

1 TESTIMONY

2 OF

3 EDWARD L. SPITZNAGEL, JR.
4

5 1. Q. Please state your name, business address, and employer.
6

7 A. My name is Edward L. Spitznagel, Jr., and my
8 business address is Campus Box 1146, One
9 Brookings Drive, St Louis, Missouri 63130. I am
10 employed by Washington University.
11

12 2. Q. What is your present position?
13

14 A. I am Professor of Mathematics in the College of
15 Arts and Sciences at Washington University. I
16 also hold a joint appointment in the Division of
17 Biostatistics of the Washington University School
18 of Medicine.
19

20 3. Q. Please review your educational background and work
21 experience.
22

23 A. I hold a Bachelor of Science, summa cum laude, in
24 mathematics, awarded in 1962 by Xavier University,
25 Cincinnati, Ohio. I hold a Master of Science
26 (1963) and Ph.D. (1965) in mathematics awarded by

1 the University of Chicago. I have served on the
2 Faculty of Arts and Sciences of Washington
3 University since 1969. I have held a joint
4 appointment in the Division of Biostatistics
5 since 1978. From 1965 to 1969 I was on the
6 faculty of Northwestern University.

7
8 Attached to my testimony is Appendix A, which
9 provides a more detailed listing of my education and
10 qualifications in the area of mathematics and statistics.
11

12 4. Q. What is the purpose of your testimony in this case?
13

14 A. I have been employed by Tennessee American Water
15 Company to make weather-normalized predictions of
16 water utilization for the period January 2003 to
17 December 2003.
18

19 5. Q. What is weather normalization?
20

21 A. From one year to the next, variations in temperature
22 and precipitation lead to changes in water consumption.
23 More water will generally be used during hotter, drier
24 periods. The regulatory question is how to reflect
25 those weather-related differences when setting rates.
26

1 For ratemaking purposes, revenues need to be set at as
2 "normal" a level as possible, factoring out the
3 potential or actual results of unusual weather
4 conditions. This can be accomplished by building
5 statistical models that predict water utilization from
6 meteorological data and other possible predictors. An
7 estimate of future utilization can then be made by
8 using a long-term average of meteorological data
9 (since there is no better way to forecast next year's
10 weather than as an average) and known values of the
11 other predictors.

12
13 6. Q. What are examples of these other, non-meteorological
14 predictors?

15
16 A. One is the year itself. Due to gradual introduction
17 of water-conserving plumbing fixtures and appliances,
18 use of water appears to be gradually declining over time.

19
20 Another is the month of the year. While water
21 utilization increases during the warmer, drier
22 summer months, analysis of variance shows that
23 month as a categorical variable is a powerful
24 predictor even after temperature and moisture have
25 been included in the model.

1 7. Q. What model for water utilization did you employ?

2
3 In a previous case before the Public Service Commission
4 of the Commonwealth of Kentucky (1997), I screened a
5 large number of candidate predictors by examining data
6 from sixteen different operating companies in five states,
7 Kentucky, Missouri, Ohio, Tennessee, and Virginia.
8 Tennessee American Water Company was one of these sixteen
9 companies.

10
11 I used as candidate predictors only those variables that
12 correlated consistently with utilization for most or all
13 of these operating companies.

14
15 I then fitted the surviving candidates in a multivariate
16 model to predict utilization. I found that calendar month
17 was a strong predictor even in the presence of heat and
18 moisture variables. Therefore I included month as a
19 categorical variable. With month included, I tested drought
20 severity index, temperature, and calendar year as potential
21 numeric predictors. I found that temperature was not a useful
22 predictor in the presence of the other variables, so from
23 that point onward, I did not use it.

24
25 For the months of January through April, there was no evidence
26 that moisture predicted utilization. For the months of May

1 through December, there was evidence of moisture predicting
2 utilization, being a weak predictor in the months of May, June,
3 November, and December and a strong predictor for the months
4 of July through October.

5
6 Since only a deficit of moisture should lead to increased
7 water utilization, I tested truncated versions of the Palmer
8 Drought Severity Index as predictors, finding that truncation
9 at 0 yielded a larger R-square than the non-truncated index
10 and the index truncated at all other levels.

11
12 Month was a very strong predictor, both as a main effect and
13 interacting with the truncated drought severity index. Because
14 of this, I estimated twelve separate predictive models, one
15 for each month of the year.

16
17 For the present case I used those same predictors to estimate
18 Tennessee American Water Company utilization by fitting them
19 to monthly TAWC consumption data from August 1992 through
20 July 2002. The models were estimated separately for residential
21 and commercial consumption. The coefficient estimates can be
22 found in Appendix B.

23
24 8. Q. Not all of the coefficient estimates are statistically
25 significant. Is this a problem?

1 A. No. The candidate variables were obtained as described above,
2 by examining data from 16 different water companies, selecting
3 those that correlated with utilization over most or all of
4 those companies. Once those variables were selected, the
5 resulting estimates based on them will be unbiased. If they
6 are subject to further selection based on statistical
7 signifiance, there is a chance that a small amount of bias
8 could result.

9
10 9. Q. Once you had estimated the coefficients in these monthly
11 models, how did you project utilization for January 2003
12 through December 2003?

13
14 I put the coefficients from the monthly regressions into
15 Excel spreadsheets, one for residential customers, and the
16 other for commercial customers. I calculated the mean
17 truncated Palmer Drought Severity Index for each of the
18 twelve calendar months over the 30 year period from August
19 1972 to July 2002 and inserted those values into the
20 spreadsheets.

21
22 I then projected an average daily utilization for each
23 month. Once these twelve monthly projections were computed,
24 I calculated average daily utilization for the year by taking
25 an average weighted by the number of days in each calendar
26 month, counting February as having 28 days since 2003 is not

1 a leap year.

2
3 These spreadsheets are given in Appendix C.

4
5 10. Q. What are your projections of daily utilization under
6 average weather for the two customer classes?

7
8 A. For residential customers: 155.68 gallons / customer / day

9 For commercial customers: 1060.66 gallons / customer / day

10
11 11. Q. Does this conclude your testimony?

12
13 A. Yes, it does.

TENNESSEE REGULATORY AUTHORITY

STATE OF MISSOURI

COUNTY OF SAINT LOUIS

BEFORE ME, the undersigned authority, duly commissioned and qualified in and for the State and County aforesaid, personally came and appeared Dr. Edward L. Spitznagel, Jr., who, being by me first duly sworn deposed and said that:

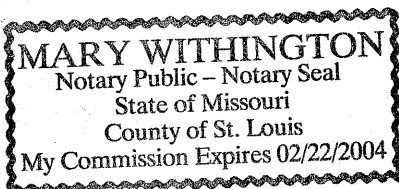
He is appearing as a witness on behalf of Tennessee-American Water Company before the Tennessee Regulatory Authority, and if present before the Authority and duly sworn, his testimony would set forth in the annexed transcript consisting of 7 pages.

Edward L. Spitznagel, Jr.
Dr. Edward L. Spitznagel, Jr.

Sworn to and subscribed before me
this 3rd day of February 2003.

Mary Withington
Notary Public

My commission expires February 22, 2004



Edward L. Spitznagel, Jr.

Born: Cincinnati, Ohio, September 4, 1941.

Education:

Xavier University, 1959-1962
Awarded Bachelor of Science Degree (Summa Cum Laude), 1962
University of Chicago, 1962-1965
Awarded Master of Science Degree, 1963
Awarded Ph.D. in Mathematics, 1965

Scholarships and Fellowships:

Xavier University, 1959-1962
Honorary Woodrow Wilson Fellow, 1962-1963
National Science Foundation Fellow, 1962-1965

Positions:

Assistant Professor of Mathematics
Northwestern University, 1965-1969
Associate Professor of Mathematics
Washington University, 1969-1980
Professor of Mathematics
Washington University, 1980-present
Joint appointment, Division of Biostatistics,
Washington University School of Medicine, 1978-present

Consulting Experience:

Litton Industries (USACDCEC, Fort Ord, CA)
Price Waterhouse (Advanced Auditing Methods, NY)
Mallinckrodt, Inc.
St. Louis County Juvenile Court
Monsanto Company
American Red Cross
Carbolite Corporation
Regional Justice Information Service
Harris-Stowe State College
Equal Employment Opportunity Commission
American Optometric Association
Petrolite Corporation
U.S. Army Atmospheric Sciences Laboratory (White Sands, NM)
St. Louis County Water Company
Gateway Medical Research, Inc.
MasterCard
Missouri-American Water Company
Capital City Water Company
Kentucky-American Water Company
Tennessee-American Water Company
Anheuser-Busch, Inc.
Santa Clara County Mental Health Administration (San Jose, CA)

Publications:

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25. Tally of ASA classification responses. *Anesthesiology* **51**, 181 (1979). (With Owens and Felts)
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Run regressions by month: Chattanooga, AUG1992-JUL2002
Residential Model, JANUARY

The REG Procedure
Model: MODEL1
Dependent Variable: gallons

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	1	139.29503	139.29503	31.15	0.0005
Error	8	35.77453	4.47182		
Corrected Total	9	175.06956			

Root MSE 2.11467 R-Square 0.7957
Dependent Mean 149.74800 Adj R-Sq 0.7701
Coeff Var 1.41215

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > t
Intercept	1	159.49345	1.86980	85.30	<.0001
since_90	1	-1.29939	0.23282	-5.58	0.0005

Run regressions by month: Chattanooga, AUG1992-JUL2002
Residential Model, FEBRUARY

The REG Procedure
Model: MODEL1
Dependent Variable: gallons

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	1	478.34920	478.34920	10.32	0.0124
Error	8	370.87689	46.35961		
Corrected Total	9	849.22609			

Root MSE 6.80879 R-Square 0.5633
Dependent Mean 150.31100 Adj R-Sq 0.5087
Coeff Var 4.52980

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > t
Intercept	1	168.37055	6.02036	27.97	<.0001
since_90	1	-2.40794	0.74962	-3.21	0.0124

Run regressions by month: Chattanooga, AUG1992-JUL2002
Residential Model, MARCH

The REG Procedure
Model: MODEL1
Dependent Variable: gallons

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	1	334.49520	334.49520	15.13	0.0046
Error	8	176.86176	22.10772		
Corrected Total	9	511.35696			

Root MSE 4.70188 R-Square 0.6541
Dependent Mean 146.17200 Adj R-Sq 0.6109
Coeff Var 3.21668

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > t
Intercept	1	161.27382	4.15743	38.79	<.0001
since_90	1	-2.01358	0.51766	-3.89	0.0046

Run regressions by month: Chattanooga, AUG1992-JUL2002
Residential Model, APRIL

The REG Procedure
Model: MODEL1
Dependent Variable: gallons

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	1	280.21433	280.21433	40.51	0.0002
Error	8	55.33856	6.91732		
Corrected Total	9	335.55289			

Root MSE 2.63008 R-Square 0.8351
Dependent Mean 147.55900 Adj R-Sq 0.8145
Coeff Var 1.78239

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > t
Intercept	1	161.38127	2.32553	69.40	<.0001
since_90	1	-1.84297	0.28956	-6.36	0.0002

Run regressions by month: Chattanooga, AUG1992-JUL2002
Residential Model, MAY

The REG Procedure
Model: MODEL1
Dependent Variable: gallons

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	2	49.81158	24.90579	2.26	0.1752
Error	7	77.23362	11.03337		
Corrected Total	9	127.04520			

Root MSE 3.32165 R-Square 0.3921
Dependent Mean 155.34000 Adj R-Sq 0.2184
Coeff Var 2.13831

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > t
Intercept	1	161.22285	2.96139	54.44	<.0001
pds0	1	-0.82677	2.64962	-0.31	0.7641
since_90	1	-0.81315	0.39258	-2.07	0.0771

Run regressions by month: Chattanooga, AUG1992-JUL2002
Residential Model, JUNE

The REG Procedure
Model: MODEL1
Dependent Variable: gallons

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	2	18.55027	9.27514	0.28	0.7640
Error	7	232.04262	33.14895		
Corrected Total	9	250.59289			

Root MSE 5.75751 R-Square 0.0740
Dependent Mean 168.14100 Adj R-Sq -0.1905
Coeff Var 3.42422

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > t
Intercept	1	171.62882	5.11851	33.53	<.0001
pds0	1	0.36316	4.25631	0.09	0.9344
since_90	1	-0.45071	0.67739	-0.67	0.5271

Run regressions by month: Chattanooga, AUG1992-JUL2002
Residential Model, JULY

The REG Procedure
Model: MODEL1
Dependent Variable: gallons

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	2	280.27826	140.13913	2.00	0.2051
Error	7	489.55043	69.93578		
Corrected Total	9	769.82869			

Root MSE 8.36276 R-Square 0.3641
Dependent Mean 178.14900 Adj R-Sq 0.1824
Coeff Var 4.69425

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > t
Intercept	1	173.60567	7.88999	22.01	<.0001
pds0	1	-7.99598	4.00359	-2.00	0.0860
since_90	1	0.00448	0.92304	0.00	0.9963

Run regressions by month: Chattanooga, AUG1992-JUL2002
Residential Model, AUGUST

The REG Procedure
Model: MODEL1
Dependent Variable: gallons

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	2	336.02182	168.01091	3.04	0.1119
Error	7	386.30762	55.18680		
Corrected Total	9	722.32944			

Root MSE 7.42878 R-Square 0.4652
Dependent Mean 178.14600 Adj R-Sq 0.3124
Coeff Var 4.17005

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > t
Intercept	1	172.42406	6.17894	27.91	<.0001
pds0	1	-9.21893	3.73937	-2.47	0.0431
since_90	1	0.04350	0.81805	0.05	0.9591

Run regressions by month: Chattanooga, AUG1992-JUL2002
Residential Model, SEPTEMBER

The REG Procedure
Model: MODEL1
Dependent Variable: gallons

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	2	665.30587	332.65293	6.28	0.0274
Error	7	370.71089	52.95870		
Corrected Total	9	1036.01676			

Root MSE 7.27727 R-Square 0.6422
Dependent Mean 175.04200 Adj R-Sq 0.5399
Coeff Var 4.15744

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > t
Intercept	1	171.55010	5.70948	30.05	<.0001
pds0	1	-12.28981	3.48777	-3.52	0.0097
since_90	1	-0.50458	0.83361	-0.61	0.5641

Run regressions by month: Chattanooga, AUG1992-JUL2002
Residential Model, OCTOBER

The REG Procedure
Model: MODEL1
Dependent Variable: gallons

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	2	366.45373	183.22686	2.94	0.1185
Error	7	436.62447	62.37492		
Corrected Total	9	803.07820			

Root MSE 7.89778 R-Square 0.4563
Dependent Mean 167.01000 Adj R-Sq 0.3010
Coeff Var 4.72893

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > t
Intercept	1	166.29739	6.18627	26.88	<.0001
pds0	1	-7.25565	3.00993	-2.41	0.0467
since_90	1	-0.74542	0.95736	-0.78	0.4617

Run regressions by month: Chattanooga, AUG1992-JUL2002
Residential Model, NOVEMBER

The REG Procedure
Model: MODEL1
Dependent Variable: gallons

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	2	165.29319	82.64660	15.34	0.0028
Error	7	37.72165	5.38881		
Corrected Total	9	203.01484			

Root MSE 2.32138 R-Square 0.8142
Dependent Mean 158.22600 Adj R-Sq 0.7611
Coeff Var 1.46713

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > t
Intercept	1	157.91179	1.82018	86.76	<.0001
pds0	1	-4.65582	0.84542	-5.51	0.0009
since_90	1	-0.60491	0.29003	-2.09	0.0755

Run regressions by month: Chattanooga, AUG1992-JUL2002
Residential Model, DECEMBER

The REG Procedure
Model: MODEL1
Dependent Variable: gallons

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	2	7.31227	3.65613	0.64	0.5564
Error	7	40.10542	5.72935		
Corrected Total	9	47.41769			

Root MSE 2.39361 R-Square 0.1542
Dependent Mean 150.56900 Adj R-Sq -0.0874
Coeff Var 1.58971

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > t
Intercept	1	152.60924	1.97359	77.33	<.0001
pds0	1	-0.25706	1.07511	-0.24	0.8179
since_90	1	-0.33880	0.33085	-1.02	0.3399

Run regressions by month: Chattanooga, AUG1992-JUL2002
Commercial Model, MARCH

The REG Procedure
Model: MODEL1
Dependent Variable: gallons

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	1	18054	18054	31.75	0.0005
Error	8	4549.6382	568.70460		
Corrected Total	9	22604			

Root MSE 23.84753 R-Square 0.7987
Dependent Mean 1019.10800 Adj R-Sq 0.7736
Coeff Var 2.34004

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > t
Intercept	1	1130.05618	21.08610	53.59	<.0001
since_90	1	-14.79309	2.62553	-5.63	0.0005

Run regressions by month: Chattanooga, AUG1992-JUL2002
Commercial Model, APRIL

The REG Procedure
Model: MODEL1
Dependent Variable: gallons

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	1	11938	11938	50.53	0.0001
Error	8	1890.14137	236.26767		
Corrected Total	9	13828			

Root MSE 15.37100 R-Square 0.8633
Dependent Mean 1024.74500 Adj R-Sq 0.8462
Coeff Var 1.49998

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > t
Intercept	1	1114.96545	13.59111	82.04	<.0001
since_90	1	-12.02939	1.69229	-7.11	0.0001

Run regressions by month: Chattanooga, AUG1992-JUL2002
Commercial Model, JANUARY

The REG Procedure
Model: MODEL1
Dependent Variable: gallons

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	1	10148	10148	41.57	0.0002
Error	8	1953.18990	244.14874		
Corrected Total	9	12101			

Root MSE 15.62526 R-Square 0.8386
Dependent Mean 981.40300 Adj R-Sq 0.8184
Coeff Var 1.59213

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > t
Intercept	1	1064.58436	13.81593	77.05	<.0001
since_90	1	-11.09085	1.72028	-6.45	0.0002

Run regressions by month: Chattanooga, AUG1992-JUL2002
Commercial Model, FEBRUARY

The REG Procedure
Model: MODEL1
Dependent Variable: gallons

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	1	15060	15060	30.05	0.0006
Error	8	4009.19282	501.14910		
Corrected Total	9	19069			

Root MSE 22.38636 R-Square 0.7898
Dependent Mean 1011.75400 Adj R-Sq 0.7635
Coeff Var 2.21263

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > t
Intercept	1	1113.08582	19.79413	56.23	<.0001
since_90	1	-13.51091	2.46466	-5.48	0.0006

Run regressions by month: Chattanooga, AUG1992-JUL2002
Commercial Model, JULY

The REG Procedure
Model: MODEL1
Dependent Variable: gallons

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	2	20117	10058	4.68	0.0513
Error	7	15055	2150.70927		
Corrected Total	9	35172			

Root MSE 46.37574 R-Square 0.5720
Dependent Mean 1252.89300 Adj R-Sq 0.4497
Coeff Var 3.70149

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > t
Intercept	1	1286.76459	43.74842	29.41	<.0001
pds0	1	-54.01608	22.20194	-2.43	0.0452
since_90	1	-8.57822	5.11871	-1.68	0.1377

Run regressions by month: Chattanooga, AUG1992-JUL2002
Commercial Model, AUGUST

The REG Procedure
Model: MODEL1
Dependent Variable: gallons

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	2	38613	19307	3.71	0.0796
Error	7	36410	5201.45765		
Corrected Total	9	75023			

Root MSE 72.12113 R-Square 0.5147
Dependent Mean 1300.02500 Adj R-Sq 0.3760
Coeff Var 5.54767

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > t
Intercept	1	1362.36614	59.98728	22.71	<.0001
pds0	1	-68.85366	36.30306	-1.90	0.0997
since_90	1	-15.84074	7.94194	-1.99	0.0863

Run regressions by month: Chattanooga, AUG1992-JUL2002
Commercial Model, MAY

The REG Procedure
Model: MODEL1
Dependent Variable: gallons

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	2	6701.47957	3350.73979	8.04	0.0154
Error	7	2917.33563	416.76223		
Corrected Total	9	9618.81520			

Root MSE 20.41476 R-Square 0.6967
Dependent Mean 1076.87000 Adj R-Sq 0.6100
Coeff Var 1.89575

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > t
Intercept	1	1144.78250	18.20060	62.90	<.0001
pds0	1	-15.21445	16.28446	-0.93	0.3813
since_90	1	-9.58446	2.41277	-3.97	0.0054

Run regressions by month: Chattanooga, AUG1992-JUL2002
Commercial Model, JUNE

The REG Procedure
Model: MODEL1
Dependent Variable: gallons

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	2	7858.16605	3929.08303	3.28	0.0988
Error	7	8381.66036	1197.38005		
Corrected Total	9	16240			

Root MSE 34.60318 R-Square 0.4839
Dependent Mean 1150.36300 Adj R-Sq 0.3364
Coeff Var 3.00802

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > t
Intercept	1	1223.97848	30.76269	39.79	<.0001
pds0	1	-5.18583	25.58081	-0.20	0.8451
since_90	1	-10.02007	4.07121	-2.46	0.0434

Run regressions by month: Chattanooga, AUG1992-JUL2002
Commercial Model, SEPTEMBER

The REG Procedure
Model: MODEL1
Dependent Variable: gallons

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	2	37711	18856	6.25	0.0277
Error	7	21119	3017.06221		
Corrected Total	9	58831			

Root MSE 54.92779 R-Square 0.6410
Dependent Mean 1293.83000 Adj R-Sq 0.5384
Coeff Var 4.24536

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > t
Intercept	1	1342.70026	43.09435	31.16	<.0001
pds0	1	-84.22144	26.32521	-3.20	0.0151
since_90	1	-14.65789	6.29200	-2.33	0.0526

Run regressions by month: Chattanooga, AUG1992-JUL2002
Commercial Model, OCTOBER

The REG Procedure
Model: MODEL1
Dependent Variable: gallons

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	2	18548	9274.09779	5.19	0.0414
Error	7	12504	1786.34263		
Corrected Total	9	31053			

Root MSE 42.26515 R-Square 0.5973
Dependent Mean 1228.09000 Adj R-Sq 0.4823
Coeff Var 3.44153

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > t
Intercept	1	1272.72993	33.10598	38.44	<.0001
pds0	1	-47.34364	16.10770	-2.94	0.0217
since_90	1	-12.44695	5.12333	-2.43	0.0455

Run regressions by month: Chattanooga, AUG1992-JUL2002
Commercial Model, NOVEMBER

The REG Procedure
Model: MODEL1
Dependent Variable: gallons

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	2	6406.50274	3203.25137	4.61	0.0528
Error	7	4863.83562	694.83366		
Corrected Total	9	11270			

Root MSE 26.35970 R-Square 0.5684
Dependent Mean 1147.51200 Adj R-Sq 0.4451
Coeff Var 2.29712

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > t
Intercept	1	1192.56559	20.66847	57.70	<.0001
pds0	1	-19.67958	9.59991	-2.05	0.0795
since_90	1	-9.69252	3.29337	-2.94	0.0216

Run regressions by month: Chattanooga, AUG1992-JUL2002
Commercial Model, DECEMBER

The REG Procedure
Model: MODEL1
Dependent Variable: gallons

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	2	9640.31140	4820.15570	14.36	0.0033
Error	7	2350.04520	335.72074		
Corrected Total	9	11990			

Root MSE 18.32268 R-Square 0.8040
Dependent Mean 1053.21000 Adj R-Sq 0.7480
Coeff Var 1.73970

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > t
Intercept	1	1127.56786	15.10756	74.64	<.0001
pds0	1	-10.66691	8.22981	-1.30	0.2360
since_90	1	-12.47354	2.53260	-4.93	0.0017

Projections of Residential Water Utilization, Gallons per Day, Tennessee-American												
	Slope of	Slope of	30-yr Avg	Days								
Month	PDS0	SINCE_90	Intercept	PDS0		Gal/Day	Gal/Day	Gal/Day	Gal/Day	Gal/Day	Gal/Day	1997 (Check)
Jan	0	-1.29939	159.4935	-0.71567	31	142.60	141.30	140.00	138.70	138.70	150.40	150.40
Feb	0	-2.40794	168.3706	-0.85033	28	137.07	134.66	132.25	129.84	129.84	151.51	151.51
Mar	0	-2.01358	161.2738	-0.86533	31	135.10	133.08	131.07	129.06	129.06	147.18	147.18
Apr	0	-1.84297	161.3813	-0.78633	30	137.42	135.58	133.74	131.89	131.89	148.48	148.48
May	-0.82677	-0.81315	161.2229	-0.56033	31	151.12	150.30	149.49	148.68	148.68	155.99	155.99
Jun	0.36316	-0.45071	171.6288	-0.60367	30	165.55	165.10	164.65	164.20	164.20	168.25	168.25
Jul	-7.99598	0.00448	173.6057	-0.81833	31	180.21	180.21	180.22	180.22	180.22	180.18	180.18
Aug	-9.21893	0.04350	172.4241	-0.80333	31	180.40	180.44	180.48	180.53	180.53	180.13	180.13
Sep	-12.2898	-0.50458	171.5501	-0.66800	30	173.20	172.70	172.19	171.69	171.69	176.23	176.23
Oct	-7.25565	-0.74542	166.2974	-0.74800	31	162.03	161.29	160.54	159.80	159.80	166.51	166.51
Nov	-4.65582	-0.60491	157.9118	-0.73233	30	153.46	152.85	152.25	151.64	151.64	157.09	157.09
Dec	-0.25706	-0.33880	152.6092	-0.67500	31	148.38	148.04	147.70	147.36	147.36	150.41	150.41
			Annual projections:			155.68	154.72	153.87	152.97	152.97	161.09	161.09
TNAM2002.XLS												

Projections of Commercial Water Utilization, Gallons per Day, Tennessee-American												
	Slope of	Slope of	30-yr Avg	Days								
Month	PDS0	SINCE_90	Intercept	PDS0		Gal/Day	Gal/Day	Gal/Day	Gal/Day	Gal/Day	Gal/Day	(Check)
Jan	0	-11.0909	1064.584	-0.71567	31	920.40	909.31	898.22	887.13	887.13	986.95	
Feb	0	-13.5109	1113.086	-0.85033	28	937.44	923.93	910.42	896.91	896.91	1,018.51	
Mar	0	-14.7931	1130.056	-0.86533	31	937.75	922.95	908.16	893.37	893.37	1,026.50	
Apr	0	-12.0294	1114.965	-0.78633	30	958.58	946.55	934.52	922.50	922.50	1,030.76	
May	-15.2145	-9.5845	1144.783	-0.56033	31	1,028.71	1,019.13	1,009.54	999.96	999.96	1,086.22	
Jun	-5.1858	-10.0201	1223.978	-0.60367	30	1,096.85	1,086.83	1,076.81	1,066.79	1,066.79	1,156.97	
Jul	-54.0161	-8.5782	1286.765	-0.81833	31	1,219.45	1,210.87	1,202.29	1,193.72	1,193.72	1,270.92	
Aug	-68.8537	-15.8407	1362.366	-0.80333	31	1,211.75	1,195.91	1,180.07	1,164.23	1,164.23	1,306.79	
Sep	-84.2214	-14.6579	1342.700	-0.66800	30	1,208.41	1,193.75	1,179.09	1,164.43	1,164.43	1,296.35	
Oct	-47.3436	-12.4470	1272.730	-0.74800	31	1,146.33	1,133.89	1,121.44	1,108.99	1,108.99	1,221.01	
Nov	-19.6796	-9.6925	1192.566	-0.73233	30	1,080.97	1,071.28	1,061.59	1,051.90	1,051.90	1,139.13	
Dec	-10.6669	-12.4735	1127.568	-0.67500	31	972.61	960.14	947.66	935.19	935.19	1,047.45	
			Annual projections:			1,060.66	1,048.26	1,036.55	1,024.50	1,024.50	1,132.98	
TNAM2002.XLS												

1 **TENNESSEE-AMERICAN WATER COMPANY**
2 **CASE NO. 03 00/18**
3 **DIRECT TESTIMONY**
4 **Sheila A. Valentine**
5

6 **1. Q. WILL YOU PLEASE STATE YOUR NAME AND BUSINESS**
7 **ADDRESS FOR THE RECORD?**

8 **A. My name is Sheila A. Valentine and my business address is 1600**
9 **Pennsylvania Avenue, Charleston, WV 25327.**

10
11 **2. Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT**
12 **CAPACITY?**

13 **A. I am employed by American Water Works Service Company as a**
14 **Senior Financial Analyst.**

15
16 **3. Q. WHAT ARE YOUR RESPONSIBILITIES IN THIS POSITION?**

17 **A. My responsibilities include the preparation and presentation of**
18 **rate filings requested by five operating companies comprising the**
19 **Southeast Region of the American Water Works Service**
20 **Company. I am also responsible for various accounting duties**
21 **including budget preparation, account reconciliation, and**
22 **financial statement analysis.**

23
24 **4. Q. WOULD YOU PLEASE DESCRIBE YOUR EDUCATIONAL**
25 **BACKGROUND AND BUSINESS EXPERIENCE?**

26 **A. In 1983, I graduated Summa Cum Laude with a Bachelor of Arts**
27 **degree from Glenville State College with a major in Accounting**
28 **and Management, and a minor in Economics. In 1988, I received**
29 **my Certified Public Accountant (CPA) license.**

1
2 I assisted with the recent system-wide acquisition integration of
3 Citizens Water by serving on the Acquisition Team. I also
4 participated in the set up of the system-wide conversion process
5 for the Shared Services Center by assisting IS with reporting
6 processes.

7
8 I have worked with the American System for 18 years and began
9 my career in December 1984, as a Junior Accountant. In that
10 capacity I worked in the Construction Accounting Department for
11 American Water Works Service Company.

12
13 Throughout the years, I have moved through the ranks of the
14 financial side of the business from Accountant in 1985,
15 Construction Accounting Supervisor for the Southeast Region in
16 1988, Construction Accounting Superintendent for West Virginia
17 American Water Company in 1992, Assistant Director of
18 Accounting for West Virginia American in 1995, Director of
19 Accounting for West Virginia American in 1997, Director of
20 Accounting for the Southeast Region in 2000, and due to the
21 reorganization of the Shared Services Center, I was transferred to
22 Senior Financial Analyst for the Southeast Region in 2002. I have
23 vast accounting knowledge and expertise in the financial aspects
24 of the company. I have assisted with preparing data for the
25 recent Virginia American rate case and have also prepared
26 schedules for various data requests.
27

1 **5. Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS**
2 **CASE?**

3 **A. My testimony will 1) sponsor the Company's Accounting Exhibits**
4 **Nos. 1, 2, 3, and 4 which support the proposed revenue increase of**
5 **\$3,866,813, and 2) support the Company's attrition year level of**
6 **Fuel and Power, Chemicals, Waste Disposal, Regulatory Expense,**
7 **Insurance Other than Group, Uncollectible Expense, Rents,**
8 **General Office Expense, Miscellaneous Expense, Other**
9 **Maintenance Expense AFUDC, and General Taxes.**

10
11 **6. Q. WHAT IS THE TEST PERIOD REFLECTED IN THIS CASE?**

12 **A. The Company has used a historical test period of twelve months**
13 **ending July 31, 2002. The Company has adjusted the test period**
14 **for two levels of adjustments. The first adjustment normalizes the**
15 **test year. The second level adjusts the normalized year to arrive**
16 **at the attrition year which is the twelve months ended March 31,**
17 **2004.**

18
19 **7. Q. MS. VALENTINE, ARE THERE ANY EXHIBITS YOU WISH**
20 **TO SPONSOR BEFORE YOU CONTINUE?**

21 **A. Yes, I would like to give a brief description of the accounting**
22 **schedules which detail and support the rate base, revenues,**
23 **expenses, capitalization and bill analysis for the test year and**
24 **attrition year.**

25
26 **Exhibit 1** **is a financial summary of the filing which details how**
27 **the Company arrived at the amount of the requested revenue**
28 **increase. There is also a rate base summary for the test year and**
29 **attrition year with supporting schedules.**

1 **Exhibit 2** is an operating income summary for the test year and
2 attrition year with supporting schedules broken down by major
3 account group.
4

5 **Exhibit 3** provides a cost of capital summary for the attrition year
6 and supporting schedules which provide detail on each component
7 of the capital structure.
8

9 **Exhibit 4** provides a bill analysis for the attrition year at both
10 present and proposed rates.
11
12

13 8. Q. WHAT IS THE BASIS UPON WHICH FUEL AND POWER
14 COST WAS CALCULATED FOR THIS RATE ADJUSTMENT?

15 A. The basis for fuel and power is based upon expected water
16 pumped to the system during the attrition year (system delivery),
17 and its cost to pump and treat. Attrition year water sales, non-
18 revenue usage water (which is water used for system flushing,
19 street cleaning, sewer flushing, etc.) and an estimated
20 unaccounted for water is combined to arrive at system delivery.
21 Fuel and power is based on KWH's per million gallons system
22 delivery.
23

24 Fuel and power costs are based on estimated KWH usage and
25 KWD required to produce the projected system delivery for the
26 attrition year. KWH's per thousand gallons is used to calculate
27 energy charges. The KWH's per thousand gallons required is
28 based on the latest 12 months actual, with adjustments for any
29 known changes that will affect KWH usage. Both KWH and
30 KWD usage is priced at the rates currently being charged by the
31 Chattanooga Electric Power Board. The total attrition year fuel

1 and power expense is \$ 1,551,622 which represents an increase of
2 \$ 45,943 over the test year expense due to an increase in overall
3 system delivery.
4

5 9. Q. WHAT IS THE BASIS FOR THE CHEMICAL COSTS?

6 A. Chemical costs are based upon expected water pumped to the
7 system (system delivery) for the attrition year and the cost to treat
8 that water. Attrition year water sales, non-revenue usage (used
9 for street cleaning, sewer flushing, etc.) and an estimated
10 unaccounted for water is combined to arrive at system delivery.
11 System delivery, plus water used at the treatment plant, is
12 combined to produce total treatment rate. The total attrition year
13 chemical expense is \$740,531 which is an increase of \$16,994 over
14 the test year expense due to the increase in system delivery.
15

16 10. Q. WHAT IS THE BASIS FOR THE COST OF WASTE
17 DISPOSAL?

18 A. Waste disposal is based upon the 2003 budget. This amount is less
19 than that during the test year due to a reduction in the amount
20 estimated for the Industrial User Surcharge.
21

22 11. Q. MS. VALENTINE, YOU LISTED A NUMBER OF OTHER
23 EXPENSE CATEGORIES THAT YOU WILL BE
24 SUPPORTING, WOULD YOU PLEASE DISCUSS EACH ONE?

25 A. Yes. Each of the following expense categories were reviewed for
26 the test year and adjusted to reflect a normalized test year and
27 further adjusted to an appropriate level of expense for the

1 attrition year. Some of the expense categories were adjusted for
2 an inflation factor of 3.275%.

3
4 **12. Q. HOW DID YOU ARRIVE AT THE 3.275% INFLATION**
5 **FACTOR?**

6 **A. I used the Value Line Forecast for the US Economy Gross**
7 **Domestic Product estimated inflation rate. For the attrition year,**
8 **I used 9/12 of the 2003 rate of 3.2 % and the 3/12 of the 2004 rate**
9 **of 3.5% to arrive at the 3.275%.**

10
11 **REGULATORY EXPENSE**

12 The company has estimated the cost of the preparation and
13 presentation of this current filing to be \$225,000. The Company is
14 proposing to amortize these costs over a three year period
15 resulting in an annual cost of \$75,000. Also, included in the
16 attrition year cost is the Cost of Service Study Expense in the
17 amount of \$40,000 which the company is proposing an
18 amortization period of five years resulting in an annual cost of
19 \$8,000. Total attrition year expense is \$83,000.

20
21 **INSURANCE OTHER THAN GROUP**

22 The Company's proposed level for this expense for the attrition
23 year is \$709,686 and is based on the Company's 2003 budget.
24 This expense category includes costs for general liability, workers
25 compensation, and property insurance.

26
27 **CUSTOMER ACCOUNTING EXPENSE**

28 Customer accounting expense for the test year was \$435,427
29 (including an adjustment for customer billing). The Company
30 applied the inflation factor of 3.275% to these expenses, excluding
31 uncollectibles and postage to arrive at an increase of \$6,632. A
32 reduction of \$34,976 was the result of the relocation of the
33 Customer Call Center. In addition, a reduction of \$14,693 was
34 due to IS Billing costs being moved to Management Fees. As a
35 result, the net affect of the customer accounting expense for the
36 attrition year is a decrease of \$22,457.

1 This category includes costs associated with the customer billing
2 and collecting function. It includes costs for office supplies, report
3 forms, computer supplies, postage, collection agency fees, lock box
4 expenses, janitorial service, telephone expense, and other
5 miscellaneous customer accounting expense.
6

7 UNCOLLECTIBLE EXPENSE

8 The uncollectible percentage of .91% was derived by taking the
9 net charge offs, less recoveries as a percentage of total revenues
10 for the test year. The attrition year uncollectible expense is
11 \$280,645.
12

13 RENTS

14 Rent expense for the test year was \$28,642. The Company is
15 proposing an increase to rent expense due to a new 2 way radio
16 lease resulting in an attrition year expense of \$42,729. This
17 category includes the costs associated with the renting of mobile
18 radios, postage equipment, copiers, and land.
19

20 GENERAL OFFICE EXPENSE

21 General office expense for the test year was \$255,122. The
22 Company made an adjustment to eliminate various social club
23 and country club expenses as a result of the Compliance Audit
24 dated September 18, 1996. The inflation factor of 3.275% was
25 applied to the remaining expenses (excluding postage) to arrive at
26 an attrition year expense of \$260,878. This expense category
27 includes costs associated with the general expenses for the offices.
28 These include report forms, office supplies, computer supplies,
29 overnight mail expenses, janitorial services, telephone expense,
30 electrical expense, employee expenses, credit line fees, bank
31 service charges, and other miscellaneous general office expenses.
32

33 MISCELLANEOUS EXPENSE

34 Miscellaneous expense for the test year totaled \$1,538,255. The
35 Company is proposing six adjustments to this category. The first
36 adjustment reflects the inflation factor adjustment of 3.275%.
37 This results in an increase of \$43,528. The Company did not
38 apply the inflation factor to the Employee Stock Option Plan
39 (ESOP) expense or the 401K expense.
40
41

1 The second adjustment applies to the ESOP and 401K expense.
2 The net result of this adjustment is (\$1,548) which was based upon
3 the reduction in overall associates due to the relocation of the call
4 center.

5
6 The third adjustment eliminated the cost of temporary employees
7 and normalized the test year. This resulted in a decrease of
8 \$51,057. Adjustments were also made to transfer lobbying
9 expenses and club dues to below the line per the Compliance
10 Audit dated September 18, 1996.

11
12 The fourth adjustment includes security costs calculated at
13 \$12,960 per month and the related amortization of the current
14 deferred security costs. The Company is proposing a three year
15 amortization of the deferred security costs. The fifth adjustment
16 is the amortization of the transition costs for the Shared Services
17 Center and the Customer Call Center. The Company is proposing
18 a ten year amortization period resulting in an annual
19 amortization amount of \$64,600 for the Shared Services Center
20 and \$48,200 for the Customer Call Center.

21
22 The sixth adjustment includes transferring \$63,640 in lab costs
23 and research and development costs to Management Fees.

24
25 The proposed miscellaneous expense for the attrition year is
26 \$1,820,924 which includes adjustments totaling \$282,669.

27
28 **MAINTENANCE EXPENSE**

29 Maintenance expense for the test year was \$639,533. One
30 adjustment was made to annualize street opening costs to arrive
31 at a normalized test year amount of \$678,112. The company is
32 proposing to increase this total by \$22,208 to reflect the inflation
33 factor to arrive at an attrition year balance of \$700,320.

34
35 This expense category includes costs associated with maintaining
36 the property of the Company. This would include repair parts,
37 tools, maintenance supplies, contracted services, paving,
38 maintenance agreements, and other miscellaneous maintenance
39 expenses.

40
41 **AFUDC**

1 The Company's proposed amount for AFUDC is \$51,739 and is
2 based upon the 2003 budget. This adjustment was made to reflect
3 the AFUDC as an above the line item for ratemaking purposes.

4
5 **TAXES OTHER THAN INCOME**
6 **PROPERTY TAXES**

7
8 Property taxes for the test year were \$2,527,771. An additional
9 amount was accrued during the last quarter of the test year to
10 true-up the prior years' actual payment. This resulted in a
11 normalized adjustment of (\$65,206). The attrition year
12 adjustment of \$198,092 reflects the increase in the appraised value
13 of the Company property through the attrition year.

14
15 **GROSS RECEIPTS TAXES**

16 Gross receipts tax was calculated based on projected
17 jurisdictional revenues for Tennessee including Other Operating
18 revenues. The result was reduced by Vendor's Compensation,
19 Franchise Tax, Excise Tax, a \$5,000 exemption, and multiplied by
20 the 3% tax rate.

21
22 **PSC FEES**

23 The PSC Inspection Fee was based on projected 2002
24 jurisdictional revenues. This was reduced by uncollectibles and a
25 \$5,000 exemption to arrive at taxable revenues. The result is
26 multiplied by the Tennessee statutory rates that were taken from
27 the 2001 return.

28
29 **FRANCHISE TAX**

30 Franchise tax, as imposed by the state of Tennessee, applies to the
31 company's apportioned net worth or value of property owned and
32 used in Tennessee, whichever is greater, as shown at the close of
33 the corporation's fiscal year. The Franchise Tax is paid in
34 arrears and is based on the previous years original cost of assets.
35 For this filing, we utilized the balances as of July 31, 2002 as a
36 basis for the tax and multiplied it by the statutory rate of \$.25 per
37 \$100.
38

39 13. Q. DOES THIS CONCLUDE YOUR TESTIMONY?

40 A. Yes.

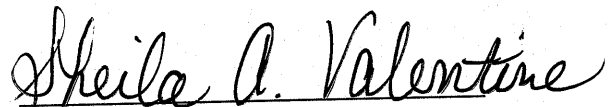
TENNESSEE REGULATORY AUTHORITY

STATE OF WEST VIRGINIA

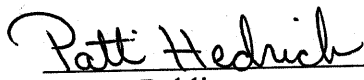
COUNTY OF KANAWHA

BEFORE ME, the undersigned authority, duly commissioned and qualified in and for the State and County aforesaid, personally came and appeared Sheila A. Valentine, being by me first duly sworn deposed and said that:

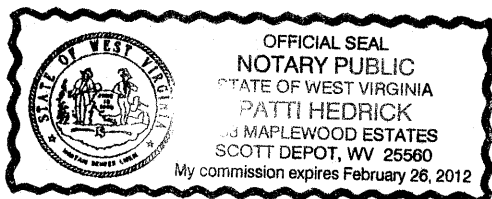
He is appearing as a witness on behalf of Tennessee-American Water Company before the Tennessee Regulatory Authority, and if present before the Authority and duly sworn, his testimony would set forth in the annexed transcript consisting of 9 pages.


Sheila A. Valentine

Sworn to and subscribed before me
this 3rd day of February 2003.


Notary Public

My commission expires February 26, 2012



Overall Financial Summary

Line No.	Description	Reference to Supporting Exhibit	Proposed Test Year
1	Rate Base	Exhibit 1, Schedule 2	\$87,270,579
2	Operating Income at Attrition Year Present Rates	Exhibit 2, Schedule 1	5,193,431
3	Earned Rate of Return		5.950%
4	Rate of Return	Exhibit 3, Schedule 1	8.559%
5	Required Operating Income		7,469,489
6	Operating Income Deficiency		2,276,058
7	Gross Revenue Deficiency Factor		1.69890763
8	Revenue Deficiency		3,866,813
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Computation of Attrition Year Rate Base

Test Year: Twelve Months Ended: July 31, 2002
Sheila A. Valentine Exhibit No. 1, Schedule 2
Page 1 of 3

Line No.	Additions	Footnote Reference	Per Books Rate Base @ 7/31/2002	Adjustments	Rate Base at Mid-Point of Attrition Year
1	Utility Plant in Service (UPIS)	(1)	\$140,498,698	\$5,736,077	\$146,234,775
2	Construction Work in Progress	(2)	3,135,962	(2,334,303)	801,659
3	Utility Plant Capital Lease		1,590,500		1,590,500
4	Deferred Maintenance		16,921	(4,645)	12,276
5	Limited-Term Utility Plant - Net	(3)	(20,953)	0	(20,953)
6	Working Capital		1,567,918	0	1,567,918
7	Total Additions		146,789,046	3,397,129	150,186,175
8	Deductions				
9	Accumulated Provision for Depreciation UPIS	(4)	40,313,901	3,908,014	44,221,915
10	RWIP		(64,899)	0	(64,899)
11	Accumulated Amortization of Utility Plant Capital Lease	(5)	441,806	123,706	565,511
12	Deferred Income Taxes	(6)	10,377,120	693,373	11,070,493
13	Customer Advances for Construction	(7)	2,641,227	(633,789)	2,007,438
14	Contributions in Aid of Construction	(8)	4,818,360	245,885	5,064,245
15	Unamortized Investment Tax Credit	(9)	54,505	(3,612)	50,893
16	Utility Plant Acquisition Adjustment	(10)	0	0	0
17	Total Deductions		58,582,018	4,333,577	62,915,595
18	Rate Base		88,207,027	(936,448)	87,270,579

Attrition Year Rate Base
 Footnotes

Test Year: Twelve Months Ended: July 31, 2002
 Sheila A. Valentine Exhibit No. 1, Schedule 2
 Page 2 of 3

Line No.	FOOTNOTE REFERENCE	DESCRIPTION	AMOUNT
1			
2			
3			
4			
5			
6			
7			
8	(1)	Net Additions to UPIS through September 30, 2003	\$5,736,077
9	(2)	Adjustment to CWIP through September 30, 2003	(2,334,303)
10	(3)	Adjustment to Deferred Maintenance	(4,645)
11	(4)	Adjustment to Limited - Term Utility Plant - Net	0
12	(5)	Adjustment to Accumulated Provision for Depreciation of UPIS	3,908,014
13	(6)	Adjustment to Accumulated Amortization of Utility Plant - Capital Lease	123,706
14	(7)	Adjustment to Deferred Income Taxes	693,373
15	(8)	Change in Customer Advances	(633,789)
16	(9)	Change in Contributions in Aid of Construction	245,885
17	(10)	Change in Unamortized Investment Tax Credit	(3,612)
18	(11)	Adjustment to Utility Plant Acquisition Adjustment	0
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Tennessee Public Service Commission
 Company: Tennessee-American Water Company
 Case No: Net Additions to Utility Plant in Service
 From End of Test Year to Mid-Point of Attrition Year

Line No.	Account Number	Account Description	8/1/2002 to 12/31/2002 Additions	1/1/2003 to 9/30/2003 Additions	8/1/2002 to 12/31/2002 Retirements	1/1/2003 to 9/30/2003 Retirements	Net Additions to Utility Plant in Service 8/1/02-9/30/03
1	301.00	Organization	\$0	\$0	\$0	\$0	\$0
2	303.00	Land & Land Rights	\$0	\$0	\$0	\$0	\$0
3	303.99	Comprehensive Planning Study	\$0	\$0	\$0	\$0	\$0
4	304.22	Pumping Structures	\$0	\$0	\$0	\$0	\$0
5	304.31	Water Treatment Structures	\$0	\$0	\$0	\$0	\$0
6	304.32	Water Treatment Structures-Painting	\$0	\$0	\$0	\$0	\$0
7	304.40	T & D Structures	\$0	\$0	\$0	\$0	\$0
8	304.51	Office Structures	\$0	\$0	\$0	\$0	\$0
9	304.52	Stores, Shop, & Garage Structures	\$0	\$0	\$0	\$0	\$0
10	304.53	Miscellaneous Structures	\$0	\$0	\$0	\$0	\$0
11	306.20	Lakes, Rivers, & Other Intakes	\$0	\$0	\$0	\$0	\$0
12	310.20	Power Generation Equipment	\$0	\$0	\$0	\$0	\$0
13	311.22	Electric Pumping Equipment	\$0	\$0	\$0	\$0	\$0
14	311.23	Deisel Pumping Equipment	\$0	\$0	\$0	\$0	\$0
15	311.27	Other Pumping Equipment	\$27,148	\$0	\$0	\$0	\$27,148
16	320.31	Water Treatment Equipment	\$0	\$0	\$0	\$0	\$0
17	320.32	Granular Activated Carbon	\$0	\$0	\$0	\$0	\$0
18	320.33	T & D Reservoirs & Standpipes	\$320	\$720	\$0	\$0	\$1,040
19	330.41	Elevated Tanks & Standpipes-Painting	\$569,654	\$0	\$0	\$0	\$569,654
20	330.42	T & D Mains not Classified	\$282,995	\$936,526	\$0	\$0	\$1,046,521
21	331.40	T & D Mains - Mains (4" or less)	\$0	\$0	\$114,000	\$0	\$0
22	331.41	T & D Mains - Mains (6" - 8")	\$0	\$0	\$0	\$0	\$0
23	331.42	T & D Mains - Mains (10" - 16")	\$408,010	\$0	\$0	\$0	\$408,010
24	331.43	T & D Mains - Mains (12" or More)	\$0	\$0	\$0	\$0	\$0
25	331.44	Services	\$4,212	\$531,000	\$0	\$0	\$535,212
26	331.45	Meters	\$261,454	\$341,700	\$100,000	\$0	\$435,212
27	333.40	Meters - Metal Case/Old Style	\$0	\$0	\$0	\$0	\$0
28	334.42	Meters - Plastic Case	\$0	\$0	\$0	\$0	\$0
29	334.43	Meters - Metal Case/New Style	\$0	\$0	\$0	\$0	\$0
30	334.44	Meter Installations	\$21,800	\$29,300	\$0	\$0	\$51,100
31	334.45	Hydrants	\$248,621	\$278,500	\$37,300	\$0	\$489,821
32	335.40	Other P/E SS	\$4,765	\$71,600	\$25,000	\$0	\$52,365
33	339.00	Office Furniture	\$0	\$0	\$0	\$0	\$0
34	340.51	Computer & Peripheral Equipment	\$0	\$0	\$0	\$0	\$0
35	340.53	Computer & Periph Personal	\$0	\$0	\$0	\$0	\$0
36	340.56	Computer & Periph Other	\$0	\$0	\$0	\$0	\$0
37	340.57	Computer Software	\$0	\$0	\$0	\$0	\$0
38	340.58	Computer Software Personal	\$0	\$0	\$0	\$0	\$0
39	340.59	Computer Software Other	\$0	\$0	\$0	\$0	\$0
40	340.54	Other Office Equipment	\$0	\$0	\$0	\$0	\$0
41	341.52	Light Trucks	\$0	\$0	\$0	\$0	\$0
42	341.53	Heavy Trucks	\$0	\$21,000	\$0	\$0	\$21,000
43	341.54	Automobiles	\$0	\$0	\$0	\$0	\$0
44	341.55	Transportation-Other	\$0	\$0	\$0	\$0	\$0
45	342.50	Stores Equipment	\$0	\$0	\$0	\$0	\$0
46	343.50	Tools, Shop, & Garage Equipment	\$0	\$0	\$0	\$0	\$0
47	344.50	Laboratory Equipment	\$0	\$40,500	\$0	\$0	\$40,500
48	345.50	Power Operated Equipment	\$0	\$0	\$0	\$0	\$0
49	346.51	Communication Equipment	\$0	\$0	\$0	\$0	\$0
50	346.53	Communication Equipment-Telephone	\$0	\$0	\$4,000	\$0	(\$4,000)
51	347.51	Miscellaneous Equipment	\$0	\$0	\$0	\$0	\$0
52		Total Plant in Service	1,828,979	4,401,315	207,517	286,700	\$21,500
53							5,736,077

Computation of Working Capital

Line No.	Item	Amount
1	Average Cash	366,929
2	Prepaid Insurance	92,558
3	Prepaid Taxes	234,228
4	Materials & Supplies	346,535
5	Deferred Regulatory Expenses	223,500
6	Unamortized Debt Expense	238,260
7	Other Deferred Debits	1,521,988
8	Lead - Lag Study	525,000
9	Total	3,548,998
10	Less:	
11	Customer Deposits	0
12	Incidental Collections	1,981,081
13	Total	1,981,081
14	Working Capital Requirement	1,567,918

Computation of Working Capital
 Lead/Lag Study

Test Year: Twelve Months Ended: July 31, 2002
 Sheila A. Valentine Exhibit No. 1, Schedule 3
 Page 2 of 6

Line No.	Description	Days	Amount
1			
2			
3			
4	Net Operating Funds		30,485,321
5			
6	Average Daily Operating Funds		83,521
7			
8	Composite Average Days Interval Between:		
9			
10			
11	(A) Date Service Furnished and Date Collections Deposited	42.07	
12			
13	(B) Date Expenses Incurred and Date of Payment	35.79	
14			
15	(C) Net Interval	6.28	
16			
17	Operating Funds Advanced		524,512
18			
19	Lead/Lag Study Capital		524,512
20			
21	Use		525,000
22			
23			
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Composite Average Days Interval between Date Expenses
are Incurred and Date of Payment

Test Year: Twelve Months Ended: July 31, 2002
Sheila A. Valentine Exhibit No. 1, Schedule 3
Page 3 of 6

Line No.	Description	Amount	Post Payment or (Lead) Days	Dollar Days
1	Payrolls Charged to Expense - Hourly	3,107,510	5.50	17,091,305
2	Payrolls Charged to Expense - Salary	1,871,463	14.02	26,237,915
3	Fuel and Power	1,551,622	50.65	78,589,653
4	Chemicals	740,531	28.27	20,934,819
5	Waste Disposal	179,951	31.23	5,619,870
6	AWWS Charges	2,507,276	(4.46)	(11,182,451)
7	Group Insurance	862,753	(1.31)	(1,130,207)
8	Pensions	387,895	0.00	0
9	Insurance Other than Group	709,686	(21.72)	(15,414,380)
10	Rents	28,624	9.24	264,466
11	Telephone Expense	153,334	(2.73)	(418,602)
12	Postage Expense	265,193	24.77	6,568,832
13	Amortizations	0	0.00	0
14	Stock E	51,951	23.77	1,234,875
15				
16				
17				
18				
19				
20	Other Operating and Maintenance Expenses	3,694,518	20.51	75,774,559
21	Total O & M Expenses	16,112,307		
22				
23	Depreciation and Amortization	4,121,753	0.00	0
24	Taxes, Other than Income			
25	Payroll	457,400	10.61	4,853,016
26	Other	3,276,201	174.52	571,762,599
27	FIT-Current	194,667	37.00	7,202,679
28	SIT-Current	37,341	58.63	2,189,303
29	Deferred Taxes	1,092,221	0.00	0
30	Interest Expense	3,347,700	87.97	294,497,169
31	Preferred Dividends	72,295	89.48	6,468,957
32	Net Earnings	1,773,436	0.00	0
33	Net Operating Funds	30,485,321		1,091,144,397
34				
35				
36				
37	Average Days Interval between Date Expenses are Incurred and Date of Payment		35.79	
38				
39				
40				
41				
42				
43				
44				
45				

Average Days Interval between Number of Days
 From Date Services are Furnished to Date Collections are Received

Line No.	Revenues Amount	Median Service Days	Dollar Days
1			
2			
3			
4			
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45			
	Revenues less private fire		
	28,062,480	15.21	427,134,524
	Private Fire billed in advance	(45.63)	(47,847,435)
	Total		<u>379,287,089</u>

Average Median Service Days

Number of Days between the Reading Date and
 the Date the Bills are Mailed

13.02

Number of Days between the Reading Date and
 the Date the Bills are Mailed

4.62

Total Average Days' Interval between Number of
 Days from Date Services are Furnished to
 Date Collections are Received

24.43

42.07

Notes: private fire Quarterly is billed in advance
 All monthly customers are billed in arrears

Computation of Average Materials & Supplies Paid

Line No.	Date	Amount
1	Jul-01	440,599
2	Aug-01	494,423
3	Sep-01	469,586
4	Oct-01	389,330
5	Nov-01	339,416
6	Dec-01	389,297
7	Jan-02	405,581
8	Feb-02	412,027
9	Mar-02	361,829
10	Apr-02	358,597
11	May-02	368,397
12	Jun-02	362,666
13	Jul-02	364,209
14	Total	5,155,957
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19		
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Average Balance 396,612

Computation of Average Materials and Supplies Unpaid

Line No.	End of Month	
	Date	Amount
1	Jul-01	49,999
2	Aug-01	51,015
3	Sep-01	80,838
4	Oct-01	52,586
5	Nov-01	18,040
6	Dec-01	38,256
7	Jan-02	66,200
8	Feb-02	42,800
9	Mar-02	72,819
10	Apr-02	37,813
11	May-02	44,500
12	Jun-02	41,302
13	Jul-02	54,837
14	Total	651,005
15	Average Balance	50,077

**Tennessee Public Service Commission
Company: Tennessee-American Water Company
Case No:**

Test Year: Twelve Months Ended: July 31, 2002
Sheila A. Valentine Exhibit No. 2, Schedule 1
Page 1 of 1

Line No.	Description	Adjustment Shown on Schedule No.	Per Books 12 Months Ended 7/31/2002	Test Year Adjustments Present Rates	Normalized Test Year	Attrition Year at Adjustments	Attrition Year at Present Rates	Adjustments for Proposed Rates	Attrition Year at Proposed Rates
2	Operating Revenues		\$29,897,941	\$318,894	\$30,216,635	\$192,721	\$30,409,356	\$3,866,813	\$34,276,169
3	Operation and Maintenance Expenses								
4	Depreciation and Amortization		14,198,447	833,044	15,031,491	1,080,817	16,112,307	35,188	16,147,495
5	Taxes, Other than Income		3,670,538	19,624	3,690,162	431,591	4,121,753	0	4,121,753
6	Income Taxes		3,622,770	(47,436)	3,575,334	82,302	3,657,636	106,489	3,764,125
7			2,150,940	(217,338)	1,933,602	(609,373)	1,324,229	1,449,079	2,773,308
8	Total Operating Expenses								
9			23,642,695	587,894	24,230,589	985,337	25,215,925	1,590,756	26,806,681
10	Utility Operating Income								
11			6,255,246	(269,200)	5,986,046	(792,616)	5,193,431	2,276,057	7,469,488
12	Other Income								
13	AFUDC								
14	Income from M & J and Contract Work		114,892	(114,892)	0	0	0	0	0
15	Interest Income		7,728	(7,728)	0	0	0	0	0
16	Gain/Loss on Sale of Property		2,218	(2,218)	0	0	0	0	0
17			0	0	0	0	0	0	0
18	Total Other Income								
19			124,838	(124,838)	0	0	0	0	0
20	Other Deductions								
21	Miscellaneous Amortization								
22	Miscellaneous Other Deductions		0	0	0	0	0	0	0
23			104,055	(104,055)	0	0	0	0	0
24	Total Other Deductions								
25			104,055	(104,055)	0	0	0	0	0
26	Taxes Applicable to Other Income and Deductions								
27	General Taxes		0	0	0	0	0	0	0
28	State Income Taxes		(40)	40	0	0	0	0	0
29	Federal Income Taxes		(532)	532	0	0	0	0	0
30									
31	Total Taxes Applicable to Other Income and Deductions								
32			(572)	572	0	0	0	0	0
33	Income before Interest Charges								
34			6,276,601	(290,555)	5,986,046	(792,616)	5,193,431	2,276,057	7,469,488
35	Interest Charges								
36	Interest on Long-Term Debt		3,012,468	147,600	3,160,068	0	3,160,068	0	3,160,068
37	Interest on Long-Term Capital Lease		142,283	(142,283)	0	0	0	0	0
38	Amortization of Debt and Discount Expense		38,639	(38,639)	0	0	0	0	0
39	Interest on Short-Term Debt		139,804	47,828	187,632	0	187,632	0	187,632
40	Other Interest		14,925	(14,925)	0	0	0	0	0
41	Allowance for Borrowed Funds Used During Construction		(68,836)	68,836	0	0	0	0	0
42	Total Interest Charges								
43			3,279,283	68,417	3,347,700	0	3,347,700	0	3,347,700
44	Net Income								
45			2,997,318	(358,972)	2,638,346	(792,616)	1,845,731	2,276,057	4,121,788

Operating Revenues Per Books for the Test Year and
 for the Attrition Year under both Present and Proposed Rates

Test Year: Twelve Months Ended: July 31, 2002
 Sheila A. Valentine Exhibit No. 2, Schedule 2
 Page 1 of 1

Line No.	Description	Per Books 12 Months Ended 7/31/2002	Test Year Adjustments Present Rates	Normalized Test Year	Attrition Year Adjustments	Attrition Year at Present Rates	Adjustments for Proposed Rates	Attrition Year at Proposed Rates
1	Sales of Water							
2								
3	Metered Sales to General Customers							
4								
5	Residential							
6								
7	Commercial							
8								
9	Industrial							
10								
11	Other Public Authorities							
12								
13	Sales for Resale							
14								
15	Private Fire Service							
16								
17	Public Fire Service							
18								
19	Total Sales of Water							
20								
21								
22	Other Operating Revenues							
23								
24	Activity / New Service Fees							
25								
26	Late Payment Penalty							
27								
28	Rents from Water Property							
29								
30	Sewer Billing Revenues							
31								
32	Miscellaneous							
33								
34	Reconnection Fee							
35								
36	Total Other Operating Revenues							
37								
38								
39	Total Operating Revenues							
40								
41								
42								
43								
44								
45								

Summary of Adjustments to Operation and Maintenance Expenses

Tennessee Public Service Commission
 Company: Tennessee-American Water Company
 Case No:

Line No.	Adjustment Number	Description	Per Books 12 Months Ended 7/31/2002	Test Year Adjustments Present Rates	Normalized Test Year	Attrition Year Adjustments	Attrition Year at Present Rates	Adjustments for Proposed Rates	Attrition Year at Proposed Rates
1	1	Operation and Maintenance Labor	\$5,158,292	\$206,654	\$5,364,946	(\$298,280)	\$5,066,666	\$0	\$5,066,666
2	2	Purchased Water	\$17,561	0	17,561	0	17,561	0	17,561
3	3	Fuel and Power	\$1,505,679	42,665	1,548,344	3,278	1,551,622	0	1,551,622
4	4	Chemicals	\$723,537	14,887	738,424	2,107	740,531	0	740,531
5	5	Waste Disposal	\$179,951	(49,800)	130,151	0	130,151	0	130,151
6	6	Management Fees	\$1,497,568	0	1,497,568	1,009,708	2,507,276	0	2,507,276
7	7	Group Insurance	\$1,274,028	288,900	1,542,928	(79,004)	1,463,924	0	1,463,924
8	8	Pensions	\$44,557	416,073	460,630	(72,735)	387,895	0	387,895
9	9	Regulatory Expense	\$0	0	0	83,000	83,000	0	83,000
10	10	Insurance Other than Group	\$636,983	0	636,983	72,703	709,686	0	709,686
11	11	Customer Accounting	\$457,884	5,887	463,771	(28,344)	435,427	0	435,427
12	12	Uncollectible Expense	\$240,873	2,853	243,726	1,730	245,456	35,188	280,644
13	13	Rentals	\$28,624	14,105	42,729	0	42,729	0	42,729
14	14	General Office Expense	\$255,122	(6,283)	248,839	12,039	260,878	0	260,878
15	15	Miscellaneous Expense	\$1,538,255	(69,738)	1,468,517	352,407	1,820,924	0	1,820,924
16	16	Other Maintenance Expense	\$639,533	38,579	678,112	22,208	700,320	0	700,320
17	17	Interest on Customer Deposits	0	0	0	0	0	0	0
18	18	AFUDC		(51,739)	(51,739)	0	(51,739)	0	(51,739)

Total Operation and Maintenance Expenses

14,198,447	833,044	15,031,491	1,080,817	16,112,307	35,188	16,147,495
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Summary of Adjustments to Depreciation and Amortization Expenses

Tennessee Public Service Commission
 Company: Tennessee-American Water Company
 Case No:

Line No.	Adjustment Number Reference	Description	Per Books 12 Months Ended 7/31/2002	Test Year Adjustments Present Rates	Normalized Test Year	Attrition Year Adjustments	Attrition Year at Present Rates	Adjustments for Proposed Rates	Attrition Year at Proposed Rates
1	1	Depreciation Expense	\$3,564,505	\$19,624	\$3,584,129	\$431,591	\$4,015,720	\$0	\$4,015,720
2	2	Amortization of Utility Plant Acquisition Adjustment	0	0	0	0	0	0	0
3	3	Amortization of Utility Capital Lease	106,033	0	106,033	0	106,033	0	106,033
4	4	Amortization of Leased Alteration Expense	0	0	0	0	0	0	0
5	5	Amortization of Accumulated Depreciation on CIAC	0	0	0	0	0	0	0
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45									
			3,670,538	19,624	3,690,162	431,591	4,121,753	0	4,121,753

Attrition Year Provision for Depreciation Expense
 For Utility Plant in Service

Tennessee Public Service Commission
 Company: Tennessee-American Water Company
 Case No.

Line No.	Account Number	Account Description	Depreciable Property at 7/31/2002	Normalized Test Year Depreciation Expense	ADDITIONS	RETIREMENTS	Depreciable Property at Mid-Point of Attrition Year	Depreciation Rate	Attrition Year Depreciation Expense
1	303.99	Comprehensive Planning Study	\$405,132	\$81,028	0	0	\$405,132	20.00%	\$81,028
2	304.22	Pumping Structures	1,872,283	72,270	0	0	1,872,283	3.85%	72,270
3	304.31	Water Treatment Structures	1,706,175	77,972	0	0	1,706,175	4.57%	77,972
4	304.32	Water Treatment Structures-Painting	1,700,789	170,079	0	0	1,700,789	10.00%	170,079
5	304.40	T & D Structures	502,632	17,642	0	0	502,632	3.51%	17,642
6	304.51	Office Structures	151,528	6,031	0	0	151,528	3.98%	6,031
7	304.52	Stores, Shop, & Garage Structures	319,733	14,868	0	0	319,733	4.65%	14,868
8	304.53	Miscellaneous Structures	383,138	21,609	0	0	383,138	5.64%	21,609
9	306.20	Lakes, Rivers, & Other Intakes	281,452	9,569	0	0	281,452	3.40%	9,569
10	310.20	Power Generation Equipment	222,196	7,644	0	0	222,196	3.44%	7,644
11	311.22	Electric Pumping Equipment	5,633,388	97,458	27,148	0	5,660,536	1.73%	97,927
12	311.23	Diesel Pumping Equipment	119,296	2,350	0	0	119,296	1.97%	2,350
13	311.27	Other Pumping Equipment	5,145	203	0	0	5,145	3.94%	203
14	320.31	Water Treatment Equipment	12,244,225	522,828	0	0	12,244,225	4.27%	522,828
15	320.33	Granular Activated Carbon	0	0	0	0	0	36.42%	0
16	330.41	T & D Reservoirs & Standpipes	4,840,436	87,128	1,040	0	4,841,476	1.80%	87,147
17	330.42	T & D Reservoirs & Standpipes-Painting	551,948	55,195	569,654	0	1,121,602	10.00%	112,160
18	330.43	Elevated Tanks & Standpipes	162,313	2,922	0	0	162,313	1.80%	2,922
19	331.40	T & D Mains not Classified	2,010,419	28,347	1,219,521	173,000	3,056,940	1.41%	43,103
20	331.41	T & D Mains - Mains (4" or less)	3,757,167	60,868	0	0	3,757,167	1.62%	60,868
21	331.44	T & D Mains - Mains (6" - 8")	828	11	408,010	32,000	376,836	1.36%	5,125
22	331.42	T & D Mains - Mains (8" - 10")	47,208,894	642,041	0	0	47,208,894	1.36%	642,041
23	331.45	T & D Mains - Mains (10" - 16")	1,344,135	19,087	0	0	1,344,135	1.42%	19,087
24	331.43	T & D Mains - Mains (16" or More)	19,657,171	279,132	535,212	100,000	20,092,383	1.42%	285,312
25	333.40	Services	13,477,382	307,284	603,154	0	14,080,536	2.28%	321,036
26	334.41	Meters	2,422,703	23,742	0	0	2,422,703	0.98%	23,742
27	334.42	Meters-Metal Case/Old Style	0	0	0	0	0	2.45%	0
28	334.43	Meters - Plastic Case	91,620	14,084	0	0	91,620	15.35%	14,084
29	334.44	Meters - Metal Case/New Style	189,205	1,854	51,100	59,339	180,966	0.98%	1,773
30	334.45	Meier Installations	5,810,815	95,297	527,121	0	6,337,936	1.64%	103,942
31	335.40	Hydrants	5,753,841	127,160	76,365	61,000	5,769,206	2.21%	127,459
32	339.00	Other PIE SS	8,526	505	0	0	8,526	5.92%	505
33	340.51	Office Furniture	519,029	14,169	0	0	519,029	2.73%	14,169
34	340.53	Computer & Peripheral Equipment	142,137	22,600	0	0	2,271,108	15.90%	361,106
35	340.56	Computer & Periph Other	1,216,780	193,468	0	0	1,216,780	15.90%	193,468
36	340.57	Computer Software	137,208	21,816	0	53,090	84,118	15.90%	13,375
37	340.55	Computer Software	525,510	166,850	0	0	525,510	31.75%	166,850
38	340.58	Computer Software Personal	186,142	52,750	0	5,388	160,754	31.75%	51,040
39	340.59	Computer Software Other	89,590	28,445	0	0	89,590	31.75%	28,445
40	340.54	Other Office Equipment	137,196	5,584	0	0	137,196	4.07%	5,584
41	341.52	Light Trucks	1,099,523	102,915	21,000	6,400	1,114,123	9.36%	104,282
42	341.53	Heavy Trucks	697,241	69,654	0	0	697,241	9.99%	69,654
43	341.54	Automobiles	163,795	17,264	0	0	163,795	10.54%	17,264
44	341.55	Transportation-Other	35,388	248	0	0	35,388	0.70%	248
45	342.50	Stores Equipment	43,392	2,161	0	0	43,392	4.98%	2,161
46	343.50	Tools, Shop, & Garage Equipment	741,035	28,530	0	0	741,035	3.85%	30,089
47	344.50	Laboratory Equipment	333,455	37,080	0	0	333,455	11.12%	37,080
48	345.50	Power Operated Equipment	229,342	21,122	0	4,000	225,342	9.21%	20,754
49	346.51	Communication Equipment	469,333	20,791	0	0	469,333	4.43%	20,791
50	346.53	Communication Equipment-Telephone	176,263	26,281	0	0	176,263	14.91%	26,281
51	347.51	Miscellaneous Equipment	258,584	7,473	0	0	258,584	2.89%	8,094
52		Amortization of CIAC		(101,256)	21,500	0	280,084		(107,357)
53									
54									
55									
56									
57									
58									
Total Plant in Service			140,015,456	3,584,129	6,230,294	494,217	145,751,533		4,015,720
Land			483,242				483,242		
Cap Lease Asset			1,590,500						
Total Up			142,089,198				146,234,775		2,7600%

Summary of Adjustments to Taxes Other than Income

Test Year: Twelve Months Ended: July 31, 2002
 Sheila A. Valentine Exhibit No. 2, Schedule 5
 Page 1 of 1

Line No.	Adjustment Number Reference	Description	Per Books 12 Months Ended 7/31/2002	Test Year Adjustments Present Rates	Normalized Test Year	Attrition Year Adjustments	Attrition Year at Present Rates	Adjustments for Proposed Rates	Attrition Year at Proposed Rates
1		Property Taxes	\$2,527,771	(\$65,206)	\$2,462,565	\$198,092	\$2,660,657	\$0	\$2,660,657
2		Other General Taxes	700,397	0	700,397	(84,853)	615,544	106,489	722,033
3		F.U.T.A. Taxes	6,332	(12)	6,320	(763)	5,557	0	5,557
4		F. I. C. A. Taxes	388,029	17,707	405,736	(30,136)	375,600	0	375,600
5		S.U.T.A. Taxes	241	75	316	(38)	278	0	278
		Total	3,622,770	(47,436)	3,575,334	82,302	3,657,636	106,489	3,764,125

Summary of Income Taxes

Test Year: Twelve Months Ended: July 31, 2002
Sheila A. Valentine Exhibit No. 2, Schedule 6
Page 1 of 2

Line No.	Description	Per Books 12 Months Ended 7/31/2002	Test Year Adjustments Present Rates	Normalized Test Year	Attrition Year Adjustments	Attrition Year at Present Rates	Adjustments for Proposed Rates	Attrition Year at Proposed Rates
1	Federal Income Tax - Current	\$1,217,805	(\$185,649)	\$1,032,156	(\$837,489)	\$194,667	\$1,225,570	\$1,420,237
2								
3	State Income Tax - Current	221,764	(31,689)	190,075	(152,734)	37,341	223,509	260,850
4								
5	Deferred Federal Income Tax	702,376		702,376	380,850	1,083,226	0	1,083,226
6								
7	Deferred State Income Tax	88,309	0	88,309	0	88,309	0	88,309
8								
9	Amortization of ITC	(79,314)	0	(79,314)	0	(79,314)	0	(79,314)
10								
11	Adjustment of Prior Years - FIT	0	0	0	0	0	0	0
12								
13	Adjustment of Prior Years - SIT	0	0	0	0	0	0	0
14								
15								
16								
17	Total	2,150,940	(217,338)	1,933,602	(609,373)	1,324,229	1,449,079	2,773,308

Computation of Current Federal and State Income Taxes Based on Current Rate for the
 Normalized and Attribution Years and Proposed Rates for the Attribution Year

Tennessee Public Service Commission
 Company: Tennessee-American Water Company
 Case No:

Line No.	Description	Per Books Test Year Present Rates		Normalized Year Present Rates		Attribution Year Present Rates	
		Federal	State	Federal	State	Federal	State
1	Operating Revenues	\$29,897,941	\$29,897,941	\$30,216,635	\$30,216,635	\$30,409,359	\$30,409,356
2	Operating and Maintenance Expenses	14,198,447	14,198,447	15,031,491	15,031,491	16,112,307	16,112,307
3	Depreciation and Amortization	3,670,538	3,670,538	3,690,162	3,690,162	4,121,753	4,121,753
4	Taxes, Other than Income	3,622,770	3,622,770	3,575,334	3,575,334	3,657,636	3,657,636
5	State Income Taxes - Current	221,764	221,764	134,648	134,648	37,341	37,341
6	Federal Income Taxes - Deferred	88,309	88,309	88,309	88,309	88,309	88,309
7	Federal Income Taxes - Current	1,217,805	1,217,805	763,612	763,612	184,667	184,667
8	Investment Tax Credit	702,376	702,376	702,376	702,376	1,083,228	1,083,228
9	Subtotal	23,642,695	23,642,695	23,906,619	23,906,619	25,215,925	25,215,925
10	Total Income Before Deductions	6,255,246	6,255,246	6,310,016	6,310,016	5,193,431	5,193,431
11	Total Other Income	124,838	124,838				
12	Total Other Deductions	104,055	104,055				
13	Total Taxes Applicable to Other Income and Deductions	-572	-572				
14	Total Interest Charges	3,279,283	3,279,283	3,347,700	3,347,700	3,347,700	3,347,700
15	Net Income	2,997,318	2,997,318	2,962,316	2,962,316	1,845,731	1,845,731
16	State Income Taxes	309,575	309,575	278,384	278,384	125,650	125,650
17	Federal Income Taxes	1,840,335	1,840,335	1,386,674	1,386,674	1,186,579	1,186,579
18	Pre-tax Income	5,147,228	5,147,228	4,627,374	4,627,374	3,169,960	3,169,960
19	Statutory Additions (Deductions):						
20	Permanent Difference						
21	617.001 Book Over Tax Travel and Entertainment	7,638	7,638	7,638	7,638	7,638	7,638
22	618.006 Nondeductible Dues	446	446	446	446	446	446
23	618.008 Lobbying Expenses	5,893	5,893	5,893	5,893	5,893	5,893
24	638.006 Nondeductible Penalties	146	146	146	146	146	146
25	Total Permanent Differences	14,123	14,123	14,123	14,123	14,123	14,123
26	Financial Taxable Income	5,161,351	5,161,351	4,641,497	4,641,497	3,184,083	3,184,083
27	Temporary Differences						
28	604.004 Contributions and Advances	112,999	112,999	112,999	112,999	112,999	112,999
29	606.001 Book Over Tax Depreciation	1,078	1,078	1,078	1,078	1,078	1,078
30	612.001 Book Over Tax Bad Debts	(25,916)	(25,916)	(25,916)	(25,916)	(25,916)	(25,916)
31	618.002 Amortization of Regulatory Assets - AFUDC	13,354	13,354	13,354	13,354	13,354	13,354
32	618.070 Deferred Maintenance Expense	3,650	3,650	3,650	3,650	3,650	3,650
33	618.025 Management Study Expense	42,601	42,601	42,601	42,601	42,601	42,601
34	618.028 Accrued OPEB Expense	(56,370)	(56,370)	(56,370)	(56,370)	(56,370)	(56,370)
35	618.029 Incentive Plan Expense	34,901	34,901	34,901	34,901	34,901	34,901
36	618.030 Regulatory Pension Expense	630,682	630,682	630,682	630,682	630,682	630,682
37	625.001 Tax Over Book Depreciation	1,974	1,974	1,974	1,974	1,974	1,974
38	639.014 Cost of Removal	(614,241)	(614,241)	(614,241)	(614,241)	(614,241)	(614,241)
39	639.015 AFUDC over Interest Capitalized for Taxes	(24,200)	(24,200)	(24,200)	(24,200)	(24,200)	(24,200)
40	639.016 Refund of Taxable Advances	(111,252)	(111,252)	(111,252)	(111,252)	(111,252)	(111,252)
41	639.022 Accrued Vacation Pay Expense	(104,774)	(104,774)	(104,774)	(104,774)	(104,774)	(104,774)
42	639.027 Abandonment Losses	(59,666)	(59,666)	(59,666)	(59,666)	(59,666)	(59,666)
43	638.040 Regulatory Pension Expense	(187,000)	(187,000)	(187,000)	(187,000)	(187,000)	(187,000)
44	639.022 Regulatory Pension Expense	(630,682)	(630,682)	(630,682)	(630,682)	(630,682)	(630,682)
45	639.036 Miscellaneous Deferred Expenses	(501,719)	(501,719)	(501,719)	(501,719)	(501,719)	(501,719)
46	Total Temporary Differences	(1,473,581)	(1,473,581)	(1,473,581)	(1,473,581)	(2,561,725)	(2,561,725)
47	Federal Taxable Income Before SIT	3,687,770	3,687,770	3,167,916	3,167,916	822,358	822,358
48	Preferred Dividend Credit			(28,824)	(28,824)		
49	State Income Tax	221,268	221,268	190,075	190,075	37,341	37,341
50	Taxable Income	3,466,504	3,466,504	2,949,017	2,949,017	555,193	555,193
51	Computation of Taxes:						
52	State Income Tax @	1,213,276	221,268	1,032,156	190,075	194,667	37,341
53	Federal Income Tax @	(79,314)	0	(79,314)	0	(79,314)	0
54	Less: Tax Credits	1,133,962	221,268	952,842	190,075	115,353	37,341
55	Total Current Income Tax						

**Rate of Return Summary
At the Mid-Point of the Attrition Year**

**Tennessee Public Service Commission
Company: Tennessee-American Water Company
Case No:**

Test Year: Twelve Months Ended: July 31, 2002
Sheila A. Valentine Exhibit No. 3, Schedule 1
Page 1 of 1

Line No.	Class of Capital	Reference	Amount	Percent of Total	Cost Rate	Weighted Cost of Capital
1						
2						
3						
4	Long-term Debt	Schedule 2	\$44,145,309	50.02%	7.24%	3.621%
5						
6	Short-term Debt		5,429,000	6.15%	3.50%	0.215%
7						
8	Preferred Equity	Schedule 3	1,450,296	1.64%	5.01%	0.082%
9						
10	Common Equity					
11	Common Stock		19,106,970	21.65%	11.00%	2.381%
12	Retained Earnings		18,131,227	20.54%	11.00%	2.260%
13						
14	Total Capitalization		88,262,802	100.00%		8.559%
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						
	Total Common Equity Return Proposed		11.00%			

**Embedded Cost of Long-Term Debt
At the Mid-Point of the Attrition Year**

Tennessee Public Service Commission
Company: Tennessee-American Water Company
Case No:

Test Year: Twelve Months Ended: July 31, 2002
Sheila A. Valentine Exhibit No. 3, Schedule 2
Page 1 of 1

Line No.	Debt Issue Type, Coupon Rate	Interest Rate	Issue Date	Maturity Date	Principal Amount	Face Amount Outstanding	Unamortized (Issuance) Debt Exp.	Carrying Value	Annual Interest Expense	Annual Amortization of Issue Expense	Total Cost
5	General Mortgage Bonds										
7	9.25% Series	9.25%	01/12/90	12/01/19	2,500,000	2,500,000	23,959	2,476,041	231,250	1,537	232,787
8	8.25% Series	8.25%	06/25/92	06/01/05	3,200,000	3,200,000	2,142	3,197,858	264,000	1,975	265,975
9	6.77% Series	6.77%	06/08/93	06/01/03	0	0	0	0	0	0	0
10	7.84% Series	7.84%	09/04/96	08/03/06	5,700,000	5,700,000	50,866	5,649,135	446,880	2,278	449,158
11	6.50% Series	6.50%	05/31/98	06/01/08	6,500,000	6,500,000	30,365	6,469,636	422,500	7,434	429,934
12	6.87% Series	6.87%	03/31/01	03/29/11	5,100,000	5,100,000	34,619	5,065,381	350,370	5,004	355,374
13	7.30% Series (proposed)	6.60%	10/01/03	10/02/13	20,000,000	20,000,000	100,000	19,900,000	1,320,000	10,000	1,330,000
14											
15	Capital Lease 9.489%	9.489%	06/01/98	05/31/13	1,590,500	1,387,259		1,387,259	131,637	0	131,637
16											
17											
18	Total										
19											
20											
21	Embedded Cost of Long-Term Debt										
22											
23											
24											
25											
26											
27											
28											
29											
30											
					\$44,590,500	\$44,387,259	\$241,950	\$44,145,309	\$3,166,637	\$28,228	\$3,194,865

7.24%

Embedded Cost of Preferred Stock At the Mid-Point of the Attrition Year

Tennessee Public Service Commission
Company: Tennessee-American Water Company
Case No:

Test Year: Twelve Months Ended: July 31, 2002
Sheila A. Valentine Exhibit No. 3, Schedule 3
Page 1 of 1

Line No.	Debt Issue Type, <u>Coupon Rate</u>	Issue Date	Face Amount Outstanding	Premium or Discount	Unamortized (Issuance) Pfd Stk Exp	Net Proceeds	Annual Dividends	Annual Amort. of Issuance Expense	Total Annual Cost
1									
2									
3									
4	Cumulative Preferred								
5	5% Series	12/20/40	\$1,400,000	\$0	\$0	\$1,400,000	\$70,000	\$0	\$70,000
6	4-1/2% Series	7/29/54	51,000	0	704	50,296	2,295	352	2,647
7									
8									
9	Total								
10			1,451,000	0	704	1,450,296	72,295	352	72,647
11									

Embedded Cost of Preferred Stock

5.01%

Line No.		Per books		Normalized		Attrition Year at Present Rates		Attrition Year at Proposed Rates					
		Billing		Billing		Billing		Billing					
		Determine	Revenues	Determine	Revenues	Determine	Revenues	Determine	Revenues				
		Rates		Rates		Rates		Rates					
1													
2													
3													
4													
5	Chattanooga												
6	5/8 - inch meter	668,205	8.26	\$5,519,373	671,685	8.26	\$5,548,118	672,844	8.26	\$5,557,691	672,844	10.00	\$6,728,440
7	3/4 - inch meter	893	13.86	12,377	893	13.86	12,377	893	13.86	12,377	893	15.00	13,395
8	1 - inch meter	1,581	23.07	36,474	1,581	23.07	36,474	1,581	23.07	36,474	1,581	25.00	39,525
9	1 1/2 - inch meter	80	46.18	3,694	80	46.18	3,694	80	46.18	3,694	80	50.00	4,000
10	2 - inch meter	89	73.86	6,574	89	73.86	6,574	89	73.86	6,574	89	80.00	7,120
11	3 - inch meter	0	138.50	0	0	138.50	0	0	138.50	0	0	150.00	0
12	4 - inch meter	0	230.83	0	0	230.83	0	0	230.83	0	0	250.00	0
13	6 - inch meter	0	461.67	0	0	461.67	0	0	461.67	0	0	500.00	0
14	8 - inch meter	0	738.67	0	0	738.67	0	0	738.67	0	0	800.00	0
15	Total Meters	670,848		5,578,492	674,328		5,607,237	675,487		5,616,810	675,487		6,792,480
16													
17	Volumetric												
18	First	2,277,041	0.149	339,279	2,290,961	0.149	341,353	2,295,597	0.149	342,044	2,295,597	0.205	470,597
19	Next	1,888,855	2.436	4,601,251	1,946,381	2.436	4,741,384	1,949,047	2.436	4,747,878	1,949,047	2.729	5,318,949
20	Next	51,737	1.540	79,675	51,737	1.540	79,675	51,737	1.540	79,675	51,737	1.741	90,074
21	Next	12,909	1.139	14,703	12,909	1.139	14,703	12,909	1.139	14,703	12,909	1.286	16,601
22	Next	9,993	0.916	9,154	9,993	0.916	9,154	9,993	0.916	9,154	9,993	0.916	9,154
23	All Over	0	0.555	0	0	0.555	0	0	0.555	0	0	0.555	0
24	Chattanooga Amount	4,240,535		10,622,554	4,311,981		10,793,506	4,319,283		10,810,284	4,319,283		12,697,855
25													
26	Lookout Mountain												
27	5/8 - inch meter	18,780	9.24	173,527	18,948	9.24	175,080	18,983	9.24	175,403	18,983	10.00	189,830
28	3/4 - inch meter	372	13.86	5,156	372	13.86	5,156	372	13.86	5,156	372	15.00	5,580
29	1 - inch meter	1,064	23.07	24,546	1,064	23.07	24,546	1,064	23.07	24,546	1,064	25.00	26,600
30	1 1/2 - inch meter	12	46.18	554	12	46.18	554	12	46.18	554	12	50.00	600
31	2 - inch meter	36	73.86	2,659	36	73.86	2,659	36	73.86	2,659	36	80.00	2,880
32	3 - inch meter	0	138.50	0	0	138.50	0	0	138.50	0	0	150.00	0
33	4 - inch meter	0	230.83	0	0	230.83	0	0	230.83	0	0	250.00	0
34	6 - inch meter	0	461.67	0	0	461.67	0	0	461.67	0	0	500.00	0
35	8 - inch meter	0	738.67	0	0	738.67	0	0	738.67	0	0	800.00	0
36	Total Meters	20,264		206,442	20,432		207,995	20,467		208,318	20,467		225,490
37													
38	Volumetric												
39	First	72,928	0.435	31,724	73,600	0.435	32,016	73,740	0.435	32,077	73,740	0.655	48,300
40	Next	162,053	3.372	546,443	166,354	3.372	560,946	166,645	3.372	561,927	166,645	3.486	580,924
41	Next	13,918	2.518	35,046	13,918	2.518	35,046	13,918	2.518	35,046	13,918	2.498	34,767
42	Next	0	1.476	0	0	1.476	0	0	1.476	0	0	1.736	0
43	Next	0	1.254	0	0	1.254	0	0	1.254	0	0	1.366	0
44	All Over	0	0.888	0	0	0.888	0	0	0.888	0	0	1.005	0
45	Lookout Mountain Amount	248,899		819,655	253,972		836,003	254,303		837,368	254,303		869,481
46													

Line No.		Per books			Normalized			Attrition Year at Present Rates			Attrition Year at Proposed Rates		
		Billing Determineate	Rates	Revenues	Billing Determineate	Rates	Revenues	Billing Determineate	Rates	Revenues	Billing Determineate	Rates	Revenues
5	Lakeview												
6	5/8 - inch meter	1,748	9.24	16,152	1,748	9.24	16,152	1,748	9.24	16,152	1,748	10.00	17,480
7	3/4 - inch meter	0	13.86	0	0	13.86	-	-	13.86	-	-	15.00	0
8	1 - inch meter	220	23.07	5,075	268	23.07	6,183	282	23.07	6,506	282	25.00	7,050
9	1 1/2 - inch meter	0	46.18	0	0	46.18	-	-	46.18	-	-	50.00	0
10	2 - inch meter	108	73.86	7,977	108	73.86	7,977	108	73.86	7,977	108	80.00	8,640
11	3 - inch meter	0	138.50	0	0	138.50	-	-	138.50	-	-	150.00	0
12	4 - inch meter	0	230.83	0	0	230.83	-	-	230.83	-	-	250.00	0
13	6 - inch meter	0	461.67	0	0	461.67	-	-	461.67	-	-	500.00	0
14	8 - inch meter	0	738.67	0	0	738.67	-	-	738.67	-	-	800.00	0
15	Total Meters	2,076		29,204			30,312	2,138		30,635	2,138		33,170
16	Volumetric												
17	First	6,135	0.149	914	6,327	0.149	943	6,383	0.149	951	6,383	0.343	2,189
18	Next	18,598	3.085	57,375	19,337	3.085	59,655	19,553	3.085	60,321	19,553	2.997	58,600
19	Next	12,133	2.230	27,057	12,755	2.230	28,444	12,755	2.230	28,444	12,755	2.009	25,625
20	Next	3,414	1.189	4,059	3,414	1.189	4,059	3,414	1.189	4,059	3,414	1.424	4,962
21	All Over	0	0.968	0	0	0.968	-	-	0.968	-	-	1.054	0
22	1,000,000 Cubic Feet	0	0.608	0	0	0.608	-	-	0.608	-	-	0.693	0
23	Lakeview Amount	40,280		118,609	41,833		123,413	42,105		124,410	42,105		124,446
24	Total Gross	4,229,315		9,029,110	4,347,883		9,279,967	4,375,438		9,356,150	4,375,438		10,493,238
25	Less: Correction & Allowances	108,885		175,694	108,885		175,694	108,885		175,694	108,885		197,047
26	Net Amt	4,120,430		8,853,416	4,238,998		9,104,273	4,266,553		9,180,456	4,266,553		10,296,191
27	Net Amt. Per Revenue Summary	4,120,640		8,891,569	4,239,214		9,143,526	4,266,771		9,220,038	4,266,771		10,340,583
28	Difference	(210)		(38,173)	(216)		(39,253)	(218)		(39,582)	(216)		(44,392)
29	Percent Difference	-0.0051%		-0.4293%	-0.0051%		-0.4293%	-0.0051%		-0.4293%	-0.0051%		-0.4293%

Attrition Year Revenues at Current and Proposed Rates

Test Year: Twelve Months Ended: July 31, 2002
Sheila A. Valentine Exhibit No. 4, Schedule 2-
Page 5 of 11

Line No.	Description	Per books			Normalized			Attrition Year at Present Rates			Attrition Year at Proposed Rates		
		Billing Determinate	Rates	Revenues	Billing Determinate	Rates	Revenues	Billing Determinate	Rates	Revenues	Billing Determinate	Rates	Revenues
5	Chattanooga												
6	5/8 - inch meter	318	8.26	\$2,627	318	8.26	\$2,627	318	8.26	\$2,627	318	10.00	\$3,180
7	3/4 - inch meter	36	13.86	499	36	13.86	499	36	13.86	499	36	15.00	540
8	1 - inch meter	354	23.07	8,167	354	23.07	8,167	354	23.07	8,167	354	25.00	8,850
9	1 1/2 - inch meter	72	46.18	3,325	72	46.18	3,325	72	46.18	3,325	72	50.00	3,600
10	2 - inch meter	1,199	73.86	88,558	1,199	73.86	88,558	1,199	73.86	88,558	1,199	80.00	95,920
11	3 - inch meter	0	138.50	0	0	138.50	0	0	138.50	0	0	150.00	0
12	4 - inch meter	423	230.83	97,641	423	230.83	97,641	423	230.83	97,641	423	250.00	105,750
13	6 - inch meter	60	461.67	27,700	60	461.67	27,700	60	461.67	27,700	60	500.00	30,000
14	8 - inch meter	0	738.67	0	0	738.67	0	0	738.67	0	0	800.00	0
15	Total Meters	2,462		228,517	2,462		228,517	2,462		228,517	2,462		247,840
17	Volumetric												
18	First	6,375	0.149	950	6,316	0.149	941	6,316	0.149	941	6,316	0.205	1,295
19	Next	66,634	2.436	162,320	66,021	2.436	160,827	66,021	2.436	160,827	66,021	2.729	180,171
20	Next	292,795	1.540	450,904	290,101	1.540	446,756	290,101	1.540	446,756	290,101	1.741	505,066
21	Next	1,171,587	1.139	1,334,438	1,160,806	1.139	1,322,158	1,160,806	1.139	1,322,158	1,160,806	1.286	1,492,797
22	Next	1,055,879	0.916	967,185	1,046,163	0.916	958,285	1,046,163	0.916	958,285	1,046,163	0.916	958,285
23	All Over 1,500,000 Cubic Feet	891,054	0.555	494,535	882,854	0.555	489,984	882,854	0.555	489,984	882,854	0.555	489,984
24	Chattanooga Amount	3,484,324		3,638,849	3,452,261		3,607,468	3,452,261		3,607,468	3,452,261		3,875,438
25	Lookout Mountain	35											
26	5/8 - inch meter	0	9.24	0	0	9.24	0	0	9.24	0	0	10.00	0
27	3/4 - inch meter	0	13.86	0	0	13.86	0	0	13.86	0	0	15.00	0
28	1 - inch meter	0	23.07	0	0	23.07	0	0	23.07	0	0	25.00	0
29	1 1/2 - inch meter	0	46.18	0	0	46.18	0	0	46.18	0	0	50.00	0
30	2 - inch meter	0	73.86	0	0	73.86	0	0	73.86	0	0	80.00	0
31	3 - inch meter	0	138.50	0	0	138.50	0	0	138.50	0	0	150.00	0
32	4 - inch meter	0	230.83	0	0	230.83	0	0	230.83	0	0	250.00	0
33	6 - inch meter	0	461.67	0	0	461.67	0	0	461.67	0	0	500.00	0
34	8 - inch meter	0	738.67	0	0	738.67	0	0	738.67	0	0	800.00	0
35	Total Meters	0		0	0		0	0		0	0		0
36		0		0	0		0	0		0	0		0
37		0		0	0		0	0		0	0		0
38	Volumetric												
39	First	0	0.435	0	0	0.435	0	0	0.435	0	0	0.655	0
40	Next	0	3.372	0	0	3.372	0	0	3.372	0	0	3.486	0
41	Next	0	2.518	0	0	2.518	0	0	2.518	0	0	2.498	0
42	Next	0	1.476	0	0	1.476	0	0	1.476	0	0	1.736	0
43	Next	0	1.254	0	0	1.254	0	0	1.254	0	0	1.366	0
44	All Over 1,500,000 Cubic Feet	0	0.888	0	0	0.888	0	0	0.888	0	0	1.005	0
45	Lookout Mountain Amount	0		0	0		0	0		0	0		0
46		0		0	0		0	0		0	0		0

Line No.		Per books		Normalized		Attrition Year at Present Rates		Attrition Year at Proposed Rates		
		Billing Determinate	Rates	Revenues	Billing Determinate	Rates	Revenues	Billing Determinate	Rates	Revenues
1										
2										
3										
4										
5	Lakeview									
6	5/8 - inch meter	0	9.24	0	9.24	0	9.24	-	9.24	10.00
7	3/4 - inch meter	0	13.86	0	13.86	0	13.86	-	13.86	15.00
8	1 - inch meter	0	23.07	0	23.07	0	23.07	-	23.07	25.00
9	1 1/2 - inch meter	0	46.18	0	46.18	0	46.18	-	46.18	50.00
10	2 - inch meter	0	73.86	0	73.86	0	73.86	-	73.86	80.00
11	3 - inch meter	0	138.50	0	138.50	0	138.50	-	138.50	150.00
12	4 - inch meter	0	230.83	0	230.83	0	230.83	-	230.83	250.00
13	6 - inch meter	0	461.67	0	461.67	0	461.67	-	461.67	500.00
14	8 - inch meter	0	738.67	0	738.67	0	738.67	-	738.67	800.00
15	Total Meters	0		0		0		-		0
16		0		0		0		-		0
17	Volumetric									
18	First	0	0.149	0	0.149	0	0.149	-	0.149	0.343
19	Next	0	3.085	0	3.085	0	3.085	-	3.085	2.997
20	Next	0	2.230	0	2.230	0	2.230	-	2.230	2.009
21	Next	0	1.189	0	1.189	0	1.189	-	1.189	1.424
22	Next	0	0.968	0	0.968	0	0.968	-	0.968	1.054
23	All Over	0	0.608	0	0.608	0	0.608	-	0.608	0.693
24	Lakeview Amount	0		0		0		-		0
25		0		0		0		-		0
26	Total Gross	3,484,324		3,638,849	3,452,261			3,607,468	3,452,261	
27	Less: Correction & Allowances	72,681		69,661	72,681			69,661	72,681	3,875,438
28	Net Amount	3,411,643		3,569,188	3,379,580			3,537,807	3,379,580	74,835
29	Net Amt. Per Revenue Summary	3,415,847		3,581,153	3,383,745			3,549,667	3,383,745	3,800,603
30	Difference	(4,204)		(11,965)	(4,165)			(11,860)	(4,165)	3,813,343
31	Percent Difference	-0.1231%		-0.3341%	-0.1231%			-0.3341%	-0.1231%	(12,740)
32										-0.3341%

Attrition Year Revenues at Current and Proposed Rates

Test Year: Twelve Months Ended: July 31, 2002
Sheila A. Valentine Exhibit No. 4, Schedule 2
Page 8 of 11

Line No.		Per books			Normalized			Attrition Year at Present Rates			Attrition Year at Proposed Rates		
		Billing Determine	Rates	Revenues	Billing Determine	Rates	Revenues	Billing Determine	Rates	Revenues	Billing Determine	Rates	Revenues
5	Lakeview												
6	5/8 - inch meter	60	9.24	554	60	9.24	554	60	9.24	554	60	10.00	600
7	3/4 - inch meter	0	13.86	0	0	13.86	0	0	13.86	0	0	15.00	0
8	1 - inch meter	0	23.07	0	0	23.07	0	0	23.07	0	0	25.00	0
9	1 1/2 - inch meter	0	46.18	0	0	46.18	0	0	46.18	0	0	50.00	0
10	2 - inch meter	24	73.86	1,773	24	73.86	1,773	24	73.86	1,773	24	80.00	1,920
11	3 - inch meter	0	138.50	0	0	138.50	0	0	138.50	0	0	150.00	0
12	4 - inch meter	0	230.83	0	0	230.83	0	0	230.83	0	0	250.00	0
13	6 - inch meter	0	461.67	0	0	461.67	0	0	461.67	0	0	500.00	0
14	8 - inch meter	0	738.67	0	0	738.67	0	0	738.67	0	0	800.00	0
15	Total Meters	84		2,327	84		2,327	84		2,327	84		2,520
17	Volumetric												
18	First	179	0.149	27	179	0.149	27	179	0.149	27	179	0.343	61
19	Next	1,280	3.085	3,949	1,280	3.085	3,949	1,280	3.085	3,949	1,280	2.997	3,936
20	Next	1,008	2.230	2,248	1,008	2.230	2,248	1,008	2.230	2,248	1,008	2.009	2,025
21	Next	0	1.189	0	0	1.189	0	0	1.189	0	0	1.424	0
22	Next	0	0.968	0	0	0.968	0	0	0.968	0	0	1.054	0
23	All Over	0	0.608	0	0	0.608	0	0	0.608	0	0	0.693	0
24	Lakeview Amount	2,467		8,551	2,467		8,551	2,467		8,551	2,467		8,442
25													
26	Total Gross	1,423,763		2,364,575	1,425,969		2,366,938	1,435,527		2,392,946	1,435,527		2,667,008
27	Less: Correction & Allowances	55,028		47,140	55,028		47,140	55,028		47,140	55,028		52,539
28	Net Amount	1,368,735		2,317,535	1,370,941		2,321,798	1,380,499		2,345,806	1,380,499		2,614,469
29	Net Amt. Per Revenue Summary	1,368,737		2,318,300	1,370,942		2,322,564	1,380,500		2,346,580	1,380,500		2,615,332
30	Difference	(2)		(765)	-1		(766)	(1)		(774)	(1)		(863)
31	Percent Difference	-0.0001%		-0.0330%	-0.0001%		-0.0330%	-0.0001%		-0.0330%	-0.0001%		-0.0330%

Line No.		Per books			Normalized			Attrition Year at Present Rates			Attrition Year at Proposed Rates		
		Billing Determine	Revenues	Rate	Billing Determine	Revenues	Rate	Billing Determine	Revenues	Rate	Billing Determine	Revenues	Rate
5	Chattanooga												
6	5/8 - inch meter	0	\$0	8.26	0	\$0	8.26	0	\$0	0	0	10.00	\$0
7	3/4 - inch meter	0	0	13.86	0	0	13.86	0	0	0	0	15.00	0
8	1 - inch meter	0	0	23.07	0	0	23.07	0	0	0	0	25.00	0
9	1 1/2 - inch meter	0	0	46.18	0	0	46.18	0	0	0	0	50.00	0
10	2 - inch meter	12	886	73.86	12	886	73.86	12	886	73.86	12	80.00	960
11	3 - inch meter	0	0	138.50	0	0	138.50	0	0	0	0	150.00	0
12	4 - inch meter	37	8,541	230.83	37	8,541	230.83	37	8,541	230.83	37	250.00	9,250
13	6 - inch meter	0	0	461.67	0	0	461.67	0	0	0	0	500.00	0
14	8 - inch meter	0	0	738.67	0	0	738.67	0	0	0	0	800.00	0
15	Total Meters	49	9,427		49	9,427		49	9,427		49		10,210
16													
17	Volumetric												
18	First	27	0.149	0.149	27	0.149	0.149	27	0.149	0.149	27	0.205	6
19	Next	301	2,436	2,436	301	2,436	2,436	301	2,436	2,436	301	2,729	821
20	Next	1,694	1,540	1,540	1,694	1,540	1,540	1,694	1,540	1,540	1,694	1,741	2,949
21	Next	8,141	2,609	1,139	8,141	2,609	1,139	8,141	2,609	1,139	8,141	2,973	10,469
22	Next	1,621	9,273	0.916	1,621	9,273	0.916	1,621	9,273	0.916	1,621	1,485	1,485
23	All Over	0	0	0.555	0	0	0.555	0	0	0.555	0	0.555	0
24	Ft. Oglethorpe	1,169,734	833,435	0.713	1,169,734	833,435	0.713	1,169,734	833,435	0.713	1,169,734	962,691	962,691
25	Chattanooga Amount	1,181,518	856,966		1,181,518	856,966		1,181,518	856,966		1,181,518	988,631	988,631
26													
27	Lookout Mountain												
28	5/8 - inch meter	0	0	9.24	0	0	9.24	0	0	9.24	0	10.00	0
29	3/4 - inch meter	0	0	13.86	0	0	13.86	0	0	13.86	0	15.00	0
30	1 - inch meter	0	0	23.07	0	0	23.07	0	0	23.07	0	25.00	0
31	1 1/2 - inch meter	0	0	46.18	0	0	46.18	0	0	46.18	0	50.00	0
32	2 - inch meter	0	0	73.86	0	0	73.86	0	0	73.86	0	80.00	0
33	3 - inch meter	0	0	138.50	0	0	138.50	0	0	138.50	0	150.00	0
34	4 - inch meter	0	0	230.83	0	0	230.83	0	0	230.83	0	250.00	0
35	6 - inch meter	0	0	461.67	0	0	461.67	0	0	461.67	0	500.00	0
36	8 - inch meter	0	0	738.67	0	0	738.67	0	0	738.67	0	800.00	0
37	Total Meters	0	0		0	0		0	0		0		0
38													
39	Volumetric												
40	First	0	0.435	0.435	0	0.435	0.435	0	0.435	0.435	0	0.205	0
41	Next	0	3,372	3,372	0	3,372	3,372	0	3,372	3,372	0	2,729	0
42	Next	0	2,518	2,518	0	2,518	2,518	0	2,518	2,518	0	1,741	0
43	Next	0	1,476	1,476	0	1,476	1,476	0	1,476	1,476	0	1,286	0
44	Next	0	1,254	1,254	0	1,254	1,254	0	1,254	1,254	0	0.916	0
45	All Over	0	0.888	0.888	0	0.888	0.888	0	0.888	0.888	0	0.555	0
46	Lookout Mountain Amount	0	0		0	0		0	0		0		0

Line	No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46
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Attrition Year Revenues at Current and Proposed Rates

Tennessee Public Service Commission
 Private and Public Fire
 Company : Tennessee-American Water Company
 Case No. :

Line No.	Class/Description	Normalized Year at Present Rates			Attrition Year at Present Rates			Attrition Year at Proposed Rates		
		Billing Determine	Rates	Revenues	Billing Determine	Rates	Revenues	Billing Determine	Rates	Revenues
1	Private Fire Service									
2	1 - Inch Service	0	\$21.60	\$0	0	\$21.60	\$0	0	\$21.60	\$0
3	1 1/2 - Inch Service	1	48.72	49	1	48.72	49	1	48.72	49
4	2 - Inch Service	5	86.64	433	6	86.64	520	6	86.64	520
5	2 1/2 - Inch Service	1	132.12	132	1	132.12	132	1	132.12	132
6	3 - Inch Service	2	194.76	390	1	194.76	195	1	194.76	195
7	4 - Inch Service	69	390.00	26,910	73	390.00	28,470	73	390.00	28,470
8	6 - Inch Service	646	779.40	503,492	705	779.40	549,477	705	779.40	549,477
9	8 - Inch Service	275	1,560.12	429,033	287	1,560.12	447,754	287	1,560.12	447,754
10	10 - Inch Service	15	2,340.36	35,105	15	2,340.36	35,105	15	2,340.36	35,105
11	12 - Inch Service	17	3,120.72	53,052	18	3,120.72	56,173	18	3,120.72	56,173
12	Total Private Fire Service	1,031		1,048,596	1,107		1,117,875	1,107		1,117,875

Public Fire Service

23	Ridgeside	13	1,849.92	24,049	13	1,849.92	24,049	13	2,092.00	27,196
24	Public Fire	4,610	50.00	230,500	4,640	50.00	232,000	4,640	73.53	341,179
25	Total Public Fire Service	4,623		254,549	4,653		256,049	4,653		368,375
26										
27	Total Private and Public Fire Service Revenues			\$1,303,145			\$1,373,924			\$1,486,250

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Comparison of Present and Proposed Rates

Tennessee Public Service Commission
Company : Tennessee-American Water Company
Case No. :

		Rates Effective November 1, 1996						Proposed Rates			Percent Increase		
		Lookout			Lakeview			Lookout			Lakeview		
		Chattanooga	Mountain	Lakeview	Chattanooga	Mountain	Lakeview	Chattanooga	Mountain	Lakeview	Chattanooga	Mountain	Lakeview
5/8 - inch meter		8.26	9.24	9.24	10.00	10.00	10.00	21.0654%	8.2251%	8.2251%			8.2251%
3/4 - inch meter		13.86	13.86	13.86	15.00	15.00	15.00	8.2251%	8.2251%	15.00	8.2251%		8.2251%
1 - inch meter		23.07	23.07	23.07	25.00	25.00	25.00	8.3658%	8.3658%	25.00	8.3658%		8.3658%
1 1/2 - inch meter		46.18	46.18	46.18	50.00	50.00	50.00	8.2720%	8.2720%	50.00	8.2720%		8.2720%
2 - inch meter		73.86	73.86	73.86	80.00	80.00	80.00	8.3130%	8.3130%	80.00	8.3130%		8.3130%
3 - inch meter		138.50	138.50	138.50	150.00	150.00	150.00	8.3032%	8.3032%	150.00	8.3032%		8.3032%
4 - inch meter		230.83	230.83	230.83	250.00	250.00	250.00	8.3048%	8.3048%	250.00	8.3048%		8.3048%
6 - inch meter		461.67	461.67	461.67	500.00	500.00	500.00	8.3025%	8.3025%	500.00	8.3025%		8.3025%
8 - inch meter		738.67	738.67	738.67	800.00	800.00	800.00	8.3028%	8.3028%	800.00	8.3028%		8.3028%
Volumetric													
First	400 Cubic Feet	0.149	0.435	0.149	0.205	0.655	0.343	37.5839%	50.5747%	0.343	37.5839%		130.2013%
Next	6,100 Cubic Feet	2.436	3.372	3.085	2.729	3.486	2.997	12.0279%	3.3808%	2.997	12.0279%		-2.8525%
Next	43,500 Cubic Feet	1.540	2.518	2.230	1.741	2.498	2.009	13.0519%	-0.7843%	2.009	13.0519%		-9.9103%
Next	450,000 Cubic Feet	1.139	1.199	1.189	1.286	1.736	1.424	12.9061%	17.6152%	1.424	12.9061%		19.7645%
Next	1,000,000 Cubic Feet	0.916	1.254	0.988	0.916	1.366	1.054	0.0000%	8.9314%	1.054	0.0000%		8.9843%
All Over	1,500,000 Cubic Feet	0.555	0.888	0.608	0.555	1.005	0.693	0.0000%	13.1757%	0.693	0.0000%		13.9803%
Fl. Ogilthorpe		0.7125			0.823								
Private Fire Service													
1 - inch Service		21.60			21.60			0.0000%			0.0000%		
1 1/2 - inch Service		48.72			48.72			0.0000%			0.0000%		
2 - inch Service		86.64			86.64			0.0000%			0.0000%		
2 1/2 - inch Service		132.12			132.12			0.0000%			0.0000%		
3 - inch Service		194.76			194.76			0.0000%			0.0000%		
4 - inch Service		390.00			390.00			0.0000%			0.0000%		
6 - inch Service		779.40			779.40			0.0000%			0.0000%		
8 - inch Service		1,560.12			1,560.12			0.0000%			0.0000%		
10 - inch Service		2,340.36			2,340.36			0.0000%			0.0000%		
12 - inch Service		3,120.72			3,120.72			0.0000%			0.0000%		
Public Fire Service													
Ridgside		1,849.92			2,082.00			13.0860%			13.0860%		
Public Fire		50.00			73.53			47.0600%			47.0600%		