903	139,903	139,903	139,903	139,903	139,903	1,678,835	14
15	PENSIONS	78,814	78,814	78,814	78,814	78,814	78,814	78,814	78,814	78,814	78,814	78,814	78,814	945,771	15
16	REG. EXPENSE (L18,SC5)	23,232	23,232	12,958	12,958	12,959	12,959	12,959	12,444	12,444	12,444	12,444	12,444	173,479	16
17	INSURANCE NOT GROUP	46,677	46,677	46,677	46,677	46,677	46,677	46,677	46,677	46,677	46,677	46,677	46,677	560,130	17
18	CUSTOMER ACCTG (L22,SC5)	105,155	104,025	104,231	105,055	104,025	104,231	105,355	104,025	104,231	105,055	104,025	104,231	1,253,644	18
19	RENTS	4,763	5,078	5,102	4,648	4,573	4,573	4,648	4,573	4,573	4,648	4,573	4,573	56,325	19
20	GENERAL OFFICE	18,829	17,715	19,856	17,323	17,864	20,251	17,641	19,312	19,039	17,194	19,342	19,176	223,542	20
21	MISCELLANEOUS	159,138	144,069	154,348	188,464	152,675	159,784	141,440	145,802	205,241	141,158	142,864	155,618	1,890,601	21
25	OTHER MAINT. EXPENSE	74,830	62,979	71,910	82,424	102,849	77,927	88,432	115,728	65,361	108,660	61,846	57,314	970,257	25
22	TOTAL	1,781,151	1,655,735	1,750,114	1,747,344	1,785,982	1,762,772	1,782,917	1,776,287	1,763,038	1,775,155	1,706,748	1,742,594	21,029,837	22
	OTHER OPERATING EXPENSES														
27	DEPRECIATION	435,609	435,655	436,236	437,334	438,251	439,751	441,687	443,390	445,440	449,572	450,690	456,726	5,310,342	27
28	AMORTIZATION	10,148	10,148	10,148	10,148	10,148	10,148	10,148	10,148	10,148	10,148	10,148	10,148	121,776	28
29	GENERAL TAXES (L41,SC5)	335,314	331,299	333,655	327,434	327,167	325,450	326,355	327,167	324,544	328,013	327,392	326,711	3,940,501	29
30	SIT (L48,SC5)	745	1,384	4,749	219	7,811	22,811	20,022	25,789	27,487	30,115	20,380	28,406	189,918	30
31	FIT (L53.SC5)	3,753	6,969	23,908	1,105	39,320	114,835	100,793	129,823	138,374	151,601	102,593	143,001	956,074	31
32															32
33	TOTAL OPERATING EXP	2,566,721	2,441,190	2,558,810	2,523,585	2,608,679	2,675,767	2,681,922	2,712,603	2,709,032	2,744,603	2,617,951	2,707,587	31,548,449	33
34	UTILITY OPER INCOME	320,115	331,262	349,975	287,425	357,394	510,459	463,561	520,393	537,561	558,195	470,612	544,773	5,251,725	34
35	OTHER INCOME & DED														35
36	NONOPERATING RENTAL INCOME													0	36
37	DIVIDEND INCOME - COMMON													0	37
38	- PREFERRED													0	38
39	INTEREST INCOME (L62,SC3)	0	0	0	0	0	0	0	0	0	0	0	0	0	39
40	AFUDC (AFUDC WORKSHEET)	0	196	1,212	2,370	3,497	5,380	6,674	6,708	8,315	11,662	10,091	13,233	69,337	40
41														0	41
42	M&J MISC INC	0	0	0	0	0	0	0	0	0	0	0	0	0	42
43	GAIN (LOSS) ON DISPOSITION													0	43
44														0	44
45	TOTAL OTHER INCOME	0	196	1,212	2,370	3,497	5,380	6,674	6,708	8,315	11,662	10,091	13,233	69,337	45
46	MISC AMORTIZATION (L69,SC5)	0	0	0	0	0	0	0	0	0	0	0	0	0	46
47														0	47
48	MISC OTHER DEDUCTIONS	515	515	33,475	2,060	1,030	18,025	1,030	2,060	7,725	1,030	1,030	7,725	76,220	48
49	GENERAL TAXES													0	49
50	SIT (SCH 4)	(33)	(33)	(2,137)	(134)	(67)	(1,133)	(67)	(134)	(463)	(67)	(67)	(463)	(4,798)	50
51	FIT (SCH 4)	(169)	(169)	(10,758)	(674)	(337)	(5,702)	(337)	(674)	(2,332)	(337)	(337)	(2,332)	(24,158)	51
52	TOTAL OTHER DEDUCTIONS	313	313	20,580	1,252	626	11,190	626	1,252	4,930	626	626	4,930	47,264	52
53	TOTAL OTHER INCOME NET	(313)	(117)	(19,368)	1,118	2,871	(5,810)	6,048	5,456	3,385	11,036	9,465	8,302	22,073	53
54	INCOME BEFORE INTEREST	319,802	331,146	330,607	288,542	360,265	504,649	469,609	525,849	540,947	569,231	480,077	553,075	5,273,798	54
55	INTEREST CHARGES:													0	55
56	LONG TERM DEBT	269,452	269,370	263,447	257,523	257,438	257,353	222,053	221,962	221,869	221,775	221,681	221,587	2,905,512	56
57	AMORTIZATION	2,283	2,283	2,283	2,283	2,283	2,283	1,663	1,663	1,663	1,663	1,663	1,663	23,676	57
58	SHORT TERM DEBT (L56,SC3)	41,424	47,000	41,184	29,258	30,250	45,769	63,449	66,626	70,230	72,383	73,213	76,980	657,766	58
59	OTHER	0	0	0	0	0	0	0	0	0	0	0	0	0	59
60	AFUDC DEBT	0	(109)	(675)	(1,320)	(1,949)	(2,998)	(3,719)	(3,737)	(4,926)	(6,908)	(5,978)	(7,839)	(40,158)	60
61	TOTAL INTEREST	313,159	318,544	306,238	287,744	288,022	302,408	283,447	286,514	288,836	288,913	290,579	292,391	3,546,795	61
62	NET INCOME	6,642	12,602	24,369	799	72,243	202,241	186,162	239,335	252,110	280,318	189,498	260,684	1,727,003	62
63															63
64	PREFERRED DIVIDENDS	5,757	5,757	5,757	5,757	5,757	5,757	5,757	5,757	5,757	5,757	5,757	5,757	69,080	64
65	**NET INCOME TO COMMON**	**886**	**6,845**	**18,613**	**(4,958)**	**66,486**	**196,485**	**180,405**	**233,578**	**246,354**	**274,561**	**183,741**	**254,927**	**1,657,923**	65

SCHEDULE 1
ACCOUNTS RECEIVABLE AND COLLECTIONS

Tennessee-American
PLAN YEAR: 2009

DATE : 17-May-08
TIME : 5:55 PM

	DESCRIPTION	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL	
1	BEGINNING BALANCE (Input JAN)	**1,939,542**	1,854,264	1,651,302	1,315,467	1,587,937	1,602,714	1,515,236	1,665,607	1,566,940	1,857,033	1,600,920	1,686,185	1,939,542	1
2	ADD: REVENUES (SCH6, L6-L4) - (SCH5, L8)	2,775,095	2,614,828	2,797,132	2,700,934	2,854,713	3,076,231	3,036,000	3,123,952	3,137,703	3,193,214	2,978,405	3,168,941	35,457,149	2
														0	
3	TN SALES TAX (9.25%)	256,696	241,872	258,735	249,836	264,061	284,551	280,830	288,966	290,237	295,372	275,502	293,127	3,279,786	3
4	GROSS REC TAX (3%)	83,253	78,445	83,914	81,028	85,641	92,287	91,080	93,719	94,131	95,796	89,352	95,068	1,063,714	4
5	TRA FEES (.002%)	5,550	5,230	5,594	5,402	5,709	6,152	6,072	6,248	6,275	6,386	5,957	6,338	70,914	5
6														0	6
7	TOTAL TAXES	345,499	325,546	348,243	336,266	355,412	382,991	377,982	388,932	390,644	397,555	370,811	394,533	4,414,415	7
	effective rate in parentheses														
8															8
9															9
10	LESS: DEPOSIT REFUNDS														10
11	CHARGE OFFS	48,613	49,516	30,490	60,947	42,233	44,596	44,740	40,986	48,999	111,402	62,647	77,517	662,685	11
12	OTHER														12
13	BALANCE AVAILABLE	5,011,523	4,745,122	4,766,186	4,291,721	4,755,829	5,017,340	4,884,478	5,137,506	5,046,287	5,336,400	4,887,491	5,172,142	41,148,420	13
14	COLLECTION RATIO (INPUT)	0.630	0.652	0.724	0.630	0.663	0.698	0.659	0.695	0.632	0.700	0.655	0.679		14
15	LESS COLLECTIONS	3,157,259	3,093,820	3,450,719	2,703,784	3,153,115	3,502,104	3,218,871	3,570,566	3,189,254	3,735,480	3,201,306	3,511,884	39,488,162	15
16	SUB TOTAL	1,854,264	1,651,302	1,315,467	1,587,937	1,602,714	1,515,236	1,665,607	1,566,940	1,857,033	1,600,920	1,686,185	1,660,258	1,660,258	16
17	MISC. ADJUSTMENTS														17
18	ENDING BALANCE	1,854,264	1,651,302	1,315,467	1,587,937	1,602,714	1,515,236	1,665,607	1,566,940	1,857,033	1,600,920	1,686,185	1,660,258	1,660,258	18
	PRIOR YEAR														
19	JAN SALES	**259,954**													19
20	JAN GROSS	**84,310**													20
21	FRANCHISE FEE (JAN-MAR)														21
22	COLLECTIONS	3,157,259	3,093,820	3,450,719	2,703,784	3,153,115	3,502,104	3,218,871	3,570,566	3,189,254	3,735,480	3,201,306	3,511,884	39,488,162	22
23														0	23
24	TOTAL SEWER BILLING														24
25	SEWER COLLECTIONS (INPUT PY)	1,367,855	1,961,116	2,459,750	1,686,039	1,847,666	1,700,000	1,367,855	1,961,116	1,700,000	1,686,039	1,847,666	2,459,750	22,044,852	25
26	LANDFILL COLLECTIONS (INPUT PY)													0	26
27	**TOTAL COLLECTIONS**	**4,525,114**	**5,054,936**	**5,910,469**	**4,389,823**	**5,000,781**	**5,202,104**	**4,586,726**	**5,531,682**	**4,889,254**	**5,421,519**	**5,048,972**	**5,971,634**	**61,533,014**	27

Tennessee-American
PLAN YEAR: 2009

SCHEDULE 2 FEDERAL INCOME TAX		TAXABLE INCOME PERIOD	1 SUB TOTAL TAXABLE INCOME	2 TAX @ 35.00%	3 TOTAL TAX ANNUALIZED	4 SURTAX EXEMPTION	5 NET TAX	6 PERCENT OF TAX DUE	7 NET TAX DUE	8 DEDUCT: PRIOR PAYMENTS ADD: (REFUNDS)	9 NET PAYMENT (REFUND)
1st INSTALL CURRENT YEAR - APR		1/1-3/31	226,192	79,167	XXXXX	XXXXX	79,167	105.0%	83,126	XXXXX	83,126
2nd INSTALL CURRENT YEAR - JUN		1/1-3/31	226,192	79,167	XXXXX	XXXXX	79,167	105.0%	83,126	XXXXX	83,126
3rd INSTALL CURRENT YEAR - SEP		1/1-6/30	367,348	128,572	257,143	XXXXX	257,143	100.0%	257,143	166,251	90,892
4th INSTALL CURRENT YEAR - DEC		1/1-9/30	1,263,536	442,237	589,650		589,650	100.0%	589,650	257,143	332,507
5th INSTALL NEXT YEAR - MAR		1/1-12/31	2,441,466	854,513	854,513		854,513	100.0%	854,513	589,650	264,863

SCHEDULE 2A STATE INCOME TAX		TAXABLE INCOME PERIOD	1 TAXABLE INCOME AMOUNT	2 TAX 6.50%	3 TOTAL TAX ANNUALIZED	4 PERCENT OF TAX TAKEN	5 NET TAX DUE	6 DEPOSIT REQUIRED	7 NET DEPOSIT	8 DEDUCT: PRIOR PAYMENTS ADD: (REFUNDS)	9 NET PAYMENT (REFUND)
1st INSTALL CURRENT YEAR - JUN		1/1-5/31	29,024	1,887	4,528	85%	3,849	50%	1,924	0	1,924
2nd INSTALL CURRENT YEAR - SEP		1/1-8/31	853,138	55,454	83,181	85%	70,704	75%	53,028	1,924	51,104
3rd INSTALL CURRENT YEAR - DEC		1/1-11/30	1,995,239	129,691	141,481	85%	120,258	100%	120,258	53,028	67,231
FINAL PAYMNT		1/1-12/31	2,361,041	153,468	153,468	100%	153,468	100%	153,468	120,258	33,209

SCHEDULE 2B COMMON DIVIDENDS		NET INCOME TO COMMON EQUITY 3 MOS ENDED 12/31/08	NET INCOME TO COMMON EQUITY 6 MOS ENDED 3/31/09	NET INCOME TO COMMON EQUITY 9 MOS ENDED 6/30/09	NET INCOME TO COMMON EQUITY 12 MOS ENDED 9/30/09	ADJUSTMENTS SEE NOTE: A	TOTAL EARNINGS AVAILABLE FOR COMMON EQUITY	DEDUCT 25%	EARNINGS AVAILABLE FOR COMMMON DIVIDENDS	DEDUCT: PRIOR DIVIDEND PAYMENTS	COMMON DIVIDEND PAYMENT **
MARCH	**2009**	1,655,363	XXXX	XXXX	XXXX	0	1,655,363	413,841	1,241,522	XXXXX	1,241,522
JUNE	**2009**	XXXX	1,690,004	XXXX	XXXX	0	1,690,004	422,501	1,267,503	1,241,522	25,981
SEPTEMBER	**2009**	XXXX	XXXX	1,894,612	XXXX	0	1,894,612	473,653	1,420,959	1,267,503	153,456
DECEMBER	**2009**	XXXX	XXXX	XXXX	2,474,174	0	2,474,174	618,544	1,855,631	1,420,959	433,042

1,854,002

NOTE: A CUMULATIVE ADJUSTMENTS		not applicable - new policy			
ADD: AMORTIZATION OF: PREFERRED STOCK EXP. (INPUT) UTILITY PLANT ADJ. (INPUT) PROPERTY LOSSES (INPUT) LOSS ON DISP OF PROPERTY GAIN ON SALE					
TOTAL		0	0	0	0

SCHEDULE 3
CASH FORECAST

TENNESSEE-AMERICAN WATER COMPANY
PLAN YEAR: 2009

	DESCRIPTION	JAN	FEB	MAR	APRIL	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL	
01	CASH RECEIPTS:														01
02	CUST A/R - (L13,SC1)	3,157,259	3,093,820	3,450,719	2,703,784	3,153,115	3,502,104	3,218,871	3,570,566	3,189,254	3,735,480	3,201,306	3,511,884	39,488,162	02
03	MISC A/R (L4,168)	114,756	114,756	114,756	114,756	114,756	114,756	114,756	114,756	114,756	114,756	114,756	114,756	1,377,072	03
04	COLLECTIONS FOR OTHERS (L25+L26,SC1	1,686,690	1,567,328	1,737,439	1,462,665	1,675,191	1,711,566	1,746,952	2,011,175	1,726,876	1,732,129	1,632,498	1,733,643	20,424,152	04
05														0	05
06	SECURITIES (Bonds and Preferred)	0	0	9,000,000	0	0	0	0	0	0	12,000,000	0	0	21,000,000	06
07	OTHER (L32,SC3B)	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	36,000	07
08	Equity			3,000,000										3,000,000	08
09	TOTAL	4,961,705	4,778,904	17,305,914	4,284,205	4,946,062	5,331,426	5,083,579	5,699,497	5,033,886	17,585,365	4,951,560	5,363,283	85,325,386	09
	CASH DISBURSEMENTS:														
10	PENSIONS (INPUT)													0	10
11	RATE CASE (INPUT)	0												0	11
12	OTHER O&M (L31,SC3C)	1,954,942	1,812,485	1,763,696	2,145,712	1,960,532	2,002,871	1,987,475	1,961,039	2,016,947	2,047,227	1,911,178	2,071,326	23,635,432	12
13	FIT (INPUT MAR) (SC2,COL9)	0			83,126		83,126			90,892			597,370	854,513	13
14	SIT (INPUT APR) (SC2A.COL9)	0					1,924			51,104			100,440	153,468	14
15	OTHER TAX (L18,SC3B)	411,666	3,027,323	31,566	33,760	33,371	31,783	417,041	30,165	31,475	32,805	29,038	33,616	4,143,610	15
16	LTD INTEREST (Bonds)	18,069	422,319	458,020	551,969	18,069	134,339	18,715	422,965	388,592	552,615	18,715	134,340	3,138,727	16
17	STD INT (L9,SC3A)	55,762	63,557	54,457	41,957	45,723	47,390	49,523	51,515	54,095	37,267	19,175	22,292	542,713	17
18	COLLECTIONS FOR OTHERS (L27,SC3B)	1,824,215	1,691,066	1,853,460	1,593,084	1,795,953	1,868,109	1,941,180	2,203,598	1,901,474	1,928,525	1,805,866	1,900,235	22,306,764	18
19	PRIOR YEAR (INPUT)													0	19
20	SINKING FUND (Preferred&Sinking Funds)	0	0	0	0	0	0	0	0	0	0	0	0	0	20
21	DIVIDEND-PREF (DEBT PMT)	0	0	17,270	0	0	17,270	0	0	17,270	0	0	17,270	69,080	21
22	DIVIDENDS-COM (SC2B)			1,241,522			25,981			153,456			433,042	1,854,002	22
23	LTD MATURITIES	10,469	10,551	1,030,635	10,719	10,804	11,534	11,627	11,718	11,811	11,905	11,999	12,093	1,155,865	23
24	OTHER DISB (L11,SC3B)	3,667	4,667	27,967	9,167	3,667	24,267	4,667	3,667	12,767	213,500	3,500	11,600	323,103	24
														0	
25	TOTAL	4,278,791	7,031,968	6,478,594	4,469,494	3,868,120	4,248,594	4,430,228	4,684,667	4,729,882	4,823,844	3,799,471	5,333,624	58,177,276	25
26	INTERNALLY GENERATED FUNDS	682,914	(2,253,064)	10,827,320	(185,289)	1,077,942	1,082,832	653,351	1,014,830	304,004	12,761,521	1,152,089	29,659	27,148,110	26
27	ADD: EXTENSION DEPOSITS	166,667	166,667	166,667	166,667	166,667	166,667	166,667	166,667	166,667	166,667	166,667	166,667	2,000,000	27
28	CONST REIMBURSEMENTS	0	0	0	0	0	0	0	0	0	0	0	0	0	28
29	TOTAL	166,667	166,667	166,667	166,667	166,667	166,667	166,667	166,667	166,667	166,667	166,667	166,667	2,000,000	29
30	FUNDS AVAILABLE FOR CONSTRUCTION	849,581	(2,086,397)	10,993,987	(18,622)	1,244,609	1,249,499	820,018	1,181,497	470,671	12,928,188	1,318,756	196,326	29,148,110	30
31	LESS:CONSTR (L59,SC3D)	1,644,316	1,638,835	1,650,223	1,644,944	1,664,436	1,661,403	1,517,656	1,513,350	1,517,809	1,616,633	1,611,274	1,606,731	19,287,609	31
32	RETIRE (INPUT) 2000 SBP													0	32
33	EXT REFS (INPUT) 2000 SBP	83,000	83,000	83,000	83,000	83,000	83,000	83,000	83,000	83,000	83,000	83,000	87,000	1,000,000	33
34	PRIOR YR (INPUT)		0	0		0	0	0	0	0	0	0	0	0	34
35	TOTAL	1,727,316	1,721,835	1,733,223	1,727,944	1,747,436	1,744,403	1,600,656	1,596,350	1,600,809	1,699,633	1,694,274	1,693,731	20,287,609	35
														0	
36	BALANCE GENERATED	(877,735)	(3,808,232)	9,260,764	(1,746,566)	(502,827)	(494,904)	(780,638)	(414,853)	(1,130,138)	11,228,555	(375,518)	(1,497,405)	8,860,501	36
37															37
38	BEG CASH (INPUT JAN ONLY)	255,255	254,520	246,288	247,052	260,486	257,659	262,755	262,117	262,264	265,126	263,681	263,163	255,255	38
39	ADD: BALANCE GENERATED (L36,SC3)	(877,735)	(3,808,232)	9,260,764	(1,746,566)	(502,827)	(494,904)	(780,638)	(414,853)	(1,130,138)	11,228,555	(375,518)	(1,497,405)	8,860,503	39
40	SALE OF INVESTMENTS			0	0	0	0	0	0	0	0	0	0	0	40
41	BANK LOANS	877,000	3,800,000		1,760,000	500,000	500,000	780,000	415,000	1,133,000		375,000	1,495,000	11,635,000	41
42	SUB-TOTAL	254,520	246,288	9,507,052	260,486	257,659	262,755	262,117	262,264	265,126	11,493,681	263,163	260,758	23,595,869	42
43	LESS: BANK LOANS REPAYMENT			(9,260,000)							(11,230,000)			(20,490,000)	43
44	INVESTMENTS													0	44
45	ENDING CASH BALANCE	**254,520**	**246,288**	**247,052**	**260,486**	**257,659**	**262,755**	**262,117**	**262,264**	**265,126**	**263,681**	**263,163**	**260,758**	**260,758**	45
46	CREDIT LINE REQUIRED	17,167,000	20,967,000	21,442,290	13,467,000	13,967,000	14,467,000	15,247,000	15,669,965	16,795,000	17,347,615	5,940,000	7,435,000	7,435,000	46
47	ACCUMULATED BANK LOANS	17,167,000	20,967,000	11,707,000	13,467,000	13,967,000	14,467,000	15,247,000	15,662,000	16,795,000	5,565,000	5,940,000	7,435,000	7,435,000	47
48	ACCUMULATED INVESTMENTS	0	0	0	0	0	0	0	0	0	0	0	0	0	48

	SCHEDULE 4 - TAX WORKSHEET (PAGE 2)	TENNESSEE-AMERICAN WATER COMPANY													
	BELOW THE LINE TAXES	PLAN YEAR: 2009													
74	+ INTEREST INCOME (L39,168)	0	0	0	0	0	0	0	0	0	0	0	0	0	74
75	+ M&J INCOME (L42,168)	0	0	0	0	0	0	0	0	0	0	0	0	0	75
76	+ CLUB DUES	0	0	600	0	0	600	0	0	600	0	0	600	2,400	76
77	- MISC. DEDUCTIONS (L48,168)	530	530	34,479	2,122	1,061	18,566	1,061	2,122	7,957	1,061	1,061	7,957	78,507	77
78	-													0	78
79	**= BTL TAXABLE INCOME**	**(530)**	**(530)**	**(33,879)**	**(2,122)**	**(1,061)**	**(17,966)**	**(1,061)**	**(2,122)**	**(7,357)**	**(1,061)**	**(1,061)**	**(7,357)**	**(76,107)**	79
80	SIT RATE														80
81	6.50%														81
82	STATE INCOME TAX	(34)	(34)	(2,202)	(138)	(69)	(1,168)	(69)	(138)	(478)	(69)	(69)	(478)	(4,947)	82
83	ADJUSTMENTS	0												0	83
84	**= L50-168**	**(34)**	**(34)**	**(2,202)**	**(138)**	**(69)**	**(1,168)**	**(69)**	**(138)**	**(478)**	**(69)**	**(69)**	**(478)**	**(4,947)**	84
85														0	85
86	TOTAL STATE INCOME TAX (L58,SC4)	13,444	(9,522)	7,737	(5,679)	(4,094)	15,521	24,634	13,413	20,190	41,101	12,945	23,777	153,468	86
87	LESS: BELOW THE LINE SIT (L96,SC4)	(34)	(34)	(2,202)	(138)	(69)	(1,168)	(69)	(138)	(478)	(69)	(69)	(478)	(4,947)	87
88	**= L42-169**	**13,479**	**(9,488)**	**9,939**	**(5,541)**	**(4,025)**	**16,689**	**24,703**	**13,551**	**20,669**	**41,170**	**13,014**	**24,255**	**158,415**	88
89	BTL TAXABLE INCOME (L88,SC4)	(530)	(530)	(33,879)	(2,122)	(1,061)	(17,966)	(1,061)	(2,122)	(7,357)	(1,061)	(1,061)	(7,357)	(76,107)	89
90	BTL SIT (L96,SC4)	(34)	(34)	(2,202)	(138)	(69)	(1,168)	(69)	(138)	(478)	(69)	(69)	(478)	(4,947)	90
91	= BELOW LINE FIT TAXABLE INCOME	(496)	(496)	(31,677)	(1,984)	(992)	(16,798)	(992)	(1,984)	(6,879)	(992)	(992)	(6,879)	(71,160)	91
92	FIT RATE													0	92
93	0.35														93
94	FEDERAL INCOME TAX	(174)	(174)	(11,087)	(694)	(347)	(5,879)	(347)	(694)	(2,407)	(347)	(347)	(2,407)	(24,906)	94
95	ADJUSTMENTS													0	95
96	**= L51-168**	**(174)**	**(174)**	**(11,087)**	**(694)**	**(347)**	**(5,879)**	**(347)**	**(694)**	**(2,407)**	**(347)**	**(347)**	**(2,407)**	**(24,906)**	96
97	LINE 71 (TOTAL FIT)	74,509	(41,118)	45,776	(21,769)	(13,791)	84,964	130,843	74,350	108,473	213,749	71,996	126,531	854,513	97
98	LESS LINE 96 ABOVE	(174)	(174)	(11,087)	(694)	(347)	(5,879)	(347)	(694)	(2,407)	(347)	(347)	(2,407)	(24,906)	98
99	**= L49-169**	**74,682**	**(40,944)**	**56,863**	**(21,074)**	**(13,444)**	**90,844**	**131,190**	**75,044**	**110,881**	**214,096**	**72,343**	**128,938**	**879,419**	99

CALCULATION OF TEMP TAXES

	DESCRIPTION	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL	
1	+L62-168 (NET INCOME)	49,315	(4,982)	7,577	(17,887)	50,333	189,433	156,293	212,320	228,218	267,886	194,681	264,418	1,597,606	1
2	+ L48-169 (TOTAL SIT)	5,320	(499)	3,014	(1,779)	5,463	21,470	16,819	22,893	24,937	28,779	20,933	28,817	176,167	2
3	+ L53-169 (TOTAL FIT)	26,780	(2,514)	15,175	(8,956)	27,503	108,083	84,671	115,247	125,537	144,879	105,382	145,068	886,855	3
4	+ L50-168 (SIT BTL)	(34)	(34)	(2,202)	(138)	(69)	(1,168)	(69)	(138)	(478)	(69)	(69)	(478)	(4,947)	4
5	+ L51-168 (FIT BTL)	(174)	(174)	(11,087)	(694)	(347)	(5,879)	(347)	(694)	(2,407)	(347)	(347)	(2,407)	(24,906)	5
6	TOTAL STATE TAXABLE INCOME	81,207	(8,203)	12,477	(29,455)	82,883	311,939	257,368	349,628	375,806	441,128	320,581	435,417	2,630,775	6
7	x .061	6.51%	6.51%	6.51%	6.51%	6.51%	6.51%	6.51%	6.51%	6.51%	6.51%	6.51%	6.51%	6.51%	7
8	= STATE TAX	5,285	(534)	812	(1,917)	5,394	20,302	16,750	22,755	24,459	28,710	20,864	28,338	171,220	8
9	- L48-169 (TOTAL SIT)	5,320	(499)	3,014	(1,779)	5,463	21,470	16,819	22,893	24,937	28,779	20,933	28,817	176,167	9
10	- L50-168 (SIT BTL)	(34)	(34)	(2,202)	(138)	(69)	(1,168)	(69)	(138)	(478)	(69)	(69)	(478)	(4,947)	10
11	**= L46-169**	**(0)**	**(0)**	**0**	**(0)**	**0**	**0**	**(0)**	**(0)**	**(0)**	**(0)**	**(0)**	**(0)**	**(0)**	11
12															12
13	TOTAL STATE TAXABLE INCOME	81,207	(8,203)	12,477	(29,455)	82,883	311,939	257,368	349,628	375,806	441,128	320,581	435,417	2,630,775	13
14	- STATE TAX	5,285	(534)	812	(1,917)	5,394	20,302	16,750	22,755	24,459	28,710	20,864	28,338	171,220	14
15	= TOTAL FEDERAL TAXABLE INCOME	75,922	(7,669)	11,665	(27,538)	77,489	291,637	240,618	326,873	351,347	412,417	299,716	407,078	2,459,555	15
16	x .38	35.04%	35.04%	35.04%	35.04%	35.04%	35.04%	35.04%	35.04%	35.04%	35.04%	35.04%	35.04%	35.04%	16
17	= FEDERAL TAX	26,607	(2,688)	4,088	(9,651)	27,156	102,204	84,324	114,552	123,129	144,531	105,035	142,660	861,949	17
18	- L53-169 (TOTAL FIT)	26,780	(2,514)	15,175	(8,956)	27,503	108,083	84,671	115,247	125,537	144,879	105,382	145,068	886,855	18
19	- L51-168 (FIT BTL)	(174)	(174)	(11,087)	(694)	(347)	(5,879)	(347)	(694)	(2,407)	(347)	(347)	(2,407)	(24,906)	19
20	**= L57-169**	**(0)**	**(0)**	**0**	**(0)**	**0**	**0**	**(0)**	**(0)**	**0**	**(0)**	**(0)**	**0**	**(0)**	20

SCHEDULE 5
FORM 169

Tennessee-American
ANNUAL BUSINESS PLAN
PLAN YEAR: 2009

	DESCRIPTION	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEP	OCT	NOV	DEC	TOTAL	
1	RESIDENTIAL	1,141,459	1,057,890	1,109,082	1,102,555	1,151,371	1,270,902	1,300,011	1,312,273	1,325,427	1,313,028	1,211,356	1,252,991	14,548,345	1
2	COMMERCIAL	890,630	830,005	925,443	872,752	932,540	991,457	971,921	1,012,109	1,010,591	1,033,823	985,292	1,041,975	11,498,539	2
3	INDUSTRIAL	310,918	300,895	308,162	299,582	304,600	334,368	301,227	316,722	319,989	345,897	310,949	389,798	3,843,106	3
4	FIRE SERVICE	126,355	126,355	126,355	126,355	126,355	126,355	126,355	126,355	126,355	126,355	126,355	126,355	1,516,255	4
5	PUBLIC AUTH	177,262	171,212	199,618	171,218	211,377	224,677	208,014	228,021	226,869	245,640	215,981	229,352	2,509,241	5
6	SALES FOR RESALE	128,472	128,472	128,472	128,472	128,472	128,472	128,472	128,472	128,472	128,472	128,472	128,472	1,541,662	6
7	OTHER														7
8	UNBILLED														8
9	TOTAL L2-168	2,775,095	2,614,828	2,797,132	2,700,934	2,854,713	3,076,231	3,036,000	3,123,952	3,137,703	3,193,214	2,978,405	3,168,941	35,457,149	9
10	PRODUCTION LABOR														10
11	DISTRIBUTION LABOR														11
12	COMMERCIAL LABOR														12
13	ADMIN & GEN LABOR														13
14	TOTAL L8-168														14
15	REGULATORY TAX BEN														15
16	REGULATORY AMORT														16
17	OTHER														17
18	TOTAL L16-168														18
19	CUST ACCT COMP														19
20	UNCOLLECTIBLES	48,613	49,516	30,490	60,947	42,233	44,596	44,740	40,986	48,999	111,402	62,647	77,517	662,685	20
21	OTHER														21
22	TOTAL L18-168	48,613	49,516	30,490	60,947	42,233	44,596	44,740	40,986	48,999	111,402	62,647	77,517	662,685	22
23	MISC PRODUCTION														23
24	MISC DISTRIBUTION														24
25	MISC COMMERCIAL														25
26	LEGAL EXPENSE														26
27	OTHER														27
28	MISC GENERAL														28
29	OTHER														29
30	TOTAL L21-168														30
31	MAINT LAB.: PROG														31
32	NON-PROG														32
33	TOTAL L24-168														33
34	MAINT OTH.: PROG														34
35	NON-PROG														35
36	TOTAL L25-168														36
37	TAXES: PROP & C/S	249,614	249,614	249,614	249,614	249,614	249,614	249,614	249,614	249,614	249,614	249,614	249,614	2,995,370	37
38	GROSS RECEIPTS	31,241	31,241	31,241	31,241	31,241	31,241	31,241	31,241	31,241	31,241	31,241	31,241	374,887	38
39	PAYROLL	30,911	27,013	29,439	23,032	22,757	20,988	21,921	22,757	20,055	23,628	22,988	22,287	287,776	39
40	MISCELLANEOUS	31,321	31,089	31,089	31,089	31,089	31,089	31,089	31,089	31,089	31,089	31,089	31,089	373,295	40
41	TOTAL L29-168	343,087	338,956	341,383	334,975	334,700	332,931	333,864	334,700	331,998	335,571	334,932	334,231	4,031,328	41
42	SIT: CURRENT (L96,SC4)	13,479	(9,488)	9,939	(5,541)	(4,025)	16,689	24,703	13,551	20,669	41,170	13,014	24,255	158,415	42
43	DEF. ACC. DEPR.														43
44	DEF. TANK PAINTING														44
45	DEF. PREMAT. PROP														45
46	DEF. OTHER (MACRO)	(8,159)	8,988	(6,925)	3,762	9,489	4,781	(7,883)	9,342	4,268	(12,391)	7,919	4,561	17,752	46
47	ADJ. PRIOR (INP)														47
48	TOTAL L30-168	5,320	(499)	3,014	(1,779)	5,463	21,470	16,819	22,893	24,937	28,779	20,933	28,817	176,167	48
49	FIT: CURRENT (SCH 4)	74,682	(40,944)	56,863	(21,074)	(13,444)	90,844	131,190	75,044	110,881	214,096	72,343	128,938	879,419	49
50	DEFERRED (L58,SC5)	(41,538)	44,794	(35,324)	18,482	47,311	23,604	(40,155)	46,567	21,020	(62,853)	39,403	22,493	83,804	50
51	DEFERRED ITC (L65.SC5)	(6,364)	(6,364)	(6,364)	(6,364)	(6,364)	(6,364)	(6,364)	(6,364)	(6,364)	(6,364)	(6,364)	(6,364)	(76,368)	51
52	ADJ. PRIOR (INP)														52
53	TOTAL L31-168	26,780	(2,514)	15,175	(8,956)	27,503	108,083	84,671	115,247	125,537	144,879	105,382	145,068	886,855	53
54	DEFERR: ACC DEPR (INP)														54
55	TANK PAINTING (INP)														55
56	PREMAT. PROP. (INP)														56
57	OTHER (MACRO)	(41,538)	44,794	(35,324)	18,482	47,311	23,604	(40,155)	46,567	21,020	(62,853)	39,403	22,493	83,804	57
58	TOTAL L50-169	(41,538)	44,794	(35,324)	18,482	47,311	23,604	(40,155)	46,567	21,020	(62,853)	39,403	22,493	83,804	58
59	ITC: CURRENT														59
60	ADJ. PRIOR YEARS														60
61	TOTAL ITC														61
62	DEF. ITC: CURRENT (INP)														62
63	AMORT. (CR)	(6,364)	(6,364)	(6,364)	(6,364)	(6,364)	(6,364)	(6,364)	(6,364)	(6,364)	(6,364)	(6,364)	(6,364)	(76,368)	63
64	ADJ. PRIOR YEARS														64
65	TOTAL L51-169	(6,364)	(6,364)	(6,364)	(6,364)	(6,364)	(6,364)	(6,364)	(6,364)	(6,364)	(6,364)	(6,364)	(6,364)	(76,368)	65
66	AMORT.: PLANT ADJ.(INP)														66
67	PFD. STK. EXP														67
68	OTHER (INP)														68
69	TOTAL L46-168														69

SCHEDULE 6
FORM 168

Tennessee-American
ANNUAL BUSINESS PLAN
PLAN YEAR: 2009

0

	DESCRIPTION	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL	
1	OPERATING REVENUES														1
2	WATER (L9,SC5)	2,775,095	2,614,828	2,797,132	2,700,934	2,854,713	3,076,231	3,036,000	3,123,952	3,137,703	3,193,214	2,978,405	3,168,941	35,457,149	2
3	SEWER	0	0	0	0	0	0	0	0	0	0	0	0	0	3
4	OTHER	114,756	114,756	114,756	114,756	114,756	114,756	114,756	114,756	114,756	114,756	114,756	114,756	1,377,072	4
5	MANAGEMENT	0	0	0	0	0	0	0	0	0	0	0	0	0	5
6	TOTAL	2,889,851	2,729,584	2,911,888	2,815,690	2,969,469	3,190,987	3,150,756	3,238,708	3,252,459	3,307,970	3,093,161	3,283,697	36,834,221	6
7	OPERATING EXPENSE														7
8	LABOR (L14,SC5)	446,195	388,894	421,069	401,432	428,186	401,582	417,852	428,186	390,046	438,999	426,366	422,439	5,011,246	8
9	PURCHASED WATER	3,610	3,875	4,618	4,724	4,724	4,405	4,512	4,618	4,618	3,875	4,193	4,514	52,284	9
10	FUEL & POWER	171,066	154,581	177,385	169,410	180,789	192,639	195,900	191,951	204,895	180,464	188,726	155,165	2,162,972	10
11	CHEMICALS	88,541	82,367	94,353	87,884	105,475	100,109	102,666	97,788	102,410	88,137	98,095	87,731	1,135,556	11
12	WASTE DISPOSAL	16,907	16,142	20,608	17,863	20,861	27,902	43,287	20,952	10,560	26,771	20,692	16,628	259,173	12
13	MANAGEMENT FEES	400,492	380,395	392,027	395,332	395,592	402,460	404,402	386,594	393,755	403,624	379,016	432,475	4,766,164	13
14	GROUP INSURANCE	150,918	150,918	150,918	150,918	150,918	150,918	150,918	150,918	150,918	150,918	150,918	150,918	1,811,014	14
15	PENSIONS	66,287	66,287	66,287	66,287	66,287	66,287	66,287	66,287	66,287	66,287	66,287	66,287	795,439	15
16	REG. EXPENSE (L18,SC5)	12,444	12,444	12,444	12,444	12,444	12,444	12,444	12,444	12,444	12,444	12,444	12,444	149,331	16
17	INSURANCE NOT GROUP	49,598	49,598	49,598	49,598	49,598	49,598	49,598	49,598	49,598	49,598	49,598	49,598	595,173	17
18	CUSTOMER ACCTG (L22,SC5)	108,307	107,146	107,358	108,207	107,146	107,358	108,507	107,146	107,358	108,207	107,146	107,358	1,291,242	18
19	RENTS	4,763	5,078	5,102	4,648	4,573	4,573	4,648	4,573	4,573	4,648	4,573	4,573	56,325	19
20	GENERAL OFFICE	19,358	18,228	20,479	17,815	18,613	20,959	18,304	19,790	19,577	17,672	19,827	19,765	230,387	20
21	MISCELLANEOUS	162,390	150,727	157,357	190,577	155,737	162,989	144,146	148,588	209,801	143,781	145,528	158,555	1,930,175	21
25	OTHER MAINT. EXPENSE	77,045	64,838	74,037	84,867	105,904	80,234	91,055	119,169	67,291	111,890	63,671	59,003	999,004	25
22	TOTAL	1,777,918	1,651,516	1,753,639	1,762,004	1,806,847	1,784,459	1,814,524	1,808,601	1,794,131	1,807,314	1,737,079	1,747,451	21,245,484	22
	OTHER OPERATING EXPENSES														
27	DEPRECIATION	456,726	456,956	458,518	460,079	461,641	463,203	464,765	468,296	469,858	471,651	473,560	478,016	5,583,269	27
28	AMORTIZATION	10,148	10,148	10,148	10,148	10,148	10,148	10,148	10,148	10,148	10,148	10,148	10,148	121,776	28
29	GENERAL TAXES (L41,SC5)	343,087	338,956	341,383	334,975	334,700	332,931	333,864	334,700	331,998	335,571	334,932	334,231	4,031,328	29
30	SIT (L48,SC5)	5,320	(499)	3,014	(1,779)	5,463	21,470	16,819	22,893	24,937	28,779	20,933	28,817	176,167	30
31	FIT (L53.SC5)	26,780	(2,514)	15,175	(8,956)	27,503	108,083	84,671	115,247	125,537	144,879	105,382	145,068	886,855	31
32															32
33	TOTAL OPERATING EXP	2,619,980	2,454,562	2,581,877	2,556,472	2,646,303	2,720,294	2,724,791	2,759,884	2,756,609	2,798,341	2,682,035	2,743,730	32,044,878	33
34	UTILITY OPER INCOME	269,871	275,022	330,011	259,219	323,167	470,693	425,964	478,824	495,850	509,629	411,127	539,967	4,789,343	34
35	OTHER INCOME & DED														35
36	NONOPERATING RENTAL INCOME													0	36
37	DIVIDEND INCOME - COMMON													0	37
38	- PREFERRED													0	38
39	INTEREST INCOME (L62,SC3)	0	0	0	0	0	0	0	0	0	0	0	0	0	39
40	AFUDC (AFUDC WORKSHEET)	16,817	21,385	25,783	30,181	34,771	37,301	39,032	42,620	45,848	49,328	53,793	58,412	455,273	40
41														0	41
42	M&J MISC INC	0	0	0	0	0	0	0	0	0	0	0	0	0	42
43	GAIN (LOSS) ON DISPOSITION													0	43
44														0	44
45	TOTAL OTHER INCOME	16,817	21,385	25,783	30,181	34,771	37,301	39,032	42,620	45,848	49,328	53,793	58,412	455,273	45
46	MISC AMORTIZATION (L69,SC5)	0	0	0	0	0	0	0	0	0	0	0	0	0	46
47														0	47
48	MISC OTHER DEDUCTIONS	530	530	34,479	2,122	1,061	18,566	1,061	2,122	7,957	1,061	1,061	7,957	78,507	48
49	GENERAL TAXES													0	49
50	SIT (SCH 4)	(34)	(34)	(2,202)	(138)	(69)	(1,168)	(69)	(138)	(478)	(69)	(69)	(478)	(4,947)	50
51	FIT (SCH 4)	(174)	(174)	(11,087)	(694)	(347)	(5,879)	(347)	(694)	(2,407)	(347)	(347)	(2,407)	(24,906)	51
52	TOTAL OTHER DEDUCTIONS	322	322	21,190	1,290	645	11,519	645	1,290	5,071	645	645	5,071	48,654	52
53	TOTAL OTHER INCOME NET	16,495	21,062	4,593	28,892	34,126	25,783	38,388	41,331	40,777	48,683	53,149	53,340	406,620	53
54	INCOME BEFORE INTEREST	286,366	296,084	334,604	288,111	357,293	496,476	464,352	520,155	536,627	558,312	464,275	593,307	5,195,962	54
55	INTEREST CHARGES:													0	55
56	LONG TERM DEBT	187,964	246,889	283,431	277,507	277,422	277,337	277,245	277,154	277,061	276,967	276,873	335,786	3,271,636	56
57	AMORTIZATION	3,288	3,288	4,413	4,413	4,413	4,413	4,413	4,413	4,413	5,413	5,413	5,413	53,706	57
58	SHORT TERM DEBT (L56,SC3)	55,762	63,557	54,457	41,957	45,723	47,390	49,523	51,515	54,095	37,267	19,175	22,292	542,713	58
59	OTHER	0	0	0	0	0	0	0	0	0	0	0	0	0	59
60	AFUDC DEBT	(9,962)	(12,668)	(15,274)	(17,879)	(20,598)	(22,097)	(23,122)	(25,248)	(27,160)	(29,221)	(31,867)	(34,602)	(269,699)	60
61	TOTAL INTEREST	237,051	301,066	327,027	305,998	306,960	307,043	308,059	307,834	308,409	290,426	269,594	328,889	3,598,356	61
62	NET INCOME	49,315	(4,982)	7,577	(17,887)	50,333	189,433	156,293	212,320	228,218	267,886	194,681	264,418	1,597,606	62
63															63
64	PREFERRED DIVIDENDS	5,757	5,757	5,757	5,757	5,757	5,757	5,757	5,757	5,757	5,757	5,757	5,757	69,080	64
65	**NET INCOME TO COMMON**	**43,559**	**(10,738)**	**1,821**	**(23,644)**	**44,576**	**183,676**	**150,537**	**206,564**	**222,461**	**262,129**	**188,924**	**258,661**	**1,528,526**	65

SCHEDULE 1
ACCOUNTS RECEIVABLE AND COLLECTIONS

Tennessee-American
PLAN YEAR: 2010

DATE : 17-May-08
TIME : 5:53 PM

	DESCRIPTION	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL	
1	BEGINNING BALANCE (Input JAN)	**1,938,484**	1,855,937	1,653,718	1,312,699	1,593,378	1,604,422	1,516,817	1,667,396	1,567,608	1,860,441	1,623,180	1,701,045	1,938,484	1
2	ADD: REVENUES (SCH6, L6-L4) - (SCH5, L8)	2,775,695	2,614,349	2,797,820	2,701,142	2,855,694	3,078,577	3,038,344	3,126,734	3,140,638	3,195,971	2,980,074	3,144,607	35,449,645	2
														0	
3	TN SALES TAX (9.25%)	256,752	241,827	258,798	249,856	264,152	284,768	281,047	289,223	290,509	295,627	275,657	290,876	3,279,092	3
4	GROSS REC TAX (3%)	83,271	78,430	83,935	81,034	85,671	92,357	91,150	93,802	94,219	95,879	89,402	94,338	1,063,489	4
5	TRA FEES (.002%)	5,551	5,229	5,596	5,402	5,711	6,157	6,077	6,253	6,281	6,392	5,960	6,289	70,899	5
6														0	6
7	TOTAL TAXES effective rate in parentheses	345,574	325,486	348,329	336,292	355,534	383,283	378,274	389,278	391,009	397,898	371,019	391,504	4,413,481	7
8															8
9															9
10	LESS: DEPOSIT REFUNDS														10
11	CHARGE OFFS	43,709	43,709	43,709	43,709	43,709	43,709	43,709	43,709	43,709	43,709	43,709	43,709	524,509	11
12	OTHER														12
13	BALANCE AVAILABLE	5,016,044	4,752,063	4,756,157	4,306,425	4,760,897	5,022,573	4,889,725	5,139,699	5,055,547	5,410,601	4,930,564	5,193,447	41,277,101	13
14	COLLECTION RATIO (INPUT)	0.630	0.652	0.724	0.630	0.663	0.698	0.659	0.695	0.632	0.700	0.655	0.679		14
15	LESS COLLECTIONS	3,160,107	3,098,345	3,443,458	2,713,047	3,156,475	3,505,756	3,222,329	3,572,091	3,195,106	3,787,421	3,229,519	3,526,350	39,610,004	15
16	SUB TOTAL	1,855,937	1,653,718	1,312,699	1,593,378	1,604,422	1,516,817	1,667,396	1,567,608	1,860,441	1,623,180	1,701,045	1,667,097	1,667,097	16
17	MISC. ADJUSTMENTS														17
18	ENDING BALANCE	1,855,937	1,653,718	1,312,699	1,593,378	1,604,422	1,516,817	1,667,396	1,567,608	1,860,441	1,623,180	1,701,045	1,667,097	1,667,097	18
	PRIOR YEAR														
19	JAN SALES	**259,954**													19
20	JAN GROSS	**84,310**													20
21	FRANCHISE FEE (JAN-MAR)														21
22	COLLECTIONS	3,160,107	3,098,345	3,443,458	2,713,047	3,156,475	3,505,756	3,222,329	3,572,091	3,195,106	3,787,421	3,229,519	3,526,350	39,610,004	22
23														0	23
24	TOTAL SEWER BILLING														24
25	SEWER COLLECTIONS (INPUT PY)	1,367,855	1,961,116	2,459,750	1,686,039	1,847,666	1,700,000	1,367,855	1,961,116	1,700,000	1,686,039	1,847,666	2,459,750	22,044,852	25
26	LANDFILL COLLECTIONS (INPUT PY)													0	26
27	**TOTAL COLLECTIONS**	**4,527,962**	**5,059,461**	**5,903,208**	**4,399,086**	**5,004,141**	**5,205,756**	**4,590,184**	**5,533,207**	**4,895,106**	**5,473,460**	**5,077,185**	**5,986,100**	**61,654,856**	27

Tennessee-American
PLAN YEAR: 2010

SCHEDULE 2 FEDERAL INCOME TAX		TAXABLE INCOME PERIOD	1 SUB TOTAL TAXABLE INCOME	2 TAX @ 35.00%	3 TOTAL TAX ANNUALIZED	4 SURTAX EXEMPTION	5 NET TAX	6 PERCENT OF TAX DUE	7 NET TAX DUE	8 DEDUCT: PRIOR PAYMENTS ADD: (REFUNDS)	9 NET PAYMENT (REFUND)
1st INSTALL CURRENT YEAR - APR		1/1-3/31	110,865	38,803	XXXXX	XXXXX	38,803	105.0%	40,743	XXXXX	40,743
2nd INSTALL CURRENT YEAR - JUN		1/1-3/31	110,865	38,803	XXXXX	XXXXX	38,803	105.0%	40,743	XXXXX	40,743
3rd INSTALL CURRENT YEAR - SEP		1/1-6/30	92,891	32,512	65,024	XXXXX	65,024	100.0%	65,024	81,486	(16,462)
4th INSTALL CURRENT YEAR - DEC		1/1-9/30	839,393	293,788	391,717		391,717	100.0%	391,717	65,024	326,693
5th INSTALL NEXT YEAR - MAR		1/1-12/31	1,547,331	541,566	541,566		541,566	100.0%	541,566	391,717	149,849

SCHEDULE 2A STATE INCOME TAX		TAXABLE INCOME PERIOD	1 TAXABLE INCOME AMOUNT	2 TAX 6.50%	3 TOTAL TAX ANNUALIZED	4 PERCENT OF TAX TAKEN	5 NET TAX DUE	6 DEPOSIT REQUIRED	7 NET DEPOSIT	8 DEDUCT: PRIOR PAYMENTS ADD: (REFUNDS)	9 NET PAYMENT (REFUND)
1st INSTALL CURRENT YEAR - JUN		1/1-5/31	(186,037)	(12,092)	(29,022)	85%	(24,668)	50%	(12,334)	0	(12,334)
2nd INSTALL CURRENT YEAR - SEP		1/1-8/31	482,513	31,363	47,045	85%	39,988	75%	29,991	(12,334)	42,325
3rd INSTALL CURRENT YEAR - DEC		1/1-11/30	1,275,754	82,924	90,463	85%	76,893	100%	76,893	29,991	46,902
FINAL PAYMNT		1/1-12/31	1,405,402	91,351	91,351	100%	91,351	100%	91,351	76,893	14,458

SCHEDULE 2B COMMON DIVIDENDS		NET INCOME TO COMMON EQUITY 3 MOS ENDED 12/31/09	NET INCOME TO COMMON EQUITY 6 MOS ENDED 3/31/10	NET INCOME TO COMMON EQUITY 9 MOS ENDED 6/30/10	NET INCOME TO COMMON EQUITY 12 MOS ENDED 9/30/10	ADJUSTMENTS SEE NOTE: A	TOTAL EARNINGS AVAILABLE FOR COMMON EQUITY	DEDUCT 25%	EARNINGS AVAILABLE FOR COMMMON DIVIDENDS	DEDUCT: PRIOR DIVIDEND PAYMENTS	COMMON DIVIDEND PAYMENT **
MARCH	**2010**	1,655,470	XXXX	XXXX	XXXX	0	1,655,470	413,867	1,241,602	XXXXX	1,241,602
JUNE	**2010**	XXXX	1,605,130	XXXX	XXXX	0	1,605,130	401,283	1,203,848	1,241,602	(37,754)
SEPTEMBER	**2010**	XXXX	XXXX	1,725,377	XXXX	0	1,725,377	431,344	1,294,032	1,203,848	90,185
DECEMBER	**2010**	XXXX	XXXX	XXXX	2,218,663	0	2,218,663	554,666	1,663,997	1,294,032	692,965

NOTE: A CUMULATIVE ADJUSTMENTS						
	not applicable - new policy					1,986,997
ADD: AMORTIZATION OF: PREFERRED STOCK EXP. (INPUT) UTILITY PLANT ADJ. (INPUT) PROPERTY LOSSES (INPUT) LOSS ON DISP OF PROPERTY GAIN ON SALE						(1,244,677)
TOTAL		0	0	0	0	

SCHEDULE 3
CASH FORECAST

TENNESSEE-AMERICAN WATER COMPANY
PLAN YEAR: 2010

	DESCRIPTION	JAN	FEB	MAR	APRIL	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL	
01	CASH RECEIPTS:														01
02	CUST A/R - (L13,SC1)	3,160,107	3,098,345	3,443,458	2,713,047	3,156,475	3,505,756	3,222,329	3,572,091	3,195,106	3,787,421	3,229,519	3,526,350	39,610,004	02
03	MISC A/R (L4,168)	114,756	114,756	114,756	114,756	114,756	114,756	114,756	114,756	114,756	114,756	114,756	114,756	1,377,072	03
04	COLLECTIONS FOR OTHERS (L25+L26,SC1	1,686,690	1,567,328	1,737,439	1,462,665	1,675,191	1,711,566	1,746,952	2,011,175	1,726,876	1,732,129	1,632,498	1,733,643	20,424,152	04
05														0	05
06	SECURITIES (Bonds and Preferred)	0	0	0	0	0	0	0	0	0	7,900,000	0	0	7,900,000	06
07	OTHER (L32,SC3B)	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	36,000	07
08	Equity			3,000,000										3,000,000	08
09	TOTAL	4,964,553	4,783,429	8,298,653	4,293,468	4,949,422	5,335,078	5,087,037	5,701,022	5,039,738	13,537,306	4,979,773	5,377,749	72,347,228	09
	CASH DISBURSEMENTS:														
10	PENSIONS (INPUT)													0	10
11	RATE CASE (INPUT)	0												0	11
12	OTHER O&M (L31,SC3C)	1,846,057	1,645,799	1,659,448	2,023,785	1,809,367	1,885,392	1,882,646	1,811,509	1,895,401	1,875,883	1,737,868	1,613,616	21,686,772	12
13	FIT (INPUT MAR) (SC2,COL9)	0			40,743		40,743			(16,462)			476,542	541,566	13
14	SIT (INPUT APR) (SC2A.COL9)	0					(12,334)			42,325			61,360	91,351	14
15	OTHER TAX (L18,SC3B)	415,399	3,108,198	31,566	33,760	33,371	31,783	417,041	30,165	31,475	32,805	29,038	33,616	4,228,218	15
16	LTD INTEREST (Bonds)	18,069	422,319	1,017,283	551,969	18,069	134,339	18,715	422,965	947,855	552,615	18,715	134,340	4,257,253	16
17	STD INT (L9,SC3A)	18,437	24,968	30,580	32,670	35,037	35,203	36,145	37,350	39,747	29,403	17,010	18,843	355,393	17
18	COLLECTIONS FOR OTHERS (L27,SC3B)	1,824,528	1,691,378	1,853,773	1,593,396	1,796,266	1,868,421	1,941,493	2,203,910	1,901,786	1,928,837	1,806,178	1,900,547	22,310,513	18
19	PRIOR YEAR (INPUT)													0	19
20	SINKING FUND (Preferred&Sinking Funds)	0	0	0	0	0	0	0	0	0	0	0	0	0	20
21	DIVIDEND-PREF (DEBT PMT)	0	0	17,270	0	0	17,270	0	0	17,270	0	0	17,270	69,080	21
22	DIVIDENDS-COM (SC2B)			1,241,602			(37,754)			90,185			692,965	1,986,997	22
23	LTD MATURITIES	10,469	10,551	1,030,635	10,719	10,804	11,534	11,627	11,718	11,811	11,905	11,999	12,093	1,155,865	23
24	OTHER DISB (L11,SC3B)	3,667	4,667	27,967	9,167	3,667	24,267	4,667	3,667	12,767	213,500	3,500	11,600	323,103	24
														0	
25	TOTAL	4,136,626	6,907,880	6,910,124	4,296,208	3,706,581	3,998,863	4,312,334	4,521,284	4,974,160	4,644,949	3,624,309	4,972,792	57,006,111	25
26	INTERNALLY GENERATED FUNDS	827,927	(2,124,451)	1,388,529	(2,740)	1,242,841	1,336,215	774,703	1,179,738	65,578	8,892,357	1,355,464	404,957	15,341,117	26
27	ADD: EXTENSION DEPOSITS	166,667	166,667	166,667	166,667	166,667	166,667	166,667	166,667	166,667	166,667	166,667	166,667	2,000,000	27
28	CONST REIMBURSEMENTS	0	0	0	0	0	0	0	0	0	0	0	0	0	28
29	TOTAL	166,667	166,667	166,667	166,667	166,667	166,667	166,667	166,667	166,667	166,667	166,667	166,667	2,000,000	29
30	FUNDS AVAILABLE FOR CONSTRUCTION	994,594	(1,957,784)	1,555,196	163,927	1,409,508	1,502,882	941,370	1,346,405	232,245	9,059,024	1,522,131	571,624	17,341,117	30
31	LESS:CONSTR (L59,SC3D)	1,397,520	1,393,210	1,405,904	1,401,824	1,426,012	1,426,497	1,423,741	1,420,984	1,426,939	1,491,659	1,488,227	1,536,976	17,239,496	31
32	RETIRE (INPUT) 2000 SBP													0	32
33	EXT REFS (INPUT) 2000 SBP	83,000	83,000	83,000	83,000	83,000	83,000	83,000	83,000	83,000	83,000	83,000	87,000	1,000,000	33
34	PRIOR YR (INPUT)		0	0		0	0	0	0	0	0	0	0	0	34
35	TOTAL	1,480,520	1,476,210	1,488,904	1,484,824	1,509,012	1,509,497	1,506,741	1,503,984	1,509,939	1,574,659	1,571,227	1,623,976	18,239,496	35
														0	
36	BALANCE GENERATED	(485,926)	(3,433,994)	66,292	(1,320,897)	(99,504)	(6,615)	(565,371)	(157,579)	(1,277,694)	7,484,365	(49,096)	(1,052,352)	(898,379)	36
37															37
38	BEG CASH (INPUT JAN ONLY)	256,499	256,573	255,579	255,871	254,974	255,470	248,855	248,484	248,905	251,211	249,576	250,480	256,499	38
39	ADD: BALANCE GENERATED (L36,SC3)	(485,926)	(3,433,994)	66,292	(1,320,897)	(99,504)	(6,615)	(565,371)	(157,579)	(1,277,694)	7,484,365	(49,096)	(1,052,352)	(898,371)	39
40	SALE OF INVESTMENTS			0	0	0	0	0	0	0	0	0	0	0	40
41	BANK LOANS	486,000	3,433,000		1,320,000	100,000		565,000	158,000	1,280,000		50,000	1,050,000	8,442,000	41
42	SUB-TOTAL	256,573	255,579	321,871	254,974	255,470	248,855	248,484	248,905	251,211	7,735,576	250,480	248,128	10,576,106	42
43	LESS: BANK LOANS REPAYMENT			(66,000)							(7,486,000)			(7,552,000)	43
44	INVESTMENTS													0	44
45	ENDING CASH BALANCE	**256,573**	**255,579**	**255,871**	**254,974**	**255,470**	**248,855**	**248,484**	**248,905**	**251,211**	**249,576**	**250,480**	**248,128**	**248,128**	45
46	CREDIT LINE REQUIRED	5,774,000	9,207,000	10,241,553	10,461,000	10,561,000	10,712,609	11,126,000	11,548,965	12,564,000	13,116,615	5,128,000	6,178,000	6,178,000	46
47	ACCUMULATED BANK LOANS	5,774,000	9,207,000	9,141,000	10,461,000	10,561,000	10,561,000	11,126,000	11,284,000	12,564,000	5,078,000	5,128,000	6,178,000	6,178,000	47
48	ACCUMULATED INVESTMENTS	0	0	0	0	0	0	0	0	0	0	0	0	0	48

	SCHEDULE 4 - TAX WORKSHEET (PAGE 2)	TENNESSEE-AMERICAN WATER COMPANY													
	BELOW THE LINE TAXES	PLAN YEAR: 2010													
74	+ INTEREST INCOME (L39,168)	0	0	0	0	0	0	0	0	0	0	0	0	0	74
75	+ M&J INCOME (L42,168)	0	0	0	0	0	0	0	0	0	0	0	0	0	75
76	+ CLUB DUES	0	0	600	0	0	600	0	0	600	0	0	600	2,400	76
77	- MISC. DEDUCTIONS (L48,168)	546	546	35,514	2,185	1,093	19,123	1,093	2,185	8,195	1,093	1,093	8,195	80,862	77
78	-													0	78
79	= BTL TAXABLE INCOME	(546)	(546)	(34,914)	(2,185)	(1,093)	(18,523)	(1,093)	(2,185)	(7,595)	(1,093)	(1,093)	(7,595)	(78,462)	79
80	SIT RATE														80
81	6.50%														81
82	STATE INCOME TAX	(36)	(36)	(2,269)	(142)	(71)	(1,204)	(71)	(142)	(494)	(71)	(71)	(494)	(5,100)	82
83	ADJUSTMENTS	0												0	83
84	= L50-168	(36)	(36)	(2,269)	(142)	(71)	(1,204)	(71)	(142)	(494)	(71)	(71)	(494)	(5,100)	84
85														0	85
86	TOTAL STATE INCOME TAX (L58,SC4)	9,000	(10,224)	4,876	(11,526)	(4,219)	10,441	19,662	13,352	14,827	28,693	8,040	8,427	91,351	86
87	LESS: BELOW THE LINE SIT (L96,SC4)	(36)	(36)	(2,269)	(142)	(71)	(1,204)	(71)	(142)	(494)	(71)	(71)	(494)	(5,100)	87
88	= L42-169	9,036	(10,188)	7,146	(11,384)	(4,148)	11,645	19,733	13,494	15,321	28,764	8,111	8,921	96,451	88
89	BTL TAXABLE INCOME (L88,SC4)	(546)	(546)	(34,914)	(2,185)	(1,093)	(18,523)	(1,093)	(2,185)	(7,595)	(1,093)	(1,093)	(7,595)	(78,462)	89
90	BTL SIT (L96,SC4)	(36)	(36)	(2,269)	(142)	(71)	(1,204)	(71)	(142)	(494)	(71)	(71)	(494)	(5,100)	90
91	= BELOW LINE FIT TAXABLE INCOME	(511)	(511)	(32,644)	(2,043)	(1,022)	(17,319)	(1,022)	(2,043)	(7,102)	(1,022)	(1,022)	(7,102)	(73,362)	91
92	FIT RATE													0	92
93	0.35														93
94	FEDERAL INCOME TAX	(179)	(179)	(11,425)	(715)	(358)	(6,062)	(358)	(715)	(2,486)	(358)	(358)	(2,486)	(25,677)	94
95	ADJUSTMENTS													0	95
96	= L51-168	(179)	(179)	(11,425)	(715)	(358)	(6,062)	(358)	(715)	(2,486)	(358)	(358)	(2,486)	(25,677)	96
97	LINE 71 (TOTAL FIT)	52,117	(44,668)	31,355	(51,224)	(14,439)	59,372	105,795	74,027	81,453	151,263	47,284	49,231	541,566	97
98	LESS LINE 96 ABOVE	(179)	(179)	(11,425)	(715)	(358)	(6,062)	(358)	(715)	(2,486)	(358)	(358)	(2,486)	(25,677)	98
99	= L49-169	52,295	(44,490)	42,780	(50,509)	(14,082)	65,434	106,153	74,742	83,939	151,621	47,642	51,717	567,242	99

CALCULATION OF TEMP TAXES

	DESCRIPTION	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL	
1	+L62-168 (NET INCOME)	22,842	(40,359)	(15,553)	(43,444)	21,299	159,661	127,408	183,817	199,331	209,832	132,060	101,944	1,058,840	1
2	+ L48-169 (TOTAL SIT)	2,483	(4,289)	603	(4,514)	2,354	18,314	13,725	19,841	21,855	22,558	14,223	11,418	118,570	2
3	+ L53-169 (TOTAL FIT)	12,502	(21,594)	3,035	(22,722)	11,848	92,196	69,092	99,882	110,022	113,559	71,602	57,483	596,904	3
4	+ L50-168 (SIT BTL)	(36)	(36)	(2,269)	(142)	(71)	(1,204)	(71)	(142)	(494)	(71)	(71)	(494)	(5,100)	4
5	+ L51-168 (FIT BTL)	(179)	(179)	(11,425)	(715)	(358)	(6,062)	(358)	(715)	(2,486)	(358)	(358)	(2,486)	(25,677)	5
6	TOTAL STATE TAXABLE INCOME	37,613	(66,456)	(25,610)	(71,537)	35,072	262,906	209,796	302,682	328,228	345,520	217,457	167,866	1,743,537	6
7	x .061	6.51%	6.51%	6.51%	6.51%	6.51%	6.51%	6.51%	6.51%	6.51%	6.51%	6.51%	6.51%	6.51%	7
8	= STATE TAX	2,448	(4,325)	(1,667)	(4,656)	2,282	17,110	13,654	19,699	21,361	22,486	14,152	10,925	113,470	8
9	- L48-169 (TOTAL SIT)	2,483	(4,289)	603	(4,514)	2,354	18,314	13,725	19,841	21,855	22,558	14,223	11,418	118,570	9
10	- L50-168 (SIT BTL)	(36)	(36)	(2,269)	(142)	(71)	(1,204)	(71)	(142)	(494)	(71)	(71)	(494)	(5,100)	10
11	= L46-169	(0)	0	0	(0)	(0)	(0)	0	0	0	0	0	0	0	11
12															12
13	TOTAL STATE TAXABLE INCOME	37,613	(66,456)	(25,610)	(71,537)	35,072	262,906	209,796	302,682	328,228	345,520	217,457	167,866	1,743,537	13
14	- STATE TAX	2,448	(4,325)	(1,667)	(4,656)	2,282	17,110	13,654	19,699	21,361	22,486	14,152	10,925	113,470	14
15	= TOTAL FEDERAL TAXABLE INCOME	35,165	(62,131)	(23,944)	(66,882)	32,789	245,796	196,143	282,984	306,867	323,033	203,305	156,942	1,630,067	15
16	x .38	35.04%	35.04%	35.04%	35.04%	35.04%	35.04%	35.04%	35.04%	35.04%	35.04%	35.04%	35.04%	35.04%	16
17	= FEDERAL TAX	12,323	(21,773)	(8,391)	(23,437)	11,490	86,135	68,735	99,167	107,536	113,201	71,244	54,997	571,227	17
18	- L53-169 (TOTAL FIT)	12,502	(21,594)	3,035	(22,722)	11,848	92,196	69,092	99,882	110,022	113,559	71,602	57,483	596,904	18
19	- L51-168 (FIT BTL)	(179)	(179)	(11,425)	(715)	(358)	(6,062)	(358)	(715)	(2,486)	(358)	(358)	(2,486)	(25,677)	19
20	= L57-169	(0)	0	0	(0)	(0)	(0)	(0)	0	0	0	0	0	0	20

SCHEDULE 5
FORM 169

Tennessee-American
ANNUAL BUSINESS PLAN
PLAN YEAR: 2010

	DESCRIPTION	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEP	OCT	NOV	DEC	TOTAL	
1	RESIDENTIAL	1,137,848	1,053,622	1,105,282	1,098,676	1,147,836	1,268,346	1,297,616	1,310,017	1,323,307	1,310,620	1,208,159	1,223,699	14,485,027	1
2	COMMERCIAL	894,841	833,794	929,932	876,840	937,055	996,359	976,661	1,017,148	1,015,647	1,038,987	990,158	1,046,933	11,554,353	2
3	INDUSTRIAL	310,918	300,895	308,162	299,582	304,600	334,368	301,227	316,722	319,989	345,897	310,949	389,798	3,843,106	3
4	FIRE SERVICE	126,355	126,355	126,355	126,355	126,355	126,355	126,355	126,355	126,355	126,355	126,355	126,355	1,516,255	4
5	PUBLIC AUTH	177,262	171,212	199,618	171,218	211,377	224,677	208,014	228,021	226,869	245,640	215,981	229,352	2,509,241	5
6	SALES FOR RESALE	128,472	128,472	128,472	128,472	128,472	128,472	128,472	128,472	128,472	128,472	128,472	128,472	1,541,662	6
7	OTHER														7
8	UNBILLED														8
9	TOTAL L2-168	2,775,695	2,614,349	2,797,820	2,701,142	2,855,694	3,078,577	3,038,344	3,126,734	3,140,638	3,195,971	2,980,074	3,144,607	35,449,645	9
10	PRODUCTION LABOR														10
11	DISTRIBUTION LABOR														11
12	COMMERCIAL LABOR														12
13	ADMIN & GEN LABOR														13
14	TOTAL L8-168														14
15	REGULATORY TAX BEN														15
16	REGULATORY AMORT														16
17	OTHER														17
18	TOTAL L16-168														18
19	CUST ACCT COMP														19
20	UNCOLLECTIBLES	43,709	43,709	43,709	43,709	43,709	43,709	43,709	43,709	43,709	43,709	43,709	43,709	524,509	20
21	OTHER														21
22	TOTAL L18-168	43,709	43,709	43,709	43,709	43,709	43,709	43,709	43,709	43,709	43,709	43,709	43,709	524,509	22
23	MISC PRODUCTION														23
24	MISC DISTRIBUTION														24
25	MISC COMMERCIAL														25
26	LEGAL EXPENSE														26
27	OTHER														27
28	MISC GENERAL														28
29	OTHER														29
30	TOTAL L21-168														30
31	MAINT LAB.: PROG														31
32	NON-PROG														32
33	TOTAL L24-168														33
34	MAINT OTH.: PROG														34
35	NON-PROG														35
36	TOTAL L25-168														36
37	TAXES: PROP & C/S	256,354	256,354	256,354	256,354	256,354	256,354	256,354	256,354	256,354	256,354	256,354	256,354	3,076,245	37
38	GROSS RECEIPTS	31,553	31,553	31,553	31,553	31,553	31,553	31,553	31,553	31,553	31,553	31,553	31,553	378,636	38
39	PAYROLL	31,839	27,823	30,323	23,723	23,439	21,617	22,578	23,439	20,657	24,336	23,678	22,956	296,409	39
40	MISCELLANEOUS	31,634	31,399	31,399	31,399	31,399	31,399	31,399	31,399	31,399	31,399	31,399	31,399	377,028	40
41	TOTAL L29-168	351,380	347,129	349,629	343,029	342,745	340,924	341,884	342,745	339,963	343,643	342,984	342,262	4,128,318	41
42	SIT: CURRENT (L96,SC4)	9,036	(10,188)	7,146	(11,384)	(4,148)	11,645	19,733	13,494	15,321	28,764	8,111	8,921	96,451	42
43	DEF. ACC. DEPR.														43
44	DEF. TANK PAINTING														44
45	DEF. PREMAT. PROP														45
46	DEF. OTHER (MACRO)	(6,552)	5,899	(6,543)	6,870	6,502	6,669	(6,009)	6,346	6,534	(6,207)	6,112	2,498	22,119	46
47	ADJ. PRIOR (INP)														47
48	TOTAL L30-168	2,483	(4,289)	603	(4,514)	2,354	18,314	13,725	19,841	21,855	22,558	14,223	11,418	118,570	48
49	FIT: CURRENT (SCH 4)	52,295	(44,490)	42,780	(50,509)	(14,082)	65,434	106,153	74,742	83,939	151,621	47,642	51,717	567,242	49
50	DEFERRED (L58,SC5)	(33,430)	29,260	(33,381)	34,150	32,294	33,127	(30,697)	31,503	32,447	(31,698)	30,324	12,130	106,030	50
51	DEFERRED ITC (L65.SC5)	(6,364)	(6,364)	(6,364)	(6,364)	(6,364)	(6,364)	(6,364)	(6,364)	(6,364)	(6,364)	(6,364)	(6,364)	(76,368)	51
52	ADJ. PRIOR (INP)														52
53	TOTAL L31-168	12,502	(21,594)	3,035	(22,722)	11,848	92,196	69,092	99,882	110,022	113,559	71,602	57,483	596,904	53
54	DEFERR: ACC DEPR (INP)														54
55	TANK PAINTING (INP)														55
56	PREMAT. PROP. (INP)														56
57	OTHER (MACRO)	(33,430)	29,260	(33,381)	34,150	32,294	33,127	(30,697)	31,503	32,447	(31,698)	30,324	12,130	106,030	57
58	TOTAL L50-169	(33,430)	29,260	(33,381)	34,150	32,294	33,127	(30,697)	31,503	32,447	(31,698)	30,324	12,130	106,030	58
59	ITC: CURRENT														59
60	ADJ. PRIOR YEARS														60
61	TOTAL ITC														61
62	DEF. ITC: CURRENT (INP)														62
63	AMORT. (CR)	(6,364)	(6,364)	(6,364)	(6,364)	(6,364)	(6,364)	(6,364)	(6,364)	(6,364)	(6,364)	(6,364)	(6,364)	(76,368)	63
64	ADJ. PRIOR YEARS														64
65	TOTAL L51-169	(6,364)	(6,364)	(6,364)	(6,364)	(6,364)	(6,364)	(6,364)	(6,364)	(6,364)	(6,364)	(6,364)	(6,364)	(76,368)	65
66	AMORT.: PLANT ADJ.(INP)														66
67	PFD. STK. EXP														67
68	OTHER (INP)														68
69	TOTAL L46-168														69

SCHEDULE 6
FORM 168

Tennessee-American
ANNUAL BUSINESS PLAN
PLAN YEAR: 2010

0

	DESCRIPTION	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL	
1	OPERATING REVENUES														1
2	WATER (L9,SC5)	2,775,695	2,614,349	2,797,820	2,701,142	2,855,694	3,078,577	3,038,344	3,126,734	3,140,638	3,195,971	2,980,074	3,144,607	35,449,645	2
3	SEWER	0	0	0	0	0	0	0	0	0	0	0	0	0	3
4	OTHER	114,756	114,756	114,756	114,756	114,756	114,756	114,756	114,756	114,756	114,756	114,756	114,756	1,377,072	4
5	MANAGEMENT	0	0	0	0	0	0	0	0	0	0	0	0	0	5
6	TOTAL	2,890,451	2,729,105	2,912,576	2,815,898	2,970,450	3,193,333	3,153,100	3,241,490	3,255,394	3,310,727	3,094,830	3,259,363	36,826,717	6
7	OPERATING EXPENSE														7
8	LABOR (L14,SC5)	464,042	404,450	437,911	417,489	445,313	417,646	434,566	445,313	405,648	456,559	443,421	439,336	5,211,696	8
9	PURCHASED WATER	3,757	4,030	4,795	4,904	4,904	4,576	4,686	4,795	4,795	4,030	4,358	4,682	54,310	9
10	FUEL & POWER	173,322	156,507	179,767	171,633	183,240	195,327	198,653	194,625	207,828	182,909	191,335	160,809	2,195,956	10
11	CHEMICALS	90,137	83,808	96,095	89,464	107,495	101,994	104,615	99,615	104,353	89,723	99,930	91,257	1,158,485	11
12	WASTE DISPOSAL	17,189	16,405	20,983	18,169	21,250	28,460	44,229	21,335	10,684	27,300	21,069	17,333	264,406	12
13	MANAGEMENT FEES	405,431	385,113	396,866	400,027	400,341	407,200	409,429	391,367	398,432	408,400	383,601	438,839	4,825,045	13
14	GROUP INSURANCE	160,134	160,134	160,134	160,134	160,134	160,134	160,134	160,134	160,134	160,134	160,134	160,134	1,921,612	14
15	PENSIONS	66,556	66,556	66,556	66,556	66,556	66,556	66,556	66,556	66,556	66,556	66,556	66,556	798,667	15
16	REG. EXPENSE (L18,SC5)	12,444	12,444	12,444	1,333	1,333	1,333	1,333	1,333	1,333	1,333	1,333	1,333	49,332	16
17	INSURANCE NOT GROUP	54,094	54,094	54,094	54,094	54,094	54,094	54,094	54,094	54,094	54,094	54,094	54,094	649,129	17
18	CUSTOMER ACCTG (L22,SC5)	111,553	110,360	110,579	111,453	110,360	110,579	111,753	110,360	110,579	111,453	110,360	110,579	1,329,967	18
19	RENTS	4,763	5,078	5,102	4,648	4,573	4,573	4,648	4,573	4,573	4,648	4,573	4,573	56,325	19
20	GENERAL OFFICE	19,901	18,756	21,078	18,323	18,878	21,550	18,682	20,282	20,144	18,163	20,326	20,329	236,409	20
21	MISCELLANEOUS	166,164	149,891	160,881	194,720	159,315	166,714	147,359	151,882	214,922	146,911	148,698	162,005	1,969,463	21
25	OTHER MAINT. EXPENSE	79,326	66,753	76,228	87,383	109,051	82,611	93,756	122,715	69,280	115,217	65,551	60,743	1,028,615	25
22	TOTAL	1,828,814	1,694,380	1,803,513	1,800,330	1,846,838	1,823,346	1,854,492	1,848,979	1,833,355	1,847,429	1,775,339	1,792,602	21,749,416	22
	OTHER OPERATING EXPENSES														
27	DEPRECIATION	478,016	478,248	479,855	481,462	483,069	484,677	486,284	487,891	489,498	491,337	493,292	536,906	5,870,534	27
28	AMORTIZATION	10,148	10,148	10,148	10,148	10,148	10,148	10,148	10,148	10,148	10,148	10,148	10,148	121,776	28
29	GENERAL TAXES (L41,SC5)	351,380	347,129	349,629	343,029	342,745	340,924	341,884	342,745	339,963	343,643	342,984	342,262	4,128,318	29
30	SIT (L48,SC5)	2,483	(4,289)	603	(4,514)	2,354	18,314	13,725	19,841	21,855	22,558	14,223	11,418	118,570	30
31	FIT (L53.SC5)	12,502	(21,594)	3,035	(22,722)	11,848	92,196	69,092	99,882	110,022	113,559	71,602	57,483	596,904	31
32															32
33	TOTAL OPERATING EXP	2,683,343	2,504,022	2,646,782	2,607,734	2,697,002	2,769,605	2,775,625	2,809,486	2,804,840	2,828,673	2,707,588	2,750,819	32,585,518	33
34	UTILITY OPER INCOME	207,108	225,083	265,793	208,164	273,448	423,729	377,474	432,004	450,554	482,054	387,242	508,544	4,241,199	34
35	OTHER INCOME & DED														35
36	NONOPERATING RENTAL INCOME													0	36
37	DIVIDEND INCOME - COMMON													0	37
38	- PREFERRED													0	38
39	INTEREST INCOME (L62,SC3)	0	0	0	0	0	0	0	0	0	0	0	0	0	39
40	AFUDC (AFUDC WORKSHEET)	62,580	66,171	69,481	72,881	73,558	73,153	75,450	77,747	79,729	81,351	84,210	43,591	859,905	40
41														0	41
42	M&J MISC INC	0	0	0	0	0	0	0	0	0	0	0	0	0	42
43	GAIN (LOSS) ON DISPOSITION													0	43
44														0	44
45	TOTAL OTHER INCOME	62,580	66,171	69,481	72,881	73,558	73,153	75,450	77,747	79,729	81,351	84,210	43,591	859,905	45
46	MISC AMORTIZATION (L69,SC5)	0	0	0	0	0	0	0	0	0	0	0	0	0	46
47														0	47
48	MISC OTHER DEDUCTIONS	546	546	35,514	2,185	1,093	19,123	1,093	2,185	8,195	1,093	1,093	8,195	80,862	48
49	GENERAL TAXES													0	49
50	SIT (SCH 4)	(36)	(36)	(2,269)	(142)	(71)	(1,204)	(71)	(142)	(494)	(71)	(71)	(494)	(5,100)	50
51	FIT (SCH 4)	(179)	(179)	(11,425)	(715)	(358)	(6,062)	(358)	(715)	(2,486)	(358)	(358)	(2,486)	(25,677)	51
52	TOTAL OTHER DEDUCTIONS	332	332	21,819	1,328	664	11,857	664	1,328	5,216	664	664	5,216	50,085	52
53	TOTAL OTHER INCOME NET	62,248	65,839	47,663	71,553	72,893	61,296	74,786	76,419	74,513	80,687	83,546	38,375	809,819	53
54	INCOME BEFORE INTEREST	269,356	290,923	313,456	279,717	346,342	485,025	452,261	508,423	525,067	562,741	470,788	546,919	5,051,018	54
55	INTEREST CHARGES:													0	55
56	LONG TERM DEBT	259,736	340,100	334,176	328,253	328,168	328,083	327,991	327,900	327,807	365,626	365,532	445,884	4,079,252	56
57	AMORTIZATION	5,413	5,413	5,413	5,413	5,413	5,413	5,413	5,413	5,413	6,071	6,071	6,071	66,931	57
58	SHORT TERM DEBT (L56,SC3)	18,437	24,968	30,580	32,670	35,037	35,203	36,145	37,350	39,747	29,403	17,010	18,843	355,393	58
59	OTHER	0	0	0	0	0	0	0	0	0	0	0	0	0	59
60	AFUDC DEBT	(37,072)	(39,199)	(41,160)	(43,174)	(43,575)	(43,335)	(44,696)	(46,057)	(47,231)	(48,191)	(49,885)	(25,823)	(509,397)	60
61	TOTAL INTEREST	246,514	331,281	329,009	323,162	325,043	325,363	324,853	324,606	325,736	352,909	338,728	444,975	3,992,178	61
62	NET INCOME	22,842	(40,359)	(15,553)	(43,444)	21,299	159,661	127,408	183,817	199,331	209,832	132,060	101,944	1,058,840	62
63															63
64	PREFERRED DIVIDENDS	5,757	5,757	5,757	5,757	5,757	5,757	5,757	5,757	5,757	5,757	5,757	5,757	69,080	64
65	**NET INCOME TO COMMON**	**17,086**	**(46,115)**	**(21,310)**	**(49,201)**	**15,542**	**153,905**	**121,651**	**178,061**	**193,574**	**204,075**	**126,303**	**96,188**	**989,760**	65

TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 08-00039
FIRST DISCOVERY REQUEST OF THE
CONSUMER ADVOCATE AND PROTECTION DIVISION

Responsible Witness: Michael Miller/Sheila Miller

PART IV: QUESTIONS & REQUESTS REGARDING REVENUES, EXPENSES, TAXES, RATE BASE & MISCELLANEOUS

88. Provide an explanation and detailed reconciliation of the Operating Revenues for 2007 of $37,503,400 (TN-TRA-01-Q012-ATTACHMENT Page 2 of 10) to the $37,142,460 for the attrition year at present rates as found on Company Exhibit No. 2, Schedule 1, Page 1 of 1.

Response:

The Company objects to this request on the grounds that it is unduly burdensome, in particular because the information requested is not readily available in the requested format and is very costly to gather and produce. The Company also objects to this request on the grounds that it detracts from the Company's ability to address and support its historical test-year data and the adjustments developed to arrive at a reasonable attrition year and is not required by the TRA's recognized rate case procedures.

The Company filed its petition, testimony, exhibits and workpapers fully supporting its case based on a test year ending November 30, 2007. Test year data and schedules were prepared specifically for the historical test year utilized in the Company's filing.

With respect to this specific request, the CAPD seeks to have the Company to start with the year ended December 2007, a period different than the historical test-year used by the Company in this case. In order to create this analysis the Company would have to create a bill analysis for the year ended December

2007, expend significant effort to determine the different normalized historical test-year adjustments, including the creation of a different weather normalization adjustment by Dr. Spitznagel for the December 2007 period. Not only does the requested information not exist, it would be extremely burdensome and costly to the Company to create it. It is of note that all of this work and expense would move the historical test-year forward **one** month from the historical test-year used by the Company in this case.

The Company fully complied with TRA rate filing requirements in using the November 2007 period as its historical test-year and the historical test-year revenues, historical test-year normalizing adjustments, and attrition year adjustments are clearly outlined in the Company's Exhibit reference in this question and supported by the working papers filed in response to TRA DR 1 Question 13. Also please see the response to TRA DR 2 Question 2 for further explanations and reconciliations from the Company's historical test-year revenues to the attrition year revenues at present rates.

TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 08-00039
FIRST DISCOVERY REQUEST OF THE
CONSUMER ADVOCATE AND PROTECTION DIVISION

Responsible Witness: John S. Watson/Michael Miller

PART IV: QUESTIONS & REQUESTS REGARDING REVENUES, EXPENSES, TAXES, RATE BASE & MISCELLANEOUS

Question: OTHER

89. Provide the details of each customer service request received for the years 2005 through 2007, including but not confined to, the class of customer and the reason for the request, the resolution of the request, whether the request was for termination of service and whether the request was for establishment of a new service.

Response:

The Company objects to this request on the grounds that it is over broad, unduly burdensome, and not readily available in the requested format.

Subject to and without waiving its objections, please see the response to TN-COC-01-Q09. The Company does not maintain a record of its service orders by customer class.

TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 08-00039
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CONSUMER ADVOCATE AND PROTECTION DIVISION

Responsible Witness: John S. Watson/Michael Miller

PART IV: QUESTIONS & REQUESTS REGARDING REVENUES, EXPENSES, TAXES, RATE BASE & MISCELLANEOUS

Question: OTHER

90. Provide a detailed explanation for the average monthly number of service requests increasing from 5,097 in 2005 to 7,417 in 2007 (a two year increase of 45.5%) when customers increased only 2.53% over the same period according to TAWC's work papers TN-TRA-01-Q013-REVENUES, pages 78-79 of 99.

Response:

The Company objects to this request on the grounds that it is vague and ambiguous, over broad, unduly burdensome, and because the information is not readily available in the requested format.

Subject to and without waiving its objections, please see the Company's response to TN-COC-01-Q09 that provides detail of the types of service orders issued by the call center and worked in the field for TAWC customers.

It appears that the CAPD has arrived at its average monthly numbers above by dividing the total number of service orders worked as reported on TAWC's service metrics report submitted to the TRA and CAPD for the years 2005 and 2007. The CAPD has incorrectly assumed that the service orders worked by TAWC for the years 2005 and 2007 were all for service requests. In fact, the response to TN-COC-01-09 details the many different types of service orders that the Company tracks in its ORCOM software and that are included in the service orders worked on the Service Metrics Report submitted to the TRA. In

addition, the response to TN-COC-01-09 describes the reasons for the increase in service orders between the years requested in this case. The Company would also add that it does not believe that one can estimate the customer growth by looking at service initiation orders, because during any year the majority of service turn-ons relate to a customer moving out of a residence and a new customer moving into the same residence. While this does result in a turn-on of service, it does not increase the customer count.

TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 08-00039
FIRST DISCOVERY REQUEST OF THE
CONSUMER ADVOCATE AND PROTECTION DIVISION

Responsible Witness: John Watson/Michael Miller

PART IV: QUESTIONS & REQUESTS REGARDING REVENUES, EXPENSES, TAXES, RATE BASE & MISCELLANEOUS

Question: OTHER

91. In its March 14, 2008 letter to County Mayor Ramsey and Representative McCormick, TAWC stated: "Since 1995, Tennessee American Water has invested $106.222 million to improve and enhance water service for our customers." Provide a schedule showing the $106.222 million invested by TAWC since 1995 by year by JDE account.

Response:

The Company objects to this request on the grounds that it is unduly burdensome, in particular because the information requested is not readily available in the requested format and is very costly to gather and produce.

It is burdensome and fundamentally unfair to require the Company to respond to a data request that, in essence, requires the Company to compile expansive information from the tens of thousands utility plant records in order to create the information in the format requested.

With respect to this specific request, it would be extremely burdensome to go this far into history to create a schedule of this nature by each individual JDE account, resulting in countless hours and money to create information which compiles the utility plant balances used for the historical test year in this case.

Notwithstanding the objection the Company provides the following response. The information used to develop the capital investment of TAWC since 1995 was developed by using total year numbers for capital investment spending by TAWC. The results of those tabulations are shown in the following table.

Capital Investment (in 1,000)	
1995	**4,626**
1996	**8,003**
1997	**4,684**
1998	**6,760**
1999	**8,172**
2000	**5,844**
2001	**5,617**
2002	**5,505**
2003	**6,666**
2004	**8,072**
2005	**14,806**
2006	**16,035**
2007	**11,432**
	106,222

TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 08-00039
FIRST DISCOVERY REQUEST OF THE
CONSUMER ADVOCATE AND PROTECTION DIVISION

Responsible Witness: Michael Miller/John Watson/Sheila Miller

PART IV: QUESTIONS & REQUESTS REGARDING REVENUES, EXPENSES, TAXES, RATE BASE & MISCELLANEOUS

Question: OTHER

92. Provide a copy of all financial reports and statements, as well as, all budget summaries and reports, including but not confined to budget-to-actual comparisons, provided to the president and/or board of directors from January 1, 2006 through March 2008.

Response:

Please see the response to TN-COC-01-Q011.

TENNESSEE AMERICAN WATER COMPANY
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CONSUMER ADVOCATE AND PROTECTION DIVISION

Responsible Witness: Michael Miller/John Watson

PART IV: QUESTIONS & REQUESTS REGARDING REVENUES, EXPENSES, TAXES, RATE BASE & MISCELLANEOUS

93. Provide a copy of all minutes of the board of directors related to all board meetings from January 1, 2006 through March 2008.

Response:

Please see Confidential Document submitted pursuant to Protective Order dated May 23, 2008.

TENNESSEE AMERICAN WATER COMPANY
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CONSUMER ADVOCATE AND PROTECTION DIVISION

Responsible Witness: Michael Miller/John Watson/Sheila Miller

PART IV: QUESTIONS & REQUESTS REGARDING REVENUES, EXPENSES, TAXES, RATE BASE & MISCELLANEOUS

Question: OTHER

94. Provide all documents related to the monthly reviews of the Operations and Maintenance plan relative to current operating conditions, including but not confined to appropriate forecasts developed for the remainder of the year regarding any expected changes in revenues and expenses, for each month from January 2007 through March 2008. See Direct Testimony of John Watson at page 4, lines 15-18.

Response:

Please see the Company's response to Part IV, Question 92.

TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 08-00039
FIRST DISCOVERY REQUEST OF THE
CONSUMER ADVOCATE AND PROTECTION DIVISION

Responsible Witness: John Watson

PART IV: QUESTIONS & REQUESTS REGARDING REVENUES, EXPENSES, TAXES, RATE BASE & MISCELLANEOUS

Question: OTHER

95. Provide all documents related to the planning of capital expenditures, including but not confined to, any least/cost comprehensive planning studies, prepared during the period ending January 2007 through March 2008. See Direct Testimony of John Watson at page 4, lines 26-27.

Response:

The Company objects to this request on the grounds that it is vague and ambiguous, over broad, unduly burdensome, and because the information is not readily available to the Company in the requested format.

Subject to and without waiving these objections, there has been no new CPS performed in the timeframe requested, and no updates to the CPS provided in the Company's rate case, number 06-00290. Please refer to the Company's responses to TN-TRA-01-Q18, 52, 53.

TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 08-00039
FIRST DISCOVERY REQUEST OF THE
CONSUMER ADVOCATE AND PROTECTION DIVISION

Responsible Witness: John S. Watson

PART IV: QUESTIONS & REQUESTS REGARDING REVENUES, EXPENSES, TAXES, RATE BASE & MISCELLANEOUS

Question: OTHER

96. Provide all documents related to the review and analysis of electric and other utility service billings to analyze power usage at TAWC's treatment plant booster stations and office facilities, including but not confined to, trends in energy consumption, demand charges, unit costs, and how demand for water use at each location affects TAWC's expense. See Direct Testimony of John Watson at page 6, lines 9-16.

Response:

A web-based program obtained through Itron and licensed to American Water is utilized to review electric, gas and other utility bills and charges, which will provide the actual billing and will breakdown the billings into their individual charges, such as energy charges, demand charges, sales taxes, and will chart trends in these charges by location or by type of charge. Since this is web-based, it will require that the CAPD view the information at the Company's offices in Chattanooga at a mutually agreeable time.