

**TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 12-00049
FIRST DISCOVERY REQUEST OF THE
TENNESSEE REGULATORY AUTHORITY**

Responsible Witness: Kevin Rogers

Question:

1. In Kevin N. Roger's testimony on page 4, the Company states that it has never received a USEPA notice of violation of any type in its 125 year history. Has the Company received any advice, warnings or fines concerning water quality? If so, describe.

Response:

No, in Tennessee the USEPA works through the Tennessee Department of Environment and Conservation (TDEC).

TAWC has had no warnings or fines concerning water quality through TDEC or USEPA.

TDEC routinely sends advisory information via general announcements to all water utilities as they see the need arise. Additionally, we work very closely with TDEC and frequently ask questions about reports or interpretations to ensure we fully understand and comply with our regulations.

The 2011 Sanitary Survey scored TAWC 99 out of 100 and contained the following comment which was corrected:

There were several entries in the system's flushing records where the initial chlorine residual was recorded as lower than the 0.2 mg/L standard. If these are true readings, additional flushing should be scheduled to eliminate this problem and maintain the proper disinfection levels throughout the distribution system. Some entries showed a lower residual after flushing the line than before the initial test. The flushing records indicate that most of the hydrants were flushed for five minutes every time. Every effort must be made to provide a precise measurement of the flushing time and the free chlorine residual at flushing locations. This should be done in accordance with the Rule 1200-5-1.17(10).

The 2009 Sanitary Survey scored TAWC 99 out of 100 and contained the following comment which was corrected:

A potential cross connection exists in the chemical room and other areas at the plant. Hoses that are connected to the water supply must also have a vacuum breaker. This is a violation of Rule 1200-5-1.17(6).

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Responsible Witness: Kevin Rogers

Question:

2. Provide the monthly usage from December 2010 through June 2012 (by Company) for the twenty-five (25) largest customers identified in response to MFG-19 and identify the rate schedule applicable to each Company.

Response:

Please refer to the attachment.

Account Name	Rate Schedule	Dec-10	Jan-11	Feb-11	Mar-11	Apr-11	May-11	Jun-11	Jul-11	Aug-11	Sep-11	Oct-11	Nov-11	Dec-11	Jan-12	Feb-12	Mar-12	Apr-12	May-12	Jun-12	Grand Total
Pilgrim's Pride	A2M4, A3M4, A3M4S, A3MSM	46,124	46,681	49,747	50,711	47,322	54,342	55,481	57,608	53,022	58,291	50,815	53,083	47,197	52,909	51,469	54,224	54,005	52,103	55,771	990,905
Koch Food LLC	A2M4, A3M4, A3M4S, A3MSM	43,585	46,040	41,475	40,640	38,215	41,765	45,245	52,315	49,810	50,790	44,800	41,745	39,485	48,155	46,985	53,928	54,237	50,810	52,260	882,285
City of Fort Oglethorpe	D5MFM	33,073	37,452	38,038	34,955	33,007	41,465	43,283	43,946	40,897	45,169	36,559	34,178	35,409	41,525	37,812	41,389	38,043	39,480	44,064	739,744
Walden's Ridge Utility District	D5MWM	36,683	40,551	36,725	32,905	32,656	34,594	52,225	42,545	46,162	43,474	38,122	28,081	26,855	29,829	25,511	27,347	35,026	41,642	40,124	691,057
Town of Signal Mountain	D5M5M	28,596	30,932	28,287	27,502	28,779	34,065	55,801	44,205	52,302	46,736	36,225	27,382	26,596	28,459	23,948	25,427	31,991	39,678	38,497	655,408
Chart Coca-Cola Bottling	A3M4S, A3M4SM	14,633	13,600	16,434	21,096	22,401	27,734	28,187	21,338	24,682	25,350	21,836	13,019	16,019	13,359	18,576	19,128	26,188	25,860	29,501	398,741
Southern Cellulose	A3M4, A3M4M, A3M4S, A3MSM	13,874	14,862	12,870	12,454	13,754	16,139	15,971	2,216	32,413	16,017	14,699	13,481	15,849	14,900	13,500	13,911	12,609	14,511	14,319	273,349
City of Chattanooga	A4M4, A4M4M	12,054	13,380	14,461	13,578	12,625	14,540	21,381	17,090	16,050	18,082	13,524	11,305	11,203	11,975	11,039	12,079	12,041	12,307	15,247	263,961
Catoosa Utility District	D5MCM	2,310	1,590		602	4,447	1,385	7,635	27,347	57,143	65,904	16,775	1,020	3,320	9,262	9,391	9,792	11,965	11,746	13,616	226,903
Eranger Medical Center	A2M4, A4M4S, A4MSM	7,911	8,210	7,767	9,375	9,728	12,021	13,379	15,625	15,441	14,345	9,923	8,951	8,271	9,846	9,298	9,709	8,078	6,609	6,690	206,719
Na Industries Inc	A3M4, A3M4M	10,240	11,087	10,196	10,073	9,340	9,457	9,872	9,093	10,769	8,281	9,301	7,964	9,421	8,199	6,942	8,012	7,530	7,094	8,663	175,324
Bunge Foods Corporation	A3M4, A3M4M	7,109	8,640	8,229	9,177	7,933	8,269	8,675	9,705	8,387	9,098	8,585	7,409	7,977	8,199	6,942	6,387	7,172	8,941	4,931	155,633
Memorial Hospital	A2M4, A2M4S, A2MSM	8,398	6,650	6,629	7,255	7,323	7,611	8,138	10,312	12,116	10,938	9,696	8,325	7,363	6,400	7,441	6,552	6,263	6,338	7,364	152,126
BASF Corporation	A3M4, A3M4M	6,657	5,998	6,878	6,535	7,111	6,977	7,867	7,299	7,169	7,903	6,047	6,923	5,040	4,863	6,111	6,552	6,263	6,338	7,364	125,895
BASF Corporation	A3M4	6,141	9,448	9,578	10,568	8,976	11,152	11,035	7,265	17,526	13,118	5,391	7,893	1,527							119,618
Mueller Co	A3M4, A3M4M	4,373	4,224	4,157	4,644	4,876	5,099	6,506	5,204	5,443	5,749	5,077	4,641	6,567	4,615	3,870	4,881	5,619	6,498	6,426	98,469
Alko Nobel Surface Chemistry	A2M4, A3M4S, A3MSM	4,707	3,648	4,437	7,068	10,503	5,868	4,195	4,180	4,676	4,402	4,457	4,467	3,307	3,280	3,843	4,159	4,013	4,300	4,414	89,924
Blue Cross Blue Shield	A2M4S, A2MSM	4,151	2,731	2,997	3,236	3,460	3,449	4,367	4,754	5,041	5,549	3,860	3,715	2,421	2,632	2,945	2,754	4,405	5,888	5,593	73,948
Harriet Tubman	A4M4S, A4MSM	3,787	4,125	4,611	3,665	3,401	3,513	3,732	3,204	3,672	3,702	4,315	3,556	3,866	4,328	3,710	3,758	3,543	3,425	2,817	70,730
East Lake Courts	A4M4S, A4MSM	6,478	3,090	2,887	2,969	3,467	3,401	3,450	3,204	6,822	3,518	3,275	2,943	3,848	6,566	3,510	4,285	3,717	3,413	3,867	68,563
Farleys and Sathers Candy Co	A3M4, A3M4M	3,849	3,623	3,296	3,083	3,229	3,001	3,400	3,153	2,892	3,638	3,533	2,892	2,222	2,334	3,127	3,334	3,543	3,867	4,021	62,088
Chattem Chemicals Inc	A3M4	2,848	3,699	3,820	3,537	3,731	3,806	4,167	3,846	3,473	2,594	2,547	2,576	2,383	2,943	2,657	2,457	2,834	2,675		56,593
University of TN	A2M4, A2M4S, A2MSM, A4M4, A4M4S, A4MSM	4,028	2,741	4,308	4,199	5,121	5,861	5,437	5,578	5,537	7,847	6,244	4,984	4,870	2,610	4,400	4,559	6,054	4,562	4,519	93,459
Hamilton Co Jail	A4M4S, A4MSM	2,599	3,015	2,702	2,540	2,638	2,793	2,792	3,106	2,829	3,205	2,649	2,584	2,611	2,702	2,420	2,673	2,846	2,529	2,805	52,038
Emma Wheeler Homes	A4M4S, A4MSM	2,492	3,096	2,625	2,514	3,463	2,150	3,125	3,241	2,799	3,090	2,439	2,402	2,404	2,849	2,355	2,420	2,285	2,317	2,567	50,633
Grand Total		316,700	329,113	323,154	324,881	327,506	360,457	425,346	404,175	487,073	476,790	360,694	302,627	296,031	314,540	300,860	323,165	344,007	369,078	392,916	6,775,113

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Responsible Witness: Donald J. Petry

Question:

3. Provide an updated schedule TAW_R_TRAFAQ_020_Attachment 1 (Excel file) for MFG-20 titled "Customers by Classification" to include January – June 2012 in the same format as the monthly data provided for 2009 -2011.

Response:

Please refer to the attachment.

Tennessee American Water Company
Customers by Classification
Data Request TAW_R_TRADR1#003

2009	Residential	Commercial	Industrial	Fire Service	OPA	Resale	Total
January	64,737	8,253	123	1,119	671	9	74,912
February	64,416	8,201	122	1,140	667	9	74,555
March	64,484	8,130	122	1,252	667	9	74,664
April	64,404	8,165	118	1,251	668	9	74,615
May	64,409	8,172	118	1,236	672	9	74,616
June	64,548	8,212	118	1,235	673	9	74,795
July	64,646	8,219	118	1,233	672	9	74,897
August	64,728	8,241	118	1,234	672	9	75,002
September	64,632	8,216	118	1,232	672	9	74,879
October	64,469	8,204	118	1,229	673	9	74,702
November	64,428	8,178	118	1,231	672	9	74,636
December	64,315	8,132	117	1,229	673	9	74,475

2010	Residential	Commercial	Industrial	Fire Service	OPA	Resale	Total
January	64,245	8,126	116	1,228	676	9	74,400
February	64,307	8,097	116	1,222	677	9	74,428
March	64,458	8,097	116	1,228	679	9	74,587
April	64,687	8,120	115	1,224	681	9	74,836
May	64,727	8,128	116	1,225	680	9	74,885
June	64,902	8,141	115	1,239	678	9	75,084
July	65,038	8,136	115	1,237	679	9	75,214
August	65,076	8,146	115	1,237	680	9	75,263
September	65,123	8,150	115	1,241	679	9	75,317
October	65,061	8,168	114	1,236	676	9	75,264
November	64,922	8,152	114	1,235	671	9	75,103
December	64,811	8,121	113	1,239	670	9	74,963

2011	Residential	Commercial	Industrial	Fire Service	OPA	Resale	Total
January	64,650	8,112	113	1,234	671	9	74,789
February	64,691	8,097	113	1,236	667	9	74,813
March	64,790	8,144	113	1,238	671	9	74,965
April	64,656	8,120	113	1,240	669	9	74,807
May	64,723	8,143	112	1,238	671	9	74,896
June	64,996	8,149	112	1,237	668	9	75,171
July	65,135	8,152	112	1,238	670	9	75,316
August	65,190	8,147	112	1,241	672	9	75,371
September	65,257	8,137	112	1,237	677	9	75,429
October	65,023	8,125	112	1,236	671	10	75,177
November	64,868	8,101	112	1,238	665	10	74,994
December	65,228	8,120	112	1,245	669	10	75,384

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Responsible Witness: Donald J. Petry

Question:

4. In response to MFG-21 the Company states, "Copies of declining water usage work papers are provided in TAW_R_TRAFQ_013_060112 under the Revenue and Declining Usage folders." Provide the amount of any WNA reflected in this analysis.

Response:

There is no WNA, however, a revenue reduction of \$899,489 was made based on an analysis of declining residential and commercial water usage.

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Responsible Witness: Donald J. Petry

Question:

5. Provide the average water usage for 2009, 2010 and the total six months ending June 30, 2012 in the same format as provided for 2011 on the work sheet titled, "Average Usage Per Customer Per Month." (Exhibit REV-3-Revenue by Class-DJP, Schedule REV-3.1 WP20).

Response:

Please see attached.

Tennessee American Water Company
Docket No. 12-00049
For the Twelve Months Ended December 31, 2009
Average Usage Per Customer Per Month

	Total Company	Chattanooga	Lookout Mountain	Lakeview Water	Suck Creek	Lone Oak
Sales						
Residential	4,423,744	3,992,942	221,491	186,754	15,080	7,477
Commercial	3,914,255	3,854,414	37,313	22,416	103	9
Industrial	2,486,213	2,486,213	-	-	-	-
Other Public Authority	1,038,423	1,025,432	10,411	2,580	-	-
Other Water Utilities	1,397,529	1,397,529	-	-	-	-
Customers						
Residential	71,347	66,344	1,895	2,776	211	121
Commercial	9,133	8,885	80	162	4	2
Industrial	163	163	-	-	-	-
Other Public Authority	772	729	34	9	-	-
Other Water Utilities	4	4	-	-	-	-
Average Usage per Month						
Residential	5.17	5.02	9.74	5.61	5.96	5.15
Commercial	35.72	36.15	38.87	11.53	2.15	0.38
Industrial	1,271.07	1,271.07				
Other Public Authority	112.09	117.22	25.52	23.89		
Other Water Utilities	29,115.19	29,115.19				

Tennessee American Water Company
Docket No. 12-00049
For the Twelve Months Ended December 31, 2010
Average Usage Per Customer Per Month

	Total Company	Chattanooga	Lookout Mountain	Lakeview Water	Suck Creek	Lone Oak
Sales						
Residential	4,555,858	4,089,784	259,127	182,443	16,004	8,500
Commercial	4,037,764	3,958,898	52,934	25,828	86	18
Industrial	2,664,439	2,664,439	-	-	-	-
Other Public Authority	1,119,742	1,107,882	8,622	3,238	-	-
Other Water Utilities	1,388,478	1,388,478	-	-	-	-
Customers						
Residential	68,671	63,684	1,888	2,770	210	119
Commercial	8,777	8,528	84	159	4	2
Industrial	156	156	-	-	-	-
Other Public Authority	751	709	33	9	-	-
Other Water Utilities	4	4	-	-	-	-
Average Usage per Month						
Residential	5.53	5.35	11.44	5.49	6.35	5.95
Commercial	38.34	38.69	52.51	13.54	1.79	0.75
Industrial	1,423.31	1,423.31				
Other Public Authority	124.25	130.22	21.77	29.98		
Other Water Utilities	28,926.63	28,926.63				

Tennessee American Water Company
Docket No. 12-00049
For the Six Months Ended June 30, 2012
Average Usage Per Customer Per Month

	Total Company	Chattanooga	Lookout Mountain	Lakeview Water	Suck Creek	Lone Oak
Sales						
Residential	2,106,929	1,912,242	100,619	83,149	6,817	4,102
Commercial	1,887,388	1,859,113	17,807	10,238	10	220
Industrial	1,267,744	1,267,744	-	-	-	-
Other Public Authority	527,847	521,888	4,761	1,193	5	-
Other Water Utilities	667,217	667,217	-	-	-	-
Customers						
Residential	66,247	61,214	1,945	2,758	209	121
Commercial	8,406	8,167	79	154	4	2
Industrial	155	155	-	-	-	-
Other Public Authority	764	720	36	7	1	-
Other Water Utilities	4	4	-	-	-	-
Average Usage per Month						
Residential	5.30	5.21	8.62	5.02	5.44	5.65
Commercial	37.42	37.94	37.57	11.08	0.42	18.33
Industrial	1,363.17	1,363.17				
Other Public Authority	115.15	120.81	22.04	28.40	0.83	
Other Water Utilities	27,800.71	27,800.71				

**TENNESSEE AMERICAN WATER COMPANY
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Responsible Witness: Donald J. Petry

Question:

6. Update the response to MFG-27 (Excel files) to include 2009, 2010 and 2012 through June. (TAW_R_TRAFAQ_027_Attachment 2-SFR Adjustments and Attachment 1-Spl Contract Cust)

Response:

Please refer to the attachment.

TAW_R_TRADR1#006Attachment
Page 1 of 4

Tennessee American Water Company
Special Contract Customers
2010 Usage (CCF)

Account Name	Jan-10	Feb-10	Mar-10	Apr-10	May-10	Jun-10	Jul-10	Aug-10	Sep-10	Oct-10	Nov-10	Dec-10	Total
City of Fort Oglethorpe	44,288	35,241	33,462	37,409	33,378	36,723	41,485	36,056	39,630	34,042	34,238	33,073	439,025
	44,288	35,241	33,462	37,409	33,378	36,723	41,485	36,056	39,630	34,042	34,238	33,073	439,025
Walden's Ridge Utility Distict	36,335	33,561	30,437	30,222	32,716	40,392	43,220	44,023	47,864	53,509	41,982	36,683	470,944
	36,335	33,561	30,437	30,222	32,716	40,392	43,220	44,023	47,864	53,509	41,982	36,683	470,944
Town of Signal Mountain	31,110	30,349	27,467	34,149	36,085	35,108	48,755	49,259	53,465	51,039	36,569	28,596	461,951
	31,110	30,349	27,467	34,149	36,085	35,108	48,755	49,259	53,465	51,039	36,569	28,596	461,951
Catoosa Utility District	-	1,300	2,081	-	2,085	105	4,140	2,575	1,115	830	-	2,310	16,541
	-	1,300	2,081	-	2,085	105	4,140	2,575	1,115	830	-	2,310	16,541

Tennessee American Water Company
Special Contract Customers
2011 Usage (CCF)

Account Name	Jan-11	Feb-11	Mar-11	Apr-11	May-11	Jun-11	Jul-11	Aug-11	Sep-11	Oct-11	Nov-11	Dec-11	Total
City of Fort Oglethorpe	37,452	38,038	34,955	33,007	41,465	43,283	43,946	40,897	45,169	36,559	34,178	35,409	464,358
	37,452	38,038	34,955	33,007	41,465	43,283	43,946	40,897	45,169	36,559	34,178	35,409	464,358
Walden's Ridge Utility Distict	40,551	36,725	32,905	32,656	34,594	52,225	42,545	46,162	43,474	38,122	28,081	26,855	454,895
	40,551	36,725	32,905	32,656	34,594	52,225	42,545	46,162	43,474	38,122	28,081	26,855	454,895
Town of Signal Mountain	15,547	14,847	14,557	14,139	16,090	22,851	19,575	20,562	18,771	16,030	13,732	13,656	200,357
	15,385	13,440	12,945	14,640	17,975	32,950	24,630	31,740	27,965	20,195	13,650	12,940	238,455
	30,932	28,287	27,502	28,779	34,065	55,801	44,205	52,302	46,736	36,225	27,382	26,596	438,812
Catoosa Utility District	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	119	-	-	9,412	12,583	12,049	1,580	-	-	35,743
	1,590	-	602	4,328	1,385	7,635	17,935	44,560	53,855	15,195	1,020	3,320	151,425
	1,590	-	602	4,447	1,385	7,635	27,347	57,143	65,904	16,775	1,020	3,320	187,168

Tennessee American Water Company
Special Contract Customers
2012 Usage (CCF)

Account Name	Jan-12	Feb-12	Mar-12	Apr-12	May-12	Jun-12						Total
City of Fort Oglethorpe	41,525	37,812	41,389	38,043	39,480	44,064						242,313
	41,525	37,812	41,389	38,043	39,480	44,064						242,313
Walden's Ridge Utility Distict	29,829	25,511	27,347	35,026	41,642	40,124						199,479
	29,829	25,511	27,347	35,026	41,642	40,124						199,479
Town of Signal Mountain	28,459	23,948	25,427	31,991	39,678	38,497						188,000
	28,459	23,948	25,427	31,991	39,678	38,497	-	-	-	-	-	188,000
Catoosa Utility District	-	-	-	-	12,585	24,840						37,425
	-	-	-	-	12,585	24,840	-	-	-	-	-	37,425

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Responsible Witness: Donald J. Petry

Question:

7. Provide an update to the Orcom Bill Analysis provided for 2009 and 2010 in MFG-20 to include monthly data for 2011 and 2012 through June. Also, explain why the Orcom Bill Analysis shows partial customers for a month (i.e., Chattanooga, 1/09, 5/8 in. = 60,055.43).

Response:

The monthly Bill Analysis data for 2011 through June 2012 is on the enclosed CD.

In the course of billing there are customers that don't go through a full billing cycle, therefore they become partial customers. Customers new to the system for any period less than a full billing cycle, or customers that leave before a billing cycle is completed would be considered partial customers.

Due to the voluminous nature of this request, the information is only provided electronically.

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Responsible Witness: Donald J. Petry

Question:

8. Provide a customer summary and a usage summary (taken separately from Orcom Bill Analysis) by city, by month, by customer class, by pipe size for January 2009 – June 2012. The enclosed disc (file name "Attachment A") provides a template to follow in Excel. Copy this template to a separate tab for each city to provide customer counts and save as your usage file. Complete a separate template with the requested usage information.

Response:

Please refer to the attachment.

Tennessee American Water Company
Docket # 12-00049
TRA 1-8
2009-Jun 2012 Customer Summary

Chatanooga

RESIDENTIAL

	Jan-09	Feb-09	Mar-09	Apr-09	May-09	Jun-09	Jul-09	Aug-09	Sep-09	Oct-09	Nov-09	Dec-09	2009 TOTAL
5/8"	60,057	57,246	62,913	57,845	55,749	62,847	63,252	59,961	60,109	60,021	53,607	66,034	719,642
3/4"	92	80	100	91	78	96	105	95	97	93	77	100	1,105
1"	155	145	158	152	142	182	177	175	175	172	144	182	1,959
1-1/2"	19	18	20	19	16	18	18	17	17	17	15	19	213
2"	10	10	10	10	14	9	9	9	9	9	9	9	117
3"	0	0	0	0	0	0	0	0	0	0	0	0	1
4"													0
6"													0
8"													0
10"													0
12"													0
Total	60,333	57,499	63,202	58,118	55,999	63,153	63,561	60,257	60,408	60,313	53,852	66,344	723,037

COMMERCIAL

5/8"	5,153	4,895	5,361	4,904	4,875	5,350	5,415	5,154	5,155	5,132	4,629	5,590	61,613
3/4"	134	124	144	124	129	138	144	135	134	134	119	151	1,610
1"	1,385	1,309	1,447	1,344	1,314	1,451	1,478	1,406	1,404	1,403	1,258	1,528	16,728
1-1/2"	360	342	367	348	343	361	376	361	359	354	331	376	4,278
2"	1,067	1,017	1,106	1,039	980	1,150	1,123	1,065	1,066	1,070	954	1,166	12,804
3"	39	41	40	45	40	43	42	40	44	43	40	36	493
4"	23	24	24	24	24	25	24	24	24	24	23	25	288
6"	12	12	12	12	11	13	12	12	12	12	11	13	144
8"	2	2	2	2	2	2	2	2	2	2	2	2	24
10"													0
12"													0
Total	8,177	7,766	8,503	7,842	7,719	8,533	8,616	8,199	8,200	8,175	7,368	8,885	97,983

INDUSTRIAL

5/8"	22	21	23	21	21	23	23	22	22	22	20	24	264
3/4"	2	2	2	2	2	2	2	2	2	2	2	2	24
1"	24	23	24	21	22	22	23	22	22	23	22	24	272
1-1/2"	7	7	7	7	7	7	7	7	7	6	6	6	81
2"	82	81	94	82	80	84	83	82	82	82	79	85	997
3"													0
4"	19	17	21	17	18	16	16	17	17	17	17	17	209
6"	7	7	7	6	5	5	5	5	5	5	5	5	67
8"	0	0	0	0	0	0	0	0	0	0	0	0	0
10"													0
12"													0
Total	163	158	178	156	155	159	159	157	157	157	151	163	1,914

OTHER WATER UTILITIES

5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"	1	1	1	1	1	1	1	1	1	1	1	1	12
3"													0
4"	3	3	3	3	3	3	3	3	3	3	3	3	36
6"													0
8"													0
10"													0
12"													0
Total	4	4	4	4	4	4	4	4	4	4	4	4	48

OTHER PUBLIC AUTHORITY

5/8"	166	159	167	161	157	171	168	165	166	166	157	176	1,980
3/4"	12	12	12	12	11	13	12	12	12	12	11	13	144
1"	129	126	130	127	121	136	132	128	127	127	118	136	1,537
1-1/2"	68	66	69	67	65	68	70	68	68	69	67	71	817
2"	294	278	301	288	281	292	302	288	287	290	276	301	3,479
3"	6	5	7	6	7	7	9	8	8	6	5	7	81
4"	21	21	21	21	20	22	21	21	21	21	20	22	252
6"	3	3	3	3	3	3	3	3	3	3	3	3	36
8"													0
10"													0
12"													0
Total	700	671	710	685	665	712	717	693	693	694	657	729	8,326

MISCELLANEOUS

5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0

Grand Total

69,376	66,097	72,597	66,805	64,542	72,561	73,058	69,310	69,462	69,343	62,032	76,125	831,308
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Tennessee American Water Company
Docket # 12-00049
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2009-Jun 2012 Customer Summary

Chatanooga

RESIDENTIAL

	Jan-10	Feb-10	Mar-10	Apr-10	May-10	Jun-10	Jul-10	Aug-10	Sep-10	Oct-10	Nov-10	Dec-10	2010 TOTAL
5/8"	59,890	56,486	64,214	58,514	56,853	63,350	60,304	61,478	59,357	60,308	57,099	63,390	721,244
3/4"	85	74	97	88	80	105	93	95	94	92	82	97	1,083
1"	150	141	156	152	156	175	168	169	168	171	159	168	1,933
1-1/2"	17	16	18	19	18	20	20	20	20	19	18	19	225
2"	9	9	9	9	9	9	9	9	9	9	9	9	108
3"	0	0	0	0	0	1	0	0	0	0	0	0	2
4"													0
6"													0
8"													0
10"													0
12"													0
Total	60,151	56,726	64,495	58,783	57,116	63,660	60,595	61,771	59,649	60,599	57,367	63,684	724,594

COMMERCIAL

5/8"	5,098	4,831	5,686	4,718	4,820	5,344	5,076	5,350	4,768	5,088	4,768	5,328	60,874
3/4"	137	123	152	128	121	144	132	139	125	133	123	141	1,596
1"	1,394	1,312	1,514	1,341	1,323	1,496	1,412	1,470	1,372	1,427	1,347	1,499	16,906
1-1/2"	355	339	374	346	343	371	355	361	349	356	341	372	4,259
2"	1,058	1,013	1,110	1,039	1,015	1,096	1,059	1,077	1,044	1,063	1,024	1,111	12,709
3"	35	33	31	31	35	36	34	36	39	41	42	37	429
4"	24	24	24	24	24	25	25	25	25	25	25	25	295
6"	12	12	12	12	14	13	13	13	13	13	13	13	153
8"	2	2	2	2	2	2	2	2	2	2	2	2	24
10"													0
12"													0
Total	8,115	7,688	8,905	7,640	7,696	8,526	8,108	8,473	7,736	8,148	7,684	8,528	97,246

INDUSTRIAL

5/8"	22	21	27	18	21	23	22	26	18	22	21	23	264
3/4"	2	2	3	1	2	2	2	3	1	2	2	2	24
1"	23	21	25	20	20	22	21	23	19	21	20	22	257
1-1/2"	6	6	7	5	6	6	6	7	5	6	6	6	72
2"	82	81	87	79	81	84	82	86	78	82	81	82	985
3"													0
4"	17	17	17	17	17	17	17	17	17	17	17	17	204
6"	5	5	5	5	5	5	5	5	5	4	4	4	57
8"	0	0	0	0	0	0	0	0	0	0	0	0	0
10"													0
12"													0
Total	157	153	171	145	152	159	155	167	143	154	151	156	1,864

OTHER WATER UTILITIES

5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"	1	1	1	1	1	1	1	1	1	1	1	1	12
3"													0
4"	3	3	3	3	3	3	3	3	3	3	3	2	35
6"													0
8"													0
10"													0
12"													0
Total	4	4	4	4	4	4	4	4	4	4	4	3	47

OTHER PUBLIC AUTHORITY

5/8"	167	164	179	176	168	173	169	174	163	168	165	171	2,036
3/4"	12	12	13	11	12	12	12	13	11	12	12	12	144
1"	124	126	136	126	125	131	127	133	126	129	124	129	1,535
1-1/2"	68	68	72	66	66	70	68	70	65	68	67	70	819
2"	288	278	302	290	279	302	290	292	291	290	273	296	3,470
3"	6	5	7	8	8	10	9	9	9	9	7	8	95
4"	20	22	21	21	21	21	21	21	21	21	21	21	252
6"	3	3	3	3	3	3	3	3	3	3	3	3	36
8"													0
10"													0
12"													0
Total	689	679	733	700	682	722	699	715	689	700	672	709	8,388

MISCELLANEOUS

5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0

Grand Total

69,115	65,250	74,307	67,272	65,650	73,069	69,560	71,131	68,221	69,605	65,878	73,080	832,139
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Chatanooga

RESIDENTIAL

	Jan-11	Feb-11	Mar-11	Apr-11	May-11	Jun-11	Jul-11	Aug-11	Sep-11	Oct-11	Nov-11	Dec-11	2011 TOTAL
5/8"	62,629	57,744	65,130	57,240	60,165	60,282	55,173	66,075	58,307	60,509	57,244	60,374	720,872
3/4"	82	82	82	84	87	90	82	101	91	91	77	80	1,031
1"	155	146	152	137	146	158	149	166	153	153	133	137	1,783
1-1/2"	18	18	18	13	13	13	13	13	14	15	15	15	178
2"	9	9	9	6	6	6	6	6	6	6	6	6	82
3"	0	0	0	0	0	1	0	0	0	0	0	0	1
4"													0
6"													0
8"													0
10"													0
12"													0
Total	62,893	57,999	65,391	57,480	60,416	60,550	55,424	66,361	58,571	60,774	57,475	60,612	723,946

COMMERCIAL

5/8"	5,437	4,670	5,651	4,764	5,016	5,028	4,407	5,675	4,624	5,001	4,744	4,999	60,017
3/4"	138	124	143	126	130	131	114	149	123	128	118	128	1,552
1"	1,489	1,347	1,532	1,386	1,435	1,441	1,301	1,590	1,369	1,444	1,365	1,436	17,135
1-1/2"	380	348	376	353	366	371	345	397	357	369	356	370	4,389
2"	1,079	1,036	1,113	1,028	1,063	1,075	1,018	1,131	1,048	1,065	1,022	1,067	12,747
3"	43	33	35	32	35	38	48	47	49	49	50	44	503
4"	25	25	26	24	25	25	25	25	25	25	25	25	300
6"	13	13	13	15	14	14	14	14	14	14	14	14	166
8"	2	2	2	2	2	2	2	2	2	2	2	2	24
10"													0
12"													0
Total	8,607	7,597	8,891	7,732	8,087	8,124	7,276	9,030	7,611	8,095	7,695	8,085	96,832

INDUSTRIAL

5/8"	26	18	29	20	23	21	16	26	17	21	20	21	257
3/4"	3	1	3	2	2	2	1	3	1	2	2	2	24
1"	23	19	23	22	22	21	18	24	19	21	20	21	253
1-1/2"	7	5	7	6	6	6	5	7	5	6	6	6	72
2"	85	74	86	86	83	81	76	86	77	81	80	81	976
3"													0
4"	17	17	17	17	18	17	15	20	17	17	17	16	205
6"	4	4	4	4	4	4	2	6	4	4	4	4	48
8"													0
10"													0
12"													0
Total	165	138	169	157	158	152	133	172	140	152	149	151	1,836

OTHER WATER UTILITIES

5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"	1	1	1	1	1	1	1	1	1	1	1	1	12
3"													0
4"	4	3	3	3	3	3	3	3	3	3	3	3	37
6"													0
8"													0
10"													0
12"													0
Total	5	4	4	4	4	4	4	4	4	4	4	4	49

OTHER PUBLIC AUTHORITY

5/8"	178	154	187	154	163	165	152	181	155	166	162	166	1,983
3/4"	13	11	13	12	12	12	10	14	11	12	12	12	144
1"	132	119	138	121	127	127	117	134	122	128	127	130	1,521
1-1/2"	69	67	70	68	69	69	65	73	67	71	68	69	825
2"	297	283	295	282	287	289	274	299	285	292	278	290	3,450
3"	7	7	7	7	9	10	9	11	10	9	6	8	102
4"	21	21	21	21	21	21	21	21	21	21	21	21	252
6"	3	3	3	3	3	3	3	3	3	3	3	3	36
8"													0
10"													0
12"													0
Total	720	666	734	668	691	696	650	736	675	702	677	698	8,313

MISCELLANEOUS

5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0

Grand Total

72,390	66,404	75,189	66,041	69,356	69,526	63,487	76,303	67,001	69,728	66,001	69,551	830,975
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Tennessee American Water Company
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2009-Jun 2012 Customer Summary

Chatanooga

RESIDENTIAL

	Jan-12	Feb-12	Mar-12	Apr-12	May-12	Jun-12	6MTD Jun-12
5/8"	66,032	60,277	60,390	58,260	63,129	60,961	369,050
3/4"	88	78	77	80	84	85	492
1"	143	132	133	134	146	147	835
1-1/2"	13	13	13	13	13	13	78
2"	6	6	6	6	6	6	36
3"	0	0	0	0	0	1	1
4"							0
6"							0
8"							0
10"							0
12"							0
Total	66,282	60,506	60,619	58,494	63,378	61,214	370,491

COMMERCIAL

5/8"	5,677	4,994	4,997	4,617	5,419	5,053	30,758
3/4"	146	126	127	119	134	129	781
1"	1,596	1,428	1,425	1,377	1,495	1,438	8,760
1-1/2"	401	372	375	366	389	379	2,282
2"	1,141	1,065	1,066	1,045	1,096	1,073	6,487
3"	40	33	37	44	48	50	250
4"	25	25	25	25	25	29	154
6"	14	14	13	15	14	14	84
8"	2	2	2	2	2	2	12
10"							0
12"							0
Total	9,042	8,059	8,067	7,611	8,622	8,167	49,568

INDUSTRIAL

5/8"	26	20	22	17	25	21	131
3/4"	3	2	2	1	3	2	13
1"	24	21	21	19	23	22	131
1-1/2"	7	6	6	6	8	7	40
2"	88	82	82	78	86	82	498
3"							0
4"	17	16	16	16	16	17	97
6"	4	4	4	4	4	4	24
8"	0	1	1	1	1	1	5
10"							0
12"							0
Total	170	152	154	142	166	155	939

OTHER WATER UTILITIES

5/8"							0
3/4"							0
1"							0
1-1/2"							0
2"	1	1	1	1	1	1	6
3"							0
4"	3	3	3	3	3	3	18
6"							0
8"							0
10"							0
12"							0
Total	4	4	4	4	4	4	24

OTHER PUBLIC AUTHORITY

5/8"	184	164	175	176	196	184	1,079
3/4"	13	12	12	11	13	12	73
1"	140	130	130	124	136	132	792
1-1/2"	72	70	68	66	72	69	417
2"	308	289	289	290	294	290	1,760
3"	8	7	7	7	9	9	47
4"	21	21	21	21	21	21	126
6"	3	3	3	3	3	3	18
8"							0
10"							0
12"							0
Total	750	696	705	698	744	720	4,314

MISCELLANEOUS

5/8"							0
3/4"							0
1"							0
1-1/2"							0
2"							0
3"							0
4"							0
6"							0
8"							0
10"							0
12"							0
Total	0	0	0	0	0	0	0

Grand Total

76,248	69,417	69,549	66,948	72,914	70,260	425,336
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Tennessee American Water Company
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2009-Jun 2012 Customer Summary

	Jan-09	Feb-09	Mar-09	Apr-09	May-09	Jun-09	Jul-09	Aug-09	Sep-09	Oct-09	Nov-09	Dec-09	2009 TOTAL
Lookout Mountain													
RESIDENTIAL													
5/8"	1,706	1,701	1,696	1,707	1,721	1,723	1,730	1,732	1,745	1,736	1,728	1,735	20,658
3/4"	39	39	39	39	41	42	42	42	43	42	42	41	492
1"	111	110	114	114	120	119	118	120	120	119	118	115	1,399
1-1/2"	2	2	2	2	2	2	2	2	2	2	2	2	24
2"	3	3	3	3	2	4	3	3	3	3	2	2	34
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	1,860	1,855	1,853	1,865	1,886	1,890	1,895	1,900	1,914	1,903	1,892	1,895	22,607
COMMERCIAL													
5/8"	53	53	52	53	54	54	56	56	56	55	53	51	646
3/4"	2	2	2	2	2	2	2	2	2	2	2	2	24
1"	16	16	15	16	27	21	20	21	21	21	17	16	229
1-1/2"	3	3	3	3	3	3	3	3	3	3	3	3	36
2"	7	7	7	7	7	7	9	9	9	9	9	8	95
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	81	81	79	81	93	88	90	91	91	90	84	80	1,029
INDUSTRIAL													
5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
OTHER WATER UTILITIES													
5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
OTHER PUBLIC AUTHORITY													
5/8"	13	13	13	13	13	13	13	13	13	13	13	13	156
3/4"	1	1	1	1	1	1	1	1	1	2	1	3	15
1"	10	10	10	10	10	10	12	11	11	11	11	11	127
1-1/2"	1	1	1	1	1	1	1	1	1	1	1	1	12
2"	6	6	6	6	6	6	6	6	6	6	6	6	72
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	31	31	31	31	31	31	33	32	32	33	32	34	382
MISCELLANEOUS													
5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	1,972	1,967	1,963	1,978	2,010	2,009	2,018	2,023	2,037	2,025	2,008	2,009	24,019

Tennessee American Water Compar
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	Jan-10	Feb-10	Mar-10	Apr-10	May-10	Jun-10	Jul-10	Aug-10	Sep-10	Oct-10	Nov-10	Dec-10	2010 TOTAL
Lookout Mountain													
RESIDENTIAL													
5/8"	1,720	1,718	1,716	1,730	1,733	1,734	1,728	1,737	1,741	1,741	1,737	1,726	20,761
3/4"	42	42	42	43	43	44	42	46	44	44	42	41	515
1"	111	115	113	114	117	120	118	122	120	124	121	117	1,412
1-1/2"	2	2	2	2	2	2	2	2	2	2	2	2	24
2"	2	2	2	2	2	2	2	2	2	2	2	2	24
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	1,877	1,879	1,875	1,890	1,897	1,901	1,893	1,909	1,910	1,913	1,903	1,888	22,736
COMMERCIAL													
5/8"	50	50	50	49	51	53	54	54	54	53	53	52	624
3/4"	2	2	2	2	2	2	2	2	2	2	2	2	24
1"	16	16	16	16	20	21	19	22	20	20	20	19	224
1-1/2"	3	3	3	3	3	3	3	4	4	4	4	4	41
2"	7	7	7	7	7	9	9	9	9	9	9	7	96
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	78	78	78	77	83	88	87	91	89	88	88	84	1,009
INDUSTRIAL													
5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
OTHER WATER UTILITIES													
5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
OTHER PUBLIC AUTHORITY													
5/8"	13	14	14	14	14	14	14	14	14	14	14	14	167
3/4"	2	1	1	1	1	1	1	1	1	1	1	1	13
1"	11	11	11	11	11	11	11	11	11	11	11	11	132
1-1/2"	1	1	1	1	1	1	1	1	1	1	1	1	12
2"	6	6	6	6	6	6	6	6	6	6	6	6	72
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	33	33	33	33	33	33	33	33	33	33	33	33	397
MISCELLANEOUS													
5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	1,988	1,990	1,987	2,000	2,013	2,022	2,013	2,033	2,032	2,035	2,024	2,005	24,141

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	Jan-11	Feb-11	Mar-11	Apr-11	May-11	Jun-11	Jul-11	Aug-11	Sep-11	Oct-11	Nov-11	Dec-11	2011 TOTAL
Lookout Mountain													
RESIDENTIAL													
5/8"	1,721	1,706	1,737	1,729	1,739	1,749	1,747	1,773	1,770	1,764	1,757	1,750	20,941
3/4"	40	39	41	41	43	44	43	43	43	42	41	41	501
1"	115	110	115	115	118	121	119	127	125	124	121	119	1,429
1-1/2"	2	2	2	2	2	2	2	2	2	2	2	2	24
2"	2	2	2	2	2	2	2	2	2	2	2	2	24
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	1,880	1,859	1,897	1,888	1,903	1,918	1,913	1,948	1,941	1,934	1,923	1,914	22,918
COMMERCIAL													
5/8"	52	51	53	52	52	55	54	56	55	55	54	53	641
3/4"	2	2	2	2	2	2	2	2	2	2	2	2	24
1"	15	15	15	15	16	17	20	20	20	20	20	18	212
1-1/2"	4	4	4	4	4	4	4	4	4	4	4	4	48
2"	7	7	7	7	7	8	9	9	9	9	9	7	95
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	80	79	81	80	81	86	89	91	90	90	89	84	1,020
INDUSTRIAL													
5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
OTHER WATER UTILITIES													
5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
OTHER PUBLIC AUTHORITY													
5/8"	14	14	14	14	14	14	14	14	14	14	14	13	167
3/4"	1	1	1	1	1	1	1	1	1	1	1	1	12
1"	11	11	11	11	11	11	10	12	11	11	11	11	132
1-1/2"	1	1	1	1	1	1	1	1	1	1	1	1	12
2"	6	6	6	6	6	6	5	7	6	6	6	6	72
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	33	33	33	33	33	33	31	35	33	33	33	32	395
MISCELLANEOUS													
5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	1,992	1,971	2,011	2,001	2,017	2,037	2,033	2,074	2,065	2,057	2,045	2,029	24,333

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	Jan-12	Feb-12	Mar-12	Apr-12	May-12	Jun-12	6MTD Jun-12
Lookout Mountain							
RESIDENTIAL							
5/8"	1,742	1,744	1,742	1,759	1,759	1,777	10,523
3/4"	38	38	38	39	41	41	235
1"	118	117	117	118	122	123	714
1-1/2"	2	2	2	2	2	2	12
2"	2	2	2	2	2	2	12
3"							0
4"							0
6"							0
8"							0
10"							0
12"							0
Total	1,902	1,903	1,901	1,921	1,925	1,945	11,496
COMMERCIAL							
5/8"	53	53	54	54	54	53	321
3/4"	2	2	2	2	2	2	12
1"	15	15	15	15	38	11	108
1-1/2"	4	4	4	4	4	4	24
2"	7	7	7	7	9	9	46
3"							0
4"							0
6"							0
8"							0
10"							0
12"							0
Total	81	81	82	82	107	79	512
INDUSTRIAL							
5/8"							0
3/4"							0
1"							0
1-1/2"							0
2"							0
3"							0
4"							0
6"							0
8"							0
10"							0
12"							0
Total	0	0	0	0	0	0	0
OTHER WATER UTILITIES							
5/8"							0
3/4"							0
1"							0
1-1/2"							0
2"							0
3"							0
4"							0
6"							0
8"							0
10"							0
12"							0
Total	0	0	0	0	0	0	0
OTHER PUBLIC AUTHORITY							
5/8"	13	14	14	15	15	16	87
3/4"	1	1	1	1	1	1	6
1"	12	12	12	12	12	12	72
1-1/2"	1	1	1	1	1	1	6
2"	6	6	6	6	6	6	36
3"							0
4"							0
6"							0
8"							0
10"							0
12"							0
Total	33	34	34	35	35	36	207
MISCELLANEOUS							
5/8"							0
3/4"							0
1"							0
1-1/2"							0
2"							0
3"							0
4"							0
6"							0
8"							0
10"							0
12"							0
Total	0	0	0	0	0	0	0
Grand Total	2,016	2,018	2,017	2,038	2,067	2,060	12,215

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	Jan-09	Feb-09	Mar-09	Apr-09	May-09	Jun-09	Jul-09	Aug-09	Sep-09	Oct-09	Nov-09	Dec-09	2009 TOTAL
Lakeview													
RESIDENTIAL													
5/8"	2,801	2,815	2,797	2,809	2,804	2,815	2,800	2,794	2,793	2,785	2,774	2,773	33,560
3/4"													0
1"	4	4	4	4	3	3	3	3	3	4	3	3	41
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	2,805	2,819	2,801	2,813	2,807	2,818	2,803	2,797	2,796	2,789	2,777	2,776	33,602
COMMERCIAL													
5/8"	138	140	137	136	135	135	136	137	137	137	137	137	1,642
3/4"													0
1"	18	18	18	18	18	18	18	18	18	18	18	18	216
1-1/2"													0
2"	7	7	7	7	7	7	7	7	7	7	7	7	84
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	163	165	162	161	160	160	161	162	162	162	162	162	1,942
INDUSTRIAL													
5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
OTHER WATER UTILITIES													
5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
OTHER PUBLIC AUTHORITY													
5/8"	5	5	5	5	5	5	5	5	5	5	5	5	60
3/4"													0
1"	1	1	1	1	1	1	1	1	1	1	1	1	12
1-1/2"	1	1	1	1	1	1	1	1	1	1	1	1	12
2"	2	2	2	2	2	2	2	2	2	2	2	2	24
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	9	9	9	9	9	9	9	9	9	9	9	9	108
MISCELLANEOUS													
5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	2,977	2,993	2,972	2,983	2,976	2,987	2,972	2,968	2,966	2,960	2,949	2,947	35,651

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	Jan-10	Feb-10	Mar-10	Apr-10	May-10	Jun-10	Jul-10	Aug-10	Sep-10	Oct-10	Nov-10	Dec-10	2010 TOTAL
Lakeview													
RESIDENTIAL													
5/8"	2,776	2,781	2,757	2,766	2,759	2,771	2,772	2,777	2,759	2,757	2,755	2,767	33,195
3/4"													0
1"	3	3	3	3	3	3	3	3	3	3	3	3	36
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	2,779	2,784	2,760	2,769	2,762	2,774	2,775	2,780	2,762	2,760	2,758	2,770	33,231
COMMERCIAL													
5/8"	136	140	138	137	133	137	133	136	137	135	135	135	1,633
3/4"													0
1"	18	18	18	18	18	18	18	18	18	18	18	18	216
1-1/2"													0
2"	7	7	7	7	7	7	7	7	7	7	8	6	84
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	161	165	163	162	158	162	158	161	162	160	161	159	1,933
INDUSTRIAL													
5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
OTHER WATER UTILITIES													
5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
OTHER PUBLIC AUTHORITY													
5/8"	5	5	5	5	5	5	5	5	5	5	5	5	60
3/4"													0
1"	1	1	1	1	1	1	1	1	1	1	1	1	12
1-1/2"	1	1	1	1	1	1	1	1	1	1	1	1	12
2"	2	2	2	2	2	2	2	2	2	2	2	2	24
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	9	9	9	9	9	9	9	9	9	9	9	9	108
MISCELLANEOUS													
5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	2,949	2,958	2,932	2,940	2,930	2,945	2,942	2,950	2,932	2,930	2,928	2,938	35,272

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	Jan-11	Feb-11	Mar-11	Apr-11	May-11	Jun-11	Jul-11	Aug-11	Sep-11	Oct-11	Nov-11	Dec-11	2011 TOTAL
Lakeview													
RESIDENTIAL													
5/8"	2,763	2,732	2,723	2,734	2,724	2,734	2,731	2,746	2,727	2,734	2,738	2,748	32,833
3/4"													0
1"	3	3	3	3	3	2	2	3	3	3	3	3	34
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	2,766	2,735	2,726	2,737	2,727	2,736	2,733	2,749	2,730	2,737	2,741	2,751	32,868
COMMERCIAL													
5/8"	133	131	131	131	129	131	126	129	128	127	130	134	1,558
3/4"													0
1"	18	18	18	18	18	18	18	18	18	18	18	18	216
1-1/2"													0
2"	7	7	7	7	7	7	7	7	7	7	7	7	84
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	158	156	156	156	154	156	151	154	153	152	155	159	1,859
INDUSTRIAL													
5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
OTHER WATER UTILITIES													
5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
OTHER PUBLIC AUTHORITY													
5/8"	5	5	5	5	3	4	4	3	3	3	3	3	46
3/4"													0
1"	1	1	1	1	2	1	1	1	1	1	1	1	13
1-1/2"	1	1	1	1	1	1	1	1	1	1	1	1	12
2"	2	2	2	2	2	2	2	2	2	2	2	2	24
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	9	9	9	9	8	8	8	7	7	7	7	7	95
MISCELLANEOUS													
5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	2,933	2,900	2,891	2,902	2,889	2,900	2,893	2,910	2,890	2,896	2,902	2,917	34,822

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	Jan-12	Feb-12	Mar-12	Apr-12	May-12	Jun-12	6MTD Jun-12
Lakeview							
RESIDENTIAL							
5/8"	2,751	2,739	2,736	2,744	2,739	2,755	16,464
3/4"							0
1"	3	3	3	3	3	3	18
1-1/2"							0
2"							0
3"							0
4"							0
6"							0
8"							0
10"							0
12"							0
Total	2,754	2,742	2,739	2,747	2,742	2,758	16,482
COMMERCIAL							
5/8"	153	110	128	128	132	129	779
3/4"							0
1"	18	18	19	18	18	18	108
1-1/2"							0
2"	7	7	7	7	7	7	42
3"							0
4"							0
6"							0
8"							0
10"							0
12"							0
Total	178	135	153	152	157	154	929
INDUSTRIAL							
5/8"							0
3/4"							0
1"							0
1-1/2"							0
2"							0
3"							0
4"							0
6"							0
8"							0
10"							0
12"							0
Total	0	0	0	0	0	0	0
OTHER WATER UTILITIES							
5/8"							0
3/4"							0
1"							0
1-1/2"							0
2"							0
3"							0
4"							0
6"							0
8"							0
10"							0
12"							0
Total	0	0	0	0	0	0	0
OTHER PUBLIC AUTHORITY							
5/8"	3	3	3	3	3	3	18
3/4"							0
1"	1	1	1	2	1	1	7
1-1/2"	1	1	1	1	1	1	6
2"	2	2	2	2	2	2	12
3"							0
4"							0
6"							0
8"							0
10"							0
12"							0
Total	7	7	7	8	7	7	43
MISCELLANEOUS							
5/8"							0
3/4"							0
1"							0
1-1/2"							0
2"							0
3"							0
4"							0
6"							0
8"							0
10"							0
12"							0
Total	0	0	0	0	0	0	0
Grand Total	2,939	2,884	2,899	2,908	2,905	2,920	17,454

[illegible]

	2010												
	Jan-10	Feb-10	Mar-10	Apr-10	May-10	Jun-10	Jul-10	Aug-10	Sep-10	Oct-10	Nov-10	Dec-10	TOTAL
Ft Oglethorpe													
RESIDENTIAL													
5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
COMMERCIAL													
5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
INDUSTRIAL													
5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
OTHER WATER UTILITIES													
5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
OTHER PUBLIC AUTHORITY													
5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS													
5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0

	Jan-11	Feb-11	Mar-11	Apr-11	May-11	Jun-11	Jul-11	Aug-11	Sep-11	Oct-11	Nov-11	Dec-11	2011 TOTAL
Ft Oglethorpe													
RESIDENTIAL													
5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
COMMERCIAL													
5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
INDUSTRIAL													
5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
OTHER WATER UTILITIES													
5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
OTHER PUBLIC AUTHORITY													
5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS													
5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0

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	Jan-12	Feb-12	Mar-12	Apr-12	May-12	Jun-12	6MTD Jun-12
Ft Oglethorpe							
RESIDENTIAL							
5/8"							0
3/4"							0
1"							0
1-1/2"							0
2"							0
3"							0
4"							0
6"							0
8"							0
10"							0
12"							0
Total	0	0	0	0	0	0	0
COMMERCIAL							
5/8"							0
3/4"							0
1"							0
1-1/2"							0
2"							0
3"							0
4"							0
6"							0
8"							0
10"							0
12"							0
Total	0	0	0	0	0	0	0
INDUSTRIAL							
5/8"							0
3/4"							0
1"							0
1-1/2"							0
2"							0
3"							0
4"							0
6"							0
8"							0
10"							0
12"							0
Total	0	0	0	0	0	0	0
OTHER WATER UTILITIES							
5/8"							0
3/4"							0
1"							0
1-1/2"							0
2"							0
3"							0
4"							0
6"							0
8"							0
10"							0
12"							0
Total	0	0	0	0	0	0	0
OTHER PUBLIC AUTHORITY							
5/8"							0
3/4"							0
1"							0
1-1/2"							0
2"							0
3"							0
4"							0
6"							0
8"							0
10"							0
12"							0
Total	0	0	0	0	0	0	0
MISCELLANEOUS							
5/8"							0
3/4"							0
1"							0
1-1/2"							0
2"							0
3"							0
4"							0
6"							0
8"							0
10"							0
12"							0
Total	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0

Tennessee American Water Company
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2009-Jun 2012 Customer Summary

Lone Oak

RESIDENTIAL

	Jan-09	Feb-09	Mar-09	Apr-09	May-09	Jun-09	Jul-09	Aug-09	Sep-09	Oct-09	Nov-09	Dec-09	2009 TOTAL	Jan-10
5/8"	117	116	117	133	117	117	118	120	119	119	118	121	1,432	118
3/4"													0	
1"													0	
1-1/2"													0	
2"													0	
3"													0	
4"													0	
6"													0	
8"													0	
10"													0	
12"													0	
Total	117	116	117	133	117	117	118	120	119	119	118	121	1,432	118

COMMERCIAL

5/8"	1	1	1	1	1	1	1	1	1	1	2	2	14	2
3/4"													0	
1"													0	
1-1/2"													0	
2"													0	
3"													0	
4"													0	
6"													0	
8"													0	
10"													0	
12"													0	
Total	1	1	1	1	1	1	1	1	1	1	2	2	14	2

INDUSTRIAL

5/8"													0	
3/4"													0	
1"													0	
1-1/2"													0	
2"													0	
3"													0	
4"													0	
6"													0	
8"													0	
10"													0	
12"													0	
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0

OTHER WATER UTILITIES

5/8"													0	
3/4"													0	
1"													0	
1-1/2"													0	
2"													0	
3"													0	
4"													0	
6"													0	
8"													0	
10"													0	
12"													0	
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0

OTHER PUBLIC AUTHORITY

5/8"													0	
3/4"													0	
1"													0	
1-1/2"													0	
2"													0	
3"													0	
4"													0	
6"													0	
8"													0	
10"													0	
12"													0	
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0

MISCELLANEOUS

5/8"													0	
3/4"													0	
1"													0	
1-1/2"													0	
2"													0	
3"													0	
4"													0	
6"													0	
8"													0	
10"													0	
12"													0	
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Grand Total

118	117	118	134	118	118	119	121	120	121	120	123	1,447	120
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	Feb-10	Mar-10	Apr-10	May-10	Jun-10	Jul-10	Aug-10	Sep-10	Oct-10	Nov-10	Dec-10	2010 TOTAL
Lone Oak												
RESIDENTIAL												
5/8"	123	118	118	118	119	119	118	117	119	120	119	1,427
3/4"												0
1"												0
1-1/2"												0
2"												0
3"												0
4"												0
6"												0
8"												0
10"												0
12"												0
Total	123	118	118	118	119	119	118	117	119	120	119	1,427
COMMERCIAL												
5/8"	2	2	3	3	3	3	3	3	3	3	2	31
3/4"												0
1"												0
1-1/2"												0
2"												0
3"												0
4"												0
6"												0
8"												0
10"												0
12"												0
Total	2	2	3	3	3	3	3	3	3	3	2	31
INDUSTRIAL												
5/8"												0
3/4"												0
1"												0
1-1/2"												0
2"												0
3"												0
4"												0
6"												0
8"												0
10"												0
12"												0
Total	0	0	0	0	0	0	0	0	0	0	0	0
OTHER WATER UTILITIES												
5/8"												0
3/4"												0
1"												0
1-1/2"												0
2"												0
3"												0
4"												0
6"												0
8"												0
10"												0
12"												0
Total	0	0	0	0	0	0	0	0	0	0	0	0
OTHER PUBLIC AUTHORITY												
5/8"												0
3/4"												0
1"												0
1-1/2"												0
2"												0
3"												0
4"												0
6"												0
8"												0
10"												0
12"												0
Total	0	0	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS												
5/8"												0
3/4"												0
1"												0
1-1/2"												0
2"												0
3"												0
4"												0
6"												0
8"												0
10"												0
12"												0
Total	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	125	120	121	121	122	122	121	120	122	123	121	1,458

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Lone Oak

RESIDENTIAL

	Jan-11	Feb-11	Mar-11	Apr-11	May-11	Jun-11	Jul-11	Aug-11	Sep-11	Oct-11	Nov-11	Dec-11	2011 TOTAL
5/8"	118	117	117	121	124	125	122	123	124	125	122	123	1,461
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	118	117	117	121	124	125	122	123	124	125	122	123	1,461

COMMERCIAL

5/8"	2	2	2	2	2	2	2	2	2	2	2	2	24
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	2	2	2	2	2	2	2	2	2	2	2	2	24

INDUSTRIAL

5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0

OTHER WATER UTILITIES

5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0

OTHER PUBLIC AUTHORITY

5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0

MISCELLANEOUS

5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0

Grand Total

120	119	119	123	126	127	124	125	126	127	124	125	1,485
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	Jan-12	Feb-12	Mar-12	Apr-12	May-12	Jun-12	6MTD Jun-12
Lone Oak							
RESIDENTIAL							
5/8"	124	121	122	122	121	121	731
3/4"							0
1"							0
1-1/2"							0
2"							0
3"							0
4"							0
6"							0
8"							0
10"							0
12"							0
Total	124	121	122	122	121	121	731
COMMERCIAL							
5/8"	2	2	2	2	2	2	12
3/4"							0
1"							0
1-1/2"							0
2"							0
3"							0
4"							0
6"							0
8"							0
10"							0
12"							0
Total	2	2	2	2	2	2	12
INDUSTRIAL							
5/8"							0
3/4"							0
1"							0
1-1/2"							0
2"							0
3"							0
4"							0
6"							0
8"							0
10"							0
12"							0
Total	0	0	0	0	0	0	0
OTHER WATER UTILITIES							
5/8"							0
3/4"							0
1"							0
1-1/2"							0
2"							0
3"							0
4"							0
6"							0
8"							0
10"							0
12"							0
Total	0	0	0	0	0	0	0
OTHER PUBLIC AUTHORITY							
5/8"							0
3/4"							0
1"							0
1-1/2"							0
2"							0
3"							0
4"							0
6"							0
8"							0
10"							0
12"							0
Total	0	0	0	0	0	0	0
MISCELLANEOUS							
5/8"							0
3/4"							0
1"							0
1-1/2"							0
2"							0
3"							0
4"							0
6"							0
8"							0
10"							0
12"							0
Total	0	0	0	0	0	0	0
Grand Total	126	123	124	124	123	123	743

Tennessee American Water Company
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Suck Creek

RESIDENTIAL

	Jan-09	Feb-09	Mar-09	Apr-09	May-09	Jun-09	Jul-09	Aug-09	Sep-09	Oct-09	Nov-09	Dec-09	2009 TOTAL
5/8"	208	207	205	232	204	209	205	208	211	209	215	210	2,523
3/4"													0
1"	1	1	1	1	1	1	1	1	1	1	1	1	12
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	209	208	206	234	205	210	206	209	212	210	216	211	2,535

COMMERCIAL

5/8"	4	4	4	5	4	4	4	4	4	4	4	4	48
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	4	4	4	5	4	4	4	4	4	4	4	4	48

INDUSTRIAL

5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0

OTHER WATER UTILITIES

5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0

OTHER PUBLIC AUTHORITY

5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0

MISCELLANEOUS

5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0

Grand Total

213	212	210	238	209	214	210	213	216	214	220	215	2,583
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Tennessee American Water Company
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Suck Creek

RESIDENTIAL

	Jan-10	Feb-10	Mar-10	Apr-10	May-10	Jun-10	Jul-10	Aug-10	Sep-10	Oct-10	Nov-10	Dec-10	2010 TOTAL
5/8"	208	213	209	210	212	211	209	213	212	210	210	209	2,525
3/4"													0
1"	1	1	1	1	1	1	1	1	1	1	1	1	12
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	209	214	210	211	213	212	210	214	213	211	211	210	2,537

COMMERCIAL

5/8"	4	4	4	4	4	4	4	4	4	4	4	4	48
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	4	4	4	4	4	4	4	4	4	4	4	4	48

INDUSTRIAL

5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0

OTHER WATER UTILITIES

5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0

OTHER PUBLIC AUTHORITY

5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0

MISCELLANEOUS

5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0

Grand Total

213	218	214	215	217	216	214	218	217	215	215	214	2,585
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Tennessee American Water Company
Docket # 12-00049
TRA 1-8
2009-Jun 2012 Customer Summary

Suck Creek

RESIDENTIAL

	Jan-11	Feb-11	Mar-11	Apr-11	May-11	Jun-11	Jul-11	Aug-11	Sep-11	Oct-11	Nov-11	Dec-11	2011 TOTAL
5/8"	209	209	209	209	208	208	206	205	207	209	206	205	2,491
3/4"													0
1"	1	1	1	1	1	1	1	1	1	1	1	1	12
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	210	210	210	210	209	209	207	206	208	210	207	206	2,503

COMMERCIAL

5/8"	4	4	4	4	4	4	4	4	4	4	4	4	48
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	4	4	4	4	4	4	4	4	4	4	4	4	48

INDUSTRIAL

5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0

OTHER WATER UTILITIES

5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0

OTHER PUBLIC AUTHORITY

5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0

MISCELLANEOUS

5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0

Grand Total

214	214	214	214	213	213	211	210	212	214	211	210	2,551
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Tennessee American Water Company
Docket # 12-00049
TRA 1-8
2009-Jun 2012 Customer Summary

Suck Creek

RESIDENTIAL

	Jan-12	Feb-12	Mar-12	Apr-12	May-12	Jun-12	6MTD Jun-12
5/8"	203	205	204	206	209	208	1,234
3/4"							0
1"	1	1	1	1	1	1	6
1-1/2"							0
2"							0
3"							0
4"							0
6"							0
8"							0
10"							0
12"							0
Total	204	206	205	207	210	209	1,240

COMMERCIAL

5/8"	4	4	4	4	4	4	24
3/4"							0
1"							0
1-1/2"							0
2"							0
3"							0
4"							0
6"							0
8"							0
10"							0
12"							0
Total	4	4	4	4	4	4	24

INDUSTRIAL

5/8"							0
3/4"							0
1"							0
1-1/2"							0
2"							0
3"							0
4"							0
6"							0
8"							0
10"							0
12"							0
Total	0	0	0	0	0	0	0

OTHER WATER UTILITIES

5/8"							0
3/4"							0
1"							0
1-1/2"							0
2"							0
3"							0
4"							0
6"							0
8"							0
10"							0
12"							0
Total	0	0	0	0	0	0	0

OTHER PUBLIC AUTHORITY

5/8"							0
3/4"							0
1"	0	0	0	0	1	1	2
1-1/2"							0
2"							0
3"							0
4"							0
6"							0
8"							0
10"							0
12"							0
Total	0	0	0	0	1	1	2

MISCELLANEOUS

5/8"							0
3/4"							0
1"							0
1-1/2"							0
2"							0
3"							0
4"							0
6"							0
8"							0
10"							0
12"							0
Total	0	0	0	0	0	0	0

Grand Total

208	210	209	211	215	214	1,266
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Tennessee American Water Company
Docket # 12-00049
TRA 1-8
2009-Jun 2012 Usage Summary

Chatanooga

RESIDENTIAL

	Jan-09	Feb-09	Mar-09	Apr-09	May-09	Jun-09	Jul-09	Aug-09	Sep-09	Oct-09	Nov-09	Dec-09	2009 TOTAL
5/8"	315,739	303,079	301,496	291,591	298,296	359,045	425,369	358,369	341,992	310,844	275,014	330,131	3,910,965
3/4"	475	399	536	687	800	1,511	2,918	2,096	1,537	780	543	578	12,860
1"	1,658	1,703	1,739	1,809	2,246	4,527	8,133	7,005	5,453	3,067	1,786	2,691	41,817
1-1/2"	764	567	860	726	470	1,125	898	594	625	628	387	817	8,461
2"	751	794	746	935	3,296	2,071	3,004	2,636	1,681	913	969	805	18,601
3"				45	78	51		1	57	6			238
4"													0
6"													0
8"													0
10"													0
12"													0
Total	319,387	306,542	305,377	295,793	305,186	368,330	440,322	370,701	351,345	316,238	278,699	335,022	3,992,942

COMMERCIAL

5/8"	34,201	34,406	34,683	32,093	32,524	41,818	46,646	41,445	40,923	37,302	30,770	36,236	443,047
3/4"	1,621	1,804	1,690	1,768	1,815	2,570	3,087	2,835	2,492	2,048	1,552	2,029	25,311
1"	30,765	30,438	32,193	32,498	32,957	45,002	53,361	50,191	44,818	40,232	31,340	36,265	460,060
1-1/2"	19,476	20,100	19,386	19,471	20,184	23,866	30,440	29,738	26,531	23,435	20,472	21,341	274,440
2"	176,855	180,218	178,788	182,588	163,427	206,659	221,315	205,124	203,828	188,921	161,438	189,040	2,258,201
3"	1,376	1,034	1,231	1,310	1,277	1,804	2,362	2,849	1,863	1,143	849	940	18,038
4"	17,536	22,609	19,373	18,985	21,981	18,769	23,636	18,518	21,640	19,870	20,543	20,078	243,538
6"	7,311	7,345	6,389	6,938	6,481	6,422	5,926	6,284	6,391	6,252	6,553	6,332	78,624
8"	1,371	2,669	1,755	4,285	4,515	6,249	8,229	6,410	4,650	4,546	4,777	3,699	53,155
10"													0
12"													0
Total	290,512	300,623	295,488	299,936	285,161	353,159	395,002	363,394	353,136	323,749	278,294	315,960	3,854,414

INDUSTRIAL

5/8"	142	204	147	148	122	135	211	195	201	128	110	95	1,838
3/4"	8	7	9	13	6	8	5	6	7	7	6	6	88
1"	1,448	1,473	1,842	1,319	1,009	1,106	1,171	1,278	1,244	1,208	1,464	1,705	16,267
1-1/2"	1,860	1,832	1,628	1,702	1,580	1,480	1,262	1,394	1,588	1,689	1,676	1,495	19,186
2"	(23,678)	65,962	69,270	68,928	63,267	65,501	72,762	70,077	70,263	67,883	65,868	62,891	718,994
3"													0
4"	51,632	62,342	64,122	75,366	74,436	83,054	88,656	87,608	87,133	76,811	81,194	69,659	902,013
6"	80,386	81,522	63,496	67,658	57,082	68,443	72,557	71,273	72,806	66,206	66,376	60,022	827,827
8"													0
10"													0
12"													0
Total	111,798	213,342	200,514	215,134	197,502	219,727	236,624	231,831	233,242	213,932	216,694	195,873	2,486,213

OTHER WATER UTILITIES

5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"				6									6
6"													0
8"													0
10"													0
12"													0
Total	0	0	0	6	0	0	0	0	0	0	0	0	6

OTHER PUBLIC AUTHORITY

5/8"	988	829	753	885	1,033	992	1,085	1,389	1,065	931	832	791	11,573
3/4"	73	50	68	58	51	85	120	93	113	66	44	93	914
1"	1,049	1,149	1,046	1,302	1,619	2,236	3,208	2,370	2,485	1,942	1,431	1,292	21,129
1-1/2"	2,184	2,401	2,840	3,000	4,144	4,458	6,744	7,386	5,872	4,910	3,270	3,359	50,568
2"	36,241	40,598	37,788	39,301	40,792	43,528	52,858	47,045	49,903	46,765	39,360	38,820	512,999
3"	1,923	14	4,645	15	2,233	2,178	4,719	2,297	2,447	2,716	6	5,629	28,822
4"	27,951	27,495	25,459	30,898	33,122	34,942	40,081	37,526	36,623	32,924	30,681	25,754	383,456
6"	313	471	603	747	966	2,276	2,921	2,945	1,621	1,200	984	924	15,971
8"													0
10"													0
12"													0
Total	70,722	73,007	73,202	76,206	83,960	90,695	111,736	101,051	100,129	91,454	76,608	76,662	1,025,432

MISCELLANEOUS

5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0

Grand Total

792,419	893,514	874,581	887,075	871,809	1,031,911	1,183,684	1,066,977	1,037,852	945,373	850,295	923,517	11,359,007
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Tennessee American Water Company
Docket # 12-00049
TRA 1-8
2009-Jun 2012 Usage Summary

Chatanooga

RESIDENTIAL

	Jan-10	Feb-10	Mar-10	Apr-10	May-10	Jun-10	Jul-10	Aug-10	Sep-10	Oct-10	Nov-10	Dec-10	2010 TOTAL
5/8"	315,313	280,943	299,844	305,628	303,072	363,996	384,612	373,492	383,217	356,029	300,906	323,010	3,990,062
3/4"	421	290	434	689	869	1,948	2,421	2,221	2,469	2,282	1,353	856	16,253
1"	1,960	2,029	1,656	1,946	3,256	4,738	6,637	7,964	8,260	8,283	4,776	2,717	54,222
1-1/2"	669	412	777	607	381	856	796	1,215	941	857	558	459	8,528
2"	824	636	653	880	2,191	2,269	2,389	2,150	2,555	2,757	2,344	965	20,613
3"						81	13			12			106
4"													0
6"													0
8"													0
10"													0
12"													0
Total	319,187	284,310	303,364	309,750	309,769	373,888	396,868	387,042	397,442	370,220	309,937	328,007	4,089,784

COMMERCIAL

5/8"	33,739	31,022	35,402	34,282	32,746	39,157	39,366	43,279	42,093	40,921	35,026	35,559	442,592
3/4"	1,386	1,206	1,613	1,804	1,927	2,255	2,444	2,979	2,955	3,079	2,266	2,180	26,094
1"	32,102	26,199	31,641	31,865	36,527	44,793	48,841	50,954	48,533	46,442	37,146	34,995	470,038
1-1/2"	20,404	17,549	20,032	21,346	21,432	24,625	27,627	29,957	29,492	28,331	24,264	22,887	287,946
2"	177,881	163,066	174,329	191,543	178,954	204,125	218,071	214,581	223,293	204,582	181,415	182,512	2,314,352
3"	973	530	836	794	2,052	1,994	2,616	1,378	2,993	3,952	2,190	1,378	21,686
4"	18,344	15,552	15,134	17,364	21,247	21,457	26,068	24,802	25,742	22,601	18,373	17,020	243,704
6"	7,436	7,247	7,242	7,538	7,903	6,556	6,471	7,023	7,854	7,208	7,718	6,935	87,131
8"	4,571	9,557	5,961	4,814	5,254	4,456	5,906	4,918	6,229	5,425	4,006	4,258	65,355
10"													0
12"													0
Total	296,836	271,928	292,190	311,350	308,042	349,418	377,410	379,871	389,184	362,541	312,404	307,724	3,958,898

INDUSTRIAL

5/8"	79	96	284	320	350	105	379	289	256	271	174	169	2,772
3/4"	5	6	11	2	5	7	7	9	7	6	5	5	75
1"	1,707	1,581	1,608	1,710	1,504	1,391	1,423	1,401	1,454	1,462	1,506	1,624	18,371
1-1/2"	1,688	1,661	1,455	1,585	1,378	1,490	1,499	1,967	1,846	1,703	1,683	1,666	19,621
2"	64,050	62,237	63,391	68,833	68,375	70,957	74,303	75,124	76,028	71,984	68,069	65,139	828,490
3"													0
4"	68,621	75,373	79,612	91,978	97,128	93,975	96,347	98,606	106,830	87,263	75,115	64,929	1,035,777
6"	62,479	57,711	58,034	64,903	62,405	62,056	68,470	65,208	71,824	67,434	62,933	55,876	759,333
8"													0
10"													0
12"													0
Total	198,629	198,665	204,395	229,331	231,145	229,981	242,428	242,604	258,245	230,123	209,485	189,408	2,664,439

OTHER WATER UTILITIES

5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"					4	13							17
6"													0
8"													0
10"													0
12"													0
Total	0	0	0	0	4	13	0	0	0	0	0	0	17

OTHER PUBLIC AUTHORITY

5/8"	845	864	962	1,050	987	1,026	1,213	1,386	1,329	1,061	1,037	889	12,649
3/4"	65	43	49	76	65	108	132	66	57	109	132	73	975
1"	1,567	1,491	1,227	1,252	1,691	2,238	2,536	6,104	4,158	2,740	2,988	2,267	30,259
1-1/2"	2,739	2,632	3,344	3,497	5,597	5,374	5,488	6,547	6,689	7,379	5,761	3,786	58,833
2"	38,064	35,317	39,348	42,466	40,216	45,867	52,317	52,453	59,933	53,971	46,520	40,056	546,528
3"	2,870	5	5,793	3,229	21	6,420	3,584	3,388	3,986	3,349	32	6,482	39,159
4"	25,225	24,890	25,440	32,400	32,968	39,468	41,815	41,208	33,361	42,168	30,669	27,065	396,677
6"	612	327	672	833	1,362	2,690	2,535	3,762	2,842	3,584	2,430	1,153	22,802
8"													0
10"													0
12"													0
Total	71,987	65,569	76,835	84,803	82,907	103,191	109,620	114,914	112,355	114,361	89,569	81,771	1,107,882

MISCELLANEOUS

5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0

Grand Total

886,639	820,472	876,784	935,234	931,867	1,056,491	1,126,326	1,124,431	1,157,226	1,077,245	921,395	906,910	11,821,020
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Tennessee American Water Company
Docket # 12-00049
TRA 1-8
2009-Jun 2012 Usage Summary

Chatanooga

RESIDENTIAL

	Jan-11	Feb-11	Mar-11	Apr-11	May-11	Jun-11	Jul-11	Aug-11	Sep-11	Oct-11	Nov-11	Dec-11	2011 TOTAL
5/8"	316,359	286,946	298,213	266,942	307,234	390,326	345,967	409,385	378,875	322,123	276,781	289,731	3,888,882
3/4"	541	395	403	605	835	2,547	2,291	3,089	2,782	1,759	885	589	16,721
1"	1,467	1,955	1,282	1,546	2,696	6,558	6,599	7,939	7,384	4,592	2,690	1,787	46,495
1-1/2"	289	296	331	507	297	1,048	1,043	980	636	272	264	277	6,240
2"	753	742	695	954	438	1,756	2,315	3,039	3,087	2,164	1,268	374	17,585
3"			23			54	28	7					112
4"													0
6"													0
8"													0
10"													0
12"													0
Total	319,409	290,334	300,947	270,554	311,500	402,289	358,243	424,439	392,764	330,910	281,888	292,758	3,976,035

COMMERCIAL

5/8"	35,196	31,549	33,100	30,876	35,035	42,612	39,402	45,014	40,968	37,558	32,204	30,866	434,380
3/4"	1,652	1,428	1,534	1,812	2,012	2,574	2,502	2,869	2,717	2,249	1,899	1,520	24,768
1"	30,210	27,555	29,976	29,228	35,111	46,710	47,000	53,509	52,157	46,916	36,474	32,160	467,006
1-1/2"	20,853	22,046	22,530	20,044	22,539	28,627	28,676	32,500	32,027	26,196	22,928	21,466	300,432
2"	178,790	159,922	172,208	169,540	181,271	215,425	213,702	217,150	221,614	193,615	170,537	163,973	2,257,747
3"	2,323	1,582	923	1,126	2,349	3,516	3,468	3,304	5,196	3,425	3,071	1,532	31,815
4"	17,400	16,501	16,093	15,856	16,308	21,371	22,277	24,907	24,512	18,370	16,831	16,106	226,532
6"	7,581	7,347	6,802	7,161	8,012	9,959	9,279	9,054	10,160	9,006	8,366	7,829	100,556
8"	3,594	3,540	3,282	3,494	3,474	4,379	4,757	5,080	5,661	3,861	3,743	2,460	47,325
10"													0
12"													0
Total	297,599	271,470	286,448	279,137	306,111	375,173	371,063	393,387	395,012	341,196	296,053	277,912	3,890,561

INDUSTRIAL

5/8"	227	150	221	156	175	163	149	359	167	203	167	150	2,287
3/4"	12	1	9	3	8	5	10	21	6	14	8	6	103
1"	1,675	1,574	1,690	1,637	1,632	1,729	1,703	1,782	1,607	1,645	1,459	1,412	19,545
1-1/2"	1,726	1,621	1,592	1,565	868	735	735	1,021	684	778	677	684	12,686
2"	65,109	66,509	68,603	71,435	69,963	75,432	77,465	75,824	73,162	64,582	64,888	58,944	831,916
3"													0
4"	70,163	74,436	82,995	79,396	92,621	94,709	83,590	94,476	96,489	79,152	69,376	64,287	981,690
6"	58,967	52,757	51,683	50,280	55,806	58,962	52,315	80,029	64,615	57,627	53,225	53,531	689,797
8"													0
10"													0
12"													0
Total	197,879	197,048	206,793	204,472	221,073	231,735	215,967	253,512	236,730	204,001	189,800	179,014	2,538,024

OTHER WATER UTILITIES

5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0

OTHER PUBLIC AUTHORITY

5/8"	776	781	1,321	1,219	1,291	1,748	1,707	1,693	1,514	1,508	1,487	1,565	16,610
3/4"	63	62	80	89	95	81	102	78	62	55	43	51	861
1"	2,076	1,074	1,515	1,406	1,899	2,767	3,309	2,999	3,087	2,525	2,059	1,884	26,600
1-1/2"	3,234	4,002	3,592	4,482	5,739	6,322	7,777	7,726	7,669	6,973	5,410	3,558	66,484
2"	37,504	39,970	40,445	40,939	48,085	54,551	51,788	55,389	59,812	48,784	41,021	39,532	557,820
3"	3,096	2,924	2,988	3,468	3,404	4,075	199	7,229	3,694	3,560	3	3,848	38,488
4"	26,719	26,896	27,568	27,802	34,670	39,697	42,775	41,063	40,365	31,732	25,793	24,278	389,358
6"	544	1,142	1,467	827	1,257	4,026	3,583	3,420	4,814	2,672	1,698	1,251	26,701
8"													0
10"													0
12"													0
Total	74,012	76,851	78,976	80,232	96,440	113,267	111,240	119,597	121,017	97,809	77,514	75,967	1,122,922

MISCELLANEOUS

5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0

Grand Total

888,899	835,703	873,164	834,395	935,124	1,122,464	1,056,513	1,190,935	1,145,523	973,916	845,255	825,651	11,527,542
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Tennessee American Water Company
Docket # 12-00049
TRA 1-8
2009-Jun 2012 Usage Summary

Chatanooga

RESIDENTIAL

	Jan-12	Feb-12	Mar-12	Apr-12	May-12	Jun-12	6MTD Jun-12
5/8"	321,288	270,235	277,836	297,465	351,977	363,897	1,882,698
3/4"	515	337	372	889	1,707	1,909	5,729
1"	1,684	1,441	1,514	2,900	4,849	5,087	17,475
1-1/2"	275	219	227	550	477	380	2,128
2"	167	218	217	489	865	2,088	4,044
3"			16		53	99	168
4"							0
6"							0
8"							0
10"							0
12"							0
Total	323,929	272,450	280,182	302,293	359,928	373,460	1,912,242

COMMERCIAL

5/8"	33,130	28,674	29,979	30,363	36,558	39,045	197,749
3/4"	1,457	1,324	1,962	1,744	2,431	2,729	11,647
1"	35,014	30,173	31,517	34,871	42,889	46,825	221,289
1-1/2"	22,038	19,842	20,847	22,722	25,483	31,173	142,105
2"	173,537	157,163	168,302	185,532	188,587	197,529	1,070,650
3"	1,419	1,321	2,834	4,015	5,318	9,680	24,587
4"	16,447	17,666	16,566	17,758	21,475	22,763	112,675
6"	8,270	8,497	8,801	8,817	8,899	9,047	52,331
8"	2,919	3,755	3,245	4,488	6,019	5,654	26,080
10"							0
12"							0
Total	294,231	268,415	284,053	310,310	337,659	364,445	1,859,113

INDUSTRIAL

5/8"	211	127	140	219	180	226	1,103
3/4"	6	3	6	2	16	8	41
1"	1,512	1,442	1,522	1,455	1,543	1,378	8,852
1-1/2"	647	691	767	692	790	750	4,337
2"	62,895	61,182	65,925	63,590	62,053	64,165	379,810
3"							0
4"	62,089	65,339	69,402	79,065	77,566	88,027	441,488
6"	61,112	58,792	65,910	64,855	63,365	64,369	378,403
8"		10,000	10,315	10,916	12,326	10,153	53,710
10"							0
12"							0
Total	188,472	197,576	213,987	220,794	217,839	229,076	1,267,744

OTHER WATER UTILITIES

5/8"							0
3/4"							0
1"							0
1-1/2"							0
2"							0
3"							0
4"							0
6"							0
8"							0
10"							0
12"							0
Total	0	0	0	0	0	0	0

OTHER PUBLIC AUTHORITY

5/8"	891	636	1,304	1,331	1,755	1,660	7,577
3/4"	40	51	72	92	95	82	432
1"	1,483	1,468	1,248	1,423	2,464	2,655	10,741
1-1/2"	2,990	3,857	4,253	3,547	6,661	6,721	28,029
2"	38,538	38,736	41,247	45,974	46,634	45,644	256,773
3"	6,572	3,511	4,299	3,724	3,419	3,888	25,413
4"	26,868	25,792	27,857	33,509	32,641	36,724	183,391
6"	856	756	862	1,135	1,743	4,180	9,532
8"							0
10"							0
12"							0
Total	78,238	74,807	81,142	90,735	95,412	101,554	521,888

MISCELLANEOUS

5/8"							0
3/4"							0
1"							0
1-1/2"							0
2"							0
3"							0
4"							0
6"							0
8"							0
10"							0
12"							0
Total	0	0	0	0	0	0	0

Grand Total

884,870	813,248	859,364	924,132	1,010,838	1,068,535	5,560,987
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Tennessee American Water Company
Docket # 12-00049
TRA 1-8
2009-Jun 2012 Usage Summary

	Jan-09	Feb-09	Mar-09	Apr-09	May-09	Jun-09	Jul-09	Aug-09	Sep-09	Oct-09	Nov-09	Dec-09	2009 TOTAL
Lookout Mountain													
RESIDENTIAL													
5/8"	13,138	10,883	10,029	11,886	14,451	20,950	27,037	21,664	19,661	12,320	11,770	12,005	185,794
3/4"	378	279	233	306	337	682	1,042	911	672	425	323	309	5,897
1"	1,107	797	908	1,101	2,391	4,086	5,534	4,279	3,024	1,569	1,286	1,140	27,222
1-1/2"	0	0	4	56	40	86	295	221	221	38	1	0	962
2"	94	79	88	96	101	552	186	129	125	98	37	31	1,616
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	14,717	12,038	11,262	13,445	17,320	26,356	34,094	27,204	23,703	14,450	13,417	13,485	221,491
COMMERCIAL													
5/8"	392	298	322	403	424	959	1,065	808	651	433	437	472	6,664
3/4"	0	0	0	0	4	201	405	389	289	2	0	0	1,290
1"	144	194	415	399	426	797	1,500	1,037	806	181	247	235	6,381
1-1/2"	385	276	276	392	324	492	540	463	454	326	296	386	4,610
2"	583	424	504	769	1,038	1,572	6,114	2,444	2,476	662	970	812	18,368
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	1,504	1,192	1,517	1,963	2,216	4,021	9,624	5,141	4,676	1,604	1,950	1,905	37,313
INDUSTRIAL													
5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
OTHER WATER UTILITIES													
5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
OTHER PUBLIC AUTHORITY													
5/8"	9	12	7	9	56	235	334	271	140	60	26	18	1,177
3/4"	0	0	0	0	0	10	28	0	0	2	0	0	40
1"	184	148	146	187	220	392	455	349	430	234	135	58	2,938
1-1/2"	23	18	23	45	34	65	91	83	51	29	29	20	511
2"	292	342	337	544	470	318	335	294	443	392	988	990	5,745
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	508	520	513	785	780	1,020	1,243	997	1,064	717	1,178	1,086	10,411
MISCELLANEOUS													
5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	16,729	13,750	13,292	16,193	20,316	31,397	44,961	33,342	29,443	16,771	16,545	16,476	269,215

Tennessee American Water Compar
Docket # 12-00049
TRA 1-8
2009-Jun 2012 Usage Summary

	Jan-10	Feb-10	Mar-10	Apr-10	May-10	Jun-10	Jul-10	Aug-10	Sep-10	Oct-10	Nov-10	Dec-10	2010 TOTAL
Lookout Mountain													
RESIDENTIAL													
5/8"	12,290	10,971	10,355	13,611	15,481	17,953	26,750	23,519	30,390	24,231	16,522	11,810	213,883
3/4"	449	283	351	371	418	673	994	1,171	1,138	848	568	333	7,597
1"	1,058	1,399	896	1,327	2,903	2,879	5,210	4,584	5,750	4,710	2,876	1,236	34,828
1-1/2"	0	0	0	20	309	182	226	242	409	402	216	143	2,149
2"	43	27	33	25	27	106	131	110	73	50	25	20	670
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	13,840	12,680	11,635	15,354	19,138	21,793	33,311	29,626	37,760	30,241	20,207	13,542	259,127
COMMERCIAL													
5/8"	399	307	465	397	413	737	838	886	924	782	464	308	6,920
3/4"	0	0	0	5	166	321	435	357	251	395	74	0	2,004
1"	169	195	426	394	580	1,085	1,046	1,662	1,350	1,117	670	163	8,857
1-1/2"	336	240	301	453	368	491	580	501	540	534	469	458	5,271
2"	679	355	535	1,111	1,114	2,503	6,108	4,387	7,051	2,642	2,524	873	29,882
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	1,583	1,097	1,727	2,360	2,641	5,137	9,007	7,793	10,116	5,470	4,201	1,802	52,934
INDUSTRIAL													
5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
OTHER WATER UTILITIES													
5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
OTHER PUBLIC AUTHORITY													
5/8"	10	16	35	19	107	150	382	196	356	398	235	177	2,081
3/4"	0	0	0	0	0	0	17	2	5	0	1	0	25
1"	76	51	59	156	186	263	471	357	394	255	159	75	2,502
1-1/2"	18	13	22	45	27	51	70	56	40	42	30	19	433
2"	226	237	273	313	308	230	358	219	381	407	343	286	3,581
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	330	317	389	533	628	694	1,298	830	1,176	1,102	768	557	8,622
MISCELLANEOUS													
5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	15,753	14,094	13,751	18,247	22,407	27,624	43,616	38,249	49,052	36,813	25,176	15,901	320,683

Tennessee American Water Compar
Docket # 12-00049
TRA 1-8
2009-Jun 2012 Usage Summary

Lookout Mountain

RESIDENTIAL

	Jan-11	Feb-11	Mar-11	Apr-11	May-11	Jun-11	Jul-11	Aug-11	Sep-11	Oct-11	Nov-11	Dec-11	2011 TOTAL
5/8"	12,288	9,665	9,554	10,577	14,102	27,737	22,094	26,627	28,819	18,493	14,089	10,442	204,487
3/4"	364	278	229	335	511	1,293	804	1,098	925	620	336	305	7,098
1"	1,245	850	932	1,173	2,139	5,714	4,612	5,687	6,273	3,266	2,053	1,050	34,994
1-1/2"	0	0	3	5	352	626	488	356	487	121	55	0	2,493
2"	99	12	15	22	8	20	6	4	7	7	11	10	221
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	13,996	10,805	10,733	12,112	17,112	35,390	28,004	33,772	36,511	22,507	16,544	11,807	249,293

COMMERCIAL

5/8"	280	227	296	410	546	1,246	884	1,002	1,089	709	441	369	7,499
3/4"	0	0	0	26	27	289	336	290	182	128	6	0	1,284
1"	131	197	155	205	271	1,317	1,226	1,304	1,406	985	500	169	7,866
1-1/2"	426	355	413	493	487	654	504	432	369	335	285	335	5,088
2"	674	532	765	1,506	1,139	4,477	2,637	4,724	5,126	1,240	860	445	24,125
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	1,511	1,311	1,629	2,640	2,470	7,983	5,587	7,752	8,172	3,397	2,092	1,318	45,862

INDUSTRIAL

5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0

OTHER WATER UTILITIES

5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0

OTHER PUBLIC AUTHORITY

5/8"	72	40	11	18	21	162	133	420	310	149	186	149	1,671
3/4"	0	0	0	0	0	13	5	2	10	1	0	0	31
1"	88	93	102	143	159	395	319	418	524	215	134	68	2,658
1-1/2"	3	7	27	45	30	55	77	62	46	57	45	39	493
2"	164	231	289	308	322	430	254	827	616	520	481	446	4,888
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	327	371	429	514	532	1,055	788	1,729	1,506	942	846	702	9,741

MISCELLANEOUS

5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0

Grand Total

15,834	12,487	12,791	15,266	20,114	44,428	34,379	43,253	46,189	26,846	19,482	13,827	304,896
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Tennessee American Water Compar
Docket # 12-00049
TRA 1-8
2009-Jun 2012 Usage Summary

	Jan-12	Feb-12	Mar-12	Apr-12	May-12	Jun-12	6MTD Jun-12
Lookout Mountain							
RESIDENTIAL							
5/8"	10,429	8,888	9,750	13,694	19,794	20,826	83,381
3/4"	404	253	242	378	835	861	2,973
1"	1,230	923	870	1,748	3,891	4,514	13,176
1-1/2"	0	0	23	277	351	356	1,007
2"	12	12	12	16	20	10	82
3"							0
4"							0
6"							0
8"							0
10"							0
12"							0
Total	12,075	10,076	10,897	16,113	24,891	26,567	100,619
COMMERCIAL							
5/8"	334	330	328	460	845	884	3,181
3/4"	0	0	0	58	175	312	545
1"	128	131	195	398	789	956	2,597
1-1/2"	263	204	262	308	302	387	1,726
2"	440	290	746	1,714	4,023	2,545	9,758
3"							0
4"							0
6"							0
8"							0
10"							0
12"							0
Total	1,165	955	1,531	2,938	6,134	5,084	17,807
INDUSTRIAL							
5/8"							0
3/4"							0
1"							0
1-1/2"							0
2"							0
3"							0
4"							0
6"							0
8"							0
10"							0
12"							0
Total	0	0	0	0	0	0	0
OTHER WATER UTILITIES							
5/8"							0
3/4"							0
1"							0
1-1/2"							0
2"							0
3"							0
4"							0
6"							0
8"							0
10"							0
12"							0
Total	0	0	0	0	0	0	0
OTHER PUBLIC AUTHORITY							
5/8"	129	102	29	127	182	84	653
3/4"	0	0	0	1	10	5	16
1"	100	42	72	246	254	358	1,072
1-1/2"	0	0	26	59	40	69	194
2"	353	385	430	483	601	574	2,826
3"							0
4"							0
6"							0
8"							0
10"							0
12"							0
Total	582	529	557	916	1,087	1,090	4,761
MISCELLANEOUS							
5/8"							0
3/4"							0
1"							0
1-1/2"							0
2"							0
3"							0
4"							0
6"							0
8"							0
10"							0
12"							0
Total	0	0	0	0	0	0	0
Grand Total	13,822	11,560	12,985	19,967	32,112	32,741	123,187

Tennessee American Water Company
Docket # 12-00049
TRA 1-8
2009-Jun 2012 Usage Summary

[Lakeview](#)

RESIDENTIAL

	Jan-09	Feb-09	Mar-09	Apr-09	May-09	Jun-09	Jul-09	Aug-09	Sep-09	Oct-09	Nov-09	Dec-09	2009 TOTAL
5/8"	15,660	15,211	14,024	13,843	16,384	15,631	18,937	15,358	15,570	15,425	15,723	14,633	186,399
3/4"													0
1"	34	43	19	18	23	23	51	41	27	30	22	24	355
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	15,694	15,254	14,043	13,861	16,407	15,654	18,988	15,399	15,597	15,455	15,745	14,657	186,754

COMMERCIAL

5/8"	880	782	796	799	774	639	1,131	826	801	854	733	739	9,754
3/4"													0
1"	277	344	333	309	347	257	264	281	257	287	332	242	3,530
1-1/2"													0
2"	763	389	331	383	923	970	1,215	1,235	894	956	598	475	9,132
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	1,920	1,515	1,460	1,491	2,044	1,866	2,610	2,342	1,952	2,097	1,663	1,456	22,416

INDUSTRIAL

5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0

OTHER WATER UTILITIES

5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0

OTHER PUBLIC AUTHORITY

5/8"	4	17	77	25	15	8	11	14	21	30	50	17	289
3/4"													0
1"					1								1
1-1/2"													0
2"	257	207	149	169	209	207	69	89	246	163	291	234	2,290
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	261	224	226	194	225	215	80	103	267	193	341	251	2,580

MISCELLANEOUS

5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0

Grand Total

17,875	16,993	15,729	15,546	18,676	17,735	21,678	17,844	17,816	17,745	17,749	16,364	211,750
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Tennessee American Water Compan
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2009-Jun 2012 Usage Summary

	Jan-10	Feb-10	Mar-10	Apr-10	May-10	Jun-10	Jul-10	Aug-10	Sep-10	Oct-10	Nov-10	Dec-10	2010 TOTAL
Lakeview													
RESIDENTIAL													
5/8"	15,658	14,515	13,505	13,826	15,791	15,231	16,606	17,015	15,673	16,140	13,978	14,147	182,085
3/4"													0
1"	31	20	17	17	23	18	75	48	42	23	21	23	358
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	15,689	14,535	13,522	13,843	15,814	15,249	16,681	17,063	15,715	16,163	13,999	14,170	182,443
COMMERCIAL													
5/8"	957	884	891	771	863	838	851	876	946	926	878	804	10,485
3/4"													0
1"	288	436	284	279	292	294	364	557	395	424	268	305	4,186
1-1/2"													0
2"	511	414	364	378	773	1,186	1,223	1,334	1,521	1,713	1,416	324	11,157
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	1,756	1,734	1,539	1,428	1,928	2,318	2,438	2,767	2,862	3,063	2,562	1,433	25,828
INDUSTRIAL													
5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
OTHER WATER UTILITIES													
5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
OTHER PUBLIC AUTHORITY													
5/8"	19	23	25	26	3	2	9	1	9	184	73	74	448
3/4"													0
1"													0
1-1/2"	0	0	0	0	0	36	168	172	130	21	54	16	597
2"	181	161	166	162	154	160	84	165	288	287	142	243	2,193
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	200	184	191	188	157	198	261	338	427	492	269	333	3,238
MISCELLANEOUS													
5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	17,645	16,453	15,252	15,459	17,899	17,765	19,380	20,168	19,004	19,718	16,830	15,936	211,509

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[Lakeview](#)

RESIDENTIAL

	Jan-11	Feb-11	Mar-11	Apr-11	May-11	Jun-11	Jul-11	Aug-11	Sep-11	Oct-11	Nov-11	Dec-11	2011 TOTAL
5/8"	15,999	13,164	12,904	13,262	14,521	16,406	16,098	16,330	16,484	14,467	13,278	13,867	176,780
3/4"													0
1"	19	18	25	22	22	16	50	56	28	35	15	16	322
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	16,018	13,182	12,929	13,284	14,543	16,422	16,148	16,386	16,512	14,502	13,293	13,883	177,102

COMMERCIAL

5/8"	716	716	772	802	828	814	782	751	703	882	690	714	9,170
3/4"													0
1"	345	279	293	248	360	285	298	344	313	301	263	275	3,604
1-1/2"													0
2"	356	292	296	1,008	746	1,019	1,366	2,540	1,290	1,089	1,344	720	12,066
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	1,417	1,287	1,361	2,058	1,934	2,118	2,446	3,635	2,306	2,272	2,297	1,709	24,840

INDUSTRIAL

5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0

OTHER WATER UTILITIES

5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0

OTHER PUBLIC AUTHORITY

5/8"	69	3	1	25	76	37	14	26	13	10	6	15	295
3/4"	0	0	0	0	0	0	0	18	0	0	0	0	18
1"													0
1-1/2"	0	0	0	0	0	11	17	0	0	0	0	0	28
2"	104	99	202	200	140	218	109	572	557	367	211	230	3,009
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	173	102	203	225	216	266	140	616	570	377	217	245	3,350

MISCELLANEOUS

5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0

Grand Total

17,608	14,571	14,493	15,567	16,693	18,806	18,734	20,637	19,388	17,151	15,807	15,837	205,292
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	Jan-12	Feb-12	Mar-12	Apr-12	May-12	Jun-12	6MTD Jun-12
Lakeview							
RESIDENTIAL							
5/8"	14,200	12,223	12,307	14,432	14,246	15,606	83,014
3/4"							0
1"	13	15	16	17	16	58	135
1-1/2"							0
2"							0
3"							0
4"							0
6"							0
8"							0
10"							0
12"							0
Total	14,213	12,238	12,323	14,449	14,262	15,664	83,149
COMMERCIAL							
5/8"	840	790	665	745	751	1,023	4,814
3/4"							0
1"	310	329	321	320	265	290	1,835
1-1/2"							0
2"	375	311	394	495	772	1,242	3,589
3"							0
4"							0
6"							0
8"							0
10"							0
12"							0
Total	1,525	1,430	1,380	1,560	1,788	2,555	10,238
INDUSTRIAL							
5/8"							0
3/4"							0
1"							0
1-1/2"							0
2"							0
3"							0
4"							0
6"							0
8"							0
10"							0
12"							0
Total	0	0	0	0	0	0	0
OTHER WATER UTILITIES							
5/8"							0
3/4"							0
1"							0
1-1/2"							0
2"							0
3"							0
4"							0
6"							0
8"							0
10"							0
12"							0
Total	0	0	0	0	0	0	0
OTHER PUBLIC AUTHORITY							
5/8"	12	13	11	23	24	13	96
3/4"	0	0	1	0	0	0	1
1"							0
1-1/2"							0
2"	134	169	139	208	230	216	1,096
3"							0
4"							0
6"							0
8"							0
10"							0
12"							0
Total	146	182	151	231	254	229	1,193
MISCELLANEOUS							
5/8"							0
3/4"							0
1"							0
1-1/2"							0
2"							0
3"							0
4"							0
6"							0
8"							0
10"							0
12"							0
Total	0	0	0	0	0	0	0
Grand Total	15,884	13,850	13,854	16,240	16,304	18,448	94,580

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	Jan-09	Feb-09	Mar-09	Apr-09	May-09	Jun-09	Jul-09	Aug-09	Sep-09	Oct-09	Nov-09	Dec-09	2009 TOTAL
Fr Oglethorpe													
RESIDENTIAL													
5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
COMMERCIAL													
5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
INDUSTRIAL													
5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
OTHER WATER UTILITIES													
5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"	11,328	15,253	130	61	1,650	1	4,826	1,095	198	15,004	1,025		50,571
3"													0
4"	56,814	37,504	36,019	42,300	35,206	36,906	50,072	38,445	37,906	38,523	38,547	38,129	486,371
6"	35,236	32,614	28,845	31,787	37,168	41,001	53,959	44,903	34,408	27,213	29,666	26,424	423,224
8"	38,774	34,793	29,765	41,019	40,644	41,734	52,376	42,300	33,392	26,455	29,731	26,374	437,357
10"													0
12"													0
Total	142,152	120,164	94,759	115,167	114,668	119,642	161,233	126,743	105,904	107,195	98,969	90,927	1,397,523
OTHER PUBLIC AUTHORITY													
5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS													
5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	142,152	120,164	94,759	115,167	114,668	119,642	161,233	126,743	105,904	107,195	98,969	90,927	1,397,523

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	Jan-10	Feb-10	Mar-10	Apr-10	May-10	Jun-10	Jul-10	Aug-10	Sep-10	Oct-10	Nov-10	Dec-10	2010 TOTAL
Fr Oglethorpe													
RESIDENTIAL													
5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
COMMERCIAL													
5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
INDUSTRIAL													
5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
OTHER WATER UTILITIES													
5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"		1,300	2,081		2,085	105	4,140	2,575	1,115	830		2,310	16,541
3"													0
4"	44,288	35,241	33,462	37,409	33,378	36,723	41,485	36,056	39,630	34,042	34,238	33,073	439,025
6"	31,110	30,349	27,467	34,149	36,085	35,108	48,755	49,259	53,465	51,039	36,569	28,596	461,951
8"	36,335	33,561	30,437	30,222	32,716	40,392	43,220	44,023	47,864	53,509	41,982	36,683	470,944
10"													0
12"													0
Total	111,733	100,451	93,447	101,780	104,264	112,328	137,600	131,913	142,074	139,420	112,789	100,662	1,388,461
OTHER PUBLIC AUTHORITY													
5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS													
5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	111,733	100,451	93,447	101,780	104,264	112,328	137,600	131,913	142,074	139,420	112,789	100,662	1,388,461

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	Jan-11	Feb-11	Mar-11	Apr-11	May-11	Jun-11	Jul-11	Aug-11	Sep-11	Oct-11	Nov-11	Dec-11	2011 TOTAL
Fr Oglethorpe													
RESIDENTIAL													
5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
COMMERCIAL													
5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
INDUSTRIAL													
5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
OTHER WATER UTILITIES													
5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"	1,590		602	4,447	1,385	7,635	27,347	57,143	65,904	16,775	1,020	3,320	187,168
3"													0
4"	37,452	38,038	34,955	33,007	41,465	43,283	43,946	40,897	45,169	36,559	34,178	35,409	464,358
6"	30,932	28,287	27,502	28,779	34,065	55,801	44,205	52,302	46,736	36,225	27,382	26,596	438,812
8"	40,551	36,725	32,905	32,656	34,594	52,225	42,545	46,162	43,474	38,122	28,081	26,855	454,895
10"													0
12"													0
Total	110,525	103,050	95,964	98,889	111,509	158,944	158,043	196,504	201,283	127,681	90,661	92,180	1,545,233
OTHER PUBLIC AUTHORITY													
5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS													
5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	110,525	103,050	95,964	98,889	111,509	158,944	158,043	196,504	201,283	127,681	90,661	92,180	1,545,233

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	Jan-12	Feb-12	Mar-12	Apr-12	May-12	Jun-12	6MTD Jun-12
Ft Oglethorpe							
RESIDENTIAL							
5/8"							0
3/4"							0
1"							0
1-1/2"							0
2"							0
3"							0
4"							0
6"							0
8"							0
10"							0
12"							0
Total	0	0	0	0	0	0	0
COMMERCIAL							
5/8"							0
3/4"							0
1"							0
1-1/2"							0
2"							0
3"							0
4"							0
6"							0
8"							0
10"							0
12"							0
Total	0	0	0	0	0	0	0
INDUSTRIAL							
5/8"							0
3/4"							0
1"							0
1-1/2"							0
2"							0
3"							0
4"							0
6"							0
8"							0
10"							0
12"							0
Total	0	0	0	0	0	0	0
OTHER WATER UTILITIES							
5/8"							0
3/4"							0
1"							0
1-1/2"							0
2"	0	0	0	0	12,585	24,840	37,425
3"							0
4"	41,525	37,812	41,389	38,043	39,480	44,064	242,313
6"	28,459	23,948	25,427	31,991	39,678	38,497	188,000
8"	29,829	25,511	27,347	35,026	41,642	40,124	199,479
10"							0
12"							0
Total	99,813	87,271	94,163	105,060	133,385	147,525	667,217
OTHER PUBLIC AUTHORITY							
5/8"							0
3/4"							0
1"							0
1-1/2"							0
2"							0
3"							0
4"							0
6"							0
8"							0
10"							0
12"							0
Total	0	0	0	0	0	0	0
MISCELLANEOUS							
5/8"							0
3/4"							0
1"							0
1-1/2"							0
2"							0
3"							0
4"							0
6"							0
8"							0
10"							0
12"							0
Total	0	0	0	0	0	0	0
Grand Total	99,813	87,271	94,163	105,060	133,385	147,525	667,217

Tennessee American Water Company
Docket # 12-00049
TRA 1-8
2009-Jun 2012 Usage Summary

Lone Oak

RESIDENTIAL

	Jan-09	Feb-09	Mar-09	Apr-09	May-09	Jun-09	Jul-09	Aug-09	Sep-09	Oct-09	Nov-09	Dec-09	2009 TOTAL
5/8"	644	668	537	723	629	675	752	660	578	498	561	552	7,477
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	644	668	537	723	629	675	752	660	578	498	561	552	7,477

COMMERCIAL

5/8"	1	1	1	0	0	1	0	1	1	1	1	1	9
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	1	1	1	0	0	1	0	1	1	1	1	1	9

INDUSTRIAL

5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0

OTHER WATER UTILITIES

5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0

OTHER PUBLIC AUTHORITY

5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0

MISCELLANEOUS

5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0

Grand Total

645	669	538	723	629	676	752	661	579	499	562	553	7,486
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Tennessee American Water Company
Docket # 12-00049
TRA 1-8
2009-Jun 2012 Usage Summary

Lone Oak

RESIDENTIAL

	Jan-10	Feb-10	Mar-10	Apr-10	May-10	Jun-10	Jul-10	Aug-10	Sep-10	Oct-10	Nov-10	Dec-10	2010 TOTAL
5/8"	650	617	542	926	690	807	782	808	748	772	580	578	8,500
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	650	617	542	926	690	807	782	808	748	772	580	578	8,500

COMMERCIAL

5/8"	5	0	2	2	0	2	2	1	1	1	1	1	18
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	5	0	2	2	0	2	2	1	1	1	1	1	18

INDUSTRIAL

5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0

OTHER WATER UTILITIES

5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0

OTHER PUBLIC AUTHORITY

5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0

MISCELLANEOUS

5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0

Grand Total

655	617	544	928	690	809	784	809	749	773	581	579	8,518
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Tennessee American Water Company
Docket # 12-00049
TRA 1-8
2009-Jun 2012 Usage Summary

Lone Oak

RESIDENTIAL

	Jan-11	Feb-11	Mar-11	Apr-11	May-11	Jun-11	Jul-11	Aug-11	Sep-11	Oct-11	Nov-11	Dec-11	2011 TOTAL
5/8"	634	537	507	577	737	926	728	892	745	890	557	547	8,277
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	634	537	507	577	737	926	728	892	745	890	557	547	8,277

COMMERCIAL

5/8"	1	5	3	3	4	6	6	4	3	4	3	4	46
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	1	5	3	3	4	6	6	4	3	4	3	4	46

INDUSTRIAL

5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0

OTHER WATER UTILITIES

5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0

OTHER PUBLIC AUTHORITY

5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0

MISCELLANEOUS

5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0

Grand Total

635	542	510	580	741	932	734	896	748	894	560	551	8,323
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Tennessee American Water Company
Docket # 12-00049
TRA 1-8
2009-Jun 2012 Usage Summary

	Jan-12	Feb-12	Mar-12	Apr-12	May-12	Jun-12	6MTD Jun-12
Lone Oak							
RESIDENTIAL							
5/8"	684	664	544	658	821	731	4,102
3/4"							0
1"							0
1-1/2"							0
2"							0
3"							0
4"							0
6"							0
8"							0
10"							0
12"							0
Total	684	664	544	658	821	731	4,102
COMMERCIAL							
5/8"	3	4	4	201	4	4	220
3/4"							0
1"							0
1-1/2"							0
2"							0
3"							0
4"							0
6"							0
8"							0
10"							0
12"							0
Total	3	4	4	201	4	4	220
INDUSTRIAL							
5/8"							0
3/4"							0
1"							0
1-1/2"							0
2"							0
3"							0
4"							0
6"							0
8"							0
10"							0
12"							0
Total	0	0	0	0	0	0	0
OTHER WATER UTILITIES							
5/8"							0
3/4"							0
1"							0
1-1/2"							0
2"							0
3"							0
4"							0
6"							0
8"							0
10"							0
12"							0
Total	0	0	0	0	0	0	0
OTHER PUBLIC AUTHORITY							
5/8"							0
3/4"							0
1"							0
1-1/2"							0
2"							0
3"							0
4"							0
6"							0
8"							0
10"							0
12"							0
Total	0	0	0	0	0	0	0
MISCELLANEOUS							
5/8"							0
3/4"							0
1"							0
1-1/2"							0
2"							0
3"							0
4"							0
6"							0
8"							0
10"							0
12"							0
Total	0	0	0	0	0	0	0
Grand Total	687	668	548	859	825	735	4,322

Tennessee American Water Company
Docket # 12-00049
TRA 1-8
2009-Jun 2012 Usage Summary

Suck Creek

RESIDENTIAL

	Jan-09	Feb-09	Mar-09	Apr-09	May-09	Jun-09	Jul-09	Aug-09	Sep-09	Oct-09	Nov-09	Dec-09	2009 TOTAL
5/8"	1,271	1,257	1,028	1,233	1,201	1,452	1,513	1,375	1,230	1,051	1,135	1,110	14,856
3/4"													0
1"	6	6	7	11	14	27	29	28	31	28	20	17	224
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	1,277	1,263	1,035	1,244	1,215	1,479	1,542	1,403	1,261	1,079	1,155	1,127	15,080

COMMERCIAL

5/8"	7	11	8	7	8	26	12	2	2	3	6	11	103
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	7	11	8	7	8	26	12	2	2	3	6	11	103

INDUSTRIAL

5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0

OTHER WATER UTILITIES

5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0

OTHER PUBLIC AUTHORITY

5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0

MISCELLANEOUS

5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0

Grand Total

1,284	1,274	1,043	1,251	1,223	1,505	1,554	1,405	1,263	1,082	1,161	1,138	15,183
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Tennessee American Water Company
Docket # 12-00049
TRA 1-8
2009-Jun 2012 Usage Summary

Suck Creek

RESIDENTIAL

	Jan-10	Feb-10	Mar-10	Apr-10	May-10	Jun-10	Jul-10	Aug-10	Sep-10	Oct-10	Nov-10	Dec-10	2010 TOTAL
5/8"	1,245	1,182	1,105	1,154	1,678	1,474	1,370	1,554	1,374	1,250	1,208	1,164	15,758
3/4"													0
1"	11	4	6	10	28	29	33	36	33	32	12	12	246
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	1,256	1,186	1,111	1,164	1,706	1,503	1,403	1,590	1,407	1,282	1,220	1,176	16,004

COMMERCIAL

5/8"	62	3	2	0	2	3	1	2	3	2	1	5	86
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	62	3	2	0	2	3	1	2	3	2	1	5	86

INDUSTRIAL

5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0

OTHER WATER UTILITIES

5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0

OTHER PUBLIC AUTHORITY

5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0

MISCELLANEOUS

5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0

Grand Total

1,318	1,189	1,113	1,164	1,708	1,506	1,404	1,592	1,410	1,284	1,221	1,181	16,090
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Tennessee American Water Company
Docket # 12-00049
TRA 1-8
2009-Jun 2012 Usage Summary

Suck Creek

RESIDENTIAL

	Jan-11	Feb-11	Mar-11	Apr-11	May-11	Jun-11	Jul-11	Aug-11	Sep-11	Oct-11	Nov-11	Dec-11	2011 TOTAL
5/8"	1,347	1,170	1,050	1,037	1,196	1,681	1,372	1,238	1,259	1,178	982	968	14,478
3/4"													0
1"	4	4	4	4	12	38	41	44	48	41	138	8	386
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	1,351	1,174	1,054	1,041	1,208	1,719	1,413	1,282	1,307	1,219	1,120	976	14,864

COMMERCIAL

5/8"	165	35	1	1	0	3	1	3	3	0	2	2	216
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	165	35	1	1	0	3	1	3	3	0	2	2	216

INDUSTRIAL

5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0

OTHER WATER UTILITIES

5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0

OTHER PUBLIC AUTHORITY

5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0

MISCELLANEOUS

5/8"													0
3/4"													0
1"													0
1-1/2"													0
2"													0
3"													0
4"													0
6"													0
8"													0
10"													0
12"													0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0

Grand Total

1,516	1,209	1,055	1,042	1,208	1,722	1,414	1,285	1,310	1,219	1,122	978	15,080
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Tennessee American Water Company
Docket # 12-00049
TRA 1-8
2009-Jun 2012 Usage Summary

Suck Creek

RESIDENTIAL

	Jan-12	Feb-12	Mar-12	Apr-12	May-12	Jun-12	6MTD Jun-12
5/8"	1,148	964	1,013	1,171	1,275	1,164	6,735
3/4"							0
1"	7	5	7	16	27	20	82
1-1/2"							0
2"							0
3"							0
4"							0
6"							0
8"							0
10"							0
12"							0
Total	1,155	969	1,020	1,187	1,302	1,184	6,817

COMMERCIAL

5/8"	2	2	1	1	1	3	10
3/4"							0
1"							0
1-1/2"							0
2"							0
3"							0
4"							0
6"							0
8"							0
10"							0
12"							0
Total	2	2	1	1	1	3	10

INDUSTRIAL

5/8"							0
3/4"							0
1"							0
1-1/2"							0
2"							0
3"							0
4"							0
6"							0
8"							0
10"							0
12"							0
Total	0	0	0	0	0	0	0

OTHER WATER UTILITIES

5/8"							0
3/4"							0
1"							0
1-1/2"							0
2"							0
3"							0
4"							0
6"							0
8"							0
10"							0
12"							0
Total	0	0	0	0	0	0	0

OTHER PUBLIC AUTHORITY

5/8"							0
3/4"							0
1"					2	3	5
1-1/2"							0
2"							0
3"							0
4"							0
6"							0
8"							0
10"							0
12"							0
Total	0	0	0	0	2	3	5

MISCELLANEOUS

5/8"							0
3/4"							0
1"							0
1-1/2"							0
2"							0
3"							0
4"							0
6"							0
8"							0
10"							0
12"							0
Total	0	0	0	0	0	0	0

Grand Total

1,157	971	1,021	1,188	1,305	1,190	6,832
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**TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 12-00049
FIRST DISCOVERY REQUEST OF THE
TENNESSEE REGULATORY AUTHORITY**

Responsible Witness: Donald J. Petry

Question:

9. Notwithstanding the response to MFG-22, in simple terms including all calculations made, explain how customer growth was determined based on historical data. Your explanation should include all calculations used to produce all customer growth rates used in this case.

Response:

The Company forecasted an increase of 45 customers per month. The projection was based on factors including judgment and experience. In addition, please see the response to Item 17 of this same data request.

**TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 12-00049
FIRST DISCOVERY REQUEST OF THE
TENNESSEE REGULATORY AUTHORITY**

Responsible Witness: Donald J. Petry

Question:

10. Notwithstanding the response to MFG-22, in simple terms including all calculations made, explain how volumetric growth was determined based on historical data. Your explanation should include all calculations used to produce all customer volumetric growth rates used in this case. Cites to source data used should also be provided.

Response:

Volumetric growth was driven by the additional customers added through the end of the attrition year. The additional customers were then multiplied by the average usage per customer per month. For additional information please see workpapers: TN 2012 Rate Case – Growth Adjustment.xlsx and TNAWWater Use Analysis Summary_final.xls.

**TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 12-00049
FIRST DISCOVERY REQUEST OF THE
TENNESSEE REGULATORY AUTHORITY**

Responsible Witness: Donald J. Petry

Question:

11. Provide a schedule showing the amount of "Other Revenues" for 2009, 2010, 2011 and January – June 2012, breaking the total down by source as shown for the test period and attrition period in the Company's response to MFG-25.

Response:

Please refer to the attachment.

TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 12-00049
FIRST DISCOVERY REQUEST OF THE
CONSUMER ADVOCATE AND PROTECTION DIVISION
TAW_R_TRADR1#011_073012
Other Revenues from 2009 through June 2012 YTD

	2009	2010	2011	YTD 6/30/12
AWR Billing	\$ 39,365	\$ 43,565	\$ 56,150	\$ 29,167
Forfeited Discounts	\$ 324,498	\$ 307,465	\$ 343,872	\$ 158,585
Antennae Lease	\$ 178,609	\$ 173,162	\$ 190,984	\$ 95,367
Sewer Billing	\$ 407,307	\$ 448,685	\$ 447,057	\$ 226,432
NSF Check Charge	\$ 31,440	\$ 37,920	\$ 39,300	\$ 18,300
Activity/New Service Fees	\$ 274,876	\$ 269,545	\$ 256,742	\$ 126,473
Reconnection Charges	\$ 270,486	\$ 237,740	\$ 216,084	\$ 111,522
Other Water Rev	\$ 2	\$ (78)	\$ (2)	\$ 8
Total	\$ 1,526,583	\$ 1,518,003	\$ 1,550,187	\$ 765,853

**TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 12-00049
FIRST DISCOVERY REQUEST OF THE
TENNESSEE REGULATORY AUTHORITY**

Responsible Witness: Gary M. VerDouw

Question:

12. Provide financial statements for AWR for the year ending December 31, 2011, or the latest twelve months available. If not specifically detailed on these statements, provide the individual net earnings realized from the water line protection contracts, sewer line protection contracts and home plumbing contracts in Tennessee.

Response:

See attached AWR income statement as of December 31, 2011, and the AWR income statement related to its operations in Tennessee.

**AWR Service Line Protection
Income Statement
For the Twelve Months Ending December 31, 2011**

	<u>2011</u>
Revenue	61,633,949
Contractor Repairs	13,640,164
 Marketing Expense:	
Marketing General	358,731
Marketing Acquisition	3,639,583
Marketing Renewal	565,229
Marketing Survey	18,902
Telemarketing	169,970
Marketing Confirmations	223,371
Marketing Web Based	38,308
Total Postage	1,836,634
Other marketing	119,603
Total Marketing Expense	6,970,330
 G&A Expense:	
Call Center Expense	4,609,714
Overhead Expense	5,713,772
Billing & Collection Fees	1,282,869
Rent & Utilities	52,758
Legal Expense	35,841
Outside Professional Fees	69,634
Bank Charges	419,987
Licenses & Permits	85,807
Bad Debt expense	2,804,250
Miscellaneous Expense	18,876
Sale/Premium/Receipts Tax	77,462
Total G&A Expense	15,170,970
Total Expenses	35,781,464
Operating Results	25,852,485
Provision for Income Tax	10,169,592
Net Income	15,682,893

**Service Line Protection
Tennessee
YTD December 2011**

	Contract Total
Revenue by Product	1,487,697
Contractor Repairs	410,290
Marketing Expense:	
Marketing General	5,364
Marketing Acquisition	59,182
Marketing Renewal	2,655
Marketing Survey	620
Telemarketing	4,648
Marketing Confirmations	3,330
Marketing Web Based	572
Total Postage	24,988
Other marketing	2,743
Total Marketing Expense	104,101
G&A Expense:	
Call Center Expense	105,736
Overhead Expense	126,318
Billing & Collection Fees	59,185
Rent & Utilities	1,036
Legal Expense	972
Outside Professional Fees	815
Bank Charges	-
Licenses & Permits	840
Bad Debt expense	34,986
Miscellaneous Expense	444
Sale/Premium/Receipts Tax	-
Total G&A Expense	330,332
Total Expenses	844,723
Operating Results	642,974
Non-operating (income)/expense	
EBIT	642,974
Interest (income)/expense	4,380
PBT	638,594
Provision for Income Tax	252,927
Net Income	385,667

**TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 12-00049
FIRST DISCOVERY REQUEST OF THE
TENNESSEE REGULATORY AUTHORITY**

Responsible Witness: Gary M. VerDouw

Question:

13. Does TAWC receive any royalties from AWR related to the sale or provision of water line protection contracts, sewer line protection contracts and home plumbing contracts in Tennessee (royalties related to the benefit derived from the use of TAWC's name, president's signature, logo, reputation, goodwill and corporate image, etc)? If so, please provide amount received for the twelve months ending December 31, 2011 or the latest twelve month period available. Please provide detailed justification if no royalties were assessed or received.

Response:

No, TAWC does not receive any royalties from AWR related to the sale or provision of water line protection contracts, sewer line protection contracts and home plumbing contracts in Tennessee.

**TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 12-00049
FIRST DISCOVERY REQUEST OF THE
TENNESSEE REGULATORY AUTHORITY**

Responsible Witness: Gary M. VerDouw/Deron Allen

Question:

14. Provide copies of any written contracts between TAWC and AWR for the provisioning of water line protection contracts, sewer line protection contracts and home plumbing contracts to TAWC customers.

Response:

Please refer to the attached Agreement for Support Services between Tennessee American Water Company and American Water Resources, Inc.

AGREEMENT FOR SUPPORT SERVICES

BETWEEN

AMERICAN WATER RESOURCES, INC.

AND

TENNESSEE AMERICAN WATER COMPANY

May 1, 2004

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AGREEMENT FOR SUPPORT SERVICES

BETWEEN

**AMERICAN WATER RESOURCES, INC.
AND
TENNESSEE AMERICAN WATER COMPANY**

This Service Agreement, dated as of the 1st day of May, 2004 (the "Agreement"), is by and between the AMERICAN WATER RESOURCES, INC. (AWR), a corporation organized and existing under the laws of the Commonwealth of Virginia, with its principal office located at 1025 Laurel Oak Road, Voorhees, New Jersey 08043, and TENNESSEE AMERICAN WATER COMPANY (Utility), a corporation organized and existing under the laws of the State of Tennessee, with its principal office located at 1101 Broad Street, Chattanooga, Tennessee, 37401.

WHEREAS, AWR provides certain services to utility customers, as more particularly described on Appendix A which is attached hereto and incorporated herein by reference, which list may be modified or amended from time to time by AWR (hereinafter the "Programs"); and

WHEREAS, Utility is the owner of a public water supply system; and

WHEREAS, many of Utility's residential customers may desire to and qualify to participate in one or more of AWR's Programs; and

WHEREAS, Utility desires to make certain or all of the Programs available to its customers upon the terms and conditions contained herein; and

WHEREAS, AWR desires to contract with Utility for certain customer support services for the Programs; and

WHEREAS, Utility possesses the necessary ability and experience to provide such customer support services and is willing to provide such services for the Programs upon the

terms and conditions contained herein; and

WHEREAS, it is the mutual desire of the parties to enter into this Agreement providing for the customer support for the Programs;

NOW, THEREFORE, for and in consideration of the mutual promises set forth herein, and subject to the terms and conditions herein stated, AWR and Utility agree as follows:

SECTION 1. Definitions.

The following words and phrases when used in this Agreement shall have the following meaning:

"Agreement" means this Agreement between AWR and Utility.

"Force Majeure" means those events set forth in Section 13 of this Agreement.

"Fully Distributed Costs" means costs determined in a manner that complies with the standards and procedures for the apportionment of special, joint, and common costs between the Utility and any non-regulated entity in accordance with applicable regulations of the State commission or board having jurisdiction over the operations of Utility, except taxes as discussed in Section 5. A fully distributed costing methodology apportions the total costs of a group of services or products, including the authorized rate of return, among the individual services or products in that group.

Should the commission or board having jurisdiction over operations of Utility assign different costs than Utility has assigned, such commission or board assigned costs, once such assignment is final and non-appealable, shall be the Fully Distributed Costs, until such time as such commission or board assigns different costs, at which time such newly assigned costs shall be the Fully Distributed Costs. Whether to appeal a decision of the commission or board shall be in Utility's sole discretion.

"Services" means all of the duties, obligations, and services as defined herein to be provided by Utility that are related to the performance and operation of AWR's Programs.

SECTION 2. Appointment of Utility.

AWR hereby engages and appoints Utility to provide certain customer support services for the Programs.

SECTION 3. Term; Termination.

3.1 Term. The term of this Agreement shall commence on April 15, 2004, and be for a period of one (1) year unless sooner terminated or extended as hereinafter provided.

3.2 Renewal. The Agreement will automatically renew itself for periods of one (1) year, each following one after the other, unless either party gives written notice of termination to the other party in accordance with Section 3.3.1.1.

3.3 Termination.

3.3.1 Termination Without Cause:

3.3.1.1 Procedure - After the initial one (1) year term, this Agreement may be terminated without cause or penalty by either party upon giving the other party sixty (60) days written notice in advance of the date upon which the termination becomes effective. This Agreement shall automatically terminate at such time as either party, or its successor is no longer an affiliate of American Water Works Company, Inc.

3.3.1.2 Transition Services Following Termination Without Cause -

Upon termination of the Agreement without cause, Utility shall continue to provide services to AWR, at AWR's request, for a period of not longer than sixty (60) days during AWR's transition to another service provider. Such transition services shall be provided under and subject to the same terms and provisions of this Agreement, including compensation.

3.3.2 Termination Upon Material Breach - Either party to the Agreement may terminate this Agreement upon material breach by the other party. The non-breaching party shall provide written notice of such breach to the other party, setting forth in detail the alleged failure and/or deficiency, and, if such breach is not corrected within thirty (30) days from receipt of written notice by certified mail, this Agreement shall be terminated.

SECTION 4. Compensation.

4.1 Fee. The fee paid to Utility by AWR for Services rendered pursuant to this Agreement shall be equal to one hundred and fifteen (115%) percent of the Fully Distributed Costs incurred by Utility in providing the Services except for billing and collection services. The Fee for billing and collection services rendered by Utility as set forth in Paragraph 6.1.3 below shall be at a rate of \$.405 per customer per billing period and apply in the aggregate to customers participating in one or more of AWR's Programs. The \$.405 rate may be adjusted from time to time as determined by the agency having regulatory authority over Utility to be consistent with any other such billing and collection service rates charged by Utility, under tariff, to others.

4.2 Allocation by Regulating Authority. Notwithstanding the fee schedule contained in Section 4.1, should the agency having regulatory authority over Utility disallow any cost of the Utility in excess of the Fully Distributed Costs as a result of the services provided to AWR pursuant hereto, AWR shall reimburse Utility for such disallowed costs, within thirty (30) days of receipt of notice of same and the fees due pursuant hereto shall be adjusted to reflect such allocation by such regulatory authority.

4.3 Reporting and Payments.

4.3.1 Utility shall maintain detailed records of all costs incurred in providing services to AWR. Utility will make such detailed records available for AWR's periodic review upon request by AWR, during normal business hours, at Utility's principal office.

4.3.2 Utility shall invoice AWR monthly or quarterly, at Utility's discretion, for the fee for services on or about the tenth business day of each billing period during the term of this Agreement. The invoice shall detail the services provided and the costs incurred. AWR shall pay such fee to Utility within fifteen (15) days of the date of the invoice.

SECTION 5. Taxes.

Any tax or other amount which Utility may be required to pay to or collect for a government agency upon or with respect to the Services rendered hereunder, or the use or delivery of any products or parts thereof on behalf of AWR, except income taxes, will be billed to AWR as separately stated charges and will be paid by AWR in addition to the fees paid pursuant to Section 4. In the event AWR disputes the taxability of an item hereunder, Utility will continue to collect such tax unless and until AWR provides Utility with documentation authorized and prescribed by the taxing authority, such as a certificate of exemption, relieving Utility from liability for the collection and payment of such tax.

SECTION 6. Scope of Services.

6.1 Utility agrees that it shall provide the following customer support services for the Programs in accordance with the terms and provisions of this Agreement:

6.1.1 Distribution of Promotional Materials. Upon request of AWR, Utility shall manage and direct the distribution of informational and promotional materials regarding the Program to its customers. Such materials shall be developed by AWR and provided to Utility in

sufficient quantities and in a timely manner so as not to impede any planned distribution efforts by Utility. The materials shall be distributed as a part of Utility's normal billing process, unless arrangements are made, at least sixty (60) days in advance, for a special mailing. The materials provided by AWR must be satisfactory in form and content to Utility, and nothing in this Agreement shall require Utility to distribute any materials that are not satisfactory to Utility. Utility shall make all reasonable efforts to promptly notify AWR when additional quantities of promotional materials are needed. Utility shall have the sole discretion to determine the customers who will receive the informational and promotional materials for the Program.

6.1.2 Notification of Claim. Should a Utility associate, as a part of his/her normal duties, determine that a Utility customer has a covered occurrence with the Customer's water or sewer service line, the Utility associate shall notify AWR by calling a toll-free telephone number to be supplied by AWR. AWR shall then engage a qualified contractor to provide the covered services to the customer. AWR shall timely provide the necessary information to cause Utility's customer records to reflect when coverage is available.

6.1.3 Billing and Collection. AWR shall provide Utility with a list of enrolled customers in its Programs who have chosen to have charges from AWR included on their bill from Utility, and shall keep such list up to date. Utility shall include such charges on the customer's bill and collect such charges from the customer until such time as the customer or AWR notifies Utility that the customer is no longer receiving service from AWR or has elected a different payment option. Utility shall forward collected payments from enrolled customers to AWR within fifteen days following the end of each calendar month for amounts collected during such month. All payments made by the customer shall be credited first to payment of any amount owed for utility service furnished by Utility; any remainder shall first be credited to

payment of any amount owed for utility service furnished by someone other than Utility but shown as a line item on the bill sent to the customer by Utility; and any remainder shall then be credited to payment of any amount owed to AWR. Utility shall not interrupt, cease or refuse utility service to a customer for non-payment of amounts owed to AWR. AWR shall be responsible for all collection efforts for non-payment by Utility customers for AWR Programs.

6.1.4 Other Services. Utility shall perform such other and further services as are agreed to in a Service Order in the form attached hereto as **Exhibit 1** executed by the parties during the Term hereof.

SECTION 7. Provision of Information.

Except as provided herein, any specifications, diagrams, sketches, models, examples, tools, computer or other apparatus, programs, software, technical or business information, written, oral or otherwise (all hereinafter collectively referred to as "Confidential Information"), furnished by one party (hereinafter referred to as the "Disclosing Party") to the other party (hereinafter referred to as the "Receiving Party") under this Agreement or in contemplation of this Agreement will remain the property of the Disclosing Party and will be held Confidential by the Receiving Party. All copies of such information will be returned to the Disclosing Party upon request. The Receiving Party, and any individual assigned by the Receiving Party will not permit the duplication, use or disclosure of the Confidential Information whether such disclosure be oral, written, in the form of computer tapes, drawings or other medium to any person other than the Receiving Party's employees, agents or representatives who must have such information to provide the Services, unless otherwise specifically authorized in writing by the Disclosing Party.

Confidential Information does not include any information which, at the time of disclosure, is generally known by the public, is rightfully obtained from third parties, is independently developed by the Receiving Party and any individual assigned by the Receiving Party outside the scope of its performance herein, or had been in the possession of the Receiving Party and any individual assigned by the Receiving Party prior to its commencement of the performance of its services.

The Receiving Party and any individual assigned by the Receiving Party agrees that: (1) this covenant not to disclose our use Confidential Information shall survive termination of this Agreement; and (2) it shall be liable for any and all breaches of such covenant by the Receiving Party, its employees, agents or representatives, whether such breach occurs during or after the term of this Agreement.

The Receiving Party shall take such steps as may be necessary in order to limit access to the Confidential Information on a need-to-know basis and assure compliance by the employees, agents and representatives to whom such information is given.

The provisions of this section shall survive termination of this Agreement.

It is understood that the Receiving Party may be required to furnish information to judicial, regulatory, or administrative bodies. In such an event, the Receiving Party will promptly notify the Disclosing Party of such requirement and will cooperate with the Disclosing Party should the Disclosing Party desire to seek a protective order to prevent the public disclosure of its information.

SECTION 8. Compliance with Laws.

Both parties agree to comply with the provisions of the Fair Labor Standards Act of 1938, as amended, and all other applicable federal and state laws, rules, regulations and codes with

which they are obligated to comply in the performance of this Agreement, including the procurement of permits and certificates where needed. Both parties further agree not to discriminate against any employee or applicant for employment because of race, color, religion, sex, national origin, age or handicap, and to comply with all applicable federal and state laws, orders, rules and regulations on this subject during the performance of this Agreement.

This Agreement shall be subject to any and all applicable federal, state and local laws, regulations, and ordinances, as well as any applicable tariffs. To the extent necessary, the parties agree to amend this Agreement to conform to the requirements of any such laws, regulations, ordinances, or tariffs.

AWR shall provide Utility with evidence reasonably requested by Utility to demonstrate compliance herewith.

SECTION 9. Insurance.

9.1 AWR shall, during the term of this Agreement, maintain the following insurance coverages with respect to the Programs, and shall include Utility as an Additional Insured:

9.1.1 Comprehensive General Liability, including Products and Completed Operations, and Contractual Liability with limit of \$2,000,000, combined single limit.

9.1.2 Comprehensive Automobile Liability with limit of \$2,000,000, combined single limit.

9.1.3 Excess Comprehensive General and Automobile Liability with limit of \$2,000,000, excess of \$2,000,000.

9.2 AWR shall cause each contractor it engages to perform services under the Programs (collectively "Repair Contractors"), during the term of this Agreement, to maintain the

following insurance coverages with respect to the Programs, which coverages in subsections 9.2.1-9.2.3 shall include Utility as an Additional Insured:

9.2.1 Comprehensive General Liability, including Products and Completed Operations, and Contractual Liability with limit of \$1,000,000, combined single limit.

9.2.2 Comprehensive Automobile Liability with limit of \$1,000,000, combined single limit.

9.2.3 Excess Comprehensive General and Automobile Liability with limit of \$1,000,000, excess of \$1,000,000.

9.2.4 Workers Compensation coverage with Statutory Limits.

9.3 AWR shall, and shall cause its Repair Contractors to, furnish Utility with certificates of insurance evidencing coverage as required by this Paragraph.

SECTION 10. Obligations of AWR.

10.1 Development of Informational Materials. AWR shall be responsible for developing, producing, and printing all informational materials for the Programs, and supplying such materials to Utility. AWR shall provide Utility with the opportunity to review and approve all such materials in advance of any distribution to Utility's customers.

10.2 Training. AWR shall provide all necessary training and information to Utility personnel as is necessary to allow Utility to fully perform hereunder. Such training will be specific to educating Utility employees in the operation, terms, and conditions of the Programs. Utility shall make the necessary arrangements to provide a location for such training at or near Utility's facilities.

10.3 Contractors. AWR shall be responsible for engaging qualified independent contractors to perform the services included in the Programs. AWR shall contract with and

maintain a sufficient number of contractors to perform promised services under the Programs, during the term of this Agreement. The cost of all services provided by such contractors shall be paid by AWR. Nothing in this Agreement shall be deemed to create any obligation on the part of Utility to undertake performance of any such services or pay for such services by the contractors engaged by AWR.

10.4 Administration. AWR shall be responsible for coordinating all administrative activities for the Programs and its customers including, but not limited to, enrollments, billings, accounting, marketing, financial analysis and reporting. AWR shall promptly notify Utility of customer enrollments in the Programs, including any changes in enrollment or billing status.

SECTION 11. Joint Obligations of the Parties.

11.1 AWR and Utility agree to cooperate to review existing planning, management and operations practices for the Programs.

SECTION 12. Arbitration.

It is the stated intent and purpose of both parties at all times to reach agreement by negotiation between AWR and Utility, without recourse to arbitration. In the event, however, that such dispute or difference is not settled, either party may request that the matter be referred to arbitration. The demand for arbitration must be submitted to the American Arbitration Association within sixty (60) calendar days after the date of such request, in which case the arbitration shall cover and resolve any then existing controversy or claim between the parties hereto which directly or indirectly arises out of or relates to this Agreement. The arbitration shall be conducted in the Chattanooga, Tennessee in accordance with the rules and procedures then existing under the Commercial Arbitration Rules of the American Arbitration Association, provided that notwithstanding anything to the contrary contained in such Rules the following

shall apply: The arbitration board shall consist of three arbitrators. AWR shall choose one arbitrator and Utility shall choose one arbitrator. If the two arbitrators appointed by the parties fail to agree within five (5) business days upon the selection of a third arbitrator, the third arbitrator shall be selected from a list of arbitrators supplied by the American Arbitration Association or otherwise in accordance with such Rules. After the appointments of the third arbitrator, the arbitration board shall meet as necessary for the purpose of reaching a determination in the dispute or difference, and the decision of the majority of the board, submitted in writing, to AWR and Utility shall be final and binding upon both parties. Judgment upon any decision rendered by such arbitration board may be entered in any court having jurisdiction. Each party shall bear the expense of its own arbitrators and witnesses, and the expenses of the third arbitrator and any general expenses of the arbitration shall be born equally by both parties.

SECTION 13. Force Majeure.

If, because of any act or occurrence beyond the reasonable control of either party, including, without limitation, acts of God, legislation or lawful regulations of any governmental body, court orders, fire, flood, explosion, strikes, labor disputes or shortage, wars or civil commotion, either party is reasonably prevented from performing any or all of its obligations hereunder, and if the party unable to perform shall be required to resume performance of its obligations under this Agreement upon the termination of the aforementioned Force Majeure, any time or date limitations shall be extended to the extent such party is so prevented.

SECTION 14. Assignments.

This Agreement shall not be assigned by either party without the prior written consent of the other party unless such assignment shall be to an affiliate or successor of either party.

SECTION 15. Amendments.

This Agreement may be modified only by a written amendment signed by both parties.

SECTION 16. Notices.

All notices provided for in this Agreement shall be in writing and shall be deemed to have been given when hand delivered or deposited in the U.S. mail, postage prepaid, registered or certified, return receipt requested, as follows:

If to AWR:

American Water Resources, Inc.
1025 Laurel Oak Road
Voorhees, New Jersey 08043
Attention: Walter Lynch, President

If to Utility:

Tennessee American Water Company
1101 Broad Street
Chattanooga, Tennessee 37401
Attention: David B. Schultz, President

SECTION 17. Governing Law.

This Agreement, including the validity thereof and the rights and obligations of the parties thereunder, shall be construed in accordance with, and governed by the laws of the State of Tennessee.

SECTION 18. Indemnification.

18.1 AWR shall, and shall cause its Repair Contractors to, defend, indemnify and hold harmless Utility, its officers, directors, employees and agents from and against any and all liability, including liability to third parties, for personal injury, including death, property damage, or other actions, damages, fines, penalties, claims, demands, judgments, losses, costs, expenses, suits and actions (including reasonable attorney's fees), for personal injury, including death, property damage or other injury, to the extent caused by or arising out of negligence or wrongful or willful misconduct on the part of AWR, its Repair Contractors, or their respective officers, employees, agents, contractors, and subcontractors in connection with the services rendered to Utility by AWR pursuant to the terms of this Agreement.

18.2 Utility shall defend, indemnify and hold harmless AWR, its officers, directors, employees and agents from and against any and all liability, including liability to third parties, for personal injury, including death, property damage, or other actions, damages, fines, penalties, claims, demands, judgments, losses, costs, expenses, suits and actions (including reasonable attorney's fees), for personal injury, including death, property damage or other injury, to the extent caused by or arising out of negligence or wrongful or willful misconduct on the part of Utility, its officers, employees, agents, contractors, and subcontractors in connection with the services rendered to AWR by Utility pursuant to the terms of this Agreement.

SECTION 19. No Waiver.

The failure of a party to insist on strict performance of any or all of the terms of this Agreement, or to exercise any right or remedy under this Agreement, shall not constitute a waiver or relinquishment of any nature regarding such right or remedy or any other right or remedy. No waiver of any breach or default hereunder shall be considered valid unless in writing and signed by the party giving such waiver, and no such waiver shall be deemed a waiver of any subsequent breach or default of the same or similar nature.

SECTION 20. Severability.

In case one or more of the covenants, terms or provisions contained in this Agreement shall be held invalid, illegal, or unenforceable in any respect, the validity of the remaining covenants, terms, and provisions contained herein shall be in no way affected, prejudiced, or disturbed and the remaining covenants, terms, and provisions shall remain in full force and effect.

SECTION 21. No Third-Party Beneficiaries.

No customer of the Programs, contractors of AWR, or any other third party shall be deemed a third-party beneficiary of this Agreement.

SECTION 22. Independent Contractor.

It is understood that the relationship of Utility to AWR is that of an independent contractor and not that of an employee and or agent of AWR. None of the employees or agents of Utility shall be considered employees of AWR. None of the employees or agents of AWR shall be considered employees of Utility. Each party shall be wholly responsible and liable for the employment taxes and withholdings due as a result of their performance hereunder.

SECTION 23. Complete Agreement.

This Agreement sets forth the entire understanding of the parties, which supersedes and merges all prior proposals, understandings and all other agreements, oral or written, between the parties relating to the subject matter hereof and may not be modified except in a writing executed by both parties.

SECTION 24. Titles and Headings.

Titles and headings to sections or paragraphs herein are inserted merely for convenience of reference and are not intended to be a part of or to affect the meaning or interpretation of this Agreement.

SECTION 25. Counterparts.

This Agreement may be executed in one or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument.

SECTION 26. Condition Precedent.

This Agreement may be conditioned upon any necessary approval of the Tennessee Regulatory Authority.

SECTION 27. Limitation of Liability.

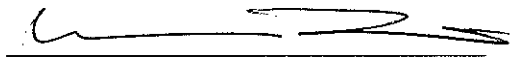
**NEITHER PARTY WILL BE LIABLE FOR ANY INCIDENTAL,
CONSEQUENTIAL, SPECIAL OR INDIRECT DAMAGES, WHETHER ARISING OUT**

OF BREACH OF WARRANTY, BREACH OF CONTRACT, NEGLIGENCE, STRICT LIABILITY OR OTHERWISE, ATTRIBUTABLE TO OR RESULTING FROM ITS PERFORMANCE HEREUNDER. In no event will Utility's liability for damages caused by its failure to supply material or perform services in a proper or timely manner exceed the amount paid by AWR to Utility for such materials or services.

IN WITNESS WHEREOF, the parties have caused this Agreement to be executed by their duly authorized representatives, as of the day and year first above written.

ATTEST:

AMERICAN WATER RESOURCES, INC.



Secretary

(SEAL)

By:



President

ATTEST:

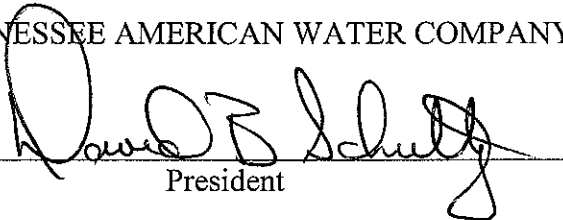
TENNESSEE AMERICAN WATER COMPANY



Secretary

(SEAL)

By:



President

APPENDIX A

Water Line Protection Program:

For a periodic fee, Utility customers may enroll in the Water Line Protection Program that, subject to its terms and conditions, provides a service to repair customer-owned water lines that leak or break due to normal wear and tear.

Sewer Line Protection Program:

For a periodic fee, Utility customers may enroll in the Sewer Line Protection Program that, subject to its terms and conditions, provides a service to clear or repair blocked customer-owned sewer lines that become clogged or blocked due to normal wear and usage.

Exhibit 1

SERVICE ORDER

American Water Resources, Inc. (AWR) hereby engages Tennessee American Water Company (Utility) to perform the following services, pursuant to the Agreement for Support Services executed between the parties on May 1, 2004:

Water and Sewer Line Protection Programs:

1. Distribution of Promotional Materials. See Section 6.1.1 for scope of services.
2. Repair Service Initiation. See Section 6.1.2 for scope of services.
3. Distribution of Customer Surveys. From time to time, AWR may develop customer surveys designed to measure customer satisfaction with the Programs, and if necessary, make Program enhancements. AWR shall submit such survey materials to Utility for review and comment prior to distribution to customers.
4. Billing and Collecting. Utility shall bill each of its customers who AWR identifies as having requested service and billing from Utility by a line item on the customer's water bill. AWR shall furnish reasonable evidence that a customer has requested the service to Utility upon Utility's request. Utility shall collect payments from the enrolled customers and forward same to AWR within fifteen days following the end of each calendar month for amounts collected during such month. All payments made by the customer shall be credited first to payment of any amount owed for utility service furnished by Utility; any remainder shall first be credited to payment of any amount owed for utility service furnished by someone other than Utility but shown as a line item on the bill sent to the customer by Utility; and any remainder shall then be credited to payment of any amount owed to AWR. Utility shall not interrupt, cease or refuse utility service to a customer for non-payment of amounts owed to AWR. AWR shall be responsible for all collection efforts for non-payment by Utility customers for AWR Programs.

AMERICAN WATER RESOURCES, INC.

By: Walter
President

TENNESSEE AMERICAN WATER COMPANY

By: David B. Schultz
President



May 19, 2004

Clifford C. Groh
Director Business Development & Operations
American Water Resources, Inc.
1025 Laurel Oak Road
Voorhees, NJ 08043

Dear Cliff:

Enclosed is the fully executed Affiliate Agreement between American Water Resources (AWR) and Tennessee American Water Company (TAWC).

Thank you for your assistance in finalizing this Agreement.

Sincerely,

Herbert A. Miller, Jr.
Vice President & Corporate Counsel

Enclosure

c: David B. Schultz

American Water

Herbert A. Miller, Jr.
VP & Regional Counsel
2300 Richmond Road
Lexington, KY 40502
USA

T +1 859 268 6339
F +1 859 268 6327
I www.tawc.com

**TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 12-00049
FIRST DISCOVERY REQUEST OF THE
TENNESSEE REGULATORY AUTHORITY**

Responsible Witness: Donald J. Petry

Question:

15. Quantify and provide the revenue effects of any billing and collection services that have been or will be discontinued. Provide the amount of such revenue included in the test period and provide a narrative explaining how the test period billing and collection amount was calculated. Cite all information used in this computation to an MFG response, a response to this request or provide such sources if not previously provided in this docket.

Response:

- \$447,057 Test Year sewer billing and collection discontinued
- \$ 56,148 Test year AWR billing discontinued
\$ -503,205 Discontinued Revenue

The test year billing and collection amounts for sewer billing and collection was taken from general ledger account 403103 and test year amounts for AWR billing was taken from general ledger account 403001.AW21. See Schedule Revenue 2.1, WP1 for additional details for calculations.

**TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 12-00049
FIRST DISCOVERY REQUEST OF THE
TENNESSEE REGULATORY AUTHORITY**

Responsible Witness: Donald J. Petry

Question:

16. Provide the projected twelve month revenue to be generated by the provision of water usage data to third party utilities for billing purposes.

Response:

\$22,077

**TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 12-00049
FIRST DISCOVERY REQUEST OF THE
TENNESSEE REGULATORY AUTHORITY**

Responsible Witness: Donald J. Petry

Question:

17. Identify the growth factor used for residential customer growth? Show in detail how the end of test period residential customer counts were grown to arrive at the 495 shown as “change in customers” in the attrition year. Provide the Company projected residential customers by month, beginning with the last month of the test period through the last month of the attrition period.

Response:

The growth factor used for residential customer growth was 45 customers per month. Please see Company workpaper TN 2011-13 Customers.xlsx for customer growth detail.

**TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 12-00049
FIRST DISCOVERY REQUEST OF THE
TENNESSEE REGULATORY AUTHORITY**

Responsible Witness: James J. Chelius

Question:

18. Reference Chelius Direct p. 10, $1.8 \times 360 = 648$ (residential), $17.6 \times 360 = 6,336$ not 6,415 (commercial). Please explain which amount is correct, which number was used in the forecast and adjust the forecast if necessary. Provide a reference to the workpaper that contains the calculations regarding the usage numbers. If no workpaper has been provided, then your response should include one.

Response:

As referenced in Mr. Chelius' testimony, the 648 gallons per customer per year decline for residential and the 6,415 gallons per customer per year decline for commercial were used in the forecast. The 1.8 gallons per customer per day and 17.6 gallons per customer per day declines were calculated by dividing the yearly declines by 365 days in a year to be used for explanatory purposes in more commonly used units in the body of my testimony. (i.e. For residential: $648/365 = 1.775$, or 1.8 gpcd; For commercial: $6415/365 = 17.575$, or 17.6 gpcd.)

To see the origin of these numbers and how they are used in the analysis, please see the "TN (avg. pt)" tab (cells G150 and G139 respectively) in the 2 spreadsheet files attached to the response for Item 30 of this same data request for the residential and commercial analyses.

**TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 12-00049
FIRST DISCOVERY REQUEST OF THE
TENNESSEE REGULATORY AUTHORITY**

Responsible Witness: Donald J. Petry

Question:

19. Cite the Company workpaper(s) that show the attrition period residential customers times the current rate to produce attrition period revenues at current rates. If this has not been provided, your response should also include the requested information.

Response:

Please see TN 2012 Rate Case – Growth Adjustment.xlsx as provided in the Company's workpapers.

**TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 12-00049
FIRST DISCOVERY REQUEST OF THE
TENNESSEE REGULATORY AUTHORITY**

Responsible Witness: Donald J. Petry

Question:

20. Provide the Company's calculation of forecasted "Other Revenue," by source of revenue. Cite the source for each number used. Your response should begin with the booked test period amount and end with the amount forecasted for the attrition year at proposed rates (See TAW_TRAFAQ_025_Attachment 1).

Response:

See Exhibit Rev-2-Other Revenue-DJP, Schedule Rev-2.1 WP 1

**TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 12-00049
FIRST DISCOVERY REQUEST OF THE
TENNESSEE REGULATORY AUTHORITY**

Responsible Witness: Donald J. Petry

Question:

21. Identify the uncollectible factor used by the Company. Provide the calculation of the uncollectible factor citing the source of all numbers used.

Response:

Calculation of the uncollectible factor is provided in the Uncollectibles Exhibit workpapers. The uncollectible factor is calculated from the 3 year average of bad debt write-offs. The amount is the 3 year average of charge-offs from 2011 through 2013. 2011 is from actual information downloaded from the billing system and estimates are used for 2012 and 2013. Please refer to Schedule EXP-11.A (Summary tab) included in TAW_R_TRAFAQ_013_060112.

**TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 12-00049
FIRST DISCOVERY REQUEST OF THE
TENNESSEE REGULATORY AUTHORITY**

Responsible Witness: Kevin Rogers/Deron Allen

Question:

22. The Company directs the Authority's attention to the risk of spreading revenue deficiencies equally among customers, including special contracts. The Company states that since the last rate case Signal Mountain and Walden Ridge Utility District "have communicated to the Company their growing concern with how, and to what extent, the TRA increases the rates of their respective special contracts." TAWC maintains that these customers have the motive and ability to by-pass TAWC which would result in a significant loss of contribution to fixed costs. (See VerDouw Direct, pp.24-25.) Provide copies of all communications and/or narratives of communication regarding this issue.

Response:

Please refer to the attached documents.



President

1101 Broad Street
Chattanooga, TN 37401
Deron.Allen@amwater.com

P 423-755-7607
F 423-755-7634

October 29, 2011

Mr. Frank Groves, Jr., President
Walden's Ridge Utility District
3900 Taft Highway
Signal Mountain, TN 37377

VIA FAX: (423) 886-1940

Dear Mr. Groves:

Tennessee-American Water Company ("TAWC") would like to thank the Board of Directors of Walden's Ridge Utility District ("Walden's Ridge") for meeting with us on October 25, 2011. We believe the discussion at the meeting was positive and presents an opportunity to move forward in a manner that preserves our long history of cooperative partnership with Walden's Ridge.

As expressed by the Board at the October 25th meeting, we appreciate the willingness of the Board to hold in abeyance its notice of September 30, 2011, of termination of TAWC's right to serve as the sole and exclusive supplier of potable and raw water while we discuss ways of improving the relationship and providing more value to Walden's Ridge. We look forward to discussing the issues regarding the 2003 Water Purchase Agreement (the "WPA") with you further in the near future.

As we discussed at the October 25th meeting, if Walden's Ridge determines to go forward with terminating TAWC's right to supply Walden's Ridge water prior to the expiration of the forty (40) year term contained in the WPA from the date of service, then Walden's Ridge must pay TAWC the balance of the undepreciated costs, on a straight-line basis, of TAWC's pipeline and all other facilities that have been constructed to serve Walden's Ridge on or before October 30, 2011. As we indicated in our discussion, at the current time, TAWC's calculations indicate that those costs are approximately \$4.1 million.

TAWC also appreciates the Board's willingness to finalize the terms of an agreement on the new wheeling charge for TAWC's continued right, under the 2003 WPA, to "use the Walden's Ridge distribution system as a conduit through which Tennessee-American may wheel water to other water utility districts" As we agreed, the new rate, which is already in effect, is \$0.75 per 1000 gallons.



TENNESSEE
AMERICAN WATER

October 29, 2011
Re: Walden's Ridge WPA
page 2 of 2

As discussed at the October 25th meeting, TAWC's leak detection personnel will begin work on a comprehensive leak survey along Walden's Ridge transmission mains located in Taft Highway between Walden's Ridge twin storage tanks (located at the old Walden's Ridge office) and the end of the line near Grandview subdivision. This leak survey will be performed by TAWC at no cost to Walden's Ridge. We hope that our efforts will help Walden's Ridge reduce its unaccounted for water.

In order to facilitate our future discussions, TAWC asks that Walden's Ridge prepare a comprehensive list of the issues that it would like to discuss with us on a going forward basis and to provide that list to TAWC as soon as possible.

I look forward to speaking with you further concerning the WPA and any other issues you may wish to discuss. As discussed, we will contact Ron West to establish a time for our next meeting.

Sincerely,

Deron Allen, President
Tennessee-American Water Company

3900 Taft Highway
Signal Mountain, Tennessee 37377

Commissioners:
FRANK GROVES, JR., PRESIDENT
J. ROBERT MCKENZIE, VICE PRESIDENT
DAVID J. FULTON, SECRETARY

General Manager
RONALD WEST

September 30, 2011

Mr. Deron E. Allen, President
Tennessee-American Water Company
1101 S. Broad Street
Chattanooga, TN 37402

Re: Termination of Water Purchase Agreement Dated July 14, 2003 by and between
Tennessee-American Water Company and Walden's Ridge Utility District

Dear Mr. Allen:

On July 14, 2003, Walden's Ridge Utility District (WRUD) signed an agreement with Tennessee American Water Company (TAWC) (the "Agreement") to purchase water at the top of Signal Mountain from TAWC. WRUD intends to terminate its relationship with TAWC as provided in Section II (D) of the Agreement, on a date to be determined by WRUD, for the following reasons:

1. Section III (A) of the Agreement called for TAWC to provide supporting data and computations for any proposed change in the water rate to WRUD after the first three (3) years of the Agreement. TAWC announced an intended water rate increase after the first three (3) years of the Agreement, and, although WRUD made a written request for negotiating TAWC's proposed increase, TAWC failed to respond to WRUD's request and refused to comply with the terms of the Agreement, going instead directly to the Tennessee Regulatory Authority (TRA) without WRUD's input as specified in the Agreement.
2. Section III (C) of the Agreement provided for WRUD to increase the wheeling charge to TAWC through its system to other water utility districts after the first three (3) years of the Agreement. Beginning in 2008, WRUD attempted to meet on several occasions with then-President John Watson to negotiate an increased wheeling charge. Mr. Watson refused to return phone calls and emails, and, when finally contacted to meet to discuss the issue, failed to show for the scheduled meetings.
3. Then-President Watson appeared before the WRUD Board of Commissioners at its regular meeting on August 24, 2009 and personally guaranteed that TAWC would never again attempt to obtain a water rate increase without abiding by the language in the Agreement requiring negotiations with WRUD. Shortly thereafter, TAWC went directly to TRA seeking a water rate increase, again without WRUD's input as provided for in the Agreement.

3900 Taft Highway
Signal Mountain, Tennessee 37377

Commissioners:

FRANK GROVES, JR., PRESIDENT
J. ROBERT MCKENZIE, VICE PRESIDENT
DAVID J. FULTON, SECRETARY

General Manager
RONALD WEST

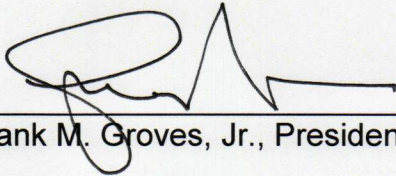
Mr. Deron E. Allen, President
September 30, 2011
Page 2

4. WRUD has no confidence in TAWC's intention or desire to abide by the terms of the Agreement in the future.

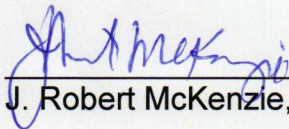
Section II (D) provides for WRUD to terminate the Agreement by paying to TAWC, within thirty (30) days following such termination, the balance of the un-depreciated costs, on a straight-line basis, of TAWC's pipeline and all other facilities that were constructed to serve WRUD. We ask that you provide us with that information within thirty (30) days from the date of this letter. We anticipate that, upon receipt of payment by WRUD and termination of the Agreement, TAWC will transfer, by bill-of-sale or other satisfactory manner, all of its pipeline and facilities that were constructed to serve WRUD.

We look forward to an amicable termination of our relationship.

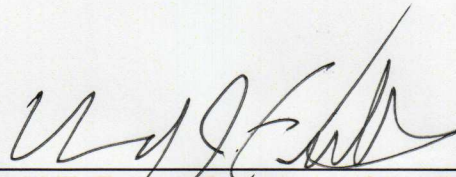
Sincerely,



Frank M. Groves, Jr., President of the Board of Commissioners



J. Robert McKenzie, Vice-President of the Board of Commissioners



David F. Fulton, Secretary of the Board of Commissioners



Fw: Leak Detection
Kevin N Rogers to: Kathryn A Hart

07/20/2012 11:38 AM

please print
Thanks

Kevin N. Rogers
Manager of Operations
Tennessee American Water
1101 Broad Street
Chattanooga, TN 37401
Office (423) 755-7622
Mobile (423) 710-5492
Fax (423) 755-7636
kevin.n.rogers@amwater.com

----- Forwarded by Kevin N Rogers/TAWC/AWWSC on 07/20/2012 11:38 AM -----

From: Kevin N Rogers/TAWC/AWWSC
To: "Ron West" <ron.wrud@comcast.net>
Cc: "Mr. Deron Allen" <Deron.Allen@amwater.com>, "Linda Bridwell" <Linda.Bridwell@amwater.com>, "Steve Betty" <Steve.Betty@amwater.com>
Date: 06/13/2012 06:19 AM
Subject: Leak Detection

Good morning, Ron. Deron emailed me last night saying we have not provided any leak detection to WRUD since March. I have reached out to Steve Betty get the status. Steve is our supervisor that took over those responsibilities upon Ron Schleifer's retirement. Our intention is and continues to be to offer this service each month and I apologize for any delays. Steve will be contacting you today to schedule the June service and we will provide additional service in June to make up for lost days.

I apologize again for the mix up. If you have any questions please let me know.

Thanks,
Kevin
Thanks,
Kevin

Kevin Rogers
Operations Manager
Tennessee American Water



Fw: Hydrant maps
Kevin N Rogers to: Kathryn A Hart

07/20/2012 11:38 AM

please print
Thanks

Kevin N. Rogers
Manager of Operations
Tennessee American Water
1101 Broad Street
Chattanooga, TN 37401
Office (423) 755-7622
Mobile (423) 710-5492
Fax (423) 755-7636
kevin.n.rogers@amwater.com

----- Forwarded by Kevin N Rogers/TAWC/AWWSC on 07/20/2012 11:38 AM -----

From: Kevin N Rogers/TAWC/AWWSC
To: "Ron West" <ron.wrud@comcast.net>@AWX
Cc: Deron E Allen/TAWC/AWWSC@AWW
Date: 05/30/2012 04:49 PM
Subject: Re: FW: Hydrant maps

This appears to be confidential information, I received in error. I have treated it as such and deleted it.

Thanks,
Kevin

Kevin N. Rogers
Manager of Operations
Tennessee American Water
1101 Broad Street
Chattanooga, TN 37401
Office (423) 755-7622
Mobile (423) 710-5492
Fax (423) 755-7636
kevin.n.rogers@amwater.com

"Ron West"

From: "Ron West" <ron.wrud@comcast.net> To:...

05/30/2012 04:28:13 PM

From: "Ron West" <ron.wrud@comcast.net>
To: <Kevin.N.Rogers@amwater.com>
Date: 05/30/2012 04:28 PM
Subject: FW: Hydrant maps

Ron West
General Manager

Walden's Ridge Utility District
3900 Taft Highway
Signal Mountain, TN 37377

423.886.2683 - Telephone
423.886.1940 - Fax

From: Honna Rogers [mailto:hrogers@signalmountaintn.gov]
Sent: Wednesday, May 30, 2012 10:27 AM
To: 'Ron West'
Subject: Hydrant maps

These are old and I think new ones will have to be made but this will give you an idea.

Honna

Honna Rogers
Town Manager
Signal Mountain, TN
(423) 886-2177
www.signalmountaintn.gov

This message may contain confidential and/or proprietary information and is intended for the person/entity to whom it was originally addressed. Any use by others is strictly prohibited.
[attachment "Hydrant maps.doc" deleted by Kevin N Rogers/TAWC/AWWSC]



Fw: Pump Station
Kevin N Rogers to: Kathryn A Hart

07/20/2012 11:42 AM

please print
Thanks

Kevin N. Rogers
Manager of Operations
Tennessee American Water
1101 Broad Street
Chattanooga, TN 37401
Office (423) 755-7622
Mobile (423) 710-5492
Fax (423) 755-7636
kevin.n.rogers@amwater.com

----- Forwarded by Kevin N Rogers/TAWC/AWWSC on 07/20/2012 11:42 AM -----

From: Kevin N Rogers/TAWC/AWWSC
To: Ron West <ron.wrud@comcast.net>
Cc: James S Moorhouse/TAWC/AWWSC@AWW, Susan Holmes/TAWC/AWWSC@AWW
Date: 03/06/2012 09:21 AM
Subject: Pump Station

Good morning, Ron. We are going to do some work on the pump station Thursday morning so just wanted to let you know we will have your tank full. We don't expect any service interruption or problems just wanted to give you a courtesy notification.

Thanks,
Kevin

Kevin N. Rogers
Manager of Operations
Tennessee American Water
1101 Broad Street
Chattanooga, TN 37401
Office (423) 755-7622
Mobile (423) 710-5492
Fax (423) 755-7636
kevin.n.rogers@amwater.com



Fw: Wheeling Charge
Kevin N Rogers to: Kathryn A Hart

07/20/2012 11:43 AM

please print
Thanks

Kevin N. Rogers
Manager of Operations
Tennessee American Water
1101 Broad Street
Chattanooga, TN 37401
Office (423) 755-7622
Mobile (423) 710-5492
Fax (423) 755-7636
kevin.n.rogers@amwater.com

----- Forwarded by Kevin N Rogers/TAWC/AWWSC on 07/20/2012 11:43 AM -----

From: Kevin N Rogers/TAWC/AWWSC
To: Ron West <ron.wrud@comcast.net>
Cc: Ginny Scealf/TAWC/AWWSC@AWW
Date: 02/29/2012 02:29 PM
Subject: Re: Wheeling Charge

Ron, the invoices are being processed.

Thanks

Kevin N. Rogers
Manager of Operations
Tennessee American Water
1101 Broad Street
Chattanooga, TN 37401
Office (423) 755-7622
Mobile (423) 710-5492
Fax (423) 755-7636
kevin.n.rogers@amwater.com

Kevin N Rogers Ginny is working on the invoices this morning an... 02/29/2012 08:33:43 AM

From: Kevin N Rogers/TAWC/AWWSC
To: Ron West <ron.wrud@comcast.net>
Cc: Ginny Scealf/TAWC/AWWSC@AWW
Date: 02/29/2012 08:33 AM
Subject: Wheeling Charge

Ginny is working on the invoices this morning and will get them processed ASAP. Sorry for the confusion and delay.

Thanks,
Kevin

Kevin N. Rogers
Manager of Operations
Tennessee American Water
1101 Broad Street

Chattanooga, TN 37401
Office (423) 755-7622
Mobile (423) 710-5492
Fax (423) 755-7636
kevin.n.rogers@amwater.com



***Confidential: Fw: Confidentiality Agreement**
Kevin N Rogers to: Kathryn A Hart

07/20/2012 11:44 AM

please print
Thanks

Kevin N. Rogers
Manager of Operations
Tennessee American Water
1101 Broad Street
Chattanooga, TN 37401
Office (423) 755-7622
Mobile (423) 710-5492
Fax (423) 755-7636
kevin.n.rogers@amwater.com

----- Forwarded by Kevin N Rogers/TAWC/AWWSC on 07/20/2012 11:44 AM -----

From: Kevin N Rogers/TAWC/AWWSC
To: "Ron West" <ron.wrud@comcast.net>
Date: 12/22/2011 07:48 AM
Subject: Confidentiality Agreement

Ron, attached is the confidentiality agreement needed for the release of the construction documents.

Thanks and have a merry Christmas.



Walden's Ridge.doc

Kevin

Kevin N. Rogers
Manager of Operations
Tennessee American Water
1101 Broad Street
Chattanooga, TN 37401
Office (423) 755-7622
Mobile (423) 710-5492
Fax (423) 755-7636
kevin.n.rogers@amwater.com

CONFIDENTIALITY AGREEMENT

This Agreement, made and entered into December 22, 2011, by and between Tennessee-American Water Company ("TAW") with a place of business at 1101 Broad Street,, Chattanooga, TN 37402 and Walden's Ridge Utility District, with a place of business at 3900 Taft Highway Signal Mountain, Tennessee 37377 ("Walden's Ridge").

WHEREAS, TAWC and Walden's Ridge entered into a Water Purchase Agreement dated July 14, 2003 (Water Purchase Agreement") hereby Walden's Ridge agreed to purchase all of its water supply from TAW;

WHEREAS, the Water Purchase Agreement provides that Walden's Ridge may terminate the water supply provisions of the Water Purchase Agreement provided Walden's Ridge satisfies certain conditions;

WHEREAS, by letter dated September 30, 2011, Walden's Ridge notified TAW of its intent to terminate the water supply provisions of the Water Purchase Agreement.

WHEREAS, during a board meeting held by Walden's Ridge on October 25, 2011, TAW and Walden's Ridge agreed to commence discussions relating to the Water Purchase Agreement and other related matters to determine if the nature of the relationship could be revised.

WHEREAS, in order to make this determination, it will be necessary for TAW to disclose certain of its confidential information to Walden's Ridge, and it will be necessary for Walden's Ridge to treat that information in a highly confidential manner; and

NOW, THEREFORE, in consideration mutual benefits related to the above described discussions, the parties agree as follows:

1. Obligation of Confidentiality. All Confidential Information (defined below) that TAW, any of its employees, officers, agents or representatives furnishes to Walden's Ridge or any of its employees, officers, agents or representatives (each, a Walden's Ridge Representative) shall be held in strict confidence and trust, and shall be used by Walden's Ridge solely in connection with the discussions described above, and for no other purposes. Neither Walden's Ridge nor any Walden's Ridge Representative shall disclose any Confidential Information to third parties without TAW's prior written consent. In addition, Walden's Ridge shall take all necessary steps to prevent unauthorized disclosure of, or access to, any Confidential Information. Walden's Ridge shall disclose Confidential Information only to those Walden's Ridge Representatives with a need to know such Confidential Information in order to assist Walden's Ridge in its discussions with TAW claim, and, prior to such disclosure, Walden's Ridge shall inform such Walden's Ridge Representatives of the confidential nature of such Confidential Information and shall obtain from such Walden's Ridge Representatives a written acknowledgement of their understanding and acceptance of the terms of this Agreement.
2. Definition of Confidential Information. As used herein, Confidential Information means: all documents and information, in whatever form or medium, including, without limitation, electronic files, diskettes, electronic mail, oral communications or visual observation, provided by TAW to Walden's Ridge or Walden's Ridge Representatives as part of, or in connection with, Walden's Ridge's discussions with

TAWC, other than documents or information that are or become public other than through an unauthorized act or omission on the part of Walden's Ridge or any person to whom Walden's Ridge discloses such items.

3. Return of Confidential Information. Upon the request of TAW at any time, Walden's Ridge shall promptly deliver to TAW all Confidential Information, in whatever form or medium, and shall cause all copies, summaries, synopses, or derivations thereof to be destroyed. Said destruction shall be confirmed in writing by Walden's Ridge to TAW within 30 calendar days following the date of the notice described above.
4. Disclosure Pursuant To Applicable Law. If Walden's Ridge is required by a valid order of any governmental agency, court or other quasi-judicial or regulatory body with jurisdiction and authority to so order to disclose Confidential Information received under this Agreement, Walden's Ridge shall not be liable for such disclosure provided that Walden's Ridge: (a) as promptly as reasonably possible, but no later than five calendar days, gives notice to TAW of the requirement in order that TAW may contest the requirement to provide such Confidential Information; (b) takes all steps requested by TAW to obtain confidential treatment for such Confidential Information; and (c) limits the scope of any disclosure as narrowly as permitted by the terms of the applicable order.
5. Remedies. Walden's Ridge agrees that it would be impossible or inadequate to measure or calculate TAW's damages from any breach of the covenants set forth in this Agreement. Accordingly, Walden's Ridge agrees that if it breaches or threatens to breach any of such covenants, TAW will have available to it, in addition to any other rights or remedies, the right to obtain an injunction from a court of competent

jurisdiction restraining such breach or threatened breach, and to specific performance of any such provision of this Agreement, without posting any bond or other security.

6. No License Granted. Nothing contained herein shall be construed, either expressly or implicitly, to grant to Walden's Ridge any rights to technology or license under any patent, copyright, trademark or other proprietary information now or hereafter owned or controlled by TAW.
7. Governing Law. This Agreement shall be governed by the laws of the Commonwealth of Tennessee, without regard to its provision regarding conflict of laws.
8. Assignment. Walden's Ridge may not assign or transfer this Agreement, by operation of law or otherwise, without the prior written consent of TAW.
9. Survival. The provisions of this Agreement shall survive the completion of the discussions between Walden's Ridge and TAW or any termination of this Agreement.
10. Entire Agreement; Amendments. This Agreement sets forth the entire agreement and understanding of the parties with respect to the subject matter hereof. This Agreement may not be amended or modified except by a writing signed by both parties. It is understood and agreed that no failure or delay by either party in exercising any right, power or privilege hereunder shall operate as a waiver thereof, nor shall any single or partial exercise thereof preclude any other or further exercise thereof or the exercise of any right, power or privilege hereunder.

IN WITNESS THEREOF, each of the parties has caused this Agreement to be executed by a duly authorized representative on the dates entered herein below.

WALDEN'S RIDGE DISTRICT UTILITY
DISTRICT

TENNESSEE-AMERICAN WATER CO.

By: _____
Authorized Signature

(Typed Name)

(Typed Title)

Date Signed

By: _____
Authorized Signature

(Typed Name)

(Typed Title)

Date Signed



Fw: *Confidential: RE: Confidentiality Agreement
Kevin N Rogers to: Kathryn A Hart

07/20/2012 11:31 AM

please print
Thanks

Kevin N. Rogers
Manager of Operations
Tennessee American Water
1101 Broad Street
Chattanooga, TN 37401
Office (423) 755-7622
Mobile (423) 710-5492
Fax (423) 755-7636
kevin.n.rogers@amwater.com

----- Forwarded by Kevin N Rogers/TAWC/AWWSC on 07/20/2012 11:31 AM -----

From: Kevin N Rogers/TAWC/AWWSC
To: "Ron West" <ron.wrud@comcast.net>@AWX
Cc: Gerald A Reynolds/SERVCO/AWWSC@AWW, Deron E Allen/TAWC/AWWSC@AWW
Date: 01/06/2012 11:26 AM
Subject: *Confidential: RE: Confidentiality Agreement

Good morning, Ron. I hope your holidays went well. Please have everyone that sees the info sign the agreement. This would include your accountant you mentioned as well.

Also, Ron Schleifer said this morning he was going to get back in touch with you again next week and schedule times for more leak detection.

Thanks

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kevin.n.rogers@amwater.com

"Ron West" Would you like for each board member to sign o... 01/06/2012 07:54:11 AM

From: "Ron West" <ron.wrud@comcast.net>
To: <Kevin.N.Rogers@amwater.com>
Date: 01/06/2012 07:54 AM
Subject: RE: Confidentiality Agreement

Would you like for each board member to sign one of these are just me?

From: Kevin.N.Rogers@amwater.com [mailto:Kevin.N.Rogers@amwater.com]
Sent: Thursday, December 22, 2011 7:49 AM

To: Ron West
Subject: Confidentiality Agreement

Ron, attached is the confidentiality agreement needed for the release of the construction documents.

Thanks and have a merry Christmas.

Kevin

Kevin N. Rogers
Manager of Operations
Tennessee American Water
1101 Broad Street
Chattanooga, TN 37401
Office (423) 755-7622
Mobile (423) 710-5492
Fax (423) 755-7636
kevin.n.rogers@amwater.com



Fw: *Confidential: Re: RE: Confidentiality Agreement
Kevin N Rogers to: Kathryn A Hart

07/20/2012 11:32 AM

please print
Thanks

Kevin N. Rogers
Manager of Operations
Tennessee American Water
1101 Broad Street
Chattanooga, TN 37401
Office (423) 755-7622
Mobile (423) 710-5492
Fax (423) 755-7636
kevin.n.rogers@amwater.com

----- Forwarded by Kevin N Rogers/TAWC/AWWSC on 07/20/2012 11:31 AM -----

From: Kevin N Rogers/TAWC/AWWSC
To: Ron West <ron.wrud@comcast.net>
Date: 01/09/2012 08:29 AM
Subject: *Confidential: Re: RE: Confidentiality Agreement

Good morning, Ron. I am planning to bring the documentation to tomorrow's board meeting. Will the agreements be signed and ready by then? If so, what time does the meeting start?

Thanks,
Kevin

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Chattanooga, TN 37401
Office (423) 755-7622
Mobile (423) 710-5492
Fax (423) 755-7636
kevin.n.rogers@amwater.com

Kevin N Rogers Good morning, Ron. I hope your holidays went... 01/06/2012 11:26:58 AM

From: Kevin N Rogers/TAWC/AWWSC
To: "Ron West" <ron.wrud@comcast.net>@AWX
Cc: Gerald A Reynolds/SERVCO/AWWSC@AWW, Deron E Allen/TAWC/AWWSC@AWW
Date: 01/06/2012 11:26 AM
Subject: *Confidential: RE: Confidentiality Agreement

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Fax (423) 755-7636
kevin.n.rogers@amwater.com

"Ron West"

Would you like for each board member to sign o...

01/06/2012 07:54:11 AM



Fw: *Confidential: Re: RE: Confidentiality Agreement
Kevin N Rogers to: Kathryn A Hart

07/20/2012 11:32 AM

please print
Thanks

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kevin.n.rogers@amwater.com

----- Forwarded by Kevin N Rogers/TAWC/AWWSC on 07/20/2012 11:32 AM -----

From: "Ron West" <ron.wrud@comcast.net>
To: <Kevin.N.Rogers@amwater.com>
Date: 01/09/2012 09:37 AM
Subject: RE: *Confidential: Re: RE: Confidentiality Agreement

Yes all Three commissioners will be there to sign at 5:30

From: Kevin.N.Rogers@amwater.com [<mailto:Kevin.N.Rogers@amwater.com>]
Sent: Monday, January 09, 2012 8:30 AM
To: Ron West
Subject: *Confidential: Re: RE: Confidentiality Agreement

Good morning, Ron. I am planning to bring the documentation to tomorrow's board meeting. Will the agreements be signed and ready by then? If so, what time does the meeting start?

Thanks,
Kevin

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From: Kevin N Rogers/TAWC/AWWSC
To: "Ron West" <ron.wrud@comcast.net>@AWX
Cc: Gerald A Reynolds/SERVCO/AWWSC@AWW, Deron E Allen/TAWC/AWWSC@AWW

Date: 01/06/2012 11:26 AM
Subject: *Confidential: RE: Confidentiality Agreement

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kevin.n.rogers@amwater.com

From: "Ron West" <ron.wrud@comcast.net>
To: <Kevin.N.Rogers@amwater.com>
Date: 01/06/2012 07:54 AM
Subject: RE: Confidentiality Agreement

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Kevin

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kevin.n.rogers@amwater.com



Fw: Information
Kevin N Rogers to: Kathryn A Hart

07/20/2012 11:39 AM

please print
Thanks

Kevin N. Rogers
Manager of Operations
Tennessee American Water
1101 Broad Street
Chattanooga, TN 37401
Office (423) 755-7622
Mobile (423) 710-5492
Fax (423) 755-7636
kevin.n.rogers@amwater.com

----- Forwarded by Kevin N Rogers/TAWC/AWWSC on 07/20/2012 11:39 AM -----

From: Kevin N Rogers/TAWC/AWWSC
To: "ron.wrud@comcast.net" <ron.wrud@comcast.net>@AWX
Date: 01/18/2012 04:21 PM
Subject: Re: Information

The office is 423-755-7622

Thanks

Kevin N. Rogers
Manager of Operations
Tennessee American Water
1101 Broad Street
Chattanooga, TN 37401
Office (423) 755-7622
Mobile (423) 710-5492
Fax (423) 755-7636
kevin.n.rogers@amwater.com

"ron.wrud@comcast.net" At what number Sent from my Verizon Wi... 01/18/2012 10:05:43 AM

From: "ron.wrud@comcast.net" <ron.wrud@comcast.net>
To: Kevin.N.Rogers@amwater.com
Date: 01/18/2012 10:05 AM
Subject: Re: Information

At what number

Sent from my Verizon Wireless Phone

-----Original message-----

From: Kevin.N.Rogers@amwater.com
To: ron.wrud@comcast.net
Sent: Wed, Jan 18, 2012 13:32:04 GMT+00:00

Subject: Re: Information

Good morning, Ron. Please give me a call at your convenience so we can talk about the information requests.

Thanks

Kevin N. Rogers
Manager of Operations
Tennessee American Water
1101 Broad Street
Chattanooga, TN 37401
Office (423) 755-7622
Mobile (423) 710-5492
Fax (423) 755-7636
kevin.n.rogers@amwater.com

From: "Ron West" <ron.wrud@comcast.net>
To: <Kevin.N.Rogers@amwater.com>
Date: 01/11/2012 09:07 AM
Subject: Information

Thank you for bringing up the information to us last night, do you have a copy of the Has build Plans?



Fw: Information
Kevin N Rogers to: Kathryn A Hart

07/20/2012 11:39 AM

please print
Thanks

Kevin N. Rogers
Manager of Operations
Tennessee American Water
1101 Broad Street
Chattanooga, TN 37401
Office (423) 755-7622
Mobile (423) 710-5492
Fax (423) 755-7636
kevin.n.rogers@amwater.com

----- Forwarded by Kevin N Rogers/TAWC/AWWSC on 07/20/2012 11:39 AM -----

From: Kevin N Rogers/TAWC/AWWSC
To: ron.wrud@comcast.net
Cc: "Mr. Deron Allen" <Deron.Allen@amwater.com>
Date: 01/19/2012 05:23 PM
Subject: Re: Information

Sorry to miss your call, Ron. I have been all day meetings today and will be again. Please feel free to call my mobile tonight or in the morning before 7:30.

Thanks,
Kevin
423-710-5492
Thanks,
Kevin

From: "ron.wrud@comcast.net" [ron.wrud@comcast.net]
Sent: 01/18/2012 10:05 AM EST
To: Kevin Rogers
Subject: Re: Information

At what number

Sent from my Verizon Wireless Phone

-----Original message-----

From: Kevin.N.Rogers@amwater.com
To: ron.wrud@comcast.net
Sent: Wed, Jan 18, 2012 13:32:04 GMT+00:00
Subject: Re: Information

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Thanks

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From: "Ron West" <ron.wrud@comcast.net>
To: <Kevin.N.Rogers@amwater.com>
Date: 01/11/2012 09:07 AM
Subject: Information

Thank you for bringing up the information to us last night, do you have a copy of the Has build Plans?



Fw: WRUD depreciation schedule
Kevin N Rogers to: Kathryn A Hart

07/20/2012 11:34 AM

please print
Thanks

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Manager of Operations
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kevin.n.rogers@amwater.com

----- Forwarded by Kevin N Rogers/TAWC/AWWSC on 07/20/2012 11:33 AM -----

From: Kevin N Rogers/TAWC/AWWSC
To: Ron West <ron.wrud@comcast.net>
Cc: Gerald A Reynolds/SERVCO/AWWSC@AWW, Deron E Allen/TAWC/AWWSC@AWW
Date: 01/20/2012 04:08 PM
Subject: WRUD depreciation schedule

Ron, attached is the depreciation schedule by class. I look forward to working with you and the WRUD Board to try and resolve the issues.

Thanks

Kevin N. Rogers
Manager of Operations
Tennessee American Water
1101 Broad Street
Chattanooga, TN 37401
Office (423) 755-7622
Mobile (423) 710-5492
Fax (423) 755-7636
kevin.n.rogers@amwater.com



Fw: WRUD Board Meeting
Kevin N Rogers to: Kathryn A Hart

07/20/2012 11:34 AM

please print
Thanks

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kevin.n.rogers@amwater.com

----- Forwarded by Kevin N Rogers/TAWC/AWWSC on 07/20/2012 11:33 AM -----

From: "Ron West" <ron.wrud@comcast.net>
To: <Kevin.N.Rogers@amwater.com>
Date: 02/21/2012 11:31 AM
Subject: RE: WRUD Board Meeting

We have not heard back from the Auditors (Tax Season), would you be available for a workshop or the March Meeting?

Ron West
General Manager

Walden's Ridge Utility District
3900 Taft Highway
Signal Mountain, TN 37377

423.886.2683 - Telephone
423.886.1940 - Fax

From: Kevin.N.Rogers@amwater.com [mailto:Kevin.N.Rogers@amwater.com]
Sent: Tuesday, February 21, 2012 8:14 AM
To: ron.wrud@comcast.net
Subject: WRUD Board Meeting

Good morning, Ron I hope things are going well with you and the review. If you or the board has any questions, please send them to me and I will be glad to come to the next board meeting to discuss them. Please let me know the date of the next board meeting and I will schedule it on my calendar.

Thanks,
Kevin

Kevin N. Rogers
Manager of Operations
Tennessee American Water
1101 Broad Street
Chattanooga, TN 37401
Office (423) 755-7622
Mobile (423) 710-5492
Fax (423) 755-7636
kevin.n.rogers@amwater.com

From: Kevin N Rogers/TAWC/AWWSC
To: "ron.wrud@comcast.net" <ron.wrud@comcast.net>@AWX
Date: 01/18/2012 04:21 PM
Subject: Re: Information

The office is 423-755-7622

Thanks

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kevin.n.rogers@amwater.com

From: "ron.wrud@comcast.net" <ron.wrud@comcast.net>
To: Kevin.N.Rogers@amwater.com
Date: 01/18/2012 10:05 AM
Subject: Re: Information

At what number

Sent from my Verizon Wireless Phone

-----Original message-----

From: Kevin.N.Rogers@amwater.com
To: ron.wrud@comcast.net
Sent: Wed, Jan 18, 2012 13:32:04 GMT+00:00
Subject: Re: Information

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Thanks

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kevin.n.rogers@amwater.com

From: "Ron West" <ron.wrud@comcast.net>
To: <Kevin.N.Rogers@amwater.com>
Date: 01/11/2012 09:07 AM
Subject: Information

Thank you for bringing up the information to us last night, do you have a copy of the Has build Plans?



Fw: Wheeling Charge
Kevin N Rogers to: Kathryn A Hart

07/20/2012 11:34 AM

please print
Thanks

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kevin.n.rogers@amwater.com

----- Forwarded by Kevin N Rogers/TAWC/AWWSC on 07/20/2012 11:33 AM -----

From: Kevin N Rogers/TAWC/AWWSC
To: Ron West <ron.wrud@comcast.net>
Cc: Ginny Scealf/TAWC/AWWSC@AWW
Date: 02/29/2012 08:33 AM
Subject: Wheeling Charge

Ginny is working on the invoices this morning and will get them processed ASAP. Sorry for the confusion and delay.

Thanks,
Kevin

Kevin N. Rogers
Manager of Operations
Tennessee American Water
1101 Broad Street
Chattanooga, TN 37401
Office (423) 755-7622
Mobile (423) 710-5492
Fax (423) 755-7636
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Fw: Wheeling Charge
Kevin N Rogers to: Kathryn A Hart

07/20/2012 11:34 AM

please print
Thanks

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----- Forwarded by Kevin N Rogers/TAWC/AWWSC on 07/20/2012 11:34 AM -----

From: Kevin N Rogers/TAWC/AWWSC
To: Ron West <ron.wrud@comcast.net>
Cc: Ginny Scealf/TAWC/AWWSC@AWW
Date: 02/29/2012 02:29 PM
Subject: Re: Wheeling Charge

Ron, the invoices are being processed.

Thanks

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Chattanooga, TN 37401
Office (423) 755-7622
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Kevin N Rogers Ginny is working on the invoices this morning an... 02/29/2012 08:33:43 AM

From: Kevin N Rogers/TAWC/AWWSC
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kevin.n.rogers@amwater.com



Fw: Workshop
Kevin N Rogers to: Kathryn A Hart

07/20/2012 11:35 AM

please print
Thanks

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kevin.n.rogers@amwater.com

----- Forwarded by Kevin N Rogers/TAWC/AWWSC on 07/20/2012 11:34 AM -----

From: "Ron West" <ron.wrud@comcast.net>
To: <Deron.Allen@amwater.com>, <Kevin.N.Rogers@amwater.com>, "Bob McKenzie"
<bmckenzie@southernpropertiesgroup.com>, "David J. Fulton" <djf@sfglegal.com>, "Frank
Groves" <fmg39@comcast.net>
Cc: <casey.wrud@comcast.net>
Date: 03/19/2012 08:08 AM
Subject: Workshop

I would like to set up a workshop with TAWC at 4:00 on March 27th to discuss issues and options. This will be prior to our regular board meeting

Ron West
General Manager

Walden's Ridge Utility District
3900 Taft Highway
Signal Mountain, TN 37377

423.886.2683 - Telephone
423.886.1940 - Fax



Fw: Meeting
Kevin N Rogers to: Kathryn A Hart

07/20/2012 11:36 AM

please print
Thanks

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Manager of Operations
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Fax (423) 755-7636
kevin.n.rogers@amwater.com

----- Forwarded by Kevin N Rogers/TAWC/AWWSC on 07/20/2012 11:36 AM -----

From: Kevin N Rogers/TAWC/AWWSC
To: "Ron West" <ron.wrud@comcast.net>@AWX
Date: 04/05/2012 12:20 PM
Subject: Re: Meeting

That time is fine, Ron.

Thanks

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Manager of Operations
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1101 Broad Street
Chattanooga, TN 37401
Office (423) 755-7622
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Fax (423) 755-7636
kevin.n.rogers@amwater.com

"Ron West" At our last work session we talked about setting... 04/04/2012 01:01:57 PM

From: "Ron West" <ron.wrud@comcast.net>
To: <Kevin.N.Rogers@amwater.com>
Date: 04/04/2012 01:01 PM
Subject: Meeting

At our last work session we talked about setting up a meeting with our CPA on the value of the system installed for Walden, He would like to meet if possible on the 24 of April at 10:00 at our office will this work for you?

Ron West
General Manager

Walden's Ridge Utility District
3900 Taft Highway
Signal Mountain, TN 37377

423.886.2683 - Telephone
423.886.1940 - Fax



Fw: Meeting
Kevin N Rogers to: Kathryn A Hart

07/20/2012 11:36 AM

please print
Thanks

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----- Forwarded by Kevin N Rogers/TAWC/AWWSC on 07/20/2012 11:36 AM -----

From: Kevin N Rogers/TAWC/AWWSC
To: "Ron West" <ron.wrud@comcast.net>@AWX
Cc: Deron E Allen/TAWC/AWWSC@AWW
Date: 04/19/2012 05:11 PM
Subject: Re: Meeting

Ron, do you have an electronic copy of the one page contract sheet you gave me at the last meeting? It would be helpful to the process if the details behind the numbers were identified so I could match them up the way you parsed them.

Thanks

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"Ron West" At our last work session we talked about setting... 04/04/2012 01:01:57 PM

From: "Ron West" <ron.wrud@comcast.net>
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General Manager

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Signal Mountain, TN 37377

423.886.2683 - Telephone
423.886.1940 - Fax



Fw: WRUD Project questions
Kevin N Rogers to: Kathryn A Hart

07/20/2012 11:37 AM

please print
Thanks

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kevin.n.rogers@amwater.com

----- Forwarded by Kevin N Rogers/TAWC/AWWSC on 07/20/2012 11:37 AM -----

From: Kevin N Rogers/TAWC/AWWSC
To: "Ron West" <ron.wrud@comcast.net>@AWX
Cc: Deron.Allen@amwater.com
Date: 05/10/2012 03:45 PM
Subject: RE: WRUD Project questions

Thanks for the head's up on the board, I thought it was still the 29th. The rate study is progressing.

Thanks

Kevin N. Rogers
Manager of Operations
Tennessee American Water
1101 Broad Street
Chattanooga, TN 37401
Office (423) 755-7622
Mobile (423) 710-5492
Fax (423) 755-7636
kevin.n.rogers@amwater.com

"Ron West" OK, remember our board meeting has been mov... 05/09/2012 11:33:55 AM

From: "Ron West" <ron.wrud@comcast.net>
To: <Kevin.N.Rogers@amwater.com>
Cc: <Deron.Allen@amwater.com>
Date: 05/09/2012 11:33 AM
Subject: RE: WRUD Project questions

OK, remember our board meeting has been moved to May 22, 2012. Are you any closer to finishing the rate study?

Ron West
General Manager

Walden's Ridge Utility District
3900 Taft Highway
Signal Mountain, TN 37377

423.886.2683 - Telephone
423.886.1940 - Fax

From: Kevin.N.Rogers@amwater.com [mailto:Kevin.N.Rogers@amwater.com]
Sent: Wednesday, May 09, 2012 9:10 AM
To: ron.wrud@comcast.net; dpeterson@dpcpa.net
Subject: WRUD Project questions

We are in the final stages of researching your questions. I expect to have the answers back to you by week's end.

Thanks

Kevin N. Rogers
Manager of Operations
Tennessee American Water
1101 Broad Street
Chattanooga, TN 37401
Office (423) 755-7622
Mobile (423) 710-5492
Fax (423) 755-7636
kevin.n.rogers@amwater.com

From: "Ron West" <ron.wrud@comcast.net>
To: <Kevin.N.Rogers@amwater.com>
Date: 04/20/2012 07:54 AM
Subject: tawc2012.xlsx

[attachment "tawc2012.pdf" deleted by Kevin N Rogers/TAWC/AWWSC]



Fw: Meeting
Kevin N Rogers to: Kathryn A Hart

07/20/2012 11:38 AM

please print
Thanks

Kevin N. Rogers
Manager of Operations
Tennessee American Water
1101 Broad Street
Chattanooga, TN 37401
Office (423) 755-7622
Mobile (423) 710-5492
Fax (423) 755-7636
kevin.n.rogers@amwater.com

----- Forwarded by Kevin N Rogers/TAWC/AWWSC on 07/20/2012 11:38 AM -----

From: "Ron West" <ron.wrud@comcast.net>
To: <Deron.Allen@amwater.com>, <Kevin.N.Rogers@amwater.com>
Date: 06/01/2012 08:40 AM
Subject: Meeting

The board has agreed to move the meeting to June 12 th 5:30 if that will help?

Ron West
General Manager

Walden's Ridge Utility District
3900 Taft Highway
Signal Mountain, TN 37377

423.886.2683 - Telephone
423.886.1940 - Fax



Fw: Just checking
Valoria Armstrong to: Kathryn A Hart
Cc: Kevin N Rogers

07/23/2012 02:54 PM

Please print for Kevin. Open entire email trail.

Thank You,

Valoria V. Armstrong, PHR
Human Resources Business Partner - Manager
Tennessee/Kentucky - American Water Company
1101 Broad Street
Chattanooga, TN 37402

O: (423) 755-7619
C: (423) 762-2282
F: (423) 755-7636
valoria.armstrong@amwater.com
www.amwater.com



American Water Inc.

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----- Forwarded by Valoria Armstrong/SERVCO/AWWSC on 07/23/2012 02:51 PM -----



Re: Just checking 

Ginny Scealf to: Tina Davies <tina.wrud@comcast.net>

02/28/2012 02:47 PM

Cc: Kevin N Rogers, Jessica D Presley, Deron E Allen

Tina, Kevin Rogers plans to attend just to say hello and offer our assistance to any questions they may have in the process. If you could put him first on the agenda to make those few remarks, that would be great.

If you have any questions, please let me know. Thank you.

Ginny Scealf
Executive Assistant
Tennessee American Water
1101 Broad St, P O Box 6338
Chattanooga, TN 37401
Phone: 423.755.7621

Fax: 423.755.7634
Email: Ginny.Scealf@amwater.com

"Tina Davies"

Ginny:

02/28/2012 10:56:32 AM

From: "Tina Davies" <tina.wrud@comcast.net>
To: "Ginny Scealf" <ginny.scealf@amwater.com>
Date: 02/28/2012 10:56 AM
Subject: Just checking

Ginny:

Just checking to make sure you received my last message yesterday that Commissioner Groves wanted me to send concerning the District's meeting tonight. Please let me know if Kevin & Jessica still plan on attending.

Should you have questions, please contact me during normal business hours, Monday through Friday, between the hours of 8:00 to 4:30. I can be reached by telephone at 423.886.2683, by fax at 423.886.1940 or by email at tina.wrud@comcast.net.

Tina Davies, Office Manager

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3900 Taft Highway
Signal Mountain, TN 37377

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423.886.1940 – Fax

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Watch your actions; they become habits...
Watch your habits; they become character...
Watch your character; it becomes your destiny.



Fw: Just checking
Valoria Armstrong to: Kathryn A Hart
Cc: Kevin N Rogers

07/23/2012 02:55 PM

Print for Kevin.

Thank You,

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Tennessee/Kentucky - American Water Company
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----- Forwarded by Valoria Armstrong/SERVCO/AWWSC on 07/23/2012 02:53 PM -----



Re: Fw: Just checking 📎

Kevin N Rogers to: Ginny Scealf

02/28/2012 02:14 PM

Cc: Jessica D Presley

Ginny, your message about not going to the meeting seems more restrictive than Tina Davies email.

I (not sure about Jessica) will be going to the meeting just to check in. Not expecting deep discussion on any issues.

I won't need more than 5 minutes at the beginning of their meeting will not cause a long delay.

Thanks

Kevin N. Rogers
Manager of Operations
Tennessee American Water
1101 Broad Street

Chattanooga, TN 37401
Office (423) 755-7622
Mobile (423) 710-5492
Fax (423) 755-7636
kevin.n.rogers@amwater.com

Ginny Scealf

Tina of Walden's Ridge just wanted to make sur...

02/28/2012 11:41:34 AM

From: Ginny Scealf/TAWC/AWWSC
To: Kevin N Rogers/TAWC/AWWSC@AWW, Jessica D Presley/TAWC/AWWSC@AWW
Date: 02/28/2012 11:41 AM
Subject: Fw: Just checking

Tina of Walden's Ridge just wanted to make sure you all do not plan to attend the Board meeting tonight. She indicated they had a full agenda in addition to not having had opportunity to review the information we had already submitted. Thank you.

Ginny Scealf
Executive Assistant
Tennessee American Water
1101 Broad St, P O Box 6338
Chattanooga, TN 37401
Phone: 423.755.7621
Fax: 423.755.7634
Email: Ginny.Scealf@amwater.com

----- Forwarded by Ginny Scealf/TAWC/AWWSC on 02/28/2012 11:44 AM -----

From: "Tina Davies" <tina.wrud@comcast.net>
To: "Ginny Scealf" <ginny.scealf@amwater.com>
Date: 02/28/2012 10:56 AM
Subject: Just checking

Ginny:

Just checking to make sure you received my **last** message yesterday that Commissioner Groves wanted me to send concerning the District's meeting tonight. Please let me know if Kevin & Jessica still plan on attending.

Should you have questions, please contact me during normal business hours, Monday through Friday, between the hours of 8:00 to 4:30. I can be reached by telephone at 423.886.2683, by fax at 423.886.1940 or by email at tina.wrud@comcast.net.

Tina Davies, Office Manager

Walden's Ridge Utility District

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Watch your habits; they become character...
Watch your character; it becomes your destiny.



Fw: WRUD Board Meetings
Valoria Armstrong to: Kathryn A Hart
Cc: Kevin N Rogers

07/23/2012 02:55 PM

Print for Kevin.

Thank You,

Valoria V. Armstrong, PHR
Human Resources Business Partner - Manager
Tennessee/Kentucky - American Water Company
1101 Broad Street
Chattanooga, TN 37402

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valoria.armstrong@amwater.com
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●●●●●

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----- Forwarded by Valoria Armstrong/SERVCO/AWWSC on 07/23/2012 02:54 PM -----

From: Ginny Scealf/TAWC/AWWSC
To: Deron E Allen/TAWC/AWWSC@AWW
Cc: Kevin N Rogers/TAWC/AWWSC@AWW, Jessica D Presley/TAWC/AWWSC@AWW
Date: 02/28/2012 02:03 PM
Subject: Fw: WRUD Board Meetings

Deron, below are emails from Tina Davies of WRUD in response to mine asking for the date of the next Board meeting. The other email was the one she sent this morning with the subject "Just checking."

This is email from WRUD received later in the day yesterday - 2/27/12 4:15pm.

Ginny:

Just talked to one of my Board members. He said we would be happy to have Kevin & Jessica at our meeting tomorrow night; however the Board has not had time to digest the information supplied by our Auditor.

He said it might be best if they put off coming to the meeting until they had a chance to review the info and have their questions ready.

Tina Davies, Office Manager

This is email from WRUD in response to mine saying Kevin and Jessica planned on attending - 2/27/12 3:31pm.

Ron had to leave for the day. Tell them to plan on attending and I will tell Ron first thing in the morning.

Tina Davies, Office Manager

Below is email from WRUD in response to mine asking for date of next Board meeting - 2/27/12 1:59pm.

The meeting is tomorrow night, February 28, 2012. Do you have someone wanting to attend? I need to notify Ron to see if he wants them on the agenda this month since we have a lot already on there for discussion.

Tina Davies, Office Manager

Ginny Scealf
Executive Assistant
Tennessee American Water
1101 Broad St, P O Box 6338
Chattanooga, TN 37401
Phone: 423.755.7621
Fax: 423.755.7634
Email: Ginny.Scealf@amwater.com

----- Forwarded by Ginny Scealf/TAWC/AWWSC on 02/28/2012 01:54 PM -----

From: "Tina Davies" <tina.wrud@comcast.net>
To: <Ginny.Scealf@amwater.com>
Date: 02/27/2012 01:59 PM
Subject: RE: WRUD Board Meetings

The meeting is tomorrow night, February 28, 2012. Do you have someone wanting to attend? I need to notify Ron to see if he wants them on the agenda this month since we have a lot already on there for discussion.

Tina Davies, Office Manager

Walden's Ridge Utility District
3900 Taft Highway
Signal Mountain, TN 37377

423.886.2683 - Telephone
423.886.1940 - Fax

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-----Original Message-----

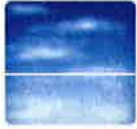
From: Ginny.Scealf@amwater.com [<mailto:Ginny.Scealf@amwater.com>]
Sent: Monday, February 27, 2012 1:50 PM
To: tina.wrud@comcast.net

Subject: WRUD Board Meetings

Tina, can you let me know when the Board meetings for Walden's Ridge will be held? Thank you.

Hope you're doing fine. It's a beautiful day! I'm ready for spring - aren't you?

Ginny Scealf
Executive Assistant
Tennessee American Water
1101 Broad St, P O Box 6338
Chattanooga, TN 37401
Phone: 423.755.7621
Fax: 423.755.7634
Email: Ginny.Scealf@amwater.com



Fw: Just checking
Valoria Armstrong to: Kathryn A Hart
Cc: Kevin N Rogers

07/23/2012 02:55 PM

Print for Kevin.

Thank You,

Valoria V. Armstrong, PHR
Human Resources Business Partner - Manager
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Chattanooga, TN 37402

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----- Forwarded by Valoria Armstrong/SERVCO/AWWSC on 07/23/2012 02:54 PM -----

From: Ginny Scealf/TAWC/AWWSC
To: Kevin N Rogers/TAWC/AWWSC@AWW, Jessica D Presley/TAWC/AWWSC@AWW
Date: 02/28/2012 11:41 AM
Subject: Fw: Just checking

Tina of Walden's Ridge just wanted to make sure you all do not plan to attend the Board meeting tonight. She indicated they had a full agenda in addition to not having had opportunity to review the information we had already submitted. Thank you.

Ginny Scealf
Executive Assistant
Tennessee American Water
1101 Broad St, P O Box 6338
Chattanooga, TN 37401
Phone: 423.755.7621
Fax: 423.755.7634
Email: Ginny.Scealf@amwater.com

----- Forwarded by Ginny Scealf/TAWC/AWWSC on 02/28/2012 11:44 AM -----

From: "Tina Davies" <tina.wrud@comcast.net>

To: "Ginny Scealf" <ginny.scealf@amwater.com>
Date: 02/28/2012 10:56 AM
Subject: Just checking

Ginny:

Just checking to make sure you received my **last** message yesterday that Commissioner Groves wanted me to send concerning the District's meeting tonight. Please let me know if Kevin & Jessica still plan on attending.

Should you have questions, please contact me during normal business hours, Monday through Friday, between the hours of 8:00 to 4:30. I can be reached by telephone at 423.886.2683, by fax at 423.886.1940 or by email at tina.wrud@comcast.net.

Tina Davies, Office Manager

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Fw: WRUD Board Meetings
Valoria Armstrong to: Kathryn A Hart
Cc: Kevin N Rogers

07/23/2012 02:56 PM

Print for Kevin.

Thank You,

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----- Forwarded by Valoria Armstrong/SERVCO/AWWSC on 07/23/2012 02:54 PM -----



Fw: WRUD Board Meetings

Ginny Scealf to: Kevin N Rogers, Jessica D Presley

02/27/2012 04:40 PM

I should have read further down on my email. This is the latest from Tina Davies of Walden's Ridge re. attendance at the Board meeting tomorrow.

Ginny Scealf
Executive Assistant
Tennessee American Water
1101 Broad St, P O Box 6338
Chattanooga, TN 37401
Phone: 423.755.7621
Fax: 423.755.7634
Email: Ginny.Scealf@amwater.com

----- Forwarded by Ginny Scealf/TAWC/AWWSC on 02/27/2012 04:43 PM -----

From: "Tina Davies" <tina.wrud@comcast.net>
To: <Ginny.Scealf@amwater.com>

Cc: "Frank Groves" <fmg39@comcast.net>, "Ron West " <ron.wrud@comcast.net>
Date: 02/27/2012 04:15 PM
Subject: RE: WRUD Board Meetings

Ginny:

Just talked to one of my Board members. He said we would be happy to have Kevin & Jessica at our meeting tomorrow night; however the Board has not had time to digest the information supplied by our Auditor.

He said it might be best if they put off coming to the meeting until they had a chance to review the info and have their questions ready.

Tina Davies, Office Manager

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3900 Taft Highway
Signal Mountain, TN 37377

423.886.2683 - Telephone
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-----Original Message-----

From: Ginny.Scealf@amwater.com [mailto:Ginny.Scealf@amwater.com]
Sent: Monday, February 27, 2012 3:28 PM
To: tina.wrud@comcast.net
Subject: RE: WRUD Board Meetings

Tina, Kevin Rogers (Manager-Operations) and Jessica Presley (External Affairs) were planning on attending. Let me know if that's okay.
Thank you.

Ginny Scealf
Executive Assistant
Tennessee American Water
1101 Broad St, P O Box 6338
Chattanooga, TN 37401
Phone: 423.755.7621
Fax: 423.755.7634
Email: Ginny.Scealf@amwater.com

From: "Tina Davies" <tina.wrud@comcast.net>
To: <Ginny.Scealf@amwater.com>
Date: 02/27/2012 01:59 PM
Subject: RE: WRUD Board Meetings

The meeting is tomorrow night, February 28, 2012. Do you have someone

wanting to attend? I need to notify Ron to see if he wants them on the agenda this month since we have a lot already on there for discussion.

Tina Davies, Office Manager

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-----Original Message-----

From: Ginny.Scealf@amwater.com [mailto:Ginny.Scealf@amwater.com]
Sent: Monday, February 27, 2012 1:50 PM
To: tina.wrud@comcast.net
Subject: WRUD Board Meetings

Tina, can you let me know when the Board meetings for Walden's Ridge will be held? Thank you.

Hope you're doing fine. It's a beautiful day! I'm ready for spring - aren't you?

Ginny Scealf
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Phone: 423.755.7621
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Email: Ginny.Scealf@amwater.com



Fw: WRUD Board Meetings
Valoria Armstrong to: Kathryn A Hart
Cc: Kevin N Rogers

07/23/2012 02:56 PM

Print for Kevin.

Thank You,

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Fw: WRUD Board Meetings

Ginny Scealf to: Kevin N Rogers, Jessica D Presley

02/27/2012 04:38 PM

See the email below from Tina Davies of Walden's Ridge.

Ginny Scealf
Executive Assistant
Tennessee American Water
1101 Broad St, P O Box 6338
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Phone: 423.755.7621
Fax: 423.755.7634
Email: Ginny.Scealf@amwater.com

----- Forwarded by Ginny Scealf/TAWC/AWWSC on 02/27/2012 04:42 PM -----

From: "Tina Davies" <tina.wrud@comcast.net>
To: <Ginny.Scealf@amwater.com>
Date: 02/27/2012 03:31 PM
Subject: RE: WRUD Board Meetings

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Tina Davies, Office Manager

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Date: 02/27/2012 01:59 PM
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From: Ginny.Scealf@amwater.com [mailto:Ginny.Scealf@amwater.com]

Sent: Monday, February 27, 2012 1:50 PM

To: tina.wrud@comcast.net

Subject: WRUD Board Meetings

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Valoria Armstrong to: Kathryn A Hart
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07/23/2012 02:57 PM

Print for Kevin.

Thank You,

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----- Forwarded by Valoria Armstrong/SERVCO/AWWSC on 07/23/2012 02:55 PM -----



Re: WRUD Board Meetings 

Deron E Allen to: Ginny Scealf

02/27/2012 02:32 PM

Cc: "Mr. Kevin Rogers", "Jessica Presley"

Kevin Rogers and Jessica are suppose to go.

Ginny Scealf

Deron, the next Board meeting for Walden's Ri...

02/27/2012 02:27 PM EST

From: Ginny Scealf
To: Deron Allen
Cc:
Date: 02/27/2012 02:27 PM EST
Subject: Fw: WRUD Board Meetings

Deron, the next Board meeting for Walden's Ridge is tomorrow night. Tina Davies wants to know if we have someone who will attend as she needs to notify Ron West to see if he wants them on the agenda this month. See her email below.

Ginny Scealf
Executive Assistant
Tennessee American Water
1101 Broad St, P O Box 6338
Chattanooga, TN 37401
Phone: 423.755.7621
Fax: 423.755.7634
Email: Ginny.Scealf@amwater.com

----- Forwarded by Ginny Scealf/TAWC/AWWSC on 02/27/2012 02:29 PM -----

From: "Tina Davies" <tina.wrud@comcast.net>
To: <Ginny.Scealf@amwater.com>
Date: 02/27/2012 01:59 PM
Subject: RE: WRUD Board Meetings

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Tina Davies, Office Manager

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-----Original Message-----

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Sent: Monday, February 27, 2012 1:50 PM
To: tina.wrud@comcast.net
Subject: WRUD Board Meetings

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Fw: Walden's Ridge
Valoria Armstrong to: Kathryn A Hart
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07/23/2012 02:57 PM

Print for Kevin.

Thank You,

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Chattanooga, TN 37402

O: (423) 755-7619
C: (423) 762-2282
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valoria.armstrong@amwater.com
www.amwater.com
●●●●●

American Water Inc.

The information transmitted via this e-mail is intended only for the person or entity to which it is addressed and may contain confidential and/or privileged material. Any review, retransmission, dissemination, or other use of or taking of any action in reliance upon this information by persons or entities other than the intended recipient is prohibited. If you receive this in error, please contact the sender and delete the material from any computer.

----- Forwarded by Valoria Armstrong/SERVCO/AWWSC on 07/23/2012 02:56 PM -----

Re: Walden's Ridge 📎

Kevin N Rogers to: Jessica D Presley

01/10/2012 02:32 PM

5:30 tonight.
Thanks,
Kevin

Jessica D Presley Kevin, When is the Walden's Ridge Utility Dist...

01/10/2012 01:09 PM EST

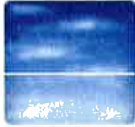
From: Jessica D Presley
To: Kevin Rogers
Cc:
Date: 01/10/2012 01:09 PM EST
Subject: Walden's Ridge

Kevin,

When is the Walden's Ridge Utility District meeting? Is it tonight? It is not on my calendar, but I remember it was brought up in passing.

Jessica Presley
External Affairs Specialist
Tennessee American Water
1101 Broad Street
Chattanooga, TN 37402

P: (423) 755-7613
C: (423) 280-1250
F: (423) 755-7636
jessica.presley@amwater.com
www.amwater.com



Fw: WRUD board meeting
Valoria Armstrong to: Kathryn A Hart
Cc: Kevin N Rogers

07/23/2012 03:03 PM

Print for Kevin.

Thank You,

Valoria V. Armstrong, PHR
Human Resources Business Partner - Manager
Tennessee/Kentucky - American Water Company
1101 Broad Street
Chattanooga, TN 37402

O: (423) 755-7619

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----- Forwarded by Valoria Armstrong/SERVCO/AWWSC on 07/23/2012 03:02 PM -----



WRUD board meeting

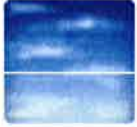
Deron E Allen to: Ginny Scealf

02/27/2012 07:47 AM

Cc: "Mr. Kevin Rogers", "Jessica Presley"

Ginny,

Can you please get the dates for the WRUD Board meetings to Jessica and Kevin. We promised WRUD that either Kevin or Jessica would go to each meeting.



Fw: WRUD Board Meeting
Valoria Armstrong to: Kathryn A Hart
Cc: Kevin N Rogers

07/23/2012 03:04 PM

Print for Kevin.

Thank You,

Valoria V. Armstrong, PHR
Human Resources Business Partner - Manager
Tennessee/Kentucky - American Water Company
1101 Broad Street
Chattanooga, TN 37402

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----- Forwarded by Valoria Armstrong/SERVCO/AWWSC on 07/23/2012 03:02 PM -----

From: Kevin N Rogers/TAWC/AWWSC
To: "Mr. Deron Allen" <Deron.Allen@amwater.com>, "Jessica Presley" <Jessica.Presley@amwater.com>, "Kino Becton" <Kino.Becton@amwater.com>, "Human Resources Manager Valoria Armstrong" <Valoria.Armstrong@amwater.com>
Date: 02/21/2012 09:18 AM
Subject: Fw: WRUD Board Meeting

FYI
Thanks,
Kevin
Kevin N Rogers

----- Original Message -----

From: Kevin N Rogers
Sent: 02/21/2012 08:14 AM EST
To: "ron.wrud@comcast.net" <ron.wrud@comcast.net>
Subject: WRUD Board Meeting

Good morning, Ron I hope things are going well with you and the review. If you or the board has any questions, please send them to me and I will be glad to come to the next board meeting to discuss them. Please let me know the date of the next board meeting and I will schedule it on my calendar.

Thanks,

Kevin

Kevin N. Rogers
Manager of Operations
Tennessee American Water
1101 Broad Street
Chattanooga, TN 37401
Office (423) 755-7622
Mobile (423) 710-5492
Fax (423) 755-7636
kevin.n.rogers@amwater.com

Kevin N Rogers The office is 423-755-7622 Thanks Kevin N. Ro... 01/18/2012 04:21:13 PM

From: Kevin N Rogers/TAWC/AWWSC
To: "ron.wrud@comcast.net"<ron.wrud@comcast.net>@AWX
Date: 01/18/2012 04:21 PM
Subject: Re: Information

The office is 423-755-7622

Thanks

Kevin N. Rogers
Manager of Operations
Tennessee American Water
1101 Broad Street
Chattanooga, TN 37401
Office (423) 755-7622
Mobile (423) 710-5492
Fax (423) 755-7636
kevin.n.rogers@amwater.com

"ron.wrud@comcast.net" At what number Sent from my Verizon Wi... 01/18/2012 10:05:43 AM

Contract Package

Ron West

to:

John Watson

08/19/2009 03:41 PM

Cc:

"Monty Bishop ", "Kim Dalton", "David McBay", "Don Scholes", "Gary Burriss ", "Bob McKenzie",

"David J. Fulton", "Frank Groves "

Show Details

Dear John:

I would like to thank you for the contract package that we received on the 18th of August, 2009. We have forwarded the package on to our Commissioners' for review and will discuss the information at our next Board Meeting on the 25th of August 2009.

Again, I would also like to invite you, Monty Bishop, Kim Dalton or a representative from Tennessee American Water to meet with me and the District's Commissioners, here at the office, on the 25th of August 2009 to answer any questions either party may have concerning the contract.

Should you have questions, please contact me during normal business hours, Monday through Friday, between the hours of 8:00 to 4:30. I can be reached by telephone at 423 . 886 . 2683, by fax at 423 . 886 . 1940 or by email at ron.wrud@comcast.net.

Ronald West
General Manager

Walden's Ridge Utility District
3900 Taft Highway
Signal Mountain, TN 37377

Telephone: 423.886.2683
Fax: 423.886.1940

**THE REMAINDER OF THIS ATTACHMENT IS CONFIDENTIAL
AND HAS BEEN PROVIDED IN A SEALED ENVELOPE.**

**TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 12-00049
FIRST DISCOVERY REQUEST OF THE
TENNESSEE REGULATORY AUTHORITY**

Responsible Witness: Donald J. Petry

Question:

23. Provide the actual volumetric residential usage billed divided by the actual number of residential meters billed by month from January 2002 through June 2012.

Response:

Please see the attached information. Data is not available prior to August 2003.

Tennessee American Water Company
DOCKET NO. 12-00049
TAW_R_COCDR1#023 Attachment

Usage in CCF

Month	Year	Division	Residential Usage	Residential Meters	Usage/Meters
August	2003	Chatanooga	324,223.84	56,246.33	5.76
		Lookout Mountain	21,825.98	1,648.54	13.24
		Lakeview	20,457.50	2,666.69	7.67
		Lone Oak	-	-	-
Month	Year	Division	Residential Usage	Residential Meters	Usage/Meters
September	2003	Chatanooga	360,812.79	56,246.33	6.41
		Lookout Mountain	23,491.22	1,748.58	13.43
		Lakeview	18,835.46	2,783.46	6.77
		Lone Oak	-	-	-
Month	Year	Division	Residential Usage	Residential Meters	Usage/Meters
October	2003	Chatanooga	353,982.58	62,092.74	5.70
		Lookout Mountain	24,482.37	1,950.10	12.55
		Lakeview	15,895.55	2,747.00	5.79
		Lone Oak	-	-	-
Month	Year	Division	Residential Usage	Residential Meters	Usage/Meters
November	2003	Chatanooga	285,884.45	51,400.75	5.56
		Lookout Mountain	322.99	42.53	7.59
		Lakeview	16,724.40	2,763.14	6.05
		Lone Oak	-	-	-
Month	Year	Division	Residential Usage	Residential Meters	Usage/Meters
December	2003	Chatanooga	330,017.04	59,657.93	5.53
		Lookout Mountain	30,357.28	3,360.75	9.03
		Lakeview	16,043.00	2,761.03	5.81
		Lone Oak	-	-	-

Data not available prior to August 2003

Tennessee American Water Company
DOCKET NO. 12-00049
TAW_R_COCDR1#023 Attachment

Usage in CCF

Month	Year	Division	Residential Usage	Residential Meters	Usage/Meters
January	2004	Chatanooga	530,549.23	93,881.95	5.65
		Lookout Mountain	14,990.00	1,698.20	8.83
		Lakeview	163.00	9.00	18.11
		Lone Oak	375.00	65.92	5.69

Month	Year	Division	Residential Usage	Residential Meters	Usage/Meters
February	2004	Chatanooga	379,145.56	54,032.45	7.02
		Lookout Mountain	12,446.00	1,684.39	7.39
		Lakeview	13,818.00	2,364.95	5.84
		Lone Oak	-	-	-

Month	Year	Division	Residential Usage	Residential Meters	Usage/Meters
March	2004	Chatanooga	101,181.00	668.32	151.40
		Lookout Mountain	12,697.00	1,685.66	7.53
		Lakeview	15,090.00	2,745.47	5.50
		Lone Oak	773.00	153.20	5.05

Month	Year	Division	Residential Usage	Residential Meters	Usage/Meters
April	2004	Chatanooga	98,641.00	649.74	151.82
		Lookout Mountain	18,893.00	1,692.14	11.17
		Lakeview	15,794.77	2,757.78	5.73
		Lone Oak	481.00	83.30	5.77

Month	Year	Division	Residential Usage	Residential Meters	Usage/Meters
May	2004	Chatanooga	327,747.33	54,557.97	6.01
		Lookout Mountain	2,755.00	85.40	32.26
		Lakeview	3,048.00	189.67	16.07
		Lone Oak	-	-	-

Month	Year	Division	Residential Usage	Residential Meters	Usage/Meters
June	2004	Chatanooga	386,933.04	59,711.78	6.48
		Lookout Mountain	24,380.00	1,706.01	14.29
		Lakeview	3,445.00	192.88	17.86
		Lone Oak	440.00	81.77	5.38

Month	Year	Division	Residential Usage	Residential Meters	Usage/Meters
July	2004	Chatanooga	352,892.49	55,212.58	6.39
		Lookout Mountain	23,897.00	1,721.68	13.88
		Lakeview	17,820.00	2,740.70	6.50
		Lone Oak	-	-	-
		Suck Creek	214.00	54.55	3.92

Month	Year	Division	Residential Usage	Residential Meters	Usage/Meters
August	2004	Chatanooga	376,364.17	57,657.67	6.53
		Lookout Mountain	24,758.79	1,728.22	14.33
		Lakeview	18,321.00	2,747.01	6.67
		Lone Oak	-	-	-
		Suck Creek	1,279.00	191.03	6.70

Month	Year	Division	Residential Usage	Residential Meters	Usage/Meters
September	2004	Chatanooga	375,540.40	578,976.40	0.65
		Lookout Mountain	22,864.00	1,726.32	13.24
		Lakeview	16,846.00	2,741.81	6.14
		Lone Oak	-	-	-
		Suck Creek	1,464.00	216.83	6.75

Month	Year	Division	Residential Usage	Residential Meters	Usage/Meters
October	2004	Chatanooga	444,796.13	57,817.01	7.69
		Lookout Mountain	19,099.00	1,723.62	11.08
		Lakeview	16,189.00	2,736.07	5.92
		Lone Oak	-	-	-
		Suck Creek	1,132.00	195.27	5.80

Month	Year	Division	Residential Usage	Residential Meters	Usage/Meters
November	2004	Chatanooga	312,215.25	55,317.33	5.64
		Lookout Mountain	12,077.00	1,368.69	8.82
		Lakeview	15,581.00	2,732.24	5.70
		Lone Oak	-	-	-
		Suck Creek	1,147.00	196.23	5.85

Month	Year	Division	Residential Usage	Residential Meters	Usage/Meters
December	2004	Chatanooga	321,398.06	59,331.57	5.42
		Lookout Mountain	21,273.00	2,048.58	10.38
		Lakeview	14,696.00	2,737.62	5.37
		Lone Oak	-	-	-
		Suck Creek	1,178.00	196.00	6.01

Tennessee American Water Company
DOCKET NO. 12-00049
TAW_R_COCDR1#023 Attachment

Usage in CCF

Month	Year	Division	Residential Usage	Residential Meters	Usage/Meters
January	2005	Chatanooga	431,812.99	61,464.51	7.03
		Lookout Mountain	14,325.00	1,709.72	8.38
		Lakeview	17,776.00	2,734.20	6.50
		Lone Oak	-	-	0.00
		Suck Creek	2,278.00	391.83	5.81

Month	Year	Division	Residential Usage	Residential Meters	Usage/Meters
February	2005	Chatanooga	271,659.00	54,854.38	4.95
		Lookout Mountain	12,011.00	1,703.76	7.05
		Lakeview	14,916.00	2,724.76	5.47
		Lone Oak	-	-	0.00
		Suck Creek	-	-	0.00

Month	Year	Division	Residential Usage	Residential Meters	Usage/Meters
March	2005	Chatanooga	305,426.69	59,957.58	5.09
		Lookout Mountain	12,658.34	1,703.84	7.43
		Lakeview	15,128.78	2,743.69	5.51
		Lone Oak	-	-	0.00
		Suck Creek	2,146.00	393.23	5.46

Month	Year	Division	Residential Usage	Residential Meters	Usage/Meters
April	2005	Chatanooga	328,145.74	58,023.58	5.66
		Lookout Mountain	15,841.99	1,707.52	9.28
		Lakeview	16,071.61	2,734.03	5.88
		Lone Oak	-	-	0.00
		Suck Creek	1,050.00	196.83	5.33

Month	Year	Division	Residential Usage	Residential Meters	Usage/Meters
May	2005	Chatanooga	343,558.87	55,618.17	6.18
		Lookout Mountain	20,532.00	1,719.59	11.94
		Lakeview	159,947.26	2,750.31	58.16
		Lone Oak	-	-	0.00
		Suck Creek	40.95	3.73	10.98

Month	Year	Division	Residential Usage	Residential Meters	Usage/Meters
June	2005	Chatanooga	389,929.23	61,104.96	6.38
		Lookout Mountain	23,300.00	1,728.16	13.48
		Lakeview	18,219.52	2,750.26	6.62
		Lone Oak	-	-	0.00
		Suck Creek	2,538.00	387.73	6.55

Month	Year	Division	Residential Usage	Residential Meters	Usage/Meters
July	2005	Chatanooga	331,576.42	53,012.10	6.25
		Lookout Mountain	21,603.00	1,619.79	13.34
		Lakeview	17,362.00	2,724.86	6.37
		Lone Oak	-	-	0.00
		Suck Creek	151.00	5.00	30.20

Month	Year	Division	Residential Usage	Residential Meters	Usage/Meters
August	2005	Chatanooga	392,237.59	61,262.28	6.40
		Lookout Mountain	25,727.00	1,845.05	13.94
		Lakeview	17,321.00	2,724.37	6.36
		Lone Oak	-	-	0.00
		Suck Creek	1,373.00	203.23	6.76

Month	Year	Division	Residential Usage	Residential Meters	Usage/Meters
September	2005	Chatanooga	381,736.09	58,457.09	6.53
		Lookout Mountain	29,130.98	1,737.22	16.77
		Lakeview	17,548.00	2,743.20	6.40
		Lone Oak	-	-	0.00
		Suck Creek	2,748.00	402.57	6.83

Month	Year	Division	Residential Usage	Residential Meters	Usage/Meters
October	2005	Chatanooga	364,719.32	59,114.37	6.17
		Lookout Mountain	21,951.99	1,745.65	12.58
		Lakeview	17,762.00	2,743.47	6.47
		Lone Oak	-	-	0.00
		Suck Creek	1.00	1.17	0.85

Month	Year	Division	Residential Usage	Residential Meters	Usage/Meters
November	2005	Chatanooga	318,988.32	55,901.19	5.71
		Lookout Mountain	18,959.90	1,622.89	11.68
		Lakeview	15,027.27	2,739.32	5.49
		Lone Oak	-	-	0.00
		Suck Creek	1,072.00	202.63	5.29

Month	Year	Division	Residential Usage	Residential Meters	Usage/Meters
December	2005	Chatanooga	344,419.38	61,228.28	5.63
		Lookout Mountain	17,885.91	1,842.82	9.71
		Lakeview	15,349.00	2,739.88	5.60
		Lone Oak	-	-	0.00
		Suck Creek	1,212.00	201.13	6.03

Tennessee American Water Company
DOCKET NO. 12-00049
TAW_R_COCDR1#023 Attachment

Usage in CCF

Month	Year	Division	Residential Usage	Residential Meters	Usage/Meters
January	2006	Chatanooga	335,664.70	61,329.45	5.47
		Lookout Mountain	13,128.00	1,731.43	7.58
		Lakeview	16,514.01	2,741.04	6.02
		Lone Oak	-	-	0.00
		Suck Creek	2,117.76	402.37	5.26

Month	Year	Division	Residential Usage	Residential Meters	Usage/Meters
February	2006	Chatanooga	281,981.30	55,629.19	5.07
		Lookout Mountain	11,923.00	1,713.52	6.96
		Lakeview	14,026.18	2,766.40	5.07
		Lone Oak	-	-	0.00
		Suck Creek	38.00	3.03	12.54

Month	Year	Division	Residential Usage	Residential Meters	Usage/Meters
March	2006	Chatanooga	326,600.78	64,393.45	5.07
		Lookout Mountain	12,714.81	1,715.62	7.41
		Lakeview	14,126.00	2,751.93	5.13
		Lone Oak	-	-	0.00
		Suck Creek	2,137.00	399.60	5.35

Month	Year	Division	Residential Usage	Residential Meters	Usage/Meters
April	2006	Chatanooga	273,886.83	50,240.99	5.45
		Lookout Mountain	18,104.00	1,732.92	10.45
		Lakeview	14,504.00	2,751.61	5.27
		Lone Oak	-	-	0.00
		Suck Creek	5.00	2.77	1.81

Month	Year	Division	Residential Usage	Residential Meters	Usage/Meters
May	2006	Chatanooga	361,476.54	64,576.81	5.60
		Lookout Mountain	17,784.00	1,759.59	10.11
		Lakeview	16,991.00	2,768.36	6.14
		Lone Oak	-	-	0.00
		Suck Creek	2,158.00	397.53	5.43

Month	Year	Division	Residential Usage	Residential Meters	Usage/Meters
June	2006	Chatanooga	338,710.98	59,229.69	5.72
		Lookout Mountain	30,010.00	1,753.28	17.12
		Lakeview	16,783.37	2,752.53	6.10
		Lone Oak	-	-	0.00
		Suck Creek	1,454.00	199.50	7.29

Month	Year	Division	Residential Usage	Residential Meters	Usage/Meters
July	2006	Chatanooga	393,273.00	56,545.38	6.95
		Lookout Mountain	34,663.00	1,763.57	19.66
		Lakeview	19,244.00	2,761.34	6.97
		Lone Oak	-	-	0.00
		Suck Creek	4.00	1.57	2.55

Month	Year	Division	Residential Usage	Residential Meters	Usage/Meters
August	2006	Chatanooga	424,929.00	65,176.08	6.52
		Lookout Mountain	33,917.00	1,784.11	19.01
		Lakeview	17,351.00	2,755.43	6.30
		Lone Oak	1,202.00	200.00	6.01
		Suck Creek	2,532.00	403.67	6.27

Month	Year	Division	Residential Usage	Residential Meters	Usage/Meters
September	2006	Chatanooga	360,492.00	56,698.00	6.36
		Lookout Mountain	26,765.00	1,774.00	15.09
		Lakeview	17,207.00	2,759.30	6.24
		Lone Oak	568.00	100.00	5.68
		Suck Creek	1,286.00	205.23	6.27

Month	Year	Division	Residential Usage	Residential Meters	Usage/Meters
October	2006	Chatanooga	359,013.00	62,447.89	5.75
		Lookout Mountain	22,830.00	1,786.63	12.78
		Lakeview	15,650.00	2,763.50	5.66
		Lone Oak	486.00	100.00	4.86
		Suck Creek	1,062.00	204.23	5.20

Month	Year	Division	Residential Usage	Residential Meters	Usage/Meters
November	2006	Chatanooga	309,024.00	56,826.36	5.44
		Lookout Mountain	15,372.00	1,790.23	8.59
		Lakeview	15,520.00	2,755.13	5.63
		Lone Oak	567.00	99.23	5.71
		Suck Creek	1,192.00	204.63	5.83

Month	Year	Division	Residential Usage	Residential Meters	Usage/Meters
December	2006	Chatanooga	321,304.00	59,679.18	5.38
		Lookout Mountain	13,461.00	1,811.09	7.43
		Lakeview	16,132.00	2,748.57	5.87
		Lone Oak	589.00	102.53	5.74
		Suck Creek	1,145.00	205.67	5.57

Tennessee American Water Company
DOCKET NO. 12-00049
TAW_R_COCDR1#023 Attachment

Usage in CCF

Month	Year	Division	Residential Usage	Residential Meters	Usage/Meters
January	2007	Chatanooga	351,940.00	65,655.68	5.36
		Lookout Mountain	14,130.00	1,785.60	7.91
		Lakeview	16,021.00	2,741.40	5.84
		Lone Oak	499.00	101.00	4.94
		Suck Creek	1,085.00	205.20	5.29

Month	Year	Division	Residential Usage	Residential Meters	Usage/Meters
February	2007	Chatanooga	279,190.00	56,290.52	4.96
		Lookout Mountain	12,247.00	1,777.37	6.89
		Lakeview	14,271.00	2,724.78	5.24
		Lone Oak	524.00	101.67	5.15
		Suck Creek	1,130.00	206.27	5.48

Month	Year	Division	Residential Usage	Residential Meters	Usage/Meters
March	2007	Chatanooga	324,475.00	62,968.72	5.15
		Lookout Mountain	12,456.00	1,778.60	7.00
		Lakeview	14,355.00	2,768.66	5.18
		Lone Oak	990.00	115.47	8.57
		Suck Creek	1,073.00	209.00	5.13

Month	Year	Division	Residential Usage	Residential Meters	Usage/Meters
April	2007	Chatanooga	315,192.00	56,753.09	5.55
		Lookout Mountain	18,551.00	1,807.77	10.26
		Lakeview	15,065.00	2,749.63	5.48
		Lone Oak	624.00	106.57	5.86
		Suck Creek	1,278.00	210.03	6.08

Month	Year	Division	Residential Usage	Residential Meters	Usage/Meters
May	2007	Chatanooga	365,321.10	63,212.02	5.78
		Lookout Mountain	26,080.03	2,040.69	12.78
		Lakeview	15,571.00	2,800.48	5.56
		Lone Oak	636.00	105.00	6.06
		Suck Creek	1,437.00	208.00	6.91

Month	Year	Division	Residential Usage	Residential Meters	Usage/Meters
June	2007	Chatanooga	436,838.57	59,749.95	7.31
		Lookout Mountain	36,989.99	1,829.74	20.22
		Lakeview	19,035.47	2,817.22	6.76
		Lone Oak	732.00	105.47	6.94
		Suck Creek	1,651.00	209.57	7.88

Month	Year	Division	Residential Usage	Residential Meters	Usage/Meters
July	2007	Chatanooga	406,286.00	60,218.45	6.75
		Lookout Mountain	29,511.00	1,853.67	15.92
		Lakeview	17,682.00	2,822.02	6.27
		Lone Oak	696.00	107.10	6.50
		Suck Creek	1,383.00	210.13	6.58

Month	Year	Division	Residential Usage	Residential Meters	Usage/Meters
August	2007	Chatanooga	408,949.00	65,395.99	6.25
		Lookout Mountain	32,511.00	1,845.70	17.61
		Lakeview	16,308.00	2,843.81	5.73
		Lone Oak	712.00	109.10	6.53
		Suck Creek	1,454.00	211.23	6.88

Month	Year	Division	Residential Usage	Residential Meters	Usage/Meters
September	2007	Chatanooga	393,691.00	55,074.44	7.15
		Lookout Mountain	37,693.00	1,848.23	20.39
		Lakeview	17,757.00	2,812.30	6.31
		Lone Oak	788.00	108.50	7.26
		Suck Creek	1,367.00	213.93	6.39

Month	Year	Division	Residential Usage	Residential Meters	Usage/Meters
October	2007	Chatanooga	404,488.00	65,585.01	6.17
		Lookout Mountain	33,830.00	1,856.77	18.22
		Lakeview	17,177.00	2,839.57	6.05
		Lone Oak	793.00	109.43	7.25
		Suck Creek	1,335.00	214.17	6.23

Month	Year	Division	Residential Usage	Residential Meters	Usage/Meters
November	2007	Chatanooga	324,141.00	57,353.44	5.65
		Lookout Mountain	21,191.00	1,837.07	11.54
		Lakeview	15,337.00	2,835.53	5.41
		Lone Oak	582.00	109.03	5.34
		Suck Creek	1,118.00	212.27	5.27

Month	Year	Division	Residential Usage	Residential Meters	Usage/Meters
December	2007	Chatanooga	313,765.00	57,830.05	5.43
		Lookout Mountain	15,752.00	1,824.37	8.63
		Lakeview	16,643.00	2,851.63	5.84
		Lone Oak	610.00	109.23	5.58
		Suck Creek	1,101.00	213.00	5.17

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Usage in CCF

Month	Year	Division	Residential Usage	Residential Meters	Usage/Meters
January	2008	Chatanooga	359,530.00	65,693.81	5.47
		Lookout Mountain	14,345.00	1,825.97	7.86
		Lakeview	15,606.00	2,828.03	5.52
		Lone Oak	636.00	109.87	5.79
		Suck Creek	1,307.00	212.10	6.16

Month	Year	Division	Residential Usage	Residential Meters	Usage/Meters
February	2008	Chatanooga	299,416.00	60,062.84	4.99
		Lookout Mountain	12,843.00	1,826.37	7.03
		Lakeview	14,440.00	2,841.17	5.08
		Lone Oak	556.00	111.00	5.01
		Suck Creek	8.00	4.00	2.00

Month	Year	Division	Residential Usage	Residential Meters	Usage/Meters
March	2008	Chatanooga	270,674.00	54,895.20	4.93
		Lookout Mountain	11,141.00	1,826.60	6.10
		Lakeview	14,409.00	2,796.23	5.15
		Lone Oak	613.00	112.03	5.47
		Suck Creek	1,225.00	211.87	5.78

Month	Year	Division	Residential Usage	Residential Meters	Usage/Meters
April	2008	Chatanooga	332,080.00	62,928.96	5.28
		Lookout Mountain	13,605.00	1,891.80	7.19
		Lakeview	15,861.00	2,849.90	5.57
		Lone Oak	543.00	110.00	4.94
		Suck Creek	1,080.00	207.63	5.20

Month	Year	Division	Residential Usage	Residential Meters	Usage/Meters
May	2008	Chatanooga	306,871.00	57,876.70	5.30
		Lookout Mountain	19,728.00	1,853.17	10.65
		Lakeview	14,549.00	2,822.07	5.16
		Lone Oak	581.00	110.00	5.28
		Suck Creek	1,123.00	209.00	5.37

Month	Year	Division	Residential Usage	Residential Meters	Usage/Meters
June	2008	Chatanooga	376,857.00	59,174.21	6.37
		Lookout Mountain	26,394.00	1,867.80	14.13
		Lakeview	17,172.00	2,813.90	6.10
		Lone Oak	812.00	110.00	7.38
		Suck Creek	1,647.00	213.53	7.71

Month	Year	Division	Residential Usage	Residential Meters	Usage/Meters
July	2008	Chatanooga	429,383.00	62,415.01	6.88
		Lookout Mountain	38,650.00	1,887.83	20.47
		Lakeview	17,557.00	2,825.33	6.21
		Lone Oak	855.00	110.17	7.76
		Suck Creek	1,455.00	212.30	6.85

Month	Year	Division	Residential Usage	Residential Meters	Usage/Meters
August	2008	Chatanooga	381,219.00	60,356.20	6.32
		Lookout Mountain	30,052.00	1,874.57	16.03
		Lakeview	17,573.00	2,827.90	6.21
		Lone Oak	723.00	111.07	6.51
		Suck Creek	211.67	1,301.00	0.16

Month	Year	Division	Residential Usage	Residential Meters	Usage/Meters
September	2008	Chatanooga	390,629.00	57,905.74	6.75
		Lookout Mountain	33,199.00	1,892.10	17.55
		Lakeview	17,482.00	2,820.10	6.20
		Lone Oak	777.00	114.23	6.80
		Suck Creek	1,401.00	211.50	6.62

Month	Year	Division	Residential Usage	Residential Meters	Usage/Meters
October	2008	Chatanooga	395,590.57	66,293.84	5.97
		Lookout Mountain	27,120.00	1,889.55	14.35
		Lakeview	15,697.03	2,798.68	5.61
		Lone Oak	631.00	114.98	5.49
		Suck Creek	1,200.00	210.96	5.69

Month	Year	Division	Residential Usage	Residential Meters	Usage/Meters
November	2008	Chatanooga	271,074.00	51,801.20	5.23
		Lookout Mountain	18,208.00	1,889.31	9.64
		Lakeview	15,679.01	2,805.33	5.59
		Lone Oak	-	0.37	0.00
		Suck Creek	-	2.27	0.00

Month	Year	Division	Residential Usage	Residential Meters	Usage/Meters
December	2008	Chatanooga	348,470.00	66,776.57	5.22
		Lookout Mountain	12,772.00	1,867.73	6.84
		Lakeview	16,158.00	2,825.13	5.72
		Lone Oak	1,091.00	233.03	4.68
		Suck Creek	2,491.00	418.77	5.95

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Usage in CCF

Month	Year	Division	Residential Usage	Residential Meters	Usage/Meters
January	2009	Chatanooga	319,387.00	60,332.73	5.29
		Lookout Mountain	14,717.00	1,860.23	7.91
		Lakeview	15,694.00	2,805.30	5.59
		Lone Oak	644.00	116.80	5.51
		Suck Creek	1,277.00	209.00	6.11

Month	Year	Division	Residential Usage	Residential Meters	Usage/Meters
February	2009	Chatanooga	306,542.00	57,499.43	5.33
		Lookout Mountain	12,038.00	1,854.87	6.49
		Lakeview	15,254.00	2,818.87	5.41
		Lone Oak	668.00	116.43	5.74
		Suck Creek	1,263.00	207.97	6.07

Month	Year	Division	Residential Usage	Residential Meters	Usage/Meters
March	2009	Chatanooga	305,377.00	63,201.92	4.83
		Lookout Mountain	11,262.00	1,853.44	6.08
		Lakeview	14,043.00	2,800.73	5.01
		Lone Oak	537.00	116.93	4.59
		Suck Creek	1,035.00	205.80	5.03

Month	Year	Division	Residential Usage	Residential Meters	Usage/Meters
April	2009	Chatanooga	295,793.00	58,117.90	5.09
		Lookout Mountain	13,445.00	1,865.14	7.21
		Lakeview	13,861.00	2,813.22	4.93
		Lone Oak	723.00	132.61	5.45
		Suck Creek	1,244.00	233.50	5.33

Month	Year	Division	Residential Usage	Residential Meters	Usage/Meters
May	2009	Chatanooga	305,186.00	55,998.96	5.45
		Lookout Mountain	17,320.00	1,885.67	9.19
		Lakeview	16,407.00	2,807.31	5.84
		Lone Oak	629.00	117.30	5.36
		Suck Creek	1,215.00	205.13	5.92

Month	Year	Division	Residential Usage	Residential Meters	Usage/Meters
June	2009	Chatanooga	368,330.00	63,153.10	5.83
		Lookout Mountain	26,356.00	1,890.14	13.94
		Lakeview	15,654.00	2,818.11	5.55
		Lone Oak	675.00	116.83	5.78
		Suck Creek	1,479.00	209.93	7.05

Month	Year	Division	Residential Usage	Residential Meters	Usage/Meters
July	2009	Chatanooga	440,332.00	63,651.03	6.92
		Lookout Mountain	34,094.00	1,894.94	17.99
		Lakeview	18,988.00	2,802.81	6.77
		Lone Oak	752.00	118.13	6.37
		Suck Creek	1,542.00	206.40	7.47

Month	Year	Division	Residential Usage	Residential Meters	Usage/Meters
August	2009	Chatanooga	370,701.00	60,257.45	6.15
		Lookout Mountain	27,204.00	1,889.73	14.40
		Lakeview	15,399.00	2,797.20	5.51
		Lone Oak	660.00	119.77	5.51
		Suck Creek	1,403.00	208.50	6.73

Month	Year	Division	Residential Usage	Residential Meters	Usage/Meters
September	2009	Chatanooga	351,345.00	60,407.55	5.82
		Lookout Mountain	23,703.00	1,913.64	12.39
		Lakeview	15,597.00	2,795.50	5.58
		Lone Oak	578.00	119.00	4.86
		Suck Creek	1,261.00	212.00	5.95

Month	Year	Division	Residential Usage	Residential Meters	Usage/Meters
October	2009	Chatanooga	316,238.00	60,312.52	5.24
		Lookout Mountain	14,450.00	1,902.73	7.59
		Lakeview	15,455.00	2,789.10	5.54
		Lone Oak	498.00	119.20	4.18
		Suck Creek	1,079.00	210.10	5.14

Month	Year	Division	Residential Usage	Residential Meters	Usage/Meters
November	2009	Chatanooga	278,699.00	53,851.68	5.18
		Lookout Mountain	13,417.00	1,891.87	7.09
		Lakeview	15,745.00	2,777.34	5.67
		Lone Oak	561.00	118.07	4.75
		Suck Creek	1,155.00	215.33	5.36

Month	Year	Division	Residential Usage	Residential Meters	Usage/Meters
December	2009	Chatanooga	335,022.00	66,343.51	5.05
		Lookout Mountain	13,485.00	1,895.03	7.12
		Lakeview	14,657.00	2,776.30	5.28
		Lone Oak	552.00	121.10	4.56
		Suck Creek	1,127.00	211.00	5.34

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Usage in CCF

Month	Year	Division	Residential Usage	Residential Meters	Usage/Meters
January	2010	Chatanooga	319,187.00	60,151.00	5.31
		Lookout Mountain	13,840.00	1,786.93	7.75
		Lakeview	15,689.00	2,778.51	5.65
		Lone Oak	650.00	118.00	5.51
		Suck Creek	1,256.00	209.37	6.00

Month	Year	Division	Residential Usage	Residential Meters	Usage/Meters
February	2010	Chatanooga	284,310.00	56,725.81	5.01
		Lookout Mountain	12,680.00	1,879.00	6.75
		Lakeview	14,535.00	2,783.87	5.22
		Lone Oak	617.00	123.23	5.01
		Suck Creek	1,186.00	213.60	5.55

Month	Year	Division	Residential Usage	Residential Meters	Usage/Meters
March	2010	Chatanooga	303,364.00	64,494.54	4.70
		Lookout Mountain	11,635.00	1,875.34	6.20
		Lakeview	191.00	9.05	21.10
		Lone Oak	542.00	118.00	4.59
		Suck Creek	2.00	4.00	0.50

Month	Year	Division	Residential Usage	Residential Meters	Usage/Meters
April	2010	Chatanooga	309,750.00	58,782.65	5.27
		Lookout Mountain	15,354.00	1,890.27	8.12
		Lakeview	13,843.00	2,768.80	5.00
		Lone Oak	926.00	118.00	7.85
		Suck Creek	1,164.00	210.80	5.52

Month	Year	Division	Residential Usage	Residential Meters	Usage/Meters
May	2010	Chatanooga	309,769.00	57,116.00	5.42
		Lookout Mountain	19,138.00	1,896.87	10.09
		Lakeview	15,814.00	2,762.20	5.73
		Lone Oak	690.00	118.47	5.82
		Suck Creek	1,706.00	212.63	8.02

Month	Year	Division	Residential Usage	Residential Meters	Usage/Meters
June	2010	Chatanooga	373,888.00	63,659.90	5.87
		Lookout Mountain	21,793.00	1,901.07	11.46
		Lakeview	15,249.00	2,774.11	5.50
		Lone Oak	807.00	119.30	6.76
		Suck Creek	1,503.00	211.87	7.09

Month	Year	Division	Residential Usage	Residential Meters	Usage/Meters
July	2010	Chatanooga	396,868.00	60,594.61	6.55
		Lookout Mountain	33,311.00	1,892.50	17.60
		Lakeview	16,681.00	2,775.33	6.01
		Lone Oak	782.00	118.77	6.58
		Suck Creek	1,403.00	210.00	6.68

Month	Year	Division	Residential Usage	Residential Meters	Usage/Meters
August	2010	Chatanooga	387,042.00	61,771.04	6.27
		Lookout Mountain	29,626.00	1,909.33	15.52
		Lakeview	17,063.00	2,779.53	6.14
		Lone Oak	808.00	117.87	6.86
		Suck Creek	1,590.00	214.37	7.42

Month	Year	Division	Residential Usage	Residential Meters	Usage/Meters
September	2010	Chatanooga	397,442.00	59,649.12	6.66
		Lookout Mountain	37,760.00	1,909.83	19.77
		Lakeview	15,715.00	2,761.63	5.69
		Lone Oak	748.00	117.23	6.38
		Suck Creek	1,407.00	212.97	6.61

Month	Year	Division	Residential Usage	Residential Meters	Usage/Meters
October	2010	Chatanooga	370,220.00	50,488,017.00	0.01
		Lookout Mountain	30,241.00	1,913.44	15.80
		Lakeview	16,163.00	2,760.47	5.86
		Lone Oak	772.00	119.03	6.49
		Suck Creek	1,282.00	211.03	6.07

Month	Year	Division	Residential Usage	Residential Meters	Usage/Meters
November	2010	Chatanooga	309,937.00	57,366.82	5.40
		Lookout Mountain	20,207.00	1,903.27	10.62
		Lakeview	13,999.00	2,757.61	5.08
		Lone Oak	580.00	120.23	4.82
		Suck Creek	1,220.00	210.67	5.79

Month	Year	Division	Residential Usage	Residential Meters	Usage/Meters
December	2010	Chatanooga	328,007.00	63,683.60	5.15
		Lookout Mountain	13,542.00	2,769.53	4.89
		Lakeview	14,170.00	118.70	119.38
		Lone Oak	578.00	118.70	4.87
		Suck Creek	1,176.00	209.60	5.61

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Usage in CCF

Month	Year	Division	Residential Usage	Residential Meters	Usage/Meters
January	2011	Chatanooga	319,409.00	62,893.10	5.08
		Lookout Mountain	13,996.00	1,879.84	7.45
		Lakeview	16,018.00	2,765.63	5.79
		Lone Oak	634.00	118.43	5.35
		Suck Creek	1,351.00	209.73	6.44

Month	Year	Division	Residential Usage	Residential Meters	Usage/Meters
February	2011	Chatanooga	290,364.00	57,998.55	5.01
		Lookout Mountain	10,805.00	1,858.87	5.81
		Lakeview	13,182.00	2,734.97	4.82
		Lone Oak	537.00	117.00	4.59
		Suck Creek	1,174.00	210.47	5.58

Month	Year	Division	Residential Usage	Residential Meters	Usage/Meters
March	2011	Chatanooga	300,947.00	65,391.30	4.60
		Lookout Mountain	10,733.00	1,896.54	5.66
		Lakeview	12,929.00	2,725.93	4.74
		Lone Oak	507.00	117.07	4.33
		Suck Creek	1,054.00	210.40	5.01

Month	Year	Division	Residential Usage	Residential Meters	Usage/Meters
April	2011	Chatanooga	71,895.17	15,182.68	4.74
		Lookout Mountain	12,112.08	1,888.45	6.41
		Lakeview	13,284.01	2,737.68	4.85
		Lone Oak	577.00	121.01	4.77
		Suck Creek	1,041.00	210.41	4.95

Month	Year	Division	Residential Usage	Residential Meters	Usage/Meters
May	2011	Chatanooga	311,500.38	60,416.14	5.16
		Lookout Mountain	17,112.00	1,903.24	8.99
		Lakeview	14,542.72	2,727.18	5.33
		Lone Oak	737.00	124.00	5.94
		Suck Creek	1,208.00	208.77	5.79

Month	Year	Division	Residential Usage	Residential Meters	Usage/Meters
June	2011	Chatanooga	402,289.00	60,552.90	6.64
		Lookout Mountain	35,390.00	1,918.04	18.45
		Lakeview	16,422.00	2,736.01	6.00
		Lone Oak	926.00	124.60	7.43
		Suck Creek	1,719.00	209.17	8.22

Month	Year	Division	Residential Usage	Residential Meters	Usage/Meters
July	2011	Chatanooga	358,243.00	55,424.22	6.46
		Lookout Mountain	28,004.00	1,913.17	14.64
		Lakeview	16,148.00	2,733.10	5.91
		Lone Oak	728.00	122.47	5.94
		Suck Creek	1,413.00	207.43	6.81

Month	Year	Division	Residential Usage	Residential Meters	Usage/Meters
August	2011	Chatanooga	424,439.00	66,363.04	6.40
		Lookout Mountain	33,772.00	1,948.24	17.33
		Lakeview	16,386.00	2,749.14	5.96
		Lone Oak	892.00	122.93	7.26
		Suck Creek	1,282.00	205.60	6.24

Month	Year	Division	Residential Usage	Residential Meters	Usage/Meters
September	2011	Chatanooga	392,764.00	58,571.19	6.71
		Lookout Mountain	36,511.00	1,941.44	18.81
		Lakeview	16,512.00	2,729.90	6.05
		Lone Oak	745.00	123.50	6.03
		Suck Creek	1,307.00	208.27	6.28

Month	Year	Division	Residential Usage	Residential Meters	Usage/Meters
October	2011	Chatanooga	330,910.00	60,774.30	5.44
		Lookout Mountain	22,507.00	1,933.83	11.64
		Lakeview	14,502.00	2,737.04	5.30
		Lone Oak	809.00	124.77	6.48
		Suck Creek	1,219.00	209.60	5.82

Month	Year	Division	Residential Usage	Residential Meters	Usage/Meters
November	2011	Chatanooga	281,888.00	57,475.32	4.90
		Lookout Mountain	16,544.00	1,922.97	8.60
		Lakeview	13,293.00	2,740.61	4.85
		Lone Oak	557.00	122.23	4.56
		Suck Creek	1,120.00	207.30	5.40

Month	Year	Division	Residential Usage	Residential Meters	Usage/Meters
December	2011	Chatanooga	292,758.00	60,611.82	4.83
		Lookout Mountain	11,807.00	1,913.60	6.17
		Lakeview	13,883.00	2,750.83	5.05
		Lone Oak	547.00	122.77	4.46
		Suck Creek	976.00	205.90	4.74

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Usage in CCF

Month	Year	Division	Residential Usage	Residential Meters	Usage/Meters
January	2012	Chatanooga	323,929.00	66,281.77	4.89
		Lookout Mountain	12,075.00	1,901.53	6.35
		Lakeview	14,213.00	2,754.20	5.16
		Lone Oak	684.00	123.90	5.52
		Suck Creek	1,155.00	203.93	5.66

Month	Year	Division	Residential Usage	Residential Meters	Usage/Meters
February	2012	Chatanooga	272,450.00	60,505.66	4.50
		Lookout Mountain	10,076.00	1,902.77	5.30
		Lakeview	12,238.00	2,745.03	4.46
		Lone Oak	664.00	121.43	5.47
		Suck Creek	969.00	205.50	4.72

Month	Year	Division	Residential Usage	Residential Meters	Usage/Meters
March	2012	Chatanooga	280,182.00	60,618.93	4.62
		Lookout Mountain	10,897.00	1,901.43	5.73
		Lakeview	12,323.00	2,738.50	4.50
		Lone Oak	544.00	122.13	4.45
		Suck Creek	1,020.00	205.33	4.97

Month	Year	Division	Residential Usage	Residential Meters	Usage/Meters
April	2012	Chatanooga	302,293.00	58,493.55	5.17
		Lookout Mountain	16,113.00	192.64	83.64
		Lakeview	14,449.00	2,747.43	5.26
		Lone Oak	658.00	122.00	5.39
		Suck Creek	1,187.00	206.87	5.74

Month	Year	Division	Residential Usage	Residential Meters	Usage/Meters
May	2012	Chatanooga	359,928.00	63,377.72	5.68
		Lookout Mountain	24,891.00	1,924.90	12.93
		Lakeview	14,262.00	2,741.84	5.20
		Lone Oak	821.00	121.17	6.78
		Suck Creek	1,302.00	209.50	6.21

Month	Year	Division	Residential Usage	Residential Meters	Usage/Meters
June	2012	Chatanooga	373,460.00	61,213.78	6.10
		Lookout Mountain	26,567.00	1,945.07	13.66
		Lakeview	15,664.00	2,758.47	5.68
		Lone Oak	4.00	2.00	2.00
		Suck Creek	1,184.00	209.00	5.67

**TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 12-00049
FIRST DISCOVERY REQUEST OF THE
TENNESSEE REGULATORY AUTHORITY**

Responsible Witness: James J. Chelius

Question:

24. Many statistics are cited in Chelius' Exhibit JJC-1. Identify the factors that are actually used as inputs on Exhibit JJC-2a.

Response:

None of the numeric values contained in Exhibit JJC-1 are specifically used as inputs on Exhibit JJC-2a. The data shown in Exhibit JJC-1 is presented to help understand and explain the causes and impacts of more efficient plumbing fixtures on water usage trends.

The factors actually used as inputs to Exhibit JJC-2a include only residential monthly water usage and the number of residential customers for each month from January 2001 through December 2011. Future values and the plotted trend lines are the calculated results of the analysis described in my testimony.

**TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 12-00049
FIRST DISCOVERY REQUEST OF THE
TENNESSEE REGULATORY AUTHORITY**

Responsible Witness: James J. Chelius

Question:

25. Is it correct that Exhibit JJC-2a is solely based on 4-months per year indoor water usage? Elaborate if necessary.

Response:

No. Exhibit JJC-2a shows trend lines of both indoor (base) water usage and total water usage. While indoor baseline usage is based on a 4-month average of the winter months, total water usage is based on this baseline usage plus discretionary, seasonal usage. This discretionary usage is calculated by subtracting the base usage from the total usage for the year. The ten year average non-base usage per customer is calculated and added to base usage trend forecast and that is forecast as the "total trend" to represent a weather neutral projection of demand. The methodology used is described beginning on page 8, line 1 of my direct testimony.

**TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 12-00049
FIRST DISCOVERY REQUEST OF THE
TENNESSEE REGULATORY AUTHORITY**

Responsible Witness: James J. Chelius

Question:

26. Does Exhibit JJC-2a ignore outdoor water usage? Elaborate on your answer.

Response:

No. The total trend line includes all usage, including both indoor and outdoor usage. Please refer to the response to Item 25 of this same data request.

**TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 12-00049
FIRST DISCOVERY REQUEST OF THE
TENNESSEE REGULATORY AUTHORITY**

Responsible Witness: James J. Cheulius

Question:

27. Is it the Company position that winter usage is equal to or would follow the same trend line as spring, summer or fall usage? Explain.

Response:

As discussed in detail in my direct testimony, it is the study of base indoor usage (winter consumption) that allows us to see the underlying declining trend in usage per customer due to water-efficient fixtures and other factors. This indoor consumption is apparent year round but is often masked in other seasons by weather influence. The analysis takes a “weather neutral” approach through the study of usage in the winter months of January through April when customer usage is not influenced by outdoor weather. It is fully recognized that summer weather will vary randomly from year to year. Therefore the approach is to project the most likely weather-neutral (i.e., weather normalized) usage for future years. No one can predict with certainty what the weather in an upcoming summer will be; however, we can predict the underlying change in base usage with a strong degree of certainty, due to the readily-apparent drivers that have been described in detail in my testimony beginning on page 4 line 21. This seasonal variability is precisely what is needed to be removed to study the underlying trend in indoor consumption. “When temperatures are cold enough, winter water use is largely associated with water demand for indoor purposes.”¹

As referenced on page 9, line 11, of Mr. Chelius’ testimony “At this time, Tennessee American is not claiming that there is a continuing underlying trend in outdoor use; rather, it is pointing out that summer usage will vary year to year based on summer weather patterns, and our ten year average “non base usage” represents the “most likely” outcome in a given year. In this way, we achieve a forecast of residential and commercial usage that is weather neutral.”

¹ Billings, B. et al. Forecasting Urban Water Demand. 2nd edition. P. 90. AWWA. 2008.

**TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 12-00049
FIRST DISCOVERY REQUEST OF THE
TENNESSEE REGULATORY AUTHORITY**

Responsible Witness: James J. Chelius

Question:

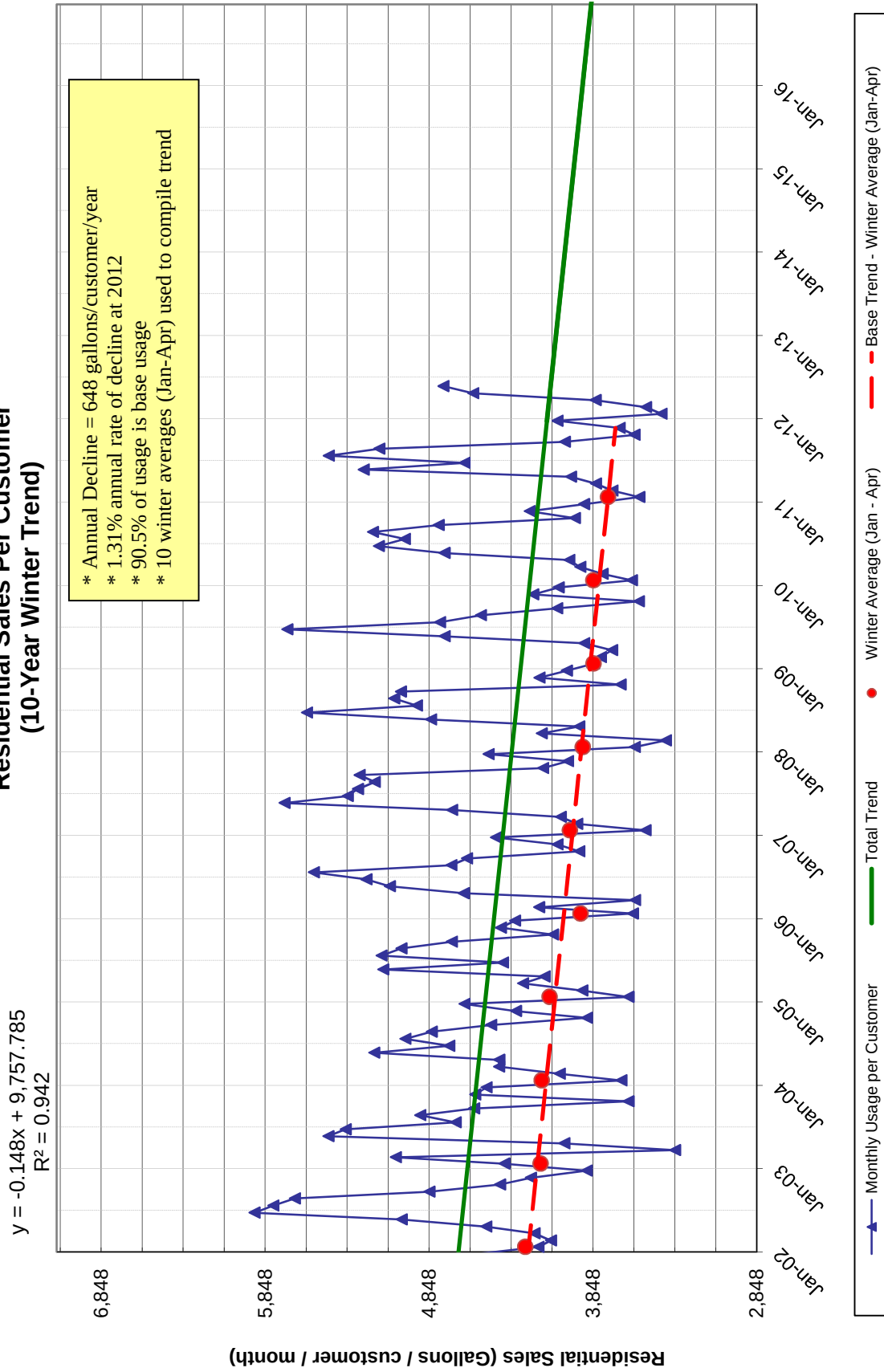
28. Prepare a graph similar to Exhibit JJC-2a from January 2002 through June 2012 based on actual residential billed volumes and actual meters billed. A data point should be charted for each of the requested months.

Response:

Please see attached.

Chattanooga, TN American Water
Residential Sales Per Customer
(10-Year Winter Trend)

Exhibit JJC-2a



**TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 12-00049
FIRST DISCOVERY REQUEST OF THE
TENNESSEE REGULATORY AUTHORITY**

Responsible Witness: James J. Chelius

Question:

29. Provide copies of all studies, presentations and articles referenced in the Direct Testimony of James Chelius.

Response:

Please see attached for the references from Mr. Chelius' Direct Testimony.

Exhibits JJC 29-1 to 29-6

Exhibit JJC 29-1.A

Clothes Washer Calculations

**Vickers, Amy, 2001 Handbook of Water Use
and Conservation, WaterPlow Press, Amherst,
Mass.**

- Use the shortest wash cycle for lightly soiled loads because this uses less water than most "normal" and permanent-press wash cycles.
- Check hoses regularly for cracks that could result in water leaks or bursts.

Performance of Water-Efficient Clothes Washers

High-efficiency washers have been shown to provide equal if not improved performance compared with high-volume washers in several performance criteria. First, many high-efficiency washers have a faster spin speed than conventional vertical-axis machines, resulting in improved moisture extraction and drier clothes at the end of the wash cycle, a feature that shortens drying time and saves energy. Second, high-efficiency machines may use detergent and bleach more efficiently; because these products are concentrated in a smaller volume of water, smaller amounts can be used. Third, because high-efficiency machines do not have a central agitator, it has been claimed that they clean more gently than vertical-axis washers. Anecdotal reports seem to confirm this; however, one evaluation found this claim was not supported.¹³⁷

Consumer acceptance of high-efficiency washers appears to be mostly favorable, based on initial product sales and market studies, although these appliances are relatively new to the U.S. market. However, at least one consumer study indicated that North American consumers may be somewhat reluctant to purchase a high-efficiency machine that is front-loading because it would require more bending and could pose child safety concerns. On the other hand, the Electric Power Research Institute's THELMA study (The High-Efficiency Laundry Metering and Marketing Analysis) found that consumers would consider high-efficiency machines if convinced that these models are at least as good as their old washers in terms of purchase price, reliability, ease of use, and cleaning ability.¹⁵⁰ Even though consumers already have to bend to load clothes dryers, acceptance of front-loading washers may require touting their resource efficiency and long-term financial benefits.¹⁵⁰

Water Savings and Related Benefits From High-Efficiency Clothes Washers

The water- and energy-saving benefits of high-efficiency washers may not be directly comparable. Because American and European models typically differ in tub capacity, resource-efficiency comparisons should be based on equivalent-size loads—small (less than 8 pounds), normal (8 pounds), and large (up to 14 pounds). In general, larger loads and loads washed on a permanent-press setting demand more water than normal-size loads. High-efficiency models typically provide automatic water-level adjustments that help ensure efficient use; conventional high-volume washers do not always have this feature, and the amount of water they use is determined by the wash setting selected by the user. Some high-efficiency washers are better at saving water than energy, and vice versa. Furthermore, some washers are more efficient at water extraction, saving drying time and energy.¹³³

WATER SAVINGS Estimated water use and water savings from replacing a conventional, high-volume clothes washer with a 27 gpl model in a home are shown in Table 2.17. For example, installing a 27 gpl washer to replace a model

TABLE 2.18

Estimated energy use and savings by high-efficiency clothes washers in households

Years Manufactured or Installed *	Clothes Washer Water-Use Rate†	Frequency of Clothes Washer Use‡	Estimated Energy Use for Clothes Washers§**			Estimated Energy Savings With a 27 gpl Clothes Washer			
	Per Load gal	Per Person loads/day**	Per Load kWh	Per Capita kWh/d	Per Household†† kWh/d	Per Capita kWh/d	Per Household†† kWh/d	Per Capita kWh/y	Per Household†† kWh/y
1998-present	27	0.37	1.6	0.58	1.52				
1990-present	39	0.37	3.0	1.10	2.91	0.5	1.4	192	506
	43	0.37	3.3	1.22	3.21	0.6	1.7	233	615
1980-1990	51	0.37	3.9	1.44	3.81	0.9	2.3	316	833
Pre-1980s	56	0.37	4.3	1.58	4.18	1.0	2.7	367	969

* Time periods are approximate.

† Figures show typical water-use rates for normal-size loads of laundry. Figure in bold (27 gpl) represents water-efficient clothes washers made by several major appliance manufacturers and reported to deliver reliable performance; some manufacturers also produce clothes washers that use less than 27 gpl, and these may also provide reliable performance.

‡ U.S. Department of Energy assumptions vary from this slightly and are based on 392 wash loads per household per year and apply only to homes with washers.

§ Energy use rates shown for washers are based on an estimated average energy requirement (combined water heater, washer, and dryer) for normal-size loads. Energy used to heat the water in the washer is roughly three-quarters of the total energy use shown. Actual energy use and savings vary depending on model design, appliance settings, water heater temperature, and other product design features. Energy use and water use by clothes washers are not always directly correlated. See the specific energy ratings for a particular model to determine its actual use and potential savings.

** For a normal-size, 8-pound load of laundry washed for a full cycle in a machine with a tub capacity of 2.7 to 2.9 cubic feet (enough space for about 14 pounds of laundry). For gas water heating and dryer systems, convert figures for electric energy use and savings to therms.

†† Based on the average of 2.64 persons per occupied U.S. household

‡‡ Levelized over all households—with and without dishwashers

gpl = gallons per load

kWh = kilowatt-hours

kWh/d = kilowatt-hours per day

kWh/y = kilowatt-hours per year

Sources: Amy Vickers & Associates, Inc.; References 37, 52, 132, 133, 135–141, 143–146, 151, 170, 175, and 178

using an average of 39 gpl is estimated to save an average of 4.4 gpcd or 11.7 gallons per household per day (gphd), equivalent to an annual water savings of 1,621 gallons per capita per year (gpcy) or 4,278 gallons per household per year (gphy). Households with even higher-volume conventional washers, such as those that were installed between 1980 and the late 1990s and whose water use averages 43 to 51 gpl, will save an estimated 5,705 to 8,557 gphy.

WATER AND SEWER COST SAVINGS Avoided water and sewer costs associated with the installation of water-efficient clothes washers can be calculated by multiplying the expected volume of water (and wastewater) reductions (see Table 2.17) times the local utility rates for water and sewer use (excluding fixed charges). A schedule of representative water and sewer utility rates in the United States and their associated marginal cost savings according to a range of reduced water and wastewater volumes is provided in Appendix D, *Water and Sewer Rates, Costs, and Savings by Volume of Use*.

In 1907 Maytag introduced its first washing machine, a wringer washer.

Exhibit JJC 29-1.B

Commercial Pre Rinse Calculations

**Vickers, Amy, 2001 Handbook of Water Use
and Conservation, WaterPlow Press, Amherst,
Mass.**

China's Beijing Duck Restaurant
can seat 9,000 people at one time."
—www.uselessfacts.net

- Amount of time faucets and other continuous-flow appliances are used each day.
- Pipe sizes and estimated flow rates of incoming water supply lines.
- Dripping faucets, puddles, and leaks.
- All health, safety, operational, regulatory, administrative, and other requirements or policies that apply to the site.

Conservation Policies and Regulations Related to Commercial Kitchen and Restaurants

- **Requirements for water audits and efficiency measures at federal facilities.** Federal laws and executive orders pertaining to water and energy conservation requirements are described under Section 4.2, "Cleaning and Sanitation."
- **Providing water to restaurant customers only on request.** Some communities have adopted the policy that restaurant customers receive glasses of water only if they request them.

4.4.1 Food and Drink Preparation

Water is used for a number of functions related to food and drink preparation, including cleaning and thawing ingredients, food preparation, filling of glasses and pots, and continuous-flow water troughs for food ladles and ice cream scoops.

Water-Efficiency Measures for Food and Drink Preparation

Water-efficiency measures that may be applicable to food and drink preparation include:⁸⁵⁻⁹⁰

- Kitchen faucets should use a maximum of 2.5 gpm at 80 psi (or 2.2 at 60 psi); if higher-volume flows are needed for utility sinks, install a fingertip control valve for aerated or full-flow options. Place a sign near the faucet instructing kitchen workers to use the aerated, lower flow for cleaning and rinsing.
- Install hands-free or foot-activated pedals on faucets.
- Presoak and wash items in basins of water instead of under running water unless otherwise required.
- Install automatic shutoff faucets for bar sinks.
- Reduce flows to the minimum required in wells and troughs for ice cream dipper and butter scoops.
- Turn off continuous flows used to clean drain trays, such as those installed at a coffee/milk/soda/beverage island, unless required by law.
- On-demand, point-of-use hot water dispensers can eliminate or reduce the need to run water at faucets that are slow to produce hot water. Choose a unit that does not require a constantly running recirculation pump.
- Promptly repair leaks and malfunctioning equipment, such as those in hot and cold water lines, steam traps, sterilizers, dishwashing equipment, hoses and faucets, and other water-using equipment and appliances.
- Reduce or eliminate the thawing of frozen food with water unless required by law; if the law requires that water be used for thawing, use the minimum flow needed. As much as possible, plan ahead and thaw food in the refrigerator.

There are several ways to reduce water use for thawing food, but applicable health codes must be checked before any measures are implemented. Many codes require that the water be constantly moving, often at a minimum temperature of not less than 70°F. If the code(s) or other applicable laws do not specify the flow rate for running water, the flow rate may be reduced if it poses no health hazard. If multiple sinks with flowing water are not being fully utilized, use the minimum number necessary.

- Avoid running water to melt ice in the sink strainers.
- Hoses used to wash down the kitchen area can be retrofitted with a throttling valve on the spigot to reduce water use; these valves should be checked regularly for leaks.
- Use full loads in sanitizers, sterilizers, dishwashers, and washing machines consistent with sound sanitary practices and infection control requirements.
- Recycle water wherever feasible and consistent with regulatory requirements. For example, use water from steam tables to wash down the cooking area, and reuse noncontact cooling water for water-cooled machinery such as milkshake machines, frozen yogurt machines, and refrigerators.
- As appliances or fixtures wear out, replace them with water-saving models.
- Serve water only when requested by customers.
- Provide signs at tables and in the kitchen urging water conservation.
- Take water only for drinking, filling of pots, and other necessary uses.
- Use the minimum amount of dishware, glassware, utensils, and cookware to reduce dishwashing loads.
- Report all leaks and water waste to management.

Water Savings, Benefits, and Costs From Food Preparation

Case Study *Commercial Kitchen Reduces Flows in Scrapper Trough.* The scrapper trough in the kitchen of a Boston office building used a constant 24 gpm flow rate for the 4 hours a day the kitchen was in operation. When a flow control device was installed to reduce the flow to 6 gpm (a flow reduction of 75%), water use decreased by more than 4,000 gpd. Water savings from the measure totaled 1.0 million gallons per year. With an investment of approximately \$280 for the flow control device and annual net savings of \$8,600, the payback period was less than two weeks.⁵¹

Water savings from efficiency measures implemented in kitchens and restaurants are achieved primarily from reduced flows for faucets and sprayers used for cleaning. The cost of low-volume, automatic shutoff nozzles and faucets for commercial kitchens ranges from \$10 to \$40. Simple faucet aerators cost \$1 to \$2 each.⁹¹

4.4.2 Commercial Dishwashers

Commercial dishwashers, including conveyor-type machines, are available in a variety of types, sizes, and flow rates. Water use by commercial dishwashers typically ranges from 2.5 to 8.0 gpm. Many commercial dishwashers are also equipped with prewash sprayers, which use an additional 1.8 to 6.0 gpm.^{92, 93} Water use by dishwashers varies depending on size, hours of operation, and ef-



Figure 4.12 Dishwashing operations that use an automatic shutoff sprayer for pre-rinsing can save water compared with methods that rely on constantly flowing faucets and rinse tanks. (Photo courtesy of Amy Vickers & Associates, Inc.)

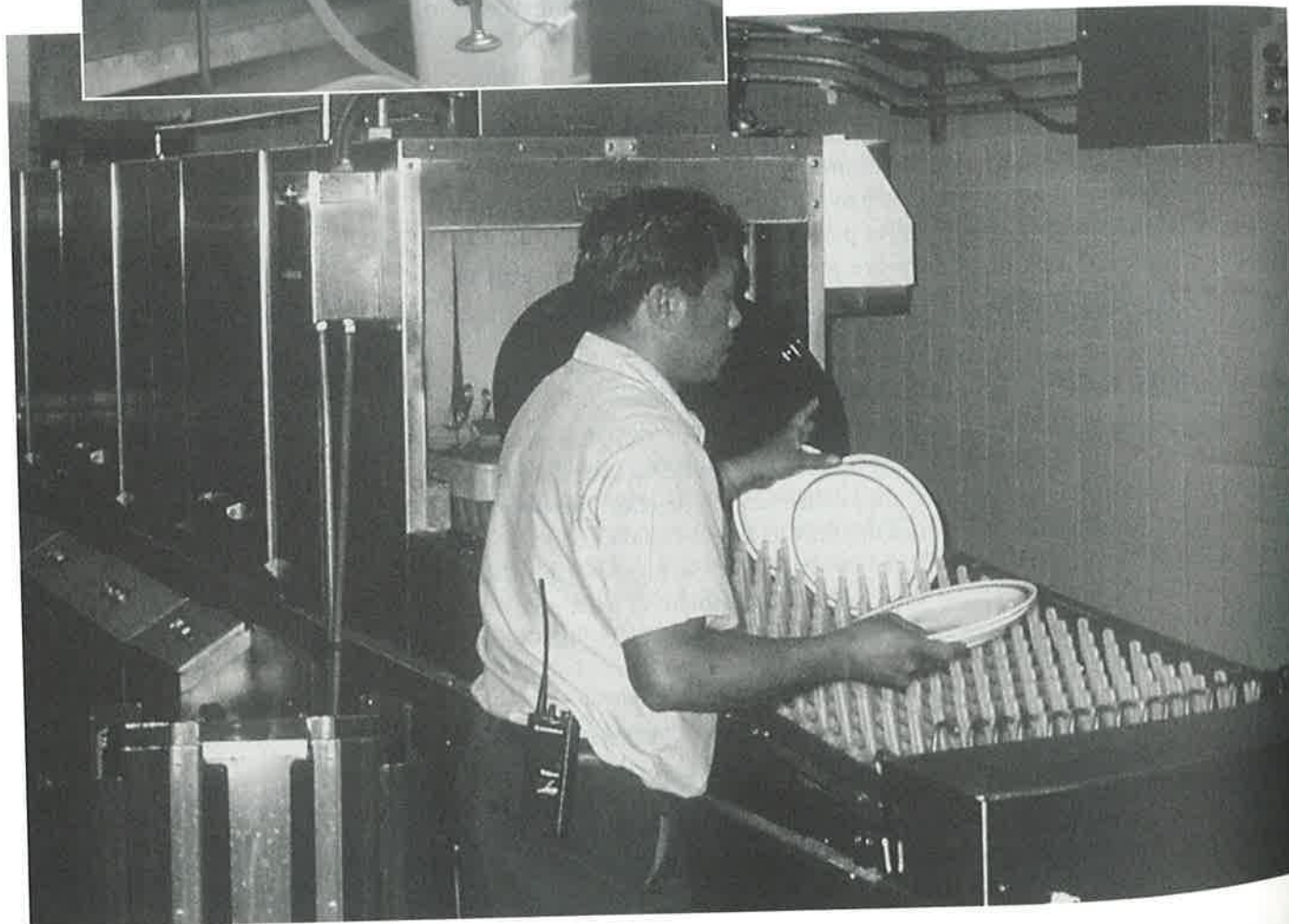


Figure 4.13 Commercial dishwashing operation using a conveyor belt. (Photo courtesy of Jane Heller Ploeser)

iciency. For example, a large commercial dishwasher and prewash sprayer system operating at a combined flow rate of 9.0 gpm for eight hours a day, six days a week would use more than 1.3 mg.

The commercial dishwashing process often starts with a prewash spray used to remove large food particles from dishes to a scrapping trough before the dishes enter the dishwasher, as shown in Figure 4.12. Sprayers are hand-held or automatic units that may or may not be coordinated to operate with the dishwasher. Automatic sprayers usually operate whenever the dishwasher is in operation and shut off automatically when the dishwasher turns off. Manual sprayers use 1.8 to 2.5 gpm, and automatic units use 3.0 to 6.0 gpm.^{92, 93}

There are two types of automatic dishwashing machines—conveyor and spray. Dishes washed by machines using a *conveyor* system are loaded onto racks inside the machine or travel along a conveyor belt that passes through the machine, as shown in Figure 4.13. These dishwashers have several cycles of washing, rinsing, and sanitizing. *Spray* dishwashers operate with or without detergent or other cleaning solutions and use hot freshwater with or without a chemical sanitizing agent for the final rinse. Commercial dishwashers usually operate with a continuous flow of rinse water or release periodic feeds of water from the wash tank. Older machines sometimes discard water after each rinse step, whereas modern dishwashers recirculate water through the machine in a concurrent process that discharges water only after the final rinse.⁹³

Water-Efficiency Measures for Commercial Dishwashers

Water-efficiency measures that may be applicable to commercial dishwashers and dishwashing operations include:^{80, 85, 86, 92–95}

- Presoak utensils, dishes, and cooking vessels in basins of water or used wash-water instead of running water to rinse them before they are cleaned in a dishwashing machine or conveyor system.
- Whenever possible, use simple tools (e.g., a brush) to scrape dishes and pots instead of using running water or prewash sprayers.
- Install spray rinses in kitchen sinks with a manually controlled (“dead man shutoff”) valve to stop constant flows that are not required.
- Manual prewash sprayers are often more efficient than automatic sprayers; some automatic sprayers can be removed and replaced with a manual one. Operate sprayers only when dishware is present.
- Equip prewash sprayers with low-flow, high-pressure spray heads; use appropriate nozzles to accurately direct rinse and cleaning sprays.
- Operate scrapping troughs only during dishwashing operations. Actually, the scrapper system could probably be eliminated because discharging food waste to the sewer system is not necessary (see Section 4.4.3, “Commercial Food and Garbage Disposers and Scrapping Troughs,” later in this chapter).
- Assess the water efficiency of the dishwashing system and its retrofit options. Consult with the equipment manufacturer or service contractor to experiment with a modest reduction (e.g., 10%) in the water flow rate to evaluate performance.
- Wash full loads only in rack-type machines.

Exhibit JJC 29-1.C

Dishwasher Calculations

**Vickers, Amy, 2001 Handbook of Water Use
and Conservation, WaterPlow Press, Amherst,
Mass.**

TABLE 2.19

Estimated water use and savings by water-efficient dishwashers in households

Years Manufactured or Installed*	Dishwasher Water- Use Rate†	Frequency of Dish washer Use‡	Estimated Water Use		Estimated Water Savings With a 7.0 gpl Dishwasher			
			Daily		Daily		Yearly	
			Per Load	Per Person	Per Capita	Per House- hold§	Per Capita	Per House- hold§
			gal	loads/day**	gal	gal	gal	gal
1997-present	4.5	0.10			0.5	1.2		
1995-present	7.0	0.10			0.7	1.8		
	7.0–10.5	0.10			0.9	2.3	0.2	0.5
							64	169
1990–1995	9.5–12.0	0.10			1.1	2.8	0.4	1.0
							137	361
1980–1990	14.0	0.10			1.4	3.7	0.7	1.8
							256	675

* Time periods are approximate.

† Figures show range of water-use rates (with the average of the range used to estimate water use and savings) or typical rates for normal full-cycle operation of a fully loaded dishwasher (not applicable to compact models). Figure in bold (7.0 gpl) represents water-efficient dishwashers made by several major appliance manufacturers and reported to deliver reliable performance; some manufacturers also produce dishwashers that use less than 7.0 gpl, and these may also provide reliable performance.

‡ U.S. Department of Energy assumptions are higher (322 wash loads per household per year) and apply only to homes with dishwashers.

§ Based on the average of 2.64 persons per occupied U.S. household

** Levelized over all households—with and without dishwashers

gal = gallons

Sources: Amy Vickers & Associates, Inc.; References 37, 52, 139, 162, 164–167, 170, 172–175, and 178

loads per person per day,¹⁶⁹ equivalent to average daily water use of about 10.0 gpl. Depending on the water efficiency of the particular dishwasher used, average daily residential water use by dishwashers installed between 1980 and the late 1990s is estimated to range from 0.7 gpcd (7.0 gpl) to 1.4 gpcd (14.0 gpl), as shown in Table 2.19. These figures reflect not only the increased water efficiency of dishwashers but also a shift in consumer habits. For example, a 1984 water-use study conducted by the U.S. Department of Housing and Urban Development reported that dishwasher use averaged 1.6 gpcd based on 0.17 loads per capita per day.³⁶ The differences between dishwasher use data reported in 1984 and 1999 indicate that dishwasher use is declining, perhaps because of smaller households and more meals eaten away from home. Take-out food brought home requires less dishwashing (but it increases solid waste and recycling needs).

Water-efficient dishwashers can be installed to replace existing high-volume machines without special connections or considerations. In addition to installing a water-efficient dishwasher, consumers can save water used by dishwashers by following several water conservation practices, which are outlined in Section 2.6.2.

2.6.1 Water-Efficient Dishwashers

Water-efficient household dishwashers use a maximum of 7.0 gpl. This latest water-efficiency threshold has been achieved by several leading dishwasher brands for which reliable, positive performance data have been reported for several years. A few models for which good performance data have been reported

use less than 7.0 gpl (e.g., 4.5, 5.5, and 6.0 gpl), but these data have not always been consistent.^{162, 166, 167}

Recent improvements in the water and energy efficiency of dishwashers have been accomplished through several design and operating innovations, principally: improved electronic components that can program wash cycles to reduce water consumption; better integrated pump, filter, and grinder systems, which reduce the volume of water required to break down and remove particles; and “smart” electronic controls that can figure out minimum water requirements based on the amount of soiling detected (e.g., by how readily light travels through the initial wash water).¹⁶⁵

2.6.2 Dishwasher Water-Efficiency Practices

Washing and rinsing dishes by hand is often less water-efficient than running a dishwasher that uses 7.0 gpl or less, with several qualifications. First, people who keep the faucet running while not using the water directly for scrubbing or rinsing waste several gallons of water per minute. Second, studies have shown that most people pre-rinse dishes more than is needed before loading a dishwasher, resulting in wasted water at the faucet. One survey reported that 83% of respondents claimed to routinely pre-rinse most items.¹⁷⁰

Water use for dishwashing can be reduced in several ways:

- Operate the dishwasher with full loads only.
- Install an aerator or other flow-control device on the kitchen faucet to reduce flows while rinsing and cleaning dishes and cooking vessels. An exception to this measure would be dishwashers that must be hooked up directly to a faucet to operate, because a flow-control device could prevent sufficient water from being supplied to this type of dishwasher.
- When hand-washing dishes and cooking vessels, wash them in a filled sink or container and let the water run only while rinsing items under the faucet.
- Scrape off food with a utensil or used paper napkin, not water.
- Do not pre-rinse dishes except in cases of sticky or burned-on food.
- For best results, load the dishwasher so that water can reach all surfaces of the items to be washed; incorrect loading may cause all or part of the load to need rewashing.
- Use the shortest wash cycle for lightly soiled loads. With most dishwashers, running normal and lightly soiled loads at the setting for heavily soiled loads will not clean the dishes any better, and it will waste water.

Performance of Water-Efficient Dishwashers

The performance of water-efficient dishwashers appears to be comparable to that of higher-volume machines, according to recently reported evaluations of a number of brands and models. For example, *Consumer Reports* studies in 1999 and 2000 examined the performance of more than 30 dishwasher models with water use ranging from 4.5 to 11.5 gpl; the studies found that more than half of the models provided “very good” washing and cleaning performance (which included consideration of the appliances’ energy efficiency, noise, and convenience). *Consumer Reports* added, “Even the dumbest dishwashers can be made

In 1920 the first freestanding dishwasher with permanent plumbing is introduced. In 1935, portable dishwashers enter the marketplace. Water spots are no longer a problem after 1940 when the first fully-automatic dishwasher with heated drying debuts.”

—www.whirlpool.com

Exhibit JJC 29-1.D

Faucet Calculations

**Vickers, Amy, 2001 Handbook of Water Use
and Conservation, WaterPlow Press, Amherst,
Mass.**

rect installation of the new showerhead because the old one is usually taken away by the installer.

MAINTENANCE OF LOW-VOLUME SHOWERHEADS AND RETROFIT DEVICES Showerheads and showerhead retrofit devices should be checked about once a year to remove sand and grit that may accumulate and inhibit the flow of the shower spray. Cleaning can be accomplished by (1) unscrewing the showerhead and placing it upside down under a running faucet or (2) removing, cleaning, and reinstalling the flow restrictor or aerator screen.

2.4 FAUCETS

This section describes four measures to reduce water use by faucets: low-volume faucets, faucet retrofit devices, faucet leak repair, and faucet-related food disposer options. These measures apply to faucets installed in residential and nonresidential properties (e.g., office buildings, schools, restaurants, public and commercial facilities, and many types of institutional facilities).

Low-volume faucets use a maximum of 2.5 gallons per minute (gpm) at 80 pounds per square inch (psi) or 2.2 gpm at 60 psi. Water-efficient kitchen faucets are often designed to flow at the maximum 2.5 gpm, whereas low-volume lavatory faucets are also available at maximum flows of 2.0 and even 1.5 gpm. (Higher flows are needed in kitchens for filling pots and containers, but lavatory faucets, used mostly for hand-washing, require smaller volumes of water.) Some existing high-volume faucets can be retrofitted with aerators, restrictors, and other retrofit devices that lower flow rates. Faucet aerators or restrictors are often included in plumbing fixture retrofit kits and water audit programs targeted to the residential sector.

The design and water-use efficiency of faucets used in kitchens and lavatories have improved since the early 1980s. These improvements stem from better designs for faucet spray and flow patterns as well as new aerating and restricting devices that provide good wetting characteristics with reduced flow rates. EPA's Act requires that lavatory and kitchen faucets (and their replacement aerators) sold, installed, or imported in the United States use no more than 2.5 gpm at 80 psi (2.2 gpm at 60 psi) and that metering faucets use a maximum of 0.25 gallons per cycle (gpc).²⁶

Water Use by Faucets

Average water-use rates and savings for low-volume and high-volume faucets, estimated according to their flow rates, are shown in Table 2.15. Low-volume kitchen and lavatory faucets use a maximum of 2.5 gpm at 80 psi, or 2.2 gpm at 60 psi. (Although EPA's Act originally required low-volume faucets to use no more than 2.5 gpm at 80 psi, a March 1998 amendment of EPA's Act revised the maximum flow for kitchen and lavatory faucets to 2.2 gpm when measured at 60 psi.) Moderate- to high-volume faucets use 2.75, 3.0, and up to 7.0 gpm at 80 psi. As with showerheads, manufacturers usually show flow rates for kitchen and lavatory faucets at full throttle (maximum fixture capacity, or MFC), as shown in

TABLE 2.15

Estimated water use and savings by low-volume faucets in households

Years Manufactured or Installed ^{††}	Faucet Water-Use Rate [‡]		Frequency of Faucet Use Per Person	Estimated Water Use		Estimated Water Savings With a 2.5 gpm Faucet or Aerator				Estimated Water Savings With a 1.5 gpm Faucet or Aerator			
	Rated Flow (MFC)	Actual Flow (MFR)		Per Capita	Per House- hold [§]	Per Capita	Per House- hold [§]	Per Capita	Per House- hold [§]	Per Capita	Per House- hold [§]	Per Capita	Per House- hold [§]
	gpm	gpm	min/day	gpd	gpd	gpd	gpd	gpy	gpy	gpd	gpd	gpy	gpy
1994-present	1.5	1.0	8.1	8.1	21.4								
	2.5	1.7	8.1	13.5	35.6					5.4	14.3	1,971	5,203
1980-1994	2.75	1.8	8.1	14.9	39.2	1.4	3.6	493	1,301	6.8	17.8	2,464	6,504
	3.0	2.0	8.1	16.2	42.8	2.7	7.1	986	2,602	8.1	21.4	2,957	7,805
Pre-1980 ^{**}	3.0-7.0	3.3	8.1	27.0	71.3	13.5	35.6	4,928	13,009	18.9	49.9	6,899	18,212

* Time periods are approximate. Dates for state and local jurisdictions may vary somewhat from dates shown except when they are superseded by the Jan. 1, 1994 federal requirement (shown in bold) allowing a maximum of 2.5 gpm for most faucets (and 0.25 gpc for self-closing faucets) installed after that date, per the U.S. Energy Policy Act of 1992.

† For use in kitchens and bathrooms

‡ Flow rates at 80 pounds per square inch (psi); a faucet with a flow rate of 2.5 gpm at 80 psi is equivalent to a faucet with a flow rate of 2.2 gpm at 60 psi. Kitchen faucets often have higher flow rates than faucets in bathrooms and lavatories.

§ Based on the average of 2.64 persons per occupied U.S. household

** MFR for pre-1980 faucets is averaged for range shown.

MFC = maximum fixture capacity (rated flow)

MFR = measured fixture rate is actual flow rate (equal to about two thirds the MFC); does not apply to self-closing or metering faucets

gpm = gallons per minute; does not apply to self-closing or metering faucets

min/day = average total number of minutes per day faucet is used

gpd = gallons per day

gpy = gallons per year

gpc = gallons per cycle

Sources: Amy Vickers & Associates, Inc.; References 26, 29, 37, 52, and 176

Table 2.15, but actual flow is usually about two thirds (67%) of the rated flow (measured fixture rate, or MFR) because most people don't fully open a faucet except when filling a container.³⁶ For example, a person filling a pot or bucket at a kitchen sink with a completely opened (at full throttle) faucet rated at 2.5 gpm at 80 psi would be using 2.5 gpm. Likewise, a faucet rated at 3.0 gpm at 80 psi with the handle two-thirds open for rinsing or cleaning would be using about 2.0 gpm.

Combined water use by kitchen and lavatory faucets is typically the fourth largest source of indoor residential water demand, averaging 10.9 gallons per capita per day (gpcd); this represents 15.7% of indoor use in an average single-family nonconserving home, according to the 1999 REUS study.¹¹⁸ The actual average volume of water used by a residential faucet is 1.34 gpm.¹¹⁹ An earlier (1984) study found average water use by faucets in a nonconserving home to be 10.3 gpcd, an average volume of 2.6 gpm.³⁶ These figures reflect the increasing water efficiency of faucets since the mid-1980s. Depending on the approximate year a faucet was installed, its residential water use can be estimated, as shown in Table 2.15.

Residential kitchen and lavatory faucets are used an average of 8.1 minutes per person per day in single-family nonconserving homes, according to the 1999

Exhibit JJC 29-1.E

Shower Head Calculations

**Vickers, Amy, 2001 Handbook of Water Use
and Conservation, WaterPlow Press, Amherst,
Mass.**

TABLE 2.11

Estimated water use and savings by low-volume showerheads in households

Years Manufactured or Installed **	Showerhead Water-Use Rate†		Frequency of Showerhead Use‡	Estimated Water Use		Estimated Water Savings With 2.5 gpm Showerhead			
	Rated Flow (MFC)	Actual Flow (MFR)		Per Person	Per Capita	Per House-hold**	Per Capita	Per House-hold**	Per Capita
	gpm	gpm		min/day	gpd	gpd	gpd	gpy	gpy
1994-present	2.5	1.7	5.3	8.8	23.3			322	851
1980-1994	2.75	1.8	5.3	9.7	25.7	0.9	2.3	645	1,702
	3.0	2.0	5.3	10.6	28.0	1.8	4.7	1,935	5,107
	4.0	2.7	5.3	14.1	37.3	5.3	14.0	5,159	13,619
Pre-1980 ††	5.0-8.0	4.3	5.3	23.0	60.6	14.1	37.3		

* Time periods are approximate. Dates for state and local jurisdictions may vary somewhat from dates shown except when they are superseded by the Jan. 1, 1994 federal requirement (shown in bold) allowing a maximum of 2.5 gpm for most showerheads installed after that date, per the U.S. Energy Policy Act.

† Excludes safety showers

‡ Flow rates at 80 pounds per square inch (psi); a showerhead with a flow rate of 2.5 gpm at 80 psi is equivalent to a showerhead with a flow rate of 2.2 gpm at 60 psi.

§ The average residential indoor water-use rate for showering has been reported to be 8.2 minutes per shower; however, on a daily basis, a total of 11.6 gallons per capita is used for showering at an average flow rate of 2.2 gpm, or 5.3 minutes per capita per day for showering.

** Based on the average of 2.64 persons per occupied U.S. household

†† Showerhead MFR for pre-1980 fixtures is averaged for range shown.

MFC = maximum fixture capacity (rated flow)

MFR = measured fixture rate is actual flow rate (equal to about two thirds the MFC)

gpm = gallons per minute

min/day = average number of minutes per day showerhead is used

gpd = gallons per day

gpy = gallons per year

Sources: Amy Vickers & Associates, Inc.; References 12, 26, 29, 37, and 52

Water Use by Showerheads

Average water use and water savings for low-volume and high-volume showerheads, estimated according to their flow rates, are shown in Table 2.11. Low-volume showerheads use a maximum of 2.5 gpm or less and include 2.2 and 1.5 gpm fixtures with flows rated at 80 psi; showerheads with pressures of 60 psi have lower rated flows. (Although EPCA originally required low-volume showerheads to use no more than 2.5 gpm at 80 psi, a March 1998 amendment to EPCA revised the maximum flow for showerheads to 2.2 gpm when measured at 60 psi.) Moderate- to high-volume showerheads use 2.75, 3.0, 4.0, and up to 8.0 gpm. Manufacturers usually show full-throttle flow rates (maximum fixture capacity, or MFC) for showerheads at 80 psi, as shown in Table 2.11, but actual flows (measured fixture rate, or MFR) are usually about two thirds (67%) of rated flows because most people prefer less than a full blast of water for showering.³⁶ For example, a person showering with a fixture rated at 3.0 gpm with the handle two-thirds open would be using about 2.0 gpm.

Water use by showerheads is typically the third largest source of indoor residential water demand, averaging 11.6 gallons per capita per day (gpcd); this represents 16.8% of indoor use in a typical single-family home. Actual average flow through a residential showerhead is 2.2 gpm.¹⁰³ An earlier (1984) study

found average water use by showerheads in a nonconserving home to be 16.3 gpcd, an actual average flow of 3.4 gpm.³⁶ These figures reflect the increasing water efficiency of showerheads since the mid-1980s. Depending on the approximate year in which a showerhead was installed, residential water use by showerheads can be estimated, as shown in Table 2.11.

The 1999 REUS study reported that the frequency of shower and bath use in a single-family home averaged 0.75 uses per person per day. The study also reported an average shower water-use rate of 11.6 gpcd and an average flow rate of 2.2 gpm, making the average showering rate 5.3 minutes per person per day. Based on the average showering rate (not the average daily use), the average shower lasts 8.2 minutes and uses 17.2 gallons of water.¹⁰⁴ A 1984 study found the average showering rate to be 4.8 minutes per person per day.³⁶ The frequency of showering in nonresidential facilities and the amount of water used are not well established.

Studies of water use by showerheads have found that *actual* flow rates often differ from *rated* flows.^{88, 105} There are several ways to determine more precisely how much water a particular showerhead uses if its flow rate is unknown: (1) run the shower, collecting the water in a premeasured bag or bucket, and record the flow rate; (2) read the water meter before and after running the shower (keeping all other fixtures and water-using appliances turned off); (3) look for markings on the showerhead showing its rated flow (this is a federal requirement that became effective in 1994 under EPCA); (4) determine the most recent date of showerhead installation (this may have occurred during a renovation or retrofit program) or the age of the building (if the showerhead appears to be the original installed during construction) to find its probable flow rate as shown in Table 2.11; or (5) contact the manufacturer.

The terms *low-volume*, *low-flow*, *low-consumption*, and *high-efficiency* are used interchangeably to refer to fixtures that use less than 2.5 gpm (at 80 psi), although before 1994 these terms also referred to showerheads that used 2.75 gpm to 3.0 gpm, based on previous energy-efficiency standards. Low-volume showerheads can fit into the same connections as high-volume showerheads without any special adapters (except those needed to reverse male or female threads). The low-volume showerheads, showerhead retrofit devices, and related modifications that are available to reduce water use by showers are described in the following three sections.

2.3.1 Low-Volume Showerheads

Low-volume showerheads improve water-use efficiency compared with high-volume showerheads through such features as improved spray patterns, better mixing of air with water, and narrower spray areas to give the user the "feel" of water without high-volume flows. Flow restrictors are sometimes embedded in low-volume showerheads; these should not be confused with customer-installed showerhead restrictors or "disk inserts" (see Section 2.3.2). Some flow restrictors are permanent and cannot be removed; others can be removed for cleaning and then reinstalled. Showerheads that have a flow restrictor often cost less than fixtures that have a flow-control device. A showerhead flow-control device is a disk containing an elastic O-ring that is controlled by pressure. Under high

The optimum depth of water in a birdbath, says the Audubon Society of America, is two and a half inches. Less water makes it difficult for birds to take a bath; more makes them afraid."

—www.absolutetrivia.com

Exhibit JJC 29-1.F

Toilet Calculations

**Vickers, Amy, 2001 Handbook of Water Use
and Conservation, WaterPlow Press, Amherst,
Mass.**

- **Water savings and related benefits.** The measure's potential water savings, estimated water and sewer cost savings, estimated energy savings, and related benefits are outlined.
- **Costs.** Estimated costs are presented, including the price of devices or hardware, labor and installation, and related costs.
- **Applicable laws, codes, and standards.** Laws, regulations, and industry codes and standards that apply to the measure are discussed.
- **Implementation.** Targeted water users for the measure are identified, along with selection and design options. Planning for a large-scale installation program is discussed, along with customer program participation, incentives, number of fixtures or appliances installed, installation and technical considerations, and maintenance needs.

When applicable, case studies are provided to illustrate potential water savings, benefits and costs, and program implementation considerations.

2.1 TOILETS

This section describes four measures to reduce water use by toilets: low-volume toilets, waterless and composting toilets, toilet displacement and flushing devices, and toilet leak repair. These measures apply to toilets installed in residential and nonresidential properties (e.g., office buildings, schools, commercial facilities, hotels, hospitals, and many types of institutional facilities).

Low-volume toilets use 1.6 gallons per flush (gpf) or less. Waterless and composting toilets require no water to flush. There are a variety of retrofit devices to reduce flush volumes for conventional, high-volume (3.5 gpf or more) toilets, and there are several leak repair measures that can be applied to low- and high-volume toilets.

Improvements in the water efficiency of toilets began in the early 1980s as a result of refinements in the design of conventional gravity toilets, the introduction of new technologies and fixture designs, and local, state, and federal initiatives to promote water conservation. Although some of the early "low-flow" fixtures in the United States in the late 1980s received mixed reviews in terms of performance, manufacturers have improved the design and performance of low-volume toilets so that consumers can now choose from a large number of reliable products.

According to EPA requirements, all toilets sold, installed, or imported in the United States must be low-volume fixtures that use no more than 1.6 gpf, or 6 liters, as shown in Table 2.1. Other countries, such as Australia, Denmark, Finland, Norway, and Singapore, allow low-volume toilets that use no more than 0.8 to 1.2 gpf (3.0 to 4.5 liters).³³ Technological improvements along with federal requirements have spurred a number of U.S. water utilities to realize significant water savings not only through new installations and renovations but also by offering direct rebates to customers who replace high-volume toilets with low-volume fixtures.

Toilets flush in E flat."
—www.uselessfacts.net

TABLE 2.2

Estimated water use and savings by low-volume toilets in households

Years Manufactured or Installed*	Toilet Water-Use Rate	Frequency of Toilet Use	Estimated Water Use		Estimated Water Savings With a 1.6 gpf Toilet†			
		Daily Per Person number of uses	Daily		Daily		Yearly	
			Per Capita	Per Household‡	Per Capita	Per Household‡	Per Capita	Per Household‡
	gpf		gal	gal	gal	gal	gal	gal
1994-present	1.0	5.1	5.1	13.5				
1997-present§	1.6	5.1	8.2	21.5				
1994-present**	1.6	5.1	8.2	21.5				
1980-1994	3.5	5.1	17.9	47.1	9.7	25.6	3,537	9,337
	4.0	5.1	20.4	53.9	12.2	32.3	4,468	11,794
	4.5	5.1	23.0	60.6	14.8	39.0	5,398	14,252
1950s-1980	5.0	5.1	25.5	67.3	17.3	45.8	6,329	16,709
	5.5	5.1	28.1	74.1	19.9	52.5	7,260	19,166
Pre-1950s	7.0	5.1	35.7	94.2	27.5	72.7	10,052	26,538

* Time periods are approximate. Dates in state and local jurisdictions may vary somewhat from dates shown except when they are superseded by the Jan. 1, 1994, federal requirement (shown in bold) allowing a maximum of 1.6 gpf for most toilets installed after that date, per the Energy Policy Act.

† Excludes water used for cleaning and losses attributable to leaks

‡ Based on the average of 2.64 persons per occupied U.S. household

§ Flushometer-valve fixtures and gravity-tank, white, two-piece fixtures labeled "Commercial Use Only" (most common in nonresidential settings)

** Gravity-tank, flushometer-tank, and electromechanical hydraulic fixtures (most common in residential and small office and commercial settings)

gpf = gallons per flush

number of uses = average number of times per day toilet is flushed

gal = gallon

Sources: Amy Vickers & Associates, Inc.; References 26, 29, 37, and 52

Water Use by Toilets

Average water use by low-volume and high-volume toilets (estimated according to their flush volume) is shown in Table 2.2. Low-volume toilets designed to use 1.5 gpf, 1.1 gpf, and 1.0 gpf are available, but fixtures that use less than 1.0 gpf are uncommon in the United States. Moderate- to high-volume toilets have flush rates of 3.5 gpf (referred to as "water-saver toilets" when introduced in the late 1970s), 4.0 gpf, 4.5 gpf, 5.0 gpf, 5.5 gpf, and up to 7.0 gpf for pre-1950 fixtures. In addition to the 1.6 gpf fixture, there are some fixtures in this classification that use about 2.0 gpf, but these are not common. The actual volume of water used by flush toilets sometimes varies from the manufacturer's reported flow rate for reasons that include improper mechanical adjustments to fixture components at the time of installation (e.g., not properly setting the water used by a gravity-flush fixture to the factory-marked water level inside the tank); manufacturing defects; low or high supply line pressure, particularly for nongravity-flush fixtures; previous adjustments to the fixture flow rate; and leakage.

Exceptions allowed by EPA and local and state authorities may be granted for special uses and circumstances that require higher flow volumes, although such conditions are uncommon. Toilets designed for prisons are allowed to use up to 3.5 gpf, but most manufacturers of these specialty fixtures also offer 1.6 gpf models.

Exhibit JJC 29-2

**North America Residential Water Usage
Trends Since 1992**

Pages: xxi-xxii, xxviii, 1, 74-75

Water Research Foundation, 2010

EXECUTIVE SUMMARY

OBJECTIVES

This study investigates trends in household water usage in North America during the past 30 years and draws preliminary conclusions on the magnitude and causes of declining usage per residential customer. The study focused on: 1) understanding residential water-usage behavior patterns and trends; 2) assessing the impact of those patterns on water utility operations; and 3) providing data that can be correlated with future trends for planning purposes.

BACKGROUND

Many water utilities across the United States and elsewhere are experiencing declining water sales among households. While “water conservation” is normally seen as positive, this gradual erosion in residential consumption may force utilities to raise rates to provide sufficient revenues for expanding service and replacing old water mains and equipment (Beecher et al. 1994). Without a clear understanding of the changing water-use patterns, it is difficult to develop appropriate pricing structures that will both recoup costs and provide resources for the future. Figure ES.1 shows the declining water-usage trends of the partners participating in this study.

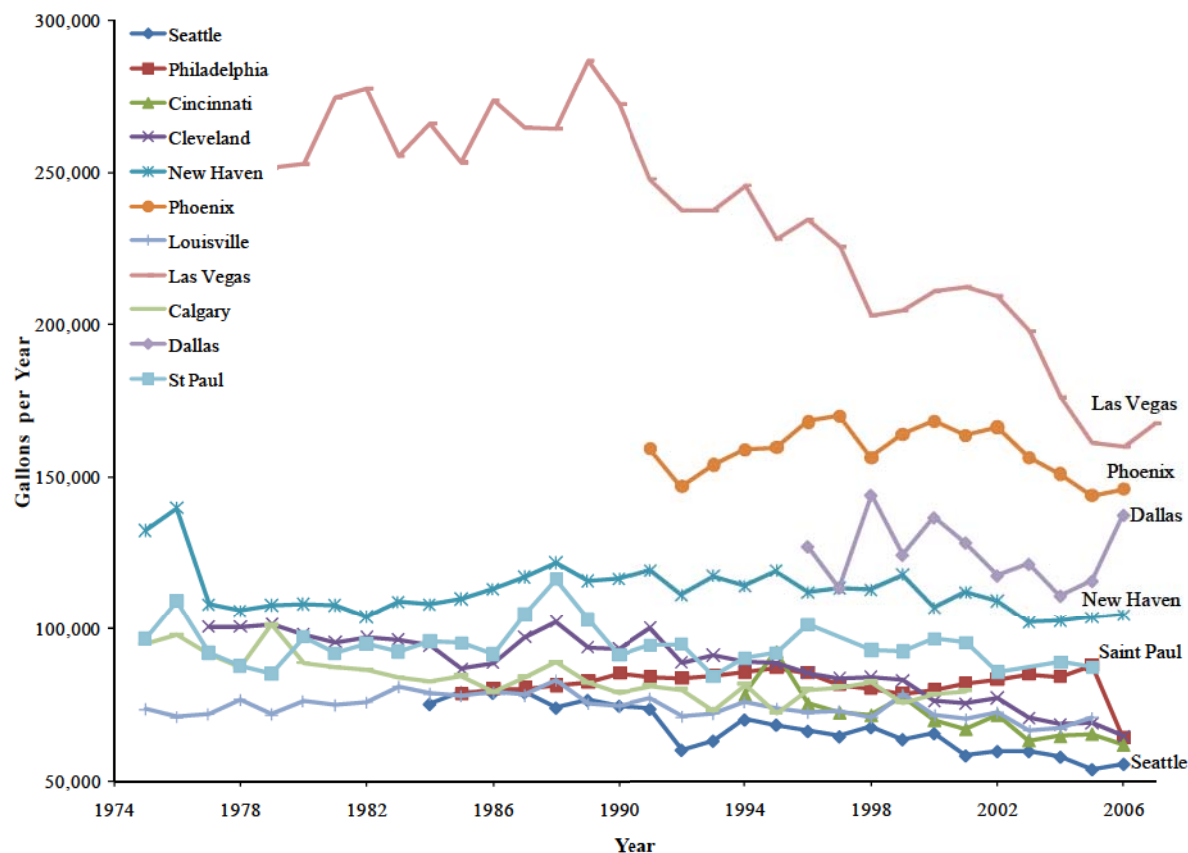


Figure ES.1. Partners’ average annual water usage per residential customer, in gallons

The decline in residential water usage per customer has occurred as the number of residents and households continues to grow and as household incomes continue to rise. A variety of theories have been advanced to explain the declining usage, including: wetter weather; changes in household size and type; water-conserving fixtures and appliances; customer classification anomalies; and price increases. However, to date, no definitive statement has been made as to the validity of these theories or the amount each contributes to residential water-usage decline.

For utilities to both encourage conservation and have sufficient financial reserves for maintenance and growth, it is necessary to better understand how water-use patterns have changed over the last 30 years, what factors are driving usage, and how these factors might impact utilities in the future.

APPROACH

This research was designed in three parts, beginning with a macro view of the issue and developing into a micro view, with assessments of household water consumption behavior at the national, regional, and local levels.

The national trends component of the study analyzed the historic databases of 43 representative utilities. The analysis estimated the statistical relationships among six variables over time: utility size, water source, ownership type, precipitation zone, temperature zone, and drought index. These variables were held statistically neutral to achieve a more accurate picture of usage trends. This national trends study was compared to trends documented by two Public Service Commissions, whose data showed similar patterns.

The regional component of the study examined the specific experiences reported by 11 utilities who agreed to participate and provide background information and data. Their data also was used to estimate the statistical relationships among the same six variables addressed in the national study. In addition, researchers factored in specific conditions and aspects particular to each utility, such as conservation initiatives, billing practices, and government oversight. Full case studies are provided in the appendix of this report.

The local component of the study assessed the *independent* impacts of many water-conservation fixtures and household demographics. Electronic data loggers were installed on 65 statistically representative homes in the service area of the Louisville Water Company. The devices captured flow signatures and accurately differentiated among various types of water use. The participating households were surveyed to determine their socioeconomic characteristics, as well as their inventory of indoor and outdoor water-using fixtures. The data were combined with demographic and economic factors to provide an assessment of water-use patterns at the local level. There have been a limited number of local water usage studies that have employed the detailed information employed in this study.

Finally, researchers analyzed the national, regional, and local components of the study to draw conclusions.

DATA LIMITATION ISSUES

Water-usage data maintained by utilities generally reflect information captured for billing and metering reasons, not for demographic and economic analysis. Moreover, utilities are not consistent in the way they classify and record water usage. Some do not distinguish water usage

specific trends. Utilities serving communities with growth in single-occupant households are likely to see erosion in revenues per household. Additionally, new federal regulations governing water-conserving appliances and fixtures further indicate that residential water usage will continue to decline as newer homes make up a larger component of the housing stock. Utilities may find it useful to track persons per household in addition to number of households as they plan infrastructure and set rates.

Although the rate of decline may slow, there is no indication that national household-size trends will reverse. Also, new and existing federal regulations will prompt further penetration of water-conserving appliances.

RECOMMENDATIONS

Standardized Classification and Data Management Practices

Researchers faced difficulties in obtaining accurate data for measuring usage and identifying patterns. Water-usage data obtained from utilities reflect information captured for billing and metering reasons, not for analysis. It is challenging to assemble consistent household water-usage data over time across utilities because of the lack of universal metering practices, a standardized method for classifying customers and maintaining databases. Thus, it is recommended that the American Water Works Association (AWWA) along with the Water Research Foundation (Foundation) and the International Water Association (IWA) work on establishing standardized customer classifications and database maintenance practices.

Local Level Studies

Though the water usage model developed for this study provides valuable insight into the detailed structure of residential water usage, these models are still weak in explaining the huge variations in residential water usage among the participating utilities. Others studies have also found only weak relationships between water usage and traditional socio-economic and physical factors (Balling 2008), (Domene and Sauri 2005), (Schleich 2007). Further research is needed on other demographic and housing variables to obtain a more comprehensive understanding of the determinants of residential water usage, especially in areas periodically affected by water stress.

For a utility to adequately understanding the local factors influencing residential usage, it needs to conduct an in-depth demographic study of existing customers. Combining this information with daily household usage data gathered via data logging allows utilities to gain valuable insight into the impacts of local factors on residential water usage. The model employed in this study provides a reasonable methodology for utilities to adopt and extend.

KEY FINDINGS

The following are some the key findings from the study:

- A pervasive decline in household water consumption has been determined at the national and regional levels.
 - An estimated decrease of more than 380 gallons annually over the last three decades in household water usage.

CHAPTER 1

INTRODUCTION

BACKGROUND

Many water utilities across North America and elsewhere are experiencing declining water sales among their households. Company officials attribute the decline in usage to several possible factors, including wetter weather, new water-conserving appliances, changing demographics, and classification anomalies. While “water conservation” is normally seen as positive, this gradual erosion in residential consumption may force many utilities to raise rates to provide sufficient revenues for expanding service and replacing old water mains and equipment. Without a clear understanding of the changing water-use patterns, it is difficult to develop appropriate pricing structures that will both recoup costs and provide resources for the future. [Figure 1.1](#) shows the declining water-usage trends of the partners participating in this study.

Water utilities are finding it increasingly difficult to accurately manage their finances in the face of changing water-use patterns. Old rules of thumb, such as assuming households consume 200 to 300 gallons per day per person, are no longer sufficient. Household water-use predictions must account for competing factors. The average number of people per housing unit and the penetration of water-conserving appliances in the housing market lead to less water use per household. However, rising incomes and an increased demand for landscape watering precipitate increases in total water use. Further complicating the issue, water usage by customer type varies and is dependent upon geographic location, climate, industrial composition, housing stock, pricing, and local conservation policies.

Generating sufficient revenues for utility maintenance and growth is not a matter of simply increasing water rates to offset declining usage per household. In the short run, water-rate increases lead to more revenues for the utility. However, the situation is becoming more complicated as water rates continue to rise and are linked to rising wastewater rates. Economic theory predicts that there will be a price point at which customers change behavior by reducing outdoor watering, installing water-conserving appliances, and changing habits. Moreover, governing boards may limit the ability of water utilities to significantly modify their rates and pricing structures.

For utilities to both encourage conservation and have sufficient financial reserves for maintenance and growth, it is necessary to understand how water-use patterns have changed over the last 30 years, what factors are impacting usage, and how these individual factors impact patterns on the national, regional, and local levels.

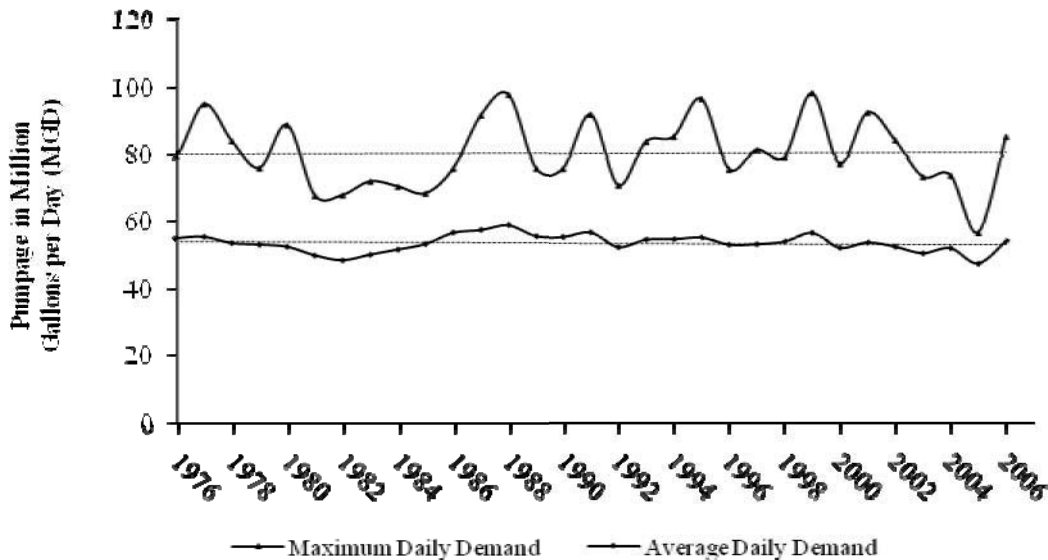


Figure 5.5. South Central Connecticut water usage

Impact of Declining Water Usage on Utility Operations

As identified by many water utilities and documented by this research, households are reducing their water usage. There is general concern that this decline in usage may adversely impact the normal business operations of many water utilities. Although the full impact of declining usage is unknown, the research data can provide a qualitative assessment of a few primary issues.

Water Treatment and Emergency Response

During the research project, the regional survey tools were specifically designed to assess the impact of declining water usage on current operations. During the interview process, utilities were asked to what extent changing water-consumption patterns impacted distribution system operations, long-term infrastructure planning, and water quality. All the utilities that participated in the regional-level interviews indicated that the changing water-consumption patterns had no impact on their abilities to react to emergencies such as drought or fire and that they had no effect on the quality of water provided. No increases in contaminants were observed during distribution testing, and interviews with wastewater personnel did not indicate an increase of contaminants in wastewater flows. While overall water usage had declined per household, there did not appear to be a significant change in total water produced by utilities. Water quality, distribution, and emergency response capabilities of the water utilities have remained relatively unchanged.

Impact on Utility Revenues

As customers continue to purchase less water, many utilities are growing increasingly concerned with the effects on their operating revenues. Most of the funding for water and wastewater comes from the revenues generated by purchased water. Therefore, pricing that

recovers the costs of building, operating, and maintaining the system is absolutely essential to achieving sustainability. Drinking water and wastewater utilities must be able to price water to reflect the full costs of treatment and delivery (USEPA 2006).

Impact of Graywater Systems

Graywater includes the reuse of any water previously used in the home, except water from toilets. Dish, shower, sink, and laundry water comprise 50-80% of residential "waste" water. This "waste" water may be reused for other purposes, especially landscape irrigation. Currently there is no standardized legislation regulating household graywater retrofit systems (Noah 2002).

The impacts of graywater systems on public health and the environment have been extensively examined but research on its impact on household water usage is limited. A 1996 study conducted in Brisbane, Australia estimates that domestic graywater re-used for water landscape irrigation could reduce average household potable water usage by 30 to 50 percent (Jeppesen 1996). Within the United States, a 1990 study retrofitted a single-family residence in Tucson, Arizona with water-conserving fixtures, rainwater harvesting, and a graywater reuse systems to examine their affects on daily household usage. The study found that the graywater system reused an average of 77 gpd or 32 percent of the total household water use (Karpiscak et al 1990).

While the impact of graywater systems on daily household usage has been estimated the total number of residential graywater systems in use in the United State is still unknown. A Graywater Awareness and Usage Study conducted by the Soap and Detergent Association (SDA) estimated that only 7 percent of those US household surveyed are currently reusing graywater (SDA 1999). This number can be deceiving because the portion of households reusing graywater varied among the states due to local climatic variations. The SDA study, found that households in the southwest and western regions of the United States had the highest concentration of households with graywater systems. This included the states of California (13.9 percent), Texas (11 percent) and Arizona (3.6 percent) (SDA 1999).

As graywater reuse becomes more accepted by the general the pubic and local municipalities, utilities could expect further negative impact on household water usage. The impact could be greater in certain regions due to local or regional factors such as weather and stressed water supplies.

Data for Correlation With Future Trends

The data compiled in this research investigation are intended to assist utilities in developing realistic management plans that take into account the primary causes of declining residential water usage. The data provide a tool for projecting residential water usage in light of utility-specific trends. Utilities are encouraged to consider which regional case studies most closely resemble their own situations when forming these plans. While local trends will impact utility-specific plans, this research investigation identified decreasing household size and penetration of water-conserving appliances as the primary causes of declining residential water usage. Although the rate of decline may slow, there is no indication that national household-size trends will reverse. Also, new and existing federal regulations will prompt further penetration of water-conserving appliances. Thus, there is no indication that the decline in water usage will reverse.

Exhibit JJC 29-3

Energy Policy of 1992

or decreasing the energy efficiency of such product.

`(7) Not later than the date on which standards established pursuant to this subsection become effective, or, with respect to high-intensity discharge lamps covered under section 346, the effective date of standards established pursuant to such section, each manufacturer of a product to which such standards are applicable shall file with the Secretary a laboratory report certifying compliance with the applicable standard for each lamp type. Such report shall include the lumen output and wattage consumption for each lamp type as an average of measurements taken over the preceding 12-month period. With respect to lamp types which are not manufactured during the 12-month period preceding the date such standards become effective, such report shall be filed with the Secretary not later than the date which is 12 months after the date manufacturing is commenced and shall include the lumen output and wattage consumption for each such lamp type as an average of measurements taken during such 12-month period.

`(j) STANDARDS FOR SHOWERHEADS AND FAUCETS- (1) The maximum water use allowed for any showerhead manufactured after January 1, 1994, is 2.5 gallons per minute when measured at a flowing water pressure of 80 pounds per square inch. Any such showerhead shall also meet the requirements of ASME/ANSI A112.18.1M-1989, 7.4.3(a).

`(2) The maximum water use allowed for any of the following faucets manufactured after January 1, 1994, when measured at a flowing water pressure of 80 pounds per square inch, is as follows:

`Lavatory faucets

2.5 gallons per minute

`Lavatory replacement aerators

2.5 gallons per minute

`Kitchen faucets

2.5 gallons per minute

`Kitchen replacement aerators

2.5 gallons per minute

`Metering faucets

0.25 gallons per cycle

`(3)(A) If the maximum flow rate requirements or the design requirements of ASME/ANSI Standard A112.18.1M-1989 are amended to improve the efficiency of water use of any type or class of showerhead or faucet and are approved by ANSI, the Secretary shall, not later than 12 months after the date of such amendment, publish a final rule establishing an amended uniform national standard for that product at the level specified in the amended ASME/ANSI Standard A112.18.1M and providing that such standard shall apply to products manufactured after a date which is 12 months after the publication of such rule, unless the Secretary determines, by rule published in the Federal Register, that adoption of a uniform national standard at the level specified in such amended ASME/ANSI Standard A112.18.1M--

` (i) is not technologically feasible and economically justified under subsection (o);

` (ii) is not consistent with the maintenance of public health and safety; or

` (iii) is not consistent with the purposes of this Act.

` (B)(i) As part of the rulemaking conducted under subparagraph (A), the Secretary shall also determine if adoption of a uniform national standard for any type or class of showerhead or faucet more stringent than such amended ASME/ANSI Standard A112.18.1M--

` (I) would result in additional conservation of energy or water;

` (II) would be technologically feasible and economically justified under subsection (o); and

` (III) would be consistent with the maintenance of public health and safety.

` (ii) If the Secretary makes an affirmative determination under clause (i), the final rule published under subparagraph (A) shall waive the provisions of section 327(c) with respect to any State regulation concerning the water use or water efficiency of such type or class of showerhead or faucet if such State regulation--

` (I) is more stringent than amended ASME/ANSI Standard A112.18.1M for such type or class of showerhead or faucet and the standard in effect for such product on the day before the date on which a final rule is published under subparagraph (A); and

` (II) is applicable to any sale or installation of all

products in such type or class of showerhead or faucet.

` (C) If, after any period of five consecutive years, the maximum flow rate requirements of the ASME/ANSI standard for showerheads are not amended to improve the efficiency of water use of such products, or after any such period such requirements for faucets are not amended to improve the efficiency of water use of such products, the Secretary shall, not later than six months after the end of such five-year period, publish a final rule waiving the provisions of section 327(c) with respect to any State regulation concerning the water use or water efficiency of such type or class of showerhead or faucet if such State regulation--

` (i) is more stringent than the standards in effect for such type of class of showerhead or faucet; and

` (ii) is applicable to any sale or installation of all products in such type or class of showerhead or faucet.

` (k) STANDARDS FOR WATER CLOSETS AND URINALS-

(1)(A) Except as provided in subparagraph (B), the maximum water use allowed in gallons per flush for any of the following water closets manufactured after January 1, 1994, is the following:

` Gravity tank-type toilets

--1.6 gpf.

` Flushometer tank toilets

--1.6 gpf.

` Electromechanical hydraulic toilets

--1.6 gpf.

` Blowout toilets

--3.5 gpf.

` (B) The maximum water use allowed for any gravity tank-type white 2-piece toilet which bears an adhesive label conspicuous upon installation consisting of the words `Commercial Use Only' manufactured after January 1, 1994, and before January 1, 1997, is 3.5 gallons per flush.

` (C) The maximum water use allowed for flushometer valve toilets, other than blowout toilets, manufactured after January 1, 1997, is 1.6 gallons per flush.

` (2) The maximum water use allowed for any urinal manufactured after January 1, 1994, is 1.0 gallon per flush.

` (3)(A) If the maximum flush volume requirements of ASME Standard A112.19.6-1990 are amended to improve the efficiency of water use of any low consumption water closet or low consumption urinal and are approved by ANSI, the Secretary shall, not later than 12 months after the date of such amendment, publish a final rule establishing an amended uniform national standard for that product at the level specified in amended ASME/ANSI Standard A112.19.6 and providing that such standard shall apply to products manufactured after a date which is one year after the publication of such rule, unless the Secretary determines, by rule published in the Federal Register, that adoption of a uniform national standard at the level specified in such amended ASME/ANSI Standard

A112.19.6--

` (i) is not technologically feasible and economically justified under subsection (o);

` (ii) is not consistent with the maintenance of public health and safety; or

` (iii) is not consistent with the purposes of this Act.

` (B)(i) As part of the rulemaking conducted under subparagraph (A), the Secretary shall also determine if adoption of a uniform national standard for any type or class of low consumption water closet or low consumption urinal more stringent than such amended ASME/ANSI Standard A112.19.6 for such product--

` (I) would result in additional conservation of energy or water;

` (II) would be technologically feasible and economically justified under subsection (o); and

` (III) would be consistent with the maintenance of public health and safety.

` (ii) If the Secretary makes an affirmative determination under clause (i), the final rule published under subparagraph (A) shall waive the provisions of section 327(c) with respect to any State regulation concerning the water use or water efficiency of such type or class of low consumption water closet or low consumption urinal if such State regulation--

` (I) is more stringent than amended ASME/ANSI Standard A112.19.6 for such type or class of low consumption water closet or low consumption urinal

and the standard in effect for such product on the day before the date on which a final rule is published under subparagraph (A); and

`(II) is applicable to any sale or installation of all products in such type or class of low consumption water closet or low consumption urinal.

`(C) If, after any period of five consecutive years, the maximum flush volume requirements of the ASME/ANSI standard for low consumption water closets are not amended to improve the efficiency of water use of such products, or after any such period such requirements for low consumption urinals are not amended to improve the efficiency of water use of such products, the Secretary shall, not later than six months after the end of such five-year period, publish a final rule waiving the provisions of section 327(c) with respect to any State regulation concerning the water use or water efficiency of such type or class of water closet or urinal if such State regulation--

`(i) is more stringent than the standards in effect for such type or class of water closet or urinal; and

`(ii) is applicable to any sale or installation of all products in such type or class of water closet or urinal.';

(3) in subsection (l) (as redesignated by paragraph (1) of this subsection)--

(A) in paragraphs (1) and (2), by striking out `(14)' and inserting in lieu thereof `(19)'; and

(B) in paragraphs (1) and (3), by striking out `(l) and (m)' and inserting in lieu thereof `(o) and (p)';

(4) in subsection (m) (as redesignated by paragraph (1) of this subsection), by striking out `(h)' and inserting in lieu thereof `(i)';

(5) in subsection (n) (as redesignated by paragraph (1) of this subsection)--

(A) in paragraph (1)--

(i) by striking out `and in paragraph (13)' and inserting in lieu thereof `, and in paragraphs (13) and (14)'; and

(ii) by striking out `(h)' and inserting in lieu thereof `(i)';

(B) in paragraph (2)(C), by striking out `(I)(2)(B)(i)(II)' and inserting in lieu thereof `(o)(2)(B)(i)(II)'; and

(C) in paragraph (3)(B), by inserting `general service fluorescent lamps, incandescent reflector lamps,' after `fluorescent lamp ballasts,';

(6) in subsection (o) (as redesignated by paragraph (1) of this subsection)--

(A) in paragraph (1), by inserting `or, in the case of showerheads, faucets, water closets, or urinals, water use,' after `energy use,';

(B) in paragraph (2)(A), by inserting `, or, in the case of showerheads, faucets, water closets, or urinals, water efficiency,' after `energy efficiency';

(C) in paragraph (2)(B)(i)(III), by inserting `, or as applicable, water,' after `energy';

(D) in paragraph (2)(B)(i)(VI), by inserting `and water' after `energy';

(E) in paragraph (2)(B)(iii), by striking out `energy savings' and inserting `energy, and as applicable, water savings'; and

(F) in paragraph (3)(B), by inserting `, in the case of showerheads, faucets, water closets, or urinals, water, or' after `energy or'; and

(7) in subsection (p)(3)(A) (as redesignated by paragraph (1) of this subsection)--

(A) by striking out `(l)(2)' and inserting in lieu thereof `(o)(2)'; and

(B) by striking out `(l)(4)' and inserting in lieu thereof `(o)(4)'.

(g) REQUIREMENTS OF MANUFACTURERS- Section 326 of such Act (42 U.S.C. 6296) is amended--

(1) in subsection (b)(4), by inserting `or water use' after `consumption'; and

(2) in subsection (d)(1), by striking out `or energy use' and inserting in lieu thereof `, energy use, or, in the case of showerheads, faucets, water closets, and urinals, water use'.

(h) EFFECT ON OTHER LAW- Section 327 of such Act (42 U.S.C. 6297) is amended--

(1) in subsection (a)--

(A) in paragraph (1), in the material preceding subparagraph (A), by inserting `or water use' after

Exhibit JJC 29-4

Energy Independence and Security Act of 2007

Public Law 110-140-Dec. 19, 2007

PUBLIC LAW 110-140—DEC. 19, 2007

121 STAT. 1563

not be used to determine compliance with product standards established prior to the adoption of the amended test procedures.

“(3) INCORPORATION INTO STANDARD.—

“(A) IN GENERAL.—Subject to subparagraph (B), based on the test procedures required under paragraph (2), any final rule establishing or revising a standard for a covered product, adopted after July 1, 2010, shall incorporate standby mode and off mode energy use into a single amended or new standard, pursuant to subsection (o), if feasible.

“(B) SEPARATE STANDARDS.—If not feasible, the Secretary shall prescribe within the final rule a separate standard for standby mode and off mode energy consumption, if justified under subsection (o).”; and

(4) in paragraph (2) of subsection (hh) (as redesignated by paragraph (2)), by striking “(ff)” each place it appears and inserting “(gg)”.

SEC. 311. ENERGY STANDARDS FOR HOME APPLIANCES.

(a) APPLIANCES.—

(1) DEHUMIDIFIERS.—Section 325(cc) of the Energy Policy and Conservation Act (42 U.S.C. 6295(cc)) is amended by striking paragraph (2) and inserting the following:

“(2) DEHUMIDIFIERS MANUFACTURED ON OR AFTER OCTOBER 1, 2012.—Dehumidifiers manufactured on or after October 1, 2012, shall have an Energy Factor that meets or exceeds the following values:

“Product Capacity (pints/day):	Minimum Energy Factor (liters/ kWh)
Up to 35.00	1.35
35.01–45.00	1.50
45.01–54.00	1.60
54.01–75.00	1.70
Greater than 75.00	2.5.”.

(2) RESIDENTIAL CLOTHES WASHERS AND RESIDENTIAL DISHWASHERS.—Section 325(g) of the Energy Policy and Conservation Act (42 U.S.C. 6295(g)) is amended by adding at the end the following:

“(9) RESIDENTIAL CLOTHES WASHERS MANUFACTURED ON OR AFTER JANUARY 1, 2011.—

“(A) IN GENERAL.—A top-loading or front-loading standard-size residential clothes washer manufactured on or after January 1, 2011, shall have—

“(i) a Modified Energy Factor of at least 1.26; and

“(ii) a water factor of not more than 9.5.

“(B) AMENDMENT OF STANDARDS.—

“(i) IN GENERAL.—Not later than December 31, 2011, the Secretary shall publish a final rule determining whether to amend the standards in effect for clothes washers manufactured on or after January 1, 2015.

Deadline.
Regulations.

121 STAT. 1564

PUBLIC LAW 110-140—DEC. 19, 2007

Deadline.
Regulations.

“(ii) AMENDED STANDARDS.—The final rule shall contain any amended standards.”
“(10) RESIDENTIAL DISHWASHERS MANUFACTURED ON OR AFTER JANUARY 1, 2010.—

“(A) IN GENERAL.—A dishwasher manufactured on or after January 1, 2010, shall—

“(i) for a standard size dishwasher not exceed 355 kWh/year and 6.5 gallons per cycle; and

“(ii) for a compact size dishwasher not exceed 260 kWh/year and 4.5 gallons per cycle.

“(B) AMENDMENT OF STANDARDS.—

“(i) IN GENERAL.—Not later than January 1, 2015, the Secretary shall publish a final rule determining whether to amend the standards for dishwashers manufactured on or after January 1, 2018.

“(ii) AMENDED STANDARDS.—The final rule shall contain any amended standards.”

(3) REFRIGERATORS AND FREEZERS.—Section 325(b) of the Energy Policy and Conservation Act (42 U.S.C. 6295(b)) is amended by adding at the end the following:

“(4) REFRIGERATORS AND FREEZERS MANUFACTURED ON OR AFTER JANUARY 1, 2014.—

Deadline.
Regulations.

“(A) IN GENERAL.—Not later than December 31, 2010, the Secretary shall publish a final rule determining whether to amend the standards in effect for refrigerators, refrigerator-freezers, and freezers manufactured on or after January 1, 2014.

“(B) AMENDED STANDARDS.—The final rule shall contain any amended standards.”

(b) ENERGY STAR.—Section 324A(d)(2) of the Energy Policy and Conservation Act (42 U.S.C. 6294a(d)(2)) is amended by striking “January 1, 2010” and inserting “July 1, 2009”.

SEC. 312. WALK-IN COOLERS AND WALK-IN FREEZERS.

(a) DEFINITIONS.—Section 340 of the Energy Policy and Conservation Act (42 U.S.C. 6311) is amended—

(1) in paragraph (1)—

(A) by redesignating subparagraphs (G) through (K) as subparagraphs (H) through (L), respectively; and

(B) by inserting after subparagraph (F) the following: “(G) Walk-in coolers and walk-in freezers.”;

(2) by redesignating paragraphs (20) and (21) as paragraphs (21) and (22), respectively; and

(3) by inserting after paragraph (19) the following:

“(20) WALK-IN COOLER; WALK-IN FREEZER.—

“(A) IN GENERAL.—The terms ‘walk-in cooler’ and ‘walk-in freezer’ mean an enclosed storage space refrigerated to temperatures, respectively, above, and at or below 32 degrees Fahrenheit that can be walked into, and has a total chilled storage area of less than 3,000 square feet.

“(B) EXCLUSION.—The terms ‘walk-in cooler’ and ‘walk-in freezer’ do not include products designed and marketed exclusively for medical, scientific, or research purposes.”

(b) STANDARDS.—Section 342 of the Energy Policy and Conservation Act (42 U.S.C. 6313) is amended by adding at the end the following:

“(f) WALK-IN COOLERS AND WALK-IN FREEZERS.—

Exhibit JJC 29-5

WaterSense[®] Tank-Type High-Efficiency Toilet Specification Supporting Statement



WaterSense® Tank-Type High-Efficiency Toilet Specification Supporting Statement

I. Introduction

The WaterSense Program released its performance specification for tank-type high-efficiency toilets (HETs) (Specification) on January 24, 2007, to promote and enhance the market for water-efficient toilets. The goal of this Specification is to differentiate products in the marketplace that meet this Specification's criteria for efficiency and performance and help consumers identify these water-efficient products.

This Specification addresses toilets typically found in homes, and in light commercial settings, such as hotels and restaurants. It does not address valve-type commercial toilets typically found in public restrooms (e.g., airports, theaters, arenas, schools) or composting toilets, both of which have different designs, patterns of use, and performance requirements.

II. Current Status of Toilets

WaterSense estimates there are currently 222 million residential toilets in the United States. This estimate is based on an assumed one-to-one ratio of toilets to bathrooms.¹ In addition to the existing stock, approximately 10 million new toilets are sold each year for installation in new homes or replacement of aging fixtures in existing homes.² Residential toilets account for approximately 30 percent of indoor residential water use in the United States—equivalent to more than 2.1 trillion gallons of water consumed each year.³

The Energy Policy Act of 1992 established the maximum flush volume for all gravity tank-type, flushometer tank, and electromechanical hydraulic toilets at 1.6 gallons per flush (gpf). These requirements are codified in the *Code of Federal Regulations* at 10 *CFR* Part 430 (specifically §430.32(q) Water Closets). Federal regulations also require that all toilets sold in the United States be tested and certified in accordance with the test requirements specified in American Society of Mechanical Engineers (ASME) A112.19.2—Vitreous China Plumbing Fixtures and Hydraulic Requirements for Water Closets and Urinals. All dual-flush toilets sold in the United States also must comply with ASME A112.19.14—Six-Liter Water Closets Equipped with a Dual Flushing Device.

In addition, there are several voluntary, non-certification toilet testing programs. These tests are frequently required by water utilities for toilets to qualify for rebates under local water conservation toilet replacement programs. Two of the most popular and widely used voluntary testing programs in North America are the Maximum Performance (MaP) Testing of Popular Toilet Models and the Los Angeles Department of Water and Power Requirements for Ultra-Low-Flush-Toilets, Supplementary Purchase Specification to ASME A112.19.2 (LADWP SPS). MaP is entirely performance based, testing a toilet's maximum ability to remove waste starting

¹ U.S. Census Bureau, American Housing Surveys for the United States, 1970-2003.

² Plumbing Fixtures market Overview: Water Savings Potential for Residential and Commercial Toilet and Urinals. D&R International. September 30, 2005

³ Mayer, Peter W. and William B. DeOreo. Residential End Uses of Water. Aquacraft, Inc. Water Engineering and Management. American Water Works Association. 1998.



with a 50 gram soybean paste sample and increasing at 50 gram intervals. A minimum passing score is 250 grams. The LADWP SPS requires the use of durable, chemical-resistant flush valve seals, and restricts maximum flush volumes under maximum trim adjustment and pressure conditions.

One problem with the number of different voluntary toilet testing programs in existence was the lack of uniformity or consistent requirements. Manufacturers found it difficult and costly to develop products that met the requirements of multiple testing programs, and water authorities were unsatisfied with the limited availability of qualified products. Consumers found the patchwork of toilet specifications, requirements, and “approved toilet lists” confusing at best. To remedy this situation, in 2004, members of the plumbing industry and water utilities combined the MaP Testing and LADWP SPS standards to create the Uniform North American Requirements (UNAR) for Toilet Fixtures: Guidelines and Specifications. UNAR is a voluntary system for qualifying toilet fixtures that achieve sustainable water savings and ensure a high level of customer satisfaction with flushing performance.

In developing this Specification, WaterSense adopted the framework of the UNAR standard while making several significant changes to the water-efficiency and performance criteria. WaterSense estimates that there are currently 68 toilet models on the market that meet the requirements of this specification and would be qualified to apply for and use the WaterSense label.

III. WaterSense Tank-Type High-Efficiency Toilet Specification

Scope

The WaterSense Program developed this Specification to address criteria for improvement and recognition of water-efficient and high-performance tank-type toilets. These toilets are commonly found in residential and light commercial settings and include the standard gravity type found in most homes, pressure assisted, and electrohydraulic assisted toilets. The majority of these fixtures are single flush toilets, toilets with one constant flush volume, though an increasing number of dual flush models are coming to market. Dual flush toilets have two flush volumes—a full flush for solids and a reduced flush for liquids only. WaterSense initially focused on residential toilets because they are the largest water consuming fixture in homes.

Commercial valve-type (a.k.a., flushometer valve) toilets were excluded from this specification because of their differing design, patterns of use, and performance expectations. Commercial valve-type toilets are tankless, relying on water pressure controlled by flushing valves to remove waste rather than gravity. Because of the fundamental difference in design, a different set of technical requirements is needed. Commercial valve-type toilets also have a different pattern of use than residential or light commercial tank-type toilets and will likely require different performance specifications. For example, the test media needing to be cleared by a commercial valve-type toilet may need to include a paper toilet seat cover and potentially more paper. If WaterSense decides to address this type of toilet, it will do so under a separate specification at a later time.

Water Efficiency Criteria

The water-efficiency component of the Specification establishes a maximum effective flush volume of 1.28 gpf for all HETs. This value represents a 20 percent reduction from the current



1.6 gpf standard and is consistent with WaterSense's stated goal of increasing product efficiency by at least 20 percent. Under this Specification, there are two ways by which an HET can meet the effective flush volume criteria:

- Single flush toilet must use 1.28 gpf or less; or
- Dual flush toilets must have a full flush no more than 1.6 gpf and a reduced flush no more than 1.1 gpf. Field studies indicate that in actual use such toilets will flush 1.28 gpf or less, on average.

Performance Criteria

In light of the history of poor performance and user dissatisfaction with several of the early 1.6 gpf ultra-low flush (ULF) toilets in the early 1990's, WaterSense wanted to ensure that WaterSense labeled HETs consistently perform at a high level and meet or exceed user expectations. The Flush Performance Criteria (Section 4.0) of the Specification ensures this level of performance and is based on the UNAR standard, with two key differences. First, the WaterSense specification increased the mass of the soy bean paste test media from 250 grams to 350 grams. WaterSense decided to make the Specification more rigorous in order to establish a higher level of performance for HETs and ensure customer satisfaction with these products.

Second, WaterSense also decided to switch from cased media, as used in UNAR, to an uncased media. Several manufacturers reported variability in test results when using cased media and expressed concern over the sample reliability. In addition, the primary justification for using cased media—reusability to save time and reduce costs—while important requirements in a research and development mode when many repeated tests are performed, were not as critical in regards to this HET specification, as a maximum of only five tests are required. The uncased media provides a more realistic sample and has a more established testing track record. For these reasons, WaterSense adopted the use of uncased media.

Potential Water Savings

The 222 million residential toilets in use today are a mix of the current standard 1.6 gpf fixtures and older, pre-1992 models. Water consumption in these older models range from 3.5 gpf to more than 5.0 gpf, depending on age and model. Table 1 provides a breakdown of the mix of the existing toilet stock.

To estimate the potential water savings impact of HETs, WaterSense assumed that the average person flushes 5.1 times per day at home.⁴ With an estimated population of 296 million people in the United States and 222 million residential toilets in use, this equates to 6.8 flushes/toilet/day (see Calculation 1). Assuming that 10 percent of the existing 222 million toilets in the United States could reasonably be expected to be replaced with WaterSense labeled HETs, the total daily savings potential is approximately 246 million gallons per day (see Table 1 and Calculation 2). This equates to more than 89.7 billion gallons each year (see Calculation 3).

Calculation 1. Average Daily Flushes per Toilet

⁴ Peter W. Mayer and William B. DeOreo. *Residential End Uses of Water*. Aquacraft, Inc. Water Engineering and Management. American Water Works Association. 1998. p. 94.



WaterSense® Tank-Type High-Efficiency Toilet Specification
Supporting Statement

$(5.1 \text{ flushes/person/day})(2.96 \times 10^8 \text{ people}) / (2.22 \times 10^8 \text{ toilets}) = 6.8 \text{ flushes/toilet/day}$

Table 1. Number of Toilets by Flush Volume and Potential Savings⁵

GPF	# of toilets (millions)	# of toilets replaced given 10% replacement of existing fixtures (millions)	Savings per flush by switching to 1.28 HET (gpf)
5.0	67	6.7	3.72
3.5	33	3.3	2.22
1.6	122	12.2	0.32
Total	222	22.2	—

*Calculation 2. Total Daily Savings
(If 10% of all existing toilets replaced with 1.28 gpf HET)*

5.0 gpf: $(6.7 \times 10^6 \text{ toilets}) (3.72 \text{ gpf}) (6.8 \text{ flushes/toilet/day}) = 169,483,200 \text{ gallons/day}$
 3.5 gpf: $(3.3 \times 10^6 \text{ toilets}) (2.22 \text{ gpf}) (6.8 \text{ flushes/toilet/day}) = 49,816,800 \text{ gallons/day}$
 1.6 gpf: $(12.2 \times 10^6 \text{ toilets}) (0.32 \text{ gpf}) (6.8 \text{ flushes/toilet/day}) = 26,547,200 \text{ gallons/day}$
 Total Daily Savings 245,847,200 gallons/day

Calculation 3. Total Annual Savings

$(245,847,200 \text{ gallons/day}) (365 \text{ days/year}) = 89,734,228,000 \text{ gallons/year}$
 89.7 billion gallons/year

⁵ Plumbing Fixtures market Overview: Water Savings Potential for Residential and Commercial Toilet and Urinals. D&R International. September 30, 2005

Exhibit JJC 29-6

Chattanooga DP04 Selected Housing Characteristics: 1 Year Estimates

**U.S. Census Bureau, 2010 American
Community Survey**

ARIZON
NEW MEXICO

OKLAHOMA

ARKANSAS

TENNESSEE

NORTH CAROLINA

SOUTH CAROLINA

DP04

SELECTED HOUSING CHARACTERISTICS

2010 American Community Survey 1-Year Estimates

Supporting documentation on code lists, subject definitions, data accuracy, and statistical testing can be found on the American Community Survey website in the Data and Documentation section.

Sample size and data quality measures (including coverage rates, allocation rates, and response rates) can be found on the American Community Survey website in the Methodology section.

Although the American Community Survey (ACS) produces population, demographic and housing unit estimates, for 2010, the 2010 Census provides the official counts of the population and housing units for the nation, states, counties, cities and towns.

Subject	Chattanooga city, Tennessee			
	Estimate	Estimate Margin of Error	Percent	Percent Margin of Error
HOUSING OCCUPANCY				
Total housing units	81,046	+/-2,221	81,046	(X)
Occupied housing units	71,098	+/-2,066	87.7%	+/-1.9
Vacant housing units	9,948	+/-1,693	12.3%	+/-1.9
Homeowner vacancy rate	2.8	+/-1.4	(X)	(X)
Rental vacancy rate	6.9	+/-2.7	(X)	(X)
UNITS IN STRUCTURE				
Total housing units	81,046	+/-2,221	81,046	(X)
1-unit, detached	47,873	+/-2,713	59.1%	+/-3.1
1-unit, attached	3,775	+/-874	4.7%	+/-1.1
2 units	6,096	+/-1,228	7.5%	+/-1.5
3 or 4 units	2,286	+/-892	2.8%	+/-1.1
5 to 9 units	4,269	+/-1,222	5.3%	+/-1.5
10 to 19 units	7,197	+/-1,590	8.9%	+/-1.9
20 or more units	8,397	+/-1,660	10.4%	+/-2.0
Mobile home	1,153	+/-600	1.4%	+/-0.7
Boat, RV, van, etc.	0	+/-287	0.0%	+/-0.2
YEAR STRUCTURE BUILT				
Total housing units	81,046	+/-2,221	81,046	(X)
Built 2005 or later	5,732	+/-1,264	7.1%	+/-1.5
Built 2000 to 2004	6,149	+/-1,254	7.6%	+/-1.5
Built 1990 to 1999	6,727	+/-1,291	8.3%	+/-1.6
Built 1980 to 1989	9,266	+/-1,904	11.4%	+/-2.2
Built 1970 to 1979	10,628	+/-1,452	13.1%	+/-1.8
Built 1960 to 1969	12,863	+/-1,786	15.9%	+/-2.1
Built 1950 to 1959	10,773	+/-1,600	13.3%	+/-2.0
Built 1940 to 1949	4,435	+/-1,067	5.5%	+/-1.3
Built 1939 or earlier	14,473	+/-1,466	17.9%	+/-1.8
ROOMS				
Total housing units	81,046	+/-2,221	81,046	(X)
1 room	2,384	+/-1,046	2.9%	+/-1.3
2 rooms	2,214	+/-895	2.7%	+/-1.1
3 rooms	9,056	+/-1,913	11.2%	+/-2.4
4 rooms	15,319	+/-2,105	18.9%	+/-2.5
5 rooms	16,683	+/-1,938	20.6%	+/-2.3
6 rooms	14,690	+/-2,328	18.1%	+/-2.8

Subject	Chattanooga city, Tennessee			
	Estimate	Estimate Margin of Error	Percent Margin of Error	Percent Margin of Error
7 rooms	9,479	+/-1,511	11.7%	+/-1.8
8 rooms	3,887	+/-785	4.8%	+/-1.0
9 rooms or more	7,334	+/-1,132	9.0%	+/-1.4
Median rooms	5.2	+/-0.2	(X)	(X)
BEDROOMS				
Total housing units	81,046	+/-2,221	81,046	(X)
No bedroom	2,434	+/-1,010	3.0%	+/-1.2
1 bedroom	10,293	+/-2,065	12.7%	+/-2.5
2 bedrooms	27,794	+/-2,474	34.3%	+/-3.0
3 bedrooms	29,786	+/-2,719	36.8%	+/-3.1
4 bedrooms	8,679	+/-1,333	10.7%	+/-1.6
5 or more bedrooms	2,060	+/-652	2.5%	+/-0.8
HOUSING TENURE				
Occupied housing units	71,098	+/-2,066	71,098	(X)
Owner-occupied	38,092	+/-2,315	53.6%	+/-3.0
Renter-occupied	33,006	+/-2,455	46.4%	+/-3.0
Average household size of owner-occupied unit	2.21	+/-0.09	(X)	(X)
Average household size of renter-occupied unit	2.39	+/-0.13	(X)	(X)
YEAR HOUSEHOLDER MOVED INTO UNIT				
Occupied housing units	71,098	+/-2,066	71,098	(X)
Moved in 2005 or later	37,623	+/-2,365	52.9%	+/-3.1
Moved in 2000 to 2004	9,244	+/-1,493	13.0%	+/-2.0
Moved in 1990 to 1999	10,168	+/-1,599	14.3%	+/-2.2
Moved in 1980 to 1989	5,430	+/-1,188	7.6%	+/-1.7
Moved in 1970 to 1979	3,691	+/-948	5.2%	+/-1.4
Moved in 1969 or earlier	4,942	+/-972	7.0%	+/-1.3
VEHICLES AVAILABLE				
Occupied housing units	71,098	+/-2,066	71,098	(X)
No vehicles available	8,779	+/-1,506	12.3%	+/-2.1
1 vehicle available	27,053	+/-2,231	38.1%	+/-2.9
2 vehicles available	24,491	+/-2,134	34.4%	+/-3.0
3 or more vehicles available	10,775	+/-1,655	15.2%	+/-2.2
HOUSE HEATING FUEL				
Occupied housing units	71,098	+/-2,066	71,098	(X)
Utility gas	19,729	+/-1,887	27.7%	+/-2.7
Bottled, tank, or LP gas	887	+/-468	1.2%	+/-0.7
Electricity	49,178	+/-2,732	69.2%	+/-2.9
Fuel oil, kerosene, etc.	630	+/-376	0.9%	+/-0.5
Coal or coke	0	+/-287	0.0%	+/-0.3
Wood	276	+/-256	0.4%	+/-0.4
Solar energy	0	+/-287	0.0%	+/-0.3
Other fuel	195	+/-169	0.3%	+/-0.2
No fuel used	203	+/-216	0.3%	+/-0.3
SELECTED CHARACTERISTICS				
Occupied housing units	71,098	+/-2,066	71,098	(X)
Lacking complete plumbing facilities	390	+/-369	0.5%	+/-0.5
Lacking complete kitchen facilities	1,538	+/-852	2.2%	+/-1.2
No telephone service available	3,151	+/-1,112	4.4%	+/-1.6
OCCUPANTS PER ROOM				
Occupied housing units	71,098	+/-2,066	71,098	(X)
1.00 or less	68,826	+/-2,305	96.8%	+/-1.2
1.01 to 1.50	1,657	+/-800	2.3%	+/-1.1
1.51 or more	615	+/-457	0.9%	+/-0.6
VALUE				
Owner-occupied units	38,092	+/-2,315	38,092	(X)
Less than \$50,000	2,519	+/-719	6.6%	+/-2.0
\$50,000 to \$99,999	8,793	+/-1,394	23.1%	+/-3.3
\$100,000 to \$149,999	10,760	+/-1,496	28.2%	+/-3.7
\$150,000 to \$199,999	7,489	+/-1,338	19.7%	+/-3.0

Subject	Chattanooga city, Tennessee			
	Estimate	Estimate Margin of Error	Percent Margin of Error	Percent Margin of Error
\$200,000 to \$299,999	4,354	+/-1,072	11.4%	+/-2.7
\$300,000 to \$499,999	2,953	+/-754	7.8%	+/-2.0
\$500,000 to \$999,999	998	+/-456	2.6%	+/-1.2
\$1,000,000 or more	226	+/-192	0.6%	+/-0.5
Median (dollars)	135,700	+/-6,699	(X)	(X)
MORTGAGE STATUS				
Owner-occupied units	38,092	+/-2,315	38,092	(X)
Housing units with a mortgage	23,223	+/-2,272	61.0%	+/-4.1
Housing units without a mortgage	14,869	+/-1,666	39.0%	+/-4.1
SELECTED MONTHLY OWNER COSTS (SMOC)				
Housing units with a mortgage	23,223	+/-2,272	23,223	(X)
Less than \$300	0	+/-287	0.0%	+/-0.8
\$300 to \$499	484	+/-329	2.1%	+/-1.4
\$500 to \$699	1,652	+/-655	7.1%	+/-2.8
\$700 to \$999	7,201	+/-1,445	31.0%	+/-5.3
\$1,000 to \$1,499	8,079	+/-1,586	34.8%	+/-5.1
\$1,500 to \$1,999	3,510	+/-862	15.1%	+/-3.7
\$2,000 or more	2,297	+/-685	9.9%	+/-2.9
Median (dollars)	1,122	+/-64	(X)	(X)
Housing units without a mortgage	14,869	+/-1,666	14,869	(X)
Less than \$100	87	+/-102	0.6%	+/-0.7
\$100 to \$199	644	+/-340	4.3%	+/-2.3
\$200 to \$299	3,219	+/-936	21.6%	+/-5.8
\$300 to \$399	4,533	+/-945	30.5%	+/-5.6
\$400 or more	6,386	+/-1,290	42.9%	+/-6.3
Median (dollars)	379	+/-18	(X)	(X)
SELECTED MONTHLY OWNER COSTS AS A PERCENTAGE OF HOUSEHOLD INCOME (SMOCAPI)				
Housing units with a mortgage (excluding units where SMOCAPI cannot be computed)	23,223	+/-2,272	23,223	(X)
Less than 20.0 percent	8,201	+/-1,455	35.3%	+/-5.5
20.0 to 24.9 percent	4,096	+/-998	17.6%	+/-3.6
25.0 to 29.9 percent	2,260	+/-1,033	9.7%	+/-4.3
30.0 to 34.9 percent	2,660	+/-907	11.5%	+/-3.9
35.0 percent or more	6,006	+/-1,280	25.9%	+/-4.7
Not computed	0	+/-287	(X)	(X)
Housing unit without a mortgage (excluding units where SMOCAPI cannot be computed)	14,668	+/-1,662	14,668	(X)
Less than 10.0 percent	5,006	+/-900	34.1%	+/-4.8
10.0 to 14.9 percent	3,811	+/-1,042	26.0%	+/-6.5
15.0 to 19.9 percent	1,835	+/-666	12.5%	+/-4.3
20.0 to 24.9 percent	1,011	+/-644	6.9%	+/-4.2
25.0 to 29.9 percent	726	+/-374	4.9%	+/-2.7
30.0 to 34.9 percent	512	+/-336	3.5%	+/-2.3
35.0 percent or more	1,767	+/-678	12.0%	+/-4.5
Not computed	201	+/-212	(X)	(X)
GROSS RENT				
Occupied units paying rent	31,088	+/-2,391	31,088	(X)
Less than \$200	2,071	+/-661	6.7%	+/-2.1
\$200 to \$299	1,472	+/-727	4.7%	+/-2.3
\$300 to \$499	4,032	+/-1,070	13.0%	+/-3.1
\$500 to \$749	11,220	+/-1,719	36.1%	+/-5.3
\$750 to \$999	8,412	+/-1,744	27.1%	+/-4.9
\$1,000 to \$1,499	3,094	+/-922	10.0%	+/-3.0
\$1,500 or more	787	+/-393	2.5%	+/-1.3
Median (dollars)	681	+/-19	(X)	(X)
No rent paid	1,918	+/-637	(X)	(X)
GROSS RENT AS A PERCENTAGE OF HOUSEHOLD INCOME (GRAPI)				
Occupied units paying rent (excluding units where GRAPI cannot be computed)	29,959	+/-2,322	29,959	(X)

Subject	Chattanooga city, Tennessee			
	Estimate	Estimate Margin of Error	Percent Margin of Error	Percent Margin of Error
Less than 15.0 percent	4,469	+/-1,187	14.9%	+/-3.9
15.0 to 19.9 percent	3,078	+/-947	10.3%	+/-3.1
20.0 to 24.9 percent	3,745	+/-1,071	12.5%	+/-3.4
25.0 to 29.9 percent	4,276	+/-1,136	14.3%	+/-3.5
30.0 to 34.9 percent	2,514	+/-762	8.4%	+/-2.6
35.0 percent or more	11,877	+/-1,942	39.6%	+/-5.3
Not computed	3,047	+/-885	(X)	(X)

Data are based on a sample and are subject to sampling variability. The degree of uncertainty for an estimate arising from sampling variability is represented through the use of a margin of error. The value shown here is the 90 percent margin of error. The margin of error can be interpreted roughly as providing a 90 percent probability that the interval defined by the estimate minus the margin of error and the estimate plus the margin of error (the lower and upper confidence bounds) contains the true value. In addition to sampling variability, the ACS estimates are subject to nonsampling error (for a discussion of nonsampling variability, see Accuracy of the Data). The effect of nonsampling error is not represented in these tables.

The median gross rent excludes no cash renters.

In prior years, the universe included all owner-occupied units with a mortgage. It is now restricted to include only those units where SMOCAPI is computed, that is, SMOC and household income are valid values.

In prior years, the universe included all owner-occupied units without a mortgage. It is now restricted to include only those units where SMOCAPI is computed, that is, SMOC and household income are valid values.

In prior years, the universe included all renter-occupied units. It is now restricted to include only those units where GRAPI is computed, that is, gross rent and household Income are valid values.

The 2009 and 2010 plumbing data for Puerto Rico will not be shown. Research indicates that the questions on plumbing facilities that were introduced in 2008 in the stateside American Community Survey and the 2008 Puerto Rico Community Survey may not have been appropriate for Puerto Rico.

While the 2010 American Community Survey (ACS) data generally reflect the December 2009 Office of Management and Budget (OMB) definitions of metropolitan and micropolitan statistical areas; in certain instances the names, codes, and boundaries of the principal cities shown in ACS tables may differ from the OMB definitions due to differences in the effective dates of the geographic entities.

Estimates of urban and rural population, housing units, and characteristics reflect boundaries of urban areas defined based on Census 2000 data. Boundaries for urban areas have not been updated since Census 2000. As a result, data for urban and rural areas from the ACS do not necessarily reflect the results of ongoing urbanization.

Source: U.S. Census Bureau, 2010 American Community Survey

Explanation of Symbols:

1. An '***' entry in the margin of error column indicates that either no sample observations or too few sample observations were available to compute a standard error and thus the margin of error. A statistical test is not appropriate.
2. An '-' entry in the estimate column indicates that either no sample observations or too few sample observations were available to compute an estimate, or a ratio of medians cannot be calculated because one or both of the median estimates falls in the lowest interval or upper interval of an open-ended distribution.
3. An '-' following a median estimate means the median falls in the lowest interval of an open-ended distribution.
4. An '+' following a median estimate means the median falls in the upper interval of an open-ended distribution.
5. An '****' entry in the margin of error column indicates that the median falls in the lowest interval or upper interval of an open-ended distribution. A statistical test is not appropriate.
6. An '*****' entry in the margin of error column indicates that the estimate is controlled. A statistical test for sampling variability is not appropriate.
7. An 'N' entry in the estimate and margin of error columns indicates that data for this geographic area cannot be displayed because the number of sample cases is too small.
8. An '(X)' means that the estimate is not applicable or not available.

**TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 12-00049
FIRST DISCOVERY REQUEST OF THE
TENNESSEE REGULATORY AUTHORITY**

Responsible Witness: James J. Chelius

Question:

30. Provide the data used to create Exhibits JJC-2a, JJC-2b, JJC-3a and JJC-3b contained in the Direct Testimony of James Chelius in an excel spreadsheet. Sales data should be broken into separate variables for usage and customer count. Data should be provided for each month in the time period used for the residential and commercial customer classes, respectively. If data is available on a monthly basis for a time periods longer than those used in the testimony, it should be provided in the spreadsheet.

Response:

The requested spreadsheets are provided in two separate Microsoft Excel files. They are named as follows: names:

Residential data and analysis (Exhibits JJC-2a and JJC-3a)

- TAW_R_TRADR1#30Attachment

Commercial data and analysis (Exhibits JJC-2b and JJC-3b)

- TAW_R_TRADR1#30Attachment

Available data for time periods longer than those used in the testimony have been added as requested.

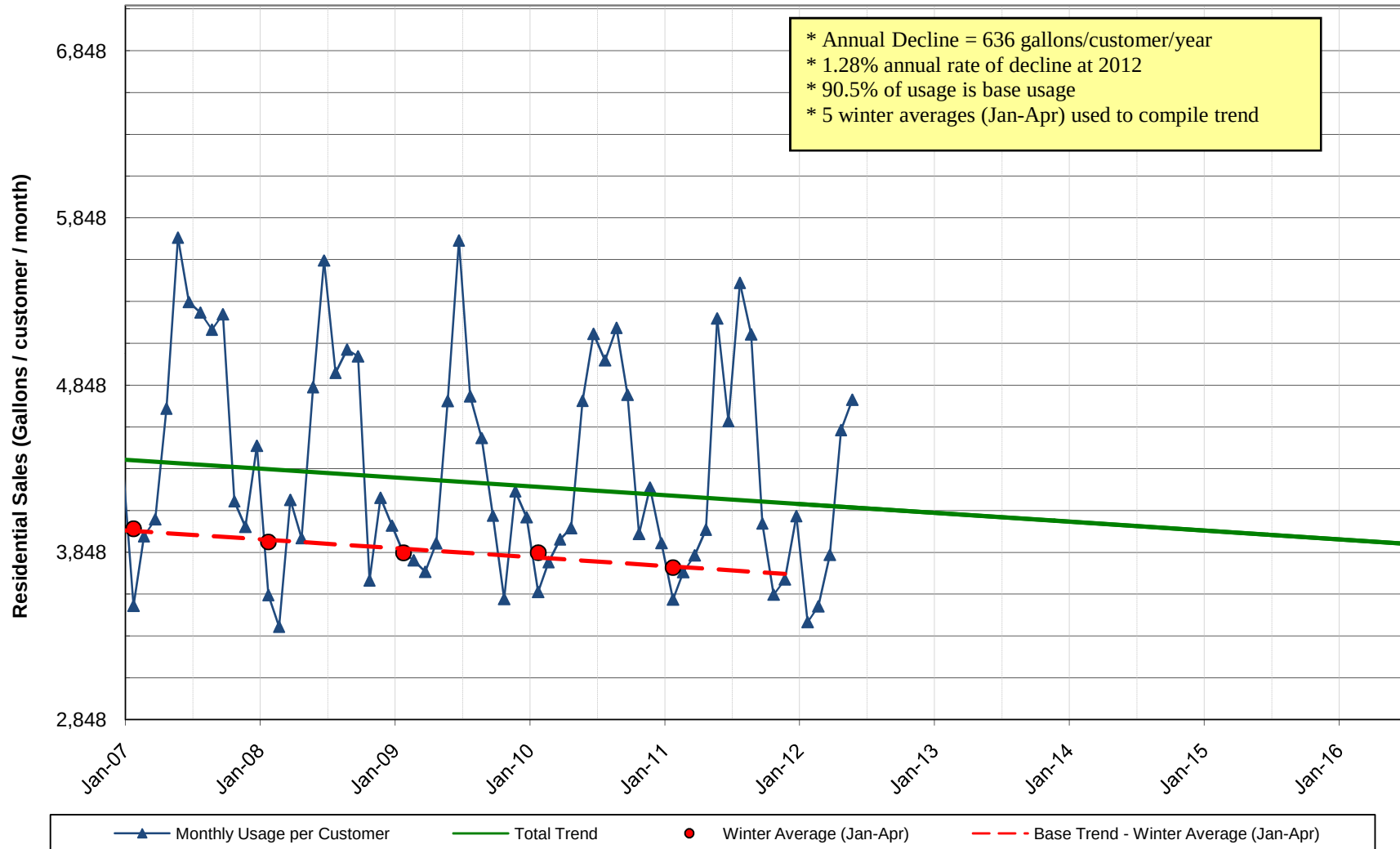
CHATTANOOGA, TENNESSEE AMERICAN WATER Residential Customer and Consumption Data January 2002 - December 2011					4-MONTH WINTER JANUARY - APRIL				
					Winter Avg. Mo. Usage Per Cust. (JAN- APR)	10-YEAR		5-YEAR	
						Trendline 2002-2011	% Base 90.5%	Trendline 2007-2011	% Base 90.5%
DATE	Day	USAGE (KGAL)	# Cust.	Mo. Usage per cust.		Non-Base Usage (gal/cust/mo) 424.75		Non-Base Usage (gal/cust/mo) 424.75	
Jan-90	32874	312,480	57,882						
Feb-90	32905	271,595	57,802						
Mar-90	32933	264,694	57,796						
Apr-90	32964	266,649	57,935						
May-90	32994	278,710	57,740						
Jun-90	33025	293,844	57,686						
Jul-90	33055	333,517	57,732						
Aug-90	33086	328,493	57,826						
Sep-90	33117	330,770	57,744						
Oct-90	33147	293,583	57,778						
Nov-90	33178	263,633	57,737						
Dec-90	33208	279,729	57,636						
Jan-91	33239	275,777	57,600						
Feb-91	33270	266,152	58,180						
Mar-91	33298	255,228	55,705						
Apr-91	33329	262,343	57,501						
May-91	33359	275,379	57,683						
Jun-91	33390	290,401	57,652						
Jul-91	33420	294,321	57,703						
Aug-91	33451	306,015	57,731						
Sep-91	33482	315,690	57,800						
Oct-91	33512	294,011	57,787						
Nov-91	33543	283,936	57,849						
Dec-91	33573	277,791	57,765						
Jan-92	33604	276,517	57,726						
Feb-92	33635	266,510	57,661						
Mar-92	33664	261,108	57,737						
Apr-92	33695	257,234	57,836						
May-92	33725	283,729	57,898						
Jun-92	33756	295,837	58,027						
Jul-92	33786	296,417	57,998						
Aug-92	33817	305,014	58,034						
Sep-92	33848	300,121	58,107						
Oct-92	33878	272,354	58,230						
Nov-92	33909	261,920	58,213						
Dec-92	33939	273,971	58,289						
Jan-93	33970	288,382	59,216						
Feb-93	34001	263,465	59,381						
Mar-93	34029	259,755	59,334						
Apr-93	34060	266,594	59,446						
May-93	34090	278,395	59,584						
Jun-93	34121	299,469	59,821						
Jul-93	34151	326,953	59,735						
Aug-93	34182	352,211	59,940						
Sep-93	34213	341,978	59,939						
Oct-93	34243	315,774	59,842						
Nov-93	34274	286,234	59,903						
Dec-93	34304	285,382	59,819						
Jan-94	34335	284,842	59,610						
Feb-94	34366	302,682	59,615						
Mar-94	34394	266,634	59,834						
Apr-94	34425	271,806	59,672						
May-94	34455	277,227	59,737						
Jun-94	34486	312,611	60,120						
Jul-94	34516	314,271	59,973						
Aug-94	34547	298,733	60,219						
Sep-94	34578	298,259	60,170						
Oct-94	34608	288,879	60,149						
Nov-94	34639	264,195	60,212						
Dec-94	34669	284,022	60,185						
Jan-95	34700	281,862	60,024						
Feb-95	34731	272,400	59,997						
Mar-95	34759	272,414	60,316						
Apr-95	34790	279,351	60,079						
May-95	34820	306,169	60,501						
Jun-95	34851	316,018	60,708						
Jul-95	34881	331,175	60,584						
Aug-95	34912	337,721	60,744						
Sep-95	34943	320,145	60,581						
Oct-95	34973	286,483	60,654						
Nov-95	35004	273,249	60,549						
Dec-95	35034	281,173	60,427						
Jan-96	35065	289,909	60,350						
Feb-96	35096	283,941	60,294						
Mar-96	35125	279,757	60,386						
Apr-96	35156	270,533	60,377						
May-96	35186	277,695	60,520						
Jun-96	35217	322,257	60,482						
Jul-96	35247	354,832	60,667						
Aug-96	35278	344,850	60,860						
Sep-96	35309	309,126	60,590						
Oct-96	35339	282,748	60,708						
Nov-96	35370	267,356	60,327						
Dec-96	35400	281,345	60,403						
Jan-97	35431	287,768	59,364						
Feb-97	35462	270,259	59,442						
Mar-97	35490	262,768	59,524						
Apr-97	35521	277,848	59,508						
May-97	35551	272,416	59,675						
Jun-97	35582	295,823	59,686						
Jul-97	35612	315,683	59,735						
Aug-97	35643	326,591	59,794						
Sep-97	35674	330,396	59,747						
Oct-97	35704	308,000	59,779						
Nov-97	35735	273,182	59,696						
Dec-97	35765	270,494	59,570						
Jan-98	35796	281,221	59,599						
Feb-98	35827	247,909	59,602						
Mar-98	35855	257,965	59,584						
Apr-98	35886	268,664	59,701						
May-98	35916	272,700	59,686						
Jun-98	35947	327,461	59,766						
Jul-98	35977	350,198	59,785						
Aug-98	36008	327,417	59,826						
Sep-98	36039	344,502	59,772						
Oct-98	36069	332,448	59,788						
Nov-98	36100	296,779	59,784						
Dec-98	36130	273,941	59,784						
Jan-99	36161	281,515	59,981						
Feb-99	36192	256,142	59,961						
Mar-99	36220	253,050	60,064						
Apr-99	36251	267,729	59,836						
May-99	36281	278,827	60,191						
Jun-99	36312	307,846	60,292						
Jul-99	36342	321,992	60,360						
Aug-99	36373	334,612	60,278						
Sep-99	36404	363,352	60,243						
Oct-99	36434	326,374	60,271						
Nov-99	36465	277,674	60,208						
Dec-99	36495	277,239	60,141						
Jan-00	36526	276,660	60,018						
Feb-00	36557	248,183	60,211						
Mar-00	36586	256,428	60,215						
Apr-00	36617	259,295	60,314						
May-00	36647	285,109	60,269						
Jun-00	36678	317,885	60,517						
Jul-00	36708	341,395	60,462						
Aug-00	36739	344,073	60,478						
Sep-00	36770	319,280	60,508						
Oct-00	36800	291,601	60,406						
Nov-00	36831	285,476	60,291						
Dec-00	36861	267,928	60,242						
Jan-01	36892	285,034	60,232						
Feb-01	36923	247,192	60,288						
Mar-01	36951	253,333	60,322						
Apr-01	36982	256,888	60,323						
May-01	37012	285,492	60,383						
Jun-01	37043	303,657	60,468						
Jul-01	37073	316,063	60,511						
Aug-01	37104	303,945	60,538						
Sep-01	37135	302,065	60,523						
Oct-01	37165	284,439	60,323						
Nov-01	37196	276,669	60,186						

Chattanooga, TN American Water
Residential Sales Per Customer
(5-Year Winter Trend)

Exhibit JJC- 1a

$$y = -0.145x + 9,645.231$$
$$R^2 = 0.939$$

- * Annual Decline = 636 gallons/customer/year
- * 1.28% annual rate of decline at 2012
- * 90.5% of usage is base usage
- * 5 winter averages (Jan-Apr) used to compile trend



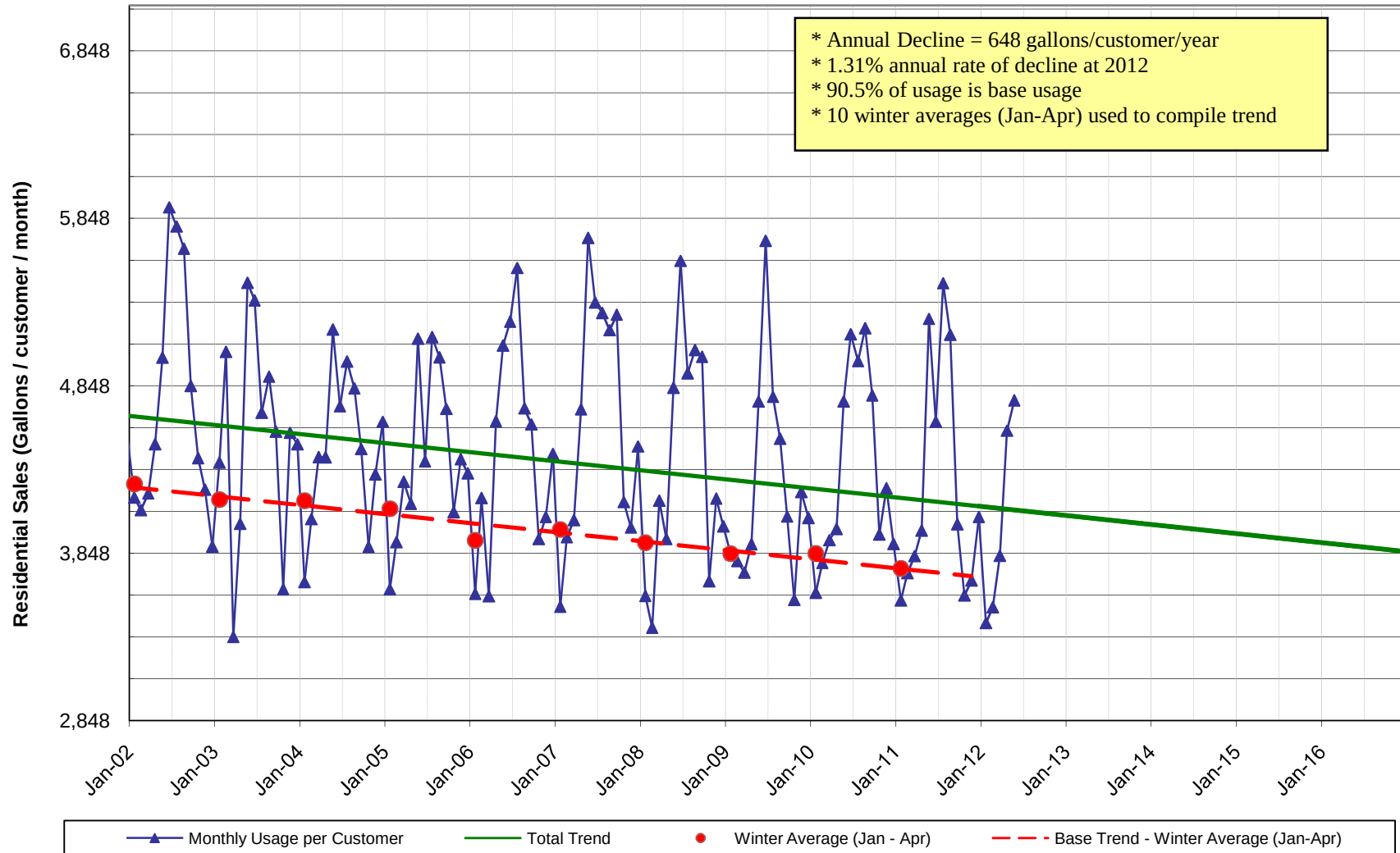
Chattanooga, TN American Water Residential Sales Per Customer (10-Year Winter Trend)

Exhibit JJC-2a

$$y = -0.148x + 9,757.785$$

$$R^2 = 0.942$$

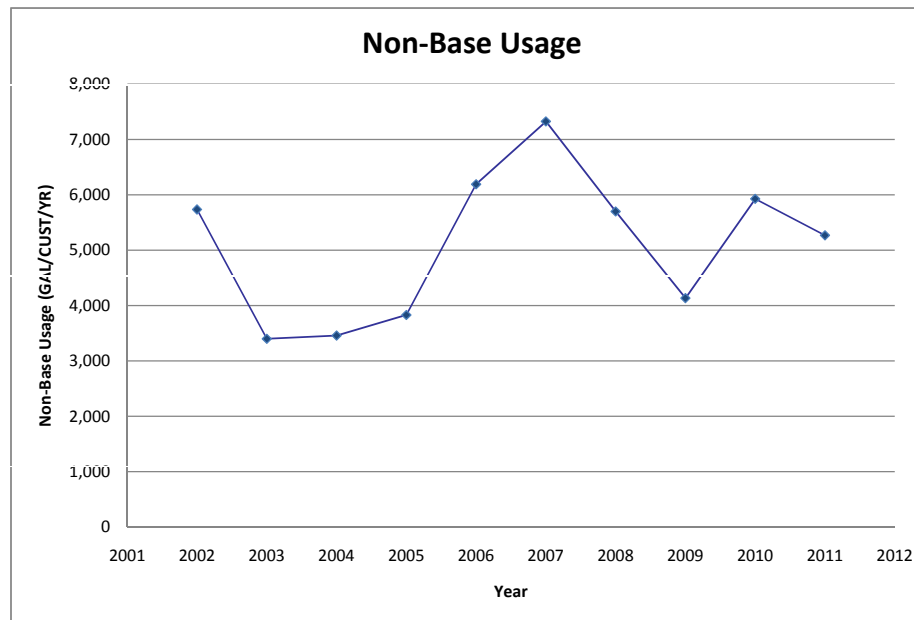
- * Annual Decline = 648 gallons/customer/year
- * 1.31% annual rate of decline at 2012
- * 90.5% of usage is base usage
- * 10 winter averages (Jan-Apr) used to compile trend



Calculation of Percentage of Usage that is Base Usage for the Residential Sector

Exhibit JJC- 3a

	Basis of Calc.	Unit	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	10-YR AVG
CHATTANOOGA, TENNESSEE													
Winter Residential Usage	Jan-Apr	KGAL	1,028,057	1,007,763	1,016,993	1,015,354	981,985	1,016,214	1,004,269	987,229	985,956	967,156	
Winter Residential Usage Per Day	Divide by 120 or 121	KGAL/DAY	8,567	8,398	8,405	8,461	8,183	8,468	8,300	8,227	8,216	8,060	
Annual Base Residential Usage	Multiply by 365 or 366	KGAL	3,127,007	3,065,279	3,076,194	3,088,368	2,986,871	3,090,984	3,037,706	3,002,822	2,998,950	2,941,766	
Total Annual Residential Usage	Jan-Dec		3,474,461	3,272,271	3,289,599	3,327,439	3,379,249	3,560,925	3,405,336	3,268,218	3,382,019	3,282,711	
Percent Base Residential Usage		%	90.0%	93.7%	93.5%	92.8%	88.4%	86.8%	89.2%	91.9%	88.7%	89.6%	90.5%
Annual Non-Base Residential Usage		KGAL	347,454	206,992	213,405	239,071	392,378	469,941	367,630	265,396	383,070	340,945	
Average Number of Customers	May - Nov		60,575	60,887	61,721	62,431	63,373	64,149	64,505	64,196	64,630	64,722	
Non-Base Usage	May - Nov	GAL/CUST/YR	5,736	3,400	3,458	3,829	6,192	7,326	5,699	4,134	5,927	5,268	5,097



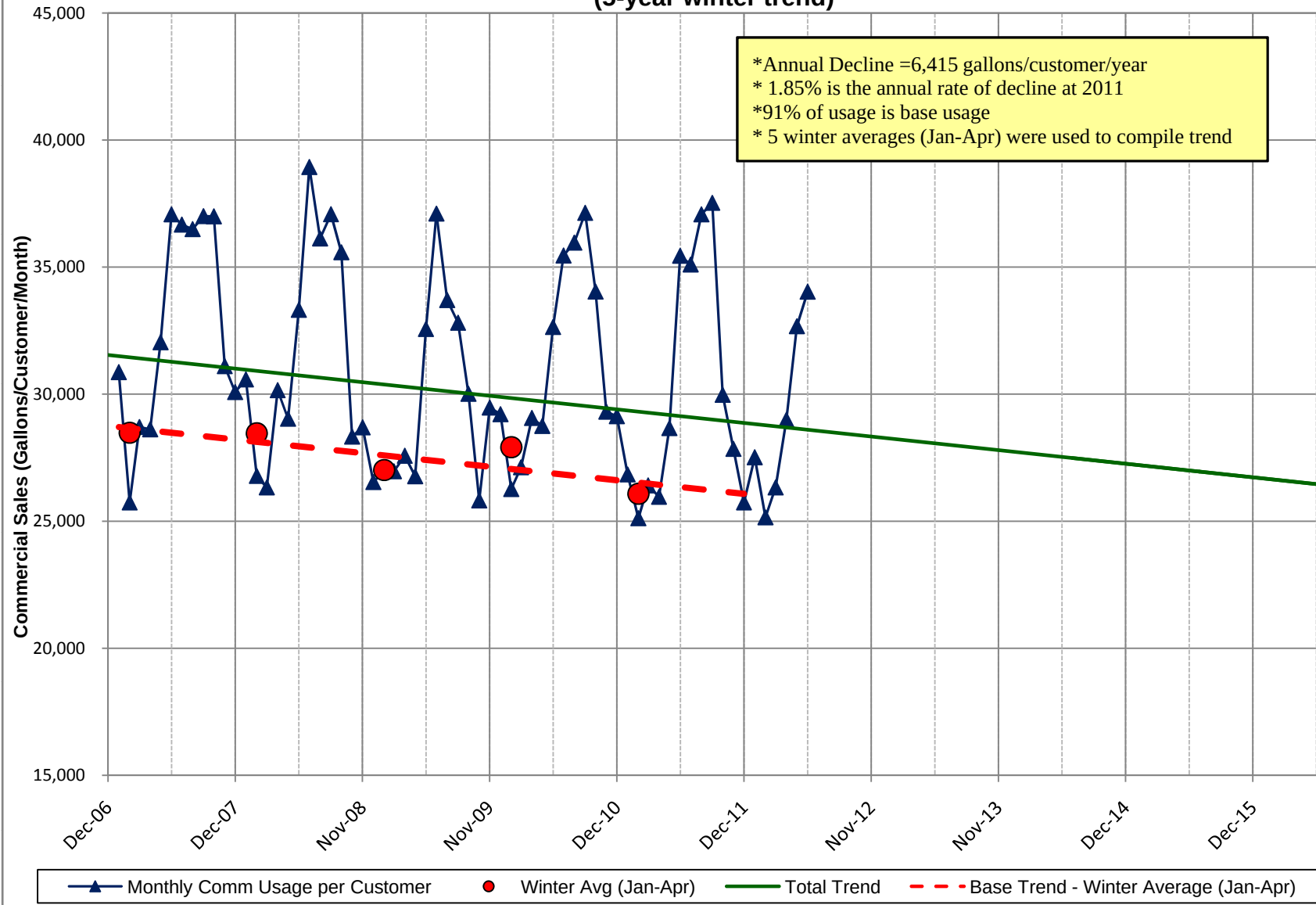
CHATTANOOGA, TENNESSEE AMERICAN WATER Commercial Customer and Consumption Data January 2002 - June 2011					4-MONTH WINTER JANUARY - APRIL				
					Winter Avg. Mo. Usage Per Cust. (JAN - APR)	10-YEAR		5-YEAR	
						Trendline 2002-2011	% Base 91.1%	Trendline 2006-2011	% Base 91.1%
DATE	Day	USAGE (KGAL)	# Cust.	Mo. Usage per cust.		Non-Base Usage (gal/cust/mo) 2,790.92		Non-Base Usage (gal/cust/mo) 2,790.92	
Jan-02	37,257	237,384	7,918	29,980	28,754	30,162	$y = -0.9295x + 64792$ $R^2 = 0.3074$		
Feb-02	37,288	220,641	7,934	27,810		30,133			
Mar-02	37,316	221,638	7,983	27,764		30,107			
Apr-02	37,347	236,201	8,017	29,463		30,078			
May-02	37,377	247,253	8,032	30,783		30,050			
Jun-02	37,408	331,456	8,084	41,001		30,021			
Jul-02	37,438	257,534	8,109	31,759		29,993			
Aug-02	37,469	305,586	8,137	37,555		29,965			
Sep-02	37,500	301,621	8,209	36,743		29,936			
Oct-02	37,530	274,885	8,213	33,469		29,908			
Nov-02	37,561	253,521	8,189	30,959		29,879			
Dec-02	37,591	233,487	8,192	28,502		29,851			
Jan-03	37,622	207,576	8,207	25,293	27,580	29,822			
Feb-03	37,653	205,040	8,244	24,871		29,794			
Mar-03	37,681	280,800	8,275	33,934		29,768			
Apr-03	37,712	218,737	8,342	26,221		29,739			
May-03	37,742	216,574	8,381	25,841		29,711			
Jun-03	37,773	344,664	8,361	41,223		29,682			
Jul-03	37,803	299,972	8,370	35,839		29,654			
Aug-03	37,834	256,573	8,360	30,691		29,625			
Sep-03	37,865	275,079	8,334	33,007		29,596			
Oct-03	37,895	267,545	8,295	32,254		29,569			
Nov-03	37,926	216,293	8,274	26,141		29,540			
Dec-03	37,956	241,305	8,260	29,214		29,512			
Jan-04	37,987	276,894	8,148	33,983	32,193	29,483			
Feb-04	38,018	276,894	8,135	34,037		29,454			
Mar-04	38,047	247,039	8,169	30,241		29,427			
Apr-04	38,078	249,534	8,179	30,509		29,398			
May-04	38,108	244,590	8,202	29,821		29,371			
Jun-04	38,139	296,368	8,242	35,958		29,342			
Jul-04	38,169	278,729	8,254	33,769		29,314			
Aug-04	38,200	299,176	8,254	36,246		29,285			
Sep-04	38,231	293,816	8,221	35,740		29,256			
Oct-04	38,261	322,565	8,214	39,270		29,228			
Nov-04	38,292	263,274	8,191	32,142		29,200			
Dec-04	38,322	248,783	8,189	30,380		29,172			
Jan-05	38,353	309,193	8,148	37,947	31,333	29,143	$y = -1.4646x + 85945$ $R^2 = 0.6707$		
Feb-05	38,384	232,169	8,153	28,477		29,114			
Mar-05	38,412	234,321	8,160	28,716		29,088			
Apr-05	38,443	247,294	8,191	30,191		29,059			
May-05	38,473	270,321	8,188	33,014		29,031			
Jun-05	38,504	284,967	8,223	34,655		29,003			
Jul-05	38,534	281,845	8,221	34,284		28,975			
Aug-05	38,565	290,710	8,233	35,310		28,946			
Sep-05	38,596	300,690	8,244	36,474		28,917			
Oct-05	38,626	280,006	8,234	34,006		28,889			
Nov-05	38,657	262,871	8,219	31,983		28,860			
Dec-05	38,687	246,903	8,208	30,081		28,832			
Jan-06	38,718	247,002	8,178	30,203	28,249	28,804		29,239	
Feb-06	38,749	212,969	8,185	26,019		28,775		29,193	
Mar-06	38,777	257,214	8,155	31,541		28,749		29,152	
Apr-06	38,808	206,542	8,186	25,231		28,720		29,107	
May-06	38,838	292,320	8,186	35,710		28,692		29,063	
Jun-06	38,869	290,413	8,231	35,283		28,663		29,017	
Jul-06	38,899	280,863	8,228	34,135		28,635		28,974	
Aug-06	38,930	322,192	8,234	39,129		28,607		28,928	
Sep-06	38,961	272,617	8,225	33,145		28,578		28,883	
Oct-06	38,991	285,026	8,211	34,713		28,550		28,839	
Nov-06	39,022	230,106	8,191	28,093		28,521		28,793	
Dec-06	39,052	227,225	8,168	27,819		28,493		28,749	
Jan-07	39,083	251,924	8,163	30,862	28,481	28,464		28,704	
Feb-07	39,114	210,348	8,173	25,737		28,436		28,659	
Mar-07	39,142	235,698	8,210	28,709		28,410		28,618	
Apr-07	39,173	235,843	8,242	28,615		28,381		28,572	
May-07	39,203	264,083	8,242	32,041		28,353		28,528	
Jun-07	39,234	307,137	8,284	37,076		28,324		28,483	
Jul-07	39,264	303,212	8,269	36,669		28,296		28,439	
Aug-07	39,295	302,586	8,292	36,491		28,267		28,394	
Sep-07	39,326	307,039	8,297	37,006		28,238		28,348	
Oct-07	39,356	306,989	8,298	36,996		28,211		28,304	
Nov-07	39,387	256,440	8,246	31,099		28,182		28,259	
Dec-07	39,417	247,611	8,232	30,079		28,154		28,215	
Jan-08	39,448	250,852	8,204	30,577	28,461	28,125		28,169	
Feb-08	39,479	219,399	8,192	26,782		28,096		28,124	
Mar-08	39,508	216,745	8,232	26,330		28,069		28,082	
Apr-08	39,539	249,256	8,266	30,154		28,040		28,036	
May-08	39,569	240,409	8,281	29,031		28,013		27,992	
Jun-08	39,600	277,313	8,324	33,315		27,984		27,947	
Jul-08	39,630	324,219	8,327	38,936		27,956		27,903	
Aug-08	39,661	301,254	8,339	36,126		27,927		27,857	
Sep-08	39,692	309,222	8,340	37,077		27,898		27,812	
Oct-08	39,722	296,054	8,320	35,583		27,870		27,768	
Nov-08	39,753	234,683	8,285	28,326		27,842		27,723	
Dec-08	39,783	236,945	8,259	28,689		27,814		27,679	
Jan-09	39,814	218,880	8,248	26,537	27,014	27,785		27,633	
Feb-09	39,845	221,144	8,196	26,982		27,756		27,588	
Mar-09	39,873	219,081	8,125	26,964		27,730		27,547	
Apr-09	39,904	224,995	8,160	27,573		27,701		27,502	
May-09	39,934	218,611	8,167	26,768		27,673		27,458	
Jun-09	39,965	267,226	8,207	32,561		27,645		27,412	
Jul-09	39,995	304,789	8,214	37,106		27,617		27,368	
Aug-09	40,026	277,539	8,236	33,698		27,588		27,323	
Sep-09	40,057	269,389	8,211	32,808		27,559		27,278	
Oct-09	40,087	246,027	8,198	30,011		27,531		27,234	
Nov-09	40,118	210,947	8,172	25,813		27,502		27,188	
Dec-09	40,148	239,487	8,126	29,472		27,474		27,144	
Jan-10	40,179	237,172	8,120	29,208	27,913	27,446		27,099	
Feb-10	40,210	212,482	8,091	26,262		27,417		27,053	
Mar-10	40,238	219,446	8,091	27,122		27,391		27,012	
Apr-10	40,269	235,751	8,113	29,058		27,362		26,967	
May-10	40,299	233,453	8,121	28,747		27,334		26,923	
Jun-10	40,330	265,506	8,134	32,642		27,305		26,878	
Jul-10	40,360	288,201	8,129	35,453		27,277		26,834	
Aug-10	40,391	292,691	8,139	35,962		27,249		26,788	
Sep-10	40,422	302,367	8,143	37,132		27,220		26,743	
Oct-10	40,452	277,742	8,161	34,033		27,192		26,699	
Nov-10	40,483	238,751	8,146	29,309		27,163		26,654	
Dec-10	40,513	236,380	8,115	29,129		27,135		26,610	
Jan-11	40,544	217,574	8,106	26,841	26,080	27,106		26,564	
Feb-11	40,575	203,196	8,091	25,114		27,078		26,519	
Mar-11	40,603	214,877	8,138	26,404		27,052		26,478	
Apr-11	40,634	210,638	8,114	25,960		27,023		26,432	
May-11	40,664	233,214	8,137	28,661		26,995		26,389	
Jun-11	40,695	288,634	8,143	35,446		26,966		26,343	
Jul-11	40,725	285,932	8,146	35,101		26,938		26,299	
Aug-11	40,756	301,814	8,141	37,073		26,909		26,254	
Sep-11	40,787	305,154	8,131	37,530		26,880		26,208	
Oct-11	40,817	243,511	8,125	29,971		26,853		26,164	
Nov-11	40,848	225,905	8,113	27,845		26,824		26,119	
Dec-11	40,878	208,785	8,112	25,738		26,796		26,075	
Jan-12	40,909	223,028	8,106	27,514					
Feb-12	40,940	203,933	8,108	25,152					
Mar-12	40,969	214,209	8,137	26,325					
Apr-12	41,000	236,524	8,159	28,989					
May-12	41,030	267,751	8,195	32,672					
Jun-12	41,061	278,543	8,185	34,031					
12/31/2011	40,908	(Base) + (10-yr Avg Non-Base) 12/31/2011:			WINTER (BASE)	TOTAL TREND PROJ.	WINTER (BASE)	TOTAL:	
11/30/2013	41,608				26,768	29,559	26,031	28,822	
7/1/2014	41,821				26,117	28,908	25,006	27,797	
7/1/2015	42,186				25,919	28,710	24,694	27,485	
7/1/2016	42,552				25,580	28,371	24,159	26,950	
7/1/2017	42,917				25,240	28,031	23,623	26,414	
					24,901	27,692	23,089	25,880	
					(339) [gal/cust/month]		(535) [gal/cust/month]		

Chattanooga, TN American Water Commercial Sales per Customer (5-year winter trend)

Exhibit JJC- 2b

$$y = -1.465x + 85,944.685$$

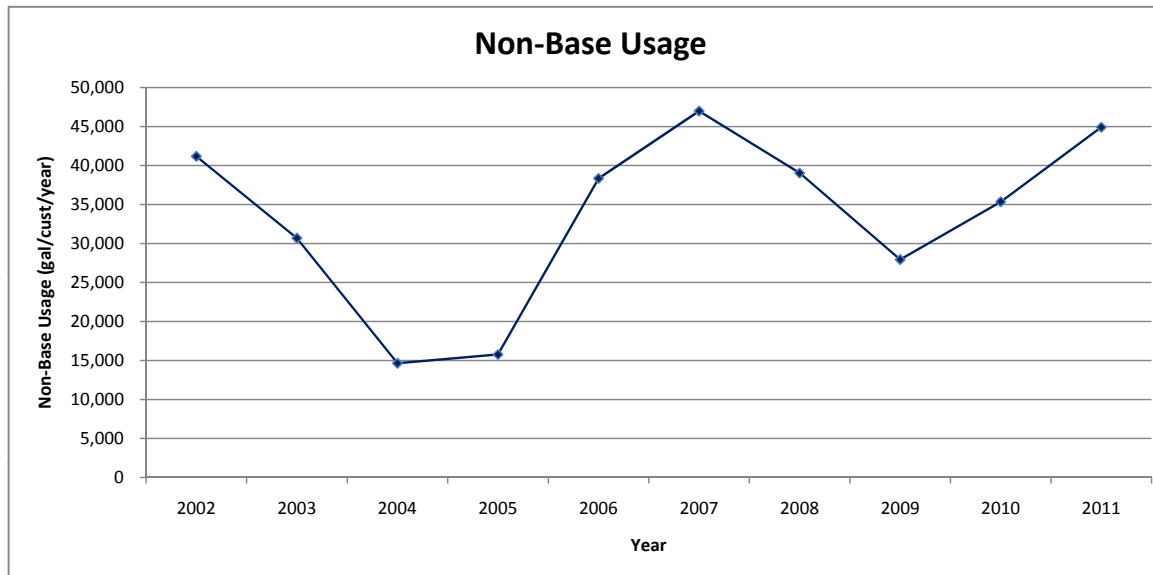
$$R^2 = 0.671$$



Calculation of Percentage of Usage that is Base Usage for the Commercial Sector

Exhibit JJC- 3b

	Basis of Calc.	Unit	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	10-YR AVG
CHATTANOOGA, TENNESSEE													
Winter Commercial Usage	Jan-Apr	KGAL	915,864	912,153	1,050,361	1,022,977	923,727	933,813	936,252	884,100	904,851	846,285	
Winter Commercial Usage Per Day	Divide by 120 or 121	KGAL/DAY	7,632	7,601	8,681	8,525	7,698	7,782	7,738	7,368	7,540	7,052	
Annual Base Commercial Usage	Multiply by 365 or 366	KGAL	2,785,753	2,774,465	3,177,125	3,111,555	2,809,670	2,840,348	2,831,969	2,689,138	2,752,255	2,574,117	
Total Annual Commercial Usage	Jan-Dec	KGAL	3,121,207	3,030,158	3,297,662	3,241,290	3,124,489	3,228,910	3,156,351	2,918,115	3,039,942	2,939,234	
Percent Base Commercial Usage		%	89%	92%	96%	96%	90%	88%	90%	92%	91%	88%	91%
Annual Non-Base Commercial Usage		KGAL	335,454	255,693	120,537	129,735	314,819	388,562	324,382	228,978	287,687	365,117	
Average Number of Customers	May - Dec		8,146	8,329	8,221	8,221	8,209	8,270	8,309	8,191	8,136	8,131	
Non-Base Usage	May - Dec	GAL/CUST/YR	41,182	30,698	14,662	15,780	38,349	46,985	39,038	27,953	35,360	44,904	33,491



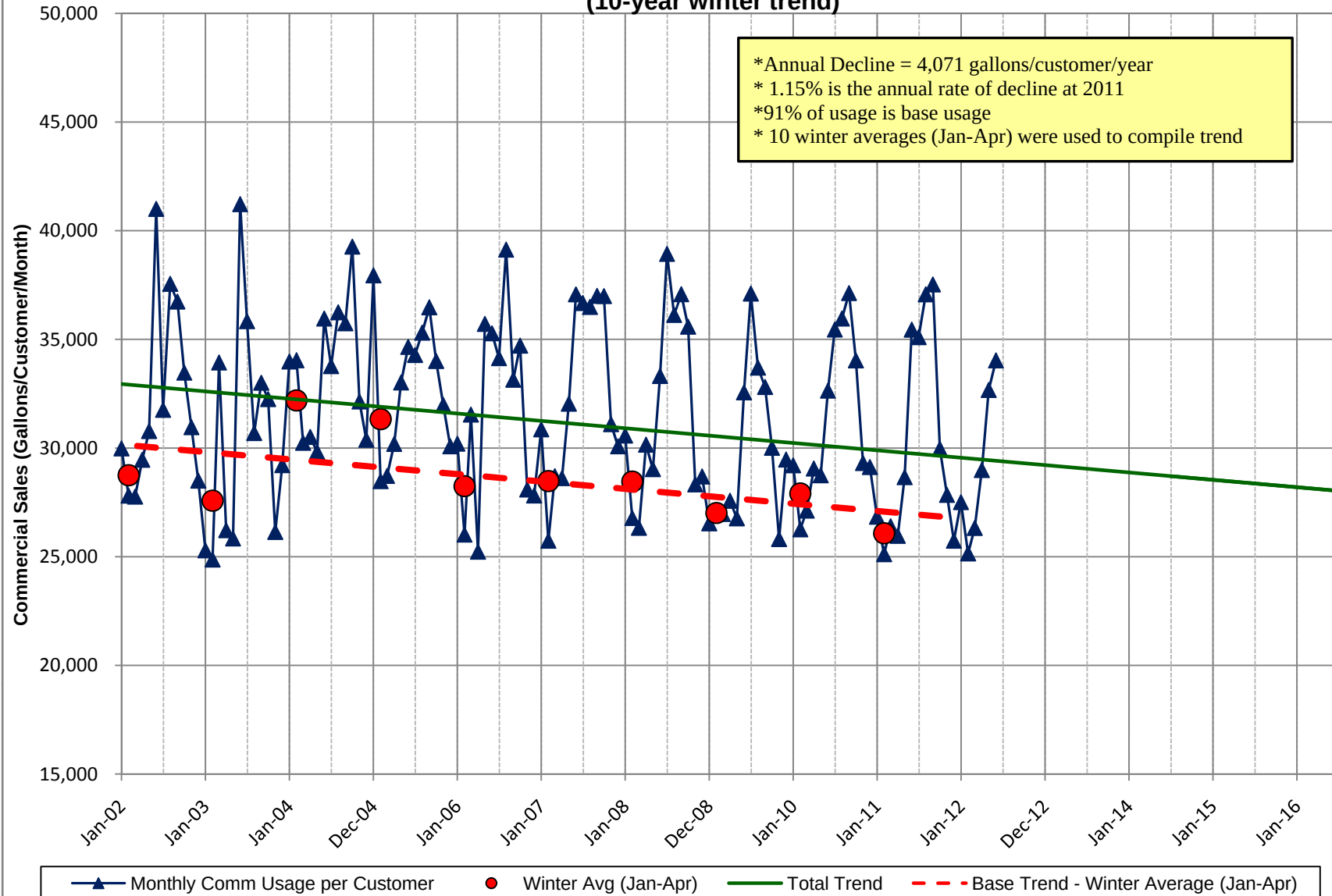
Chattanooga, TN American Water Commercial Sales per Customer (10-year winter trend)

Exhibit JJC- 1b

$$y = -0.929x + 64,791.586$$

$$R^2 = 0.307$$

- * Annual Decline = 4,071 gallons/customer/year
- * 1.15% is the annual rate of decline at 2011
- * 91% of usage is base usage
- * 10 winter averages (Jan-Apr) were used to compile trend



Jan-02	37257	274,368	60,233	4,555	4,261	4,244	y = -0.148x + 9757.8 R² = 0.9417		
Feb-02	37288	252,050	60,300	4,180		4,239			
Mar-02	37316	247,680	60,348	4,104		4,235			
Apr-02	37347	253,959	60,406	4,204		4,230			
May-02	37377	271,891	60,442	4,498		4,226			
Jun-02	37408	304,131	60,641	5,015		4,221			
Jul-02	37438	358,931	60,709	5,912		4,217			
Aug-02	37469	351,510	60,626	5,798		4,212			
Sep-02	37500	343,887	60,692	5,666		4,208			
Oct-02	37530	293,925	60,653	4,846		4,203			
Nov-02	37561	267,075	60,496	4,415		4,199			
Dec-02	37591	255,054	60,344	4,227		4,194			
Jan-03	37622	234,611	60,371	3,886	4,168	4,190			
Feb-03	37653	265,318	60,467	4,388		4,185			
Mar-03	37681	305,549	60,505	5,050		4,181			
Apr-03	37712	202,285	60,439	3,347		4,176			
May-03	37742	243,666	60,579	4,022		4,172			
Jun-03	37773	331,179	60,635	5,462		4,167			
Jul-03	37803	325,332	60,735	5,357		4,163			
Aug-03	37834	285,492	60,929	4,686		4,158			
Sep-03	37865	299,193	61,041	4,902		4,154			
Oct-03	37895	279,342	61,090	4,573		4,149			
Nov-03	37926	221,991	61,137	3,631		4,145			
Dec-03	37956	278,313	60,951	4,566		4,140			
Jan-04	37987	273,899	60,905	4,497	4,161	4,136			
Feb-04	38018	224,241	61,034	3,674		4,131			
Mar-04	38047	247,709	61,156	4,050		4,127			
Apr-04	38078	271,144	61,335	4,421		4,122			
May-04	38108	271,407	61,410	4,420		4,118			
Jun-04	38139	319,245	61,600	5,183		4,113			
Jul-04	38169	291,424	61,687	4,724		4,109			
Aug-04	38200	308,520	61,802	4,992		4,104			
Sep-04	38231	298,804	61,848	4,831		4,100			
Oct-04	38261	277,006	61,985	4,469		4,095			
Nov-04	38292	239,885	61,750	3,885		4,091			
Dec-04	38322	266,315	61,688	4,317		4,086			
Jan-05	38353	284,772	61,481	4,632	4,112	4,082			
Feb-05	38384	223,752	61,626	3,631		4,077			
Mar-05	38412	241,985	61,842	3,913		4,073			
Apr-05	38443	264,845	61,965	4,274		4,068			
May-05	38473	257,056	62,061	4,142		4,064			
Jun-05	38504	319,265	62,262	5,128		4,059			
Jul-05	38534	274,141	62,358	4,396		4,055			
Aug-05	38565	321,583	62,593	5,138		4,050			
Sep-05	38596	314,674	62,728	5,016		4,046			
Oct-05	38626	294,943	62,640	4,709		4,041			
Nov-05	38657	255,622	62,474	4,092		4,037			
Dec-05	38687	274,801	62,328	4,409		4,032			
Jan-06	38718	269,530	62,337	4,324	3,924	4,028	y = -0.145x + 9645.2 R² = 0.9387		
Feb-06	38749	225,381	62,533	3,604		4,023			
Mar-06	38777	261,577	62,634	4,176		4,019			
Apr-06	38808	225,497	62,798	3,591		4,014			
May-06	38838	292,111	63,009	4,636		4,010			
Jun-06	38869	321,428	63,184	5,087		4,005			
Jul-06	38899	331,341	63,356	5,230		4,001			
Aug-06	38930	352,728	63,547	5,551		3,996			
Sep-06	38961	299,353	63,532	4,712		3,992			
Oct-06	38991	293,431	63,565	4,616		3,987			
Nov-06	39022	249,382	63,436	3,931		3,983			
Dec-06	39052	257,490	63,356	4,064		3,978			
Jan-07	39083	282,005	63,517	4,440	3,989	3,974		3,978	
Feb-07	39114	224,383	63,612	3,527		3,969		3,974	
Mar-07	39142	251,522	63,784	3,943		3,965		3,970	
Apr-07	39173	258,304	63,862	4,045		3,960		3,965	
May-07	39203	301,215	63,995	4,707		3,956		3,961	
Jun-07	39234	367,325	64,109	5,730		3,951		3,956	
Jul-07	39264	342,680	64,121	5,344		3,947		3,952	
Aug-07	39295	339,089	64,201	5,282		3,942		3,947	
Sep-07	39326	333,215	64,339	5,179		3,938		3,943	
Oct-07	39356	338,741	64,260	5,271		3,933		3,939	
Nov-07	39387	266,070	64,078	4,152		3,929		3,934	
Dec-07	39417	256,376	64,090	4,000		3,924		3,930	
Jan-08	39448	287,562	64,123	4,485	3,910	3,919		3,925	
Feb-08	39479	230,409	64,143	3,592		3,915		3,921	
Mar-08	39508	218,662	64,262	3,403		3,911		3,917	
Apr-08	39539	267,636	64,324	4,161		3,906		3,912	
May-08	39569	253,609	64,502	3,932		3,902		3,908	
Jun-08	39600	312,126	64,553	4,835		3,897		3,903	
Jul-08	39630	360,982	64,545	5,593		3,893		3,899	
Aug-08	39661	318,540	64,724	4,922		3,888		3,894	
Sep-08	39692	327,161	64,647	5,061		3,883		3,890	
Oct-08	39722	323,993	64,547	5,019		3,879		3,886	
Nov-08	39753	236,435	64,259	3,679		3,874		3,881	
Dec-08	39783	268,221	64,262	4,174		3,870		3,877	
Jan-09	39814	258,120	64,414	4,007	3,845	3,865		3,872	
Feb-09	39845	246,225	64,095	3,842		3,861		3,868	
Mar-09	39873	243,777	64,163	3,799		3,857		3,864	
Apr-09	39904	239,107	64,083	3,731		3,852		3,859	
May-09	39934	250,021	64,090	3,901		3,848		3,855	
Jun-09	39965	305,236	64,224	4,753		3,843		3,850	
Jul-09	39995	367,447	64,321	5,713		3,839		3,846	
Aug-09	40026	307,869	64,400	4,781		3,834		3,841	
Sep-09	40057	291,368	64,304	4,531		3,829		3,837	
Oct-09	40087	260,805	64,139	4,066		3,825		3,833	
Nov-09	40118	228,718	64,099	3,568		3,820		3,828	
Dec-09	40148	269,525	63,989	4,212		3,816		3,824	
Jan-10	40179	259,329	63,921	4,057	3,845	3,811		3,819	
Feb-10	40210	231,028	63,981	3,611		3,807		3,815	
Mar-10	40238	242,985	64,131	3,789		3,803		3,811	
Apr-10	40269	252,614	64,359	3,925		3,798		3,806	
May-10	40299	257,090	64,400	3,992		3,794		3,802	
Jun-10	40330	306,956	64,574	4,754		3,789		3,797	
Jul-10	40360	333,528	64,709	5,154		3,785		3,793	
Aug-10	40391	323,423	64,748	4,995		3,780		3,789	
Sep-10	40422	336,320	64,795	5,191		3,775		3,784	
Oct-10	40452	310,025	64,731	4,789		3,771		3,780	
Nov-10	40483	255,676	64,594	3,958		3,766		3,775	
Dec-10	40513	273,045	64,486	4,234		3,762		3,771	
Jan-11	40544	250,997	64,325	3,902	3,756	3,757		3,766	
Feb-11	40575	229,477	64,366	3,565		3,753		3,762	
Mar-11	40603	240,350	64,461	3,729		3,749		3,758	
Apr-11	40634	246,332	64,326	3,829		3,744		3,753	
May-11	40664	256,424	64,391	3,982		3,740		3,749	
Jun-11	40695	339,273	64,667	5,246		3,735		3,744	
Jul-11	40725	300,188	64,811	4,632		3,731		3,740	
Aug-11	40756	354,104	64,862	5,459		3,726		3,736	
Sep-11	40787	334,434	64,925	5,151		3,721		3,731	
Oct-11	40817	260,518	64,811	4,020		3,717		3,727	
Nov-11	40848	232,678	64,736	3,594		3,712		3,722	
Dec-11	40878	237,936	64,571	3,685		3,708		3,718	
Jan-12	40909	262,350	64,555	4,064					
Feb-12	40940	222,145	64,771	3,430					
Mar-12	40969	229,008	64,982	3,524					
Apr-12	41000	249,815	65,195	3,832					
May-12	41030	299,039	65,312	4,579					
Jun-12	41061	311,726	65,490	4,760					
12/31/2013	40908	(Base) + (10-yr Avg Non-Base) 12/31/2011:				WINTER (BASE)	TOTAL:	WINTER (BASE)	TOTAL:
11/30/2011	41608					3,703	4,128	3,714	4,138
7/1/2014	41821					3,600	4,025	3,612	4,037
7/1/2015	42186					3,568	3,993	3,581	4,006
7/1/2016	42552					3,514	3,939	3,528	3,953
7/1/2017	42917					3,460	3,885	3,475	3,900
						3,406	3,831	3,422	3,847
						-54	gal/cust/month	-53	gal/cust/month
						-648	gal/cust/year	-636	gal/cust/year
Annual rate at 2011						-1.31%	Annual rate at 2011	-1.28%	

**TENNESSEE AMERICAN WATER COMPANY
DOCKET NO. 12-00049
FIRST DISCOVERY REQUEST OF THE
TENNESSEE REGULATORY AUTHORITY**

Responsible Witness: James J. Chelius

Question:

31. Provide the results of all analysis, including results not included in his testimony, performed by James Chelius to explain changes in customer usage. Include all written analysis, workpapers and output of statistical software packages performed by James Chelius. Did any such analysis imply a greater or lesser degree of reduction in water usage?

Response:

Please see attached that contains a tabular summary which presents the results of all usage analyses conducted. These analyses were performed to determine the best representation of the base demand period for Chattanooga. The selected winter months representing the base period as well as the duration trended were chosen for the residential and commercial analyses based on the presence of a high R-squared value indicating a strong linear regression fit, while maintaining a consistent base period.

In general, the analysis showed consistent downward trends in water usage for all durations and base periods analyzed. For the residential analyses, highest R-squared values were obtained using the Jan-April base period for the 5 and 10 year durations. For the commercial analyses, the commercial 5 year data and analyses provided lower R-squared values using a 10-year duration due to less consistent data as a result of meter reading and accounting period changes that impacted the consistency of reported billing data between 2003 and 2006. Highest R-squared values were achieved by using the 5-year durations, and the Jan-April base period was selected to be consistent with that chosen for the residential analysis.

Tennessee American Water - Chattanooga District
Residential & Commercial
Water Use Forecast Summary

Exhibit JJC - 31

Years of Data Used	Base Use Trending Method	Data Start/End	Rate of Decline at 12/31/2011	Annual Decline (gal/cust/yr)	Trend-line R ²
RESIDENTIAL					
10	10yr 3mo (Jan-March) Avg	Jan 02 - March 2011	-1.65%	-804	0.8510
10	10yr 4mo (Jan-April) Avg	Jan 02 - April 2011	-1.31%	-648	0.942
10	10yr 5mo (Dec-April) Avg	Dec 01 - April 2011	-1.25%	-624	0.9206
5	5yr 3mo (Jan-March) Avg	Jan 07 - March 2011	-1.17%	-576	0.7579
5	5yr 4mo (Jan-April) Avg	Jan 07 - April 2011	-1.28%	-636	0.939
5	5yr 5mo (Dec-April) Avg	Dec 06 - April 2011	-0.73%	-372	0.8319
COMMERCIAL					
10	10yr 3mo (Jan-March) Avg	Jan 02 - March 2011	-1.39%	-4,869	0.3529
10	10yr 4mo (Jan-April) Avg	Jan 02 - April 2011	-1.15%	-4,071	0.307
10	10yr 5mo (Dec-April) Avg	Dec 01 - April 2011	-0.89%	-3,164	0.2969
5	5yr 3mo (Jan-March) Avg	Jan 07 - March 2011	-1.74%	-5,993	0.7580
5	5yr 4mo (Jan-April) Avg	Jan 07 - April 2011	-1.85%	-6,415	0.671
5	5yr 5mo (Dec-April) Avg	Dec 06 - April 2011	-1.34%	-4,649	0.5267

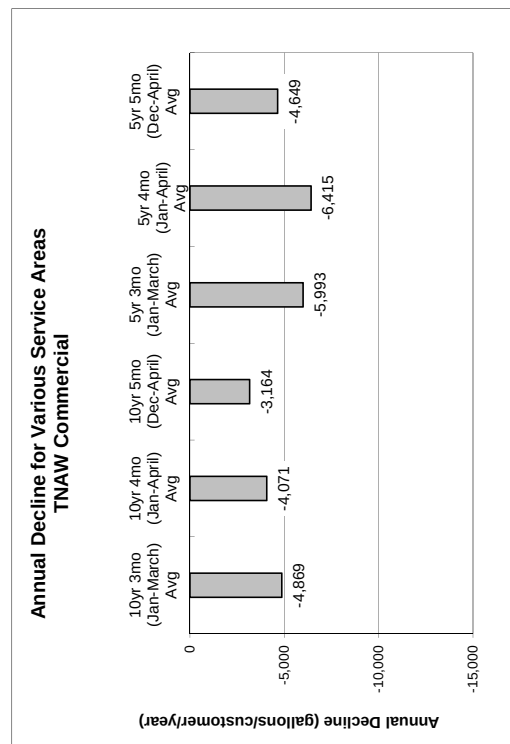
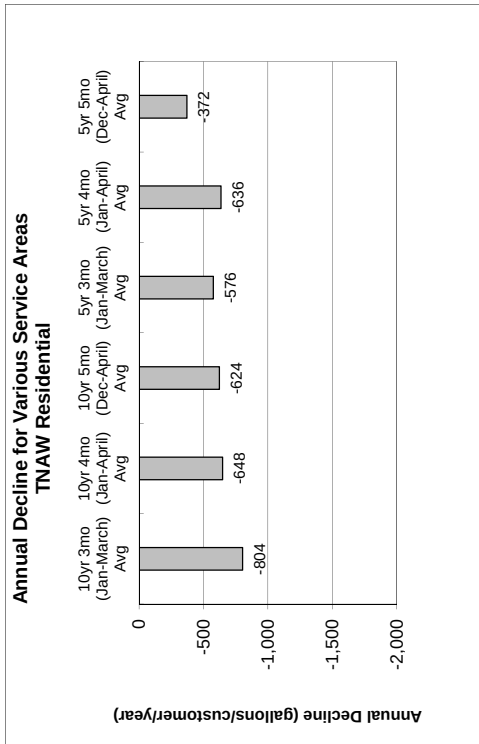


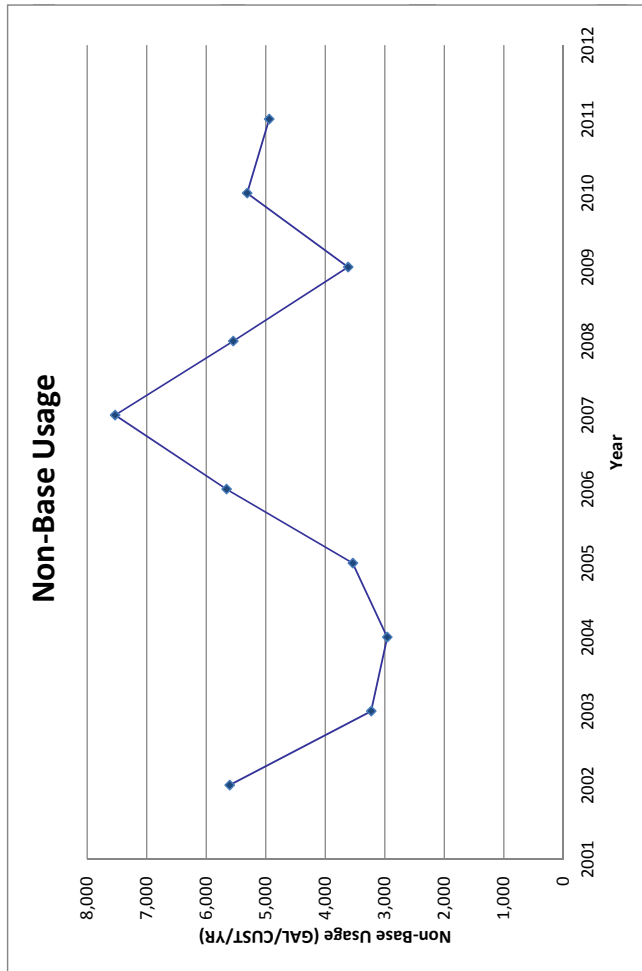
Exhibit JJC- 31.3.A

CHATTANOOGA, TENNESSEE AMERICAN WATER Residential Customer and Consumption Data December 01-December 2011					5-MONTH WINTER DECEMBER - APRIL				
					Winter Avg. Mo. Usage Per Cust. (DEC - APR)	10-YEAR		5-YEAR	
						Trendline 2002-2011	% Base 91.0%	Trendline 2007-2011	% Base 91.0%
							Non-Base Usage (gal/cust/mo) 399.50		Non-Base Usage (gal/cust/mo) 399.50
DATE	Day	USAGE (KGAL)	# Cust.	Mo. Usage per cust.					
Dec-01	37226	278,405	60,063	4,635		4,296			
Jan-02	37257	274,368	60,233	4,555	4,336	4,291	y = -0.1415x + 9563.3 R² = 0.9206		
Feb-02	37288	252,050	60,300	4,180		4,287			
Mar-02	37316	247,680	60,348	4,104		4,283			
Apr-02	37347	253,959	60,406	4,204		4,279			
May-02	37377	271,891	60,442	4,498		4,274			
Jun-02	37408	304,131	60,641	5,015		4,270			
Jul-02	37438	358,931	60,709	5,912		4,266			
Aug-02	37469	351,510	60,626	5,798		4,261			
Sep-02	37500	343,887	60,692	5,666		4,257			
Oct-02	37530	293,925	60,653	4,846		4,253			
Nov-02	37561	267,075	60,496	4,415		4,248			
Dec-02	37591	255,054	60,344	4,227		4,244			
Jan-03	37622	234,611	60,371	3,886	4,180	4,240			
Feb-03	37653	265,318	60,467	4,388		4,235			
Mar-03	37681	305,549	60,505	5,050		4,231			
Apr-03	37712	202,285	60,439	3,347		4,227			
May-03	37742	243,666	60,579	4,022		4,223			
Jun-03	37773	331,179	60,635	5,462		4,218			
Jul-03	37803	325,332	60,735	5,357		4,214			
Aug-03	37834	285,492	60,929	4,686		4,210			
Sep-03	37865	299,193	61,041	4,902		4,205			
Oct-03	37895	279,342	61,090	4,573		4,201			
Nov-03	37926	221,991	61,137	3,631		4,197			
Dec-03	37956	278,313	60,951	4,566		4,193			
Jan-04	37987	273,899	60,905	4,497	4,242	4,188			
Feb-04	38018	224,241	61,034	3,674		4,184			
Mar-04	38047	247,709	61,156	4,050		4,180			
Apr-04	38078	271,144	61,335	4,421		4,175			
May-04	38108	271,407	61,410	4,420		4,171			
Jun-04	38139	319,245	61,600	5,183		4,167			
Jul-04	38169	291,424	61,687	4,724		4,162			
Aug-04	38200	308,520	61,802	4,992		4,158			
Sep-04	38231	298,804	61,848	4,831		4,154			
Oct-04	38261	277,006	61,985	4,469		4,149			
Nov-04	38292	239,885	61,750	3,885		4,145			
Dec-04	38322	266,315	61,688	4,317		4,141			
Jan-05	38353	284,772	61,481	4,632	4,153	4,136			
Feb-05	38384	223,752	61,626	3,631		4,132			
Mar-05	38412	241,985	61,842	3,913		4,128			
Apr-05	38443	264,845	61,965	4,274		4,124			
May-05	38473	257,056	62,061	4,142		4,119			
Jun-05	38504	319,265	62,262	5,128		4,115			
Jul-05	38534	274,141	62,358	4,396		4,111			
Aug-05	38565	321,583	62,593	5,138		4,106			
Sep-05	38596	314,674	62,728	5,016		4,102			
Oct-05	38626	294,943	62,640	4,709		4,098			
Nov-05	38657	255,622	62,474	4,092		4,093			
Dec-05	38687	274,801	62,328	4,409		4,089			
Jan-06	38718	269,530	62,337	4,324	4,021	4,085	y = -0.0858x + 7339.6 R² = 0.8319		
Feb-06	38749	225,381	62,533	3,604		4,080			
Mar-06	38777	261,577	62,634	4,176		4,076			
Apr-06	38808	225,497	62,798	3,591		4,072			
May-06	38838	292,111	63,009	4,636		4,068			
Jun-06	38869	321,428	63,184	5,087		4,063			
Jul-06	38899	331,341	63,356	5,230		4,059			
Aug-06	38930	352,728	63,547	5,551		4,055			
Sep-06	38961	299,353	63,532	4,712		4,050			
Oct-06	38991	293,431	63,565	4,616		4,046			
Nov-06	39022	249,382	63,436	3,931		4,042			
Dec-06	39052	257,490	63,356	4,064		4,037			
Jan-07	39083	282,005	63,517	4,440	4,004	4,033		3,986	
Feb-07	39114	224,383	63,612	3,527		4,029		3,984	
Mar-07	39142	251,522	63,784	3,943		4,025		3,981	
Apr-07	39173	258,304	63,862	4,045		4,020		3,979	
May-07	39203	301,215	63,995	4,707		4,016		3,976	
Jun-07	39234	367,325	64,109	5,730		4,012		3,973	
Jul-07	39264	342,680	64,121	5,344		4,007		3,971	
Aug-07	39295	339,089	64,201	5,282		4,003		3,968	
Sep-07	39326	333,215	64,339	5,179		3,999		3,965	
Oct-07	39356	338,741	64,260	5,271		3,994		3,963	
Nov-07	39387	266,070	64,078	4,152		3,990		3,960	
Dec-07	39417	256,376	64,090	4,000		3,986		3,958	
Jan-08	39448	287,562	64,123	4,485	3,928	3,981		3,955	
Feb-08	39479	230,409	64,143	3,592		3,977		3,952	
Mar-08	39508	218,662	64,262	3,403		3,973		3,950	
Apr-08	39539	267,636	64,324	4,161		3,969		3,947	
May-08	39569	253,609	64,502	3,932		3,964		3,945	
Jun-08	39600	312,126	64,553	4,835		3,960		3,942	
Jul-08	39630	360,982	64,545	5,593		3,956		3,939	
Aug-08	39661	318,540	64,724	4,922		3,951		3,937	
Sep-08	39692	327,161	64,647	5,061		3,947		3,934	
Oct-08	39722	323,993	64,547	5,019		3,943		3,931	
Nov-08	39753	236,435	64,259	3,679		3,938		3,929	
Dec-08	39783	268,221	64,262	4,174		3,934		3,926	
Jan-09	39814	258,120	64,414	4,007	3,911	3,930		3,924	
Feb-09	39845	246,225	64,095	3,842		3,925		3,921	
Mar-09	39873	243,777	64,163	3,799		3,921		3,918	
Apr-09	39904	239,107	64,083	3,731		3,917		3,916	
May-09	39934	250,021	64,090	3,901		3,913		3,913	
Jun-09	39965	305,236	64,224	4,753		3,908		3,911	
Jul-09	39995	367,447	64,321	5,713		3,904		3,908	
Aug-09	40026	307,869	64,400	4,781		3,900		3,905	
Sep-09	40057	291,368	64,304	4,531		3,895		3,903	
Oct-09	40087	260,805	64,139	4,066		3,891		3,900	
Nov-09	40118	228,718	64,099	3,568		3,887		3,897	
Dec-09	40148	269,525	63,989	4,212		3,882		3,895	
Jan-10	40179	259,329	63,921	4,057	3,919	3,878		3,892	
Feb-10	40210	231,028	63,981	3,611		3,874		3,890	
Mar-10	40238	242,985	64,131	3,789		3,870		3,887	
Apr-10	40269	252,614	64,359	3,925		3,865		3,885	
May-10	40299	257,090	64,400	3,992		3,861		3,882	
Jun-10	40330	306,956	64,574	4,754		3,857		3,879	
Jul-10	40360	333,528	64,709	5,154		3,852		3,877	
Aug-10	40391	323,423	64,748	4,995		3,848		3,874	
Sep-10	40422	336,320	64,795	5,191		3,844		3,871	
Oct-10	40452	310,025	64,731	4,789		3,839		3,869	
Nov-10	40483	255,676	64,594	3,958		3,835		3,866	
Dec-10	40513	273,045	64,486	4,234		3,831		3,864	
Jan-11	40544	250,997	64,325	3,902	3,852	3,826		3,861	
Feb-11	40575	229,477	64,366	3,565		3,822		3,858	
Mar-11	40603	240,350	64,461	3,729		3,818		3,856	
Apr-11	40634	246,332	64,326	3,829		3,814		3,853	
May-11	40664	256,424	64,391	3,982		3,809		3,851	
Jun-11	40695	339,273	64,667	5,246		3,805		3,848	
Jul-11	40725	300,188	64,811	4,632		3,801		3,845	
Aug-11	40756	354,104	64,862	5,459		3,796		3,843	
Sep-11	40787	334,434	64,925	5,151		3,792		3,840	
Oct-11	40817	260,518	64,811	4,020		3,788		3,838	
Nov-11	40848	232,678	64,736	3,594		3,783		3,835	
Dec-11	40878	237,936	64,571	3,685		3,779		3,832	
12/31/2011 40908 11/30/2013 41608 7/1/2014 41821 7/1/2015 42186 7/1/2016 42552 7/1/2017 42917 7/1/2018 43282						WINTER (BASE)	TOTAL:	WINTER (BASE)	TOTAL:
						3,775	4,174	3,830	4,229
						3,676	4,075	3,770	4,169
						3,646	4,045	3,751	4,151
						3,594	3,993	3,720	4,120
						3,542	3,942	3,689	4,088
						3,491	3,890	3,657	4,057
						3,439	3,838	3,626	4,026
						-52	gal/cust/month	-31	gal/cust/month
						-624	gal/cust/year	-372	gal/cust/year
Annual rate at 2011						-1.25%	Annual rate at 2011	-0.73%	

Exhibit JJC- 31.3.B

Calculation of Percentage of Usage that is Base Usage

Basis of Calc.		Unit	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	10-YR AVG
CHATTANOOGA, TENNESSEE													
Winter Residential Usage	Dec-Apr	KGAL	1,306,462	1,262,817	1,295,306	1,281,669	1,256,786	1,273,704	1,260,645	1,255,450	1,255,481	1,240,201	
Winter Residential Usage Per Day	Divide by 151 or 152	KGAL/DAY	8,652	8,363	8,522	8,488	8,323	8,435	8,294	8,314	8,314	8,213	
Annual Base Residential Usage	Multiply by 365 or 366	KGAL	3,158,004	3,052,505	3,118,961	3,098,074	3,037,926	3,078,821	3,035,500	3,034,697	3,034,772	2,997,837	
Total Annual Residential Usage	Dec - Nov		3,497,812	3,249,012	3,301,597	3,318,953	3,396,560	3,562,039	3,393,491	3,266,914	3,378,499	3,317,820	
Percent Base Residential Usage		%	90.3%	94.0%	94.5%	93.3%	89.4%	86.4%	89.5%	92.9%	89.8%	90.4%	91.0%
Annual Non-Base Residential Usage	May - Nov	KGAL	339,808	196,507	182,637	220,879	358,634	483,218	357,991	232,217	343,727	319,983	
Average Number of Customers			60,608	60,878	61,726	62,445	63,376	64,158	64,540	64,225	64,692	64,743	
Non-Base Usage	May - Nov	GAL/CUST/YR	5,607	3,228	2,959	3,537	5,659	7,532	5,547	3,616	5,313	4,942	4,794

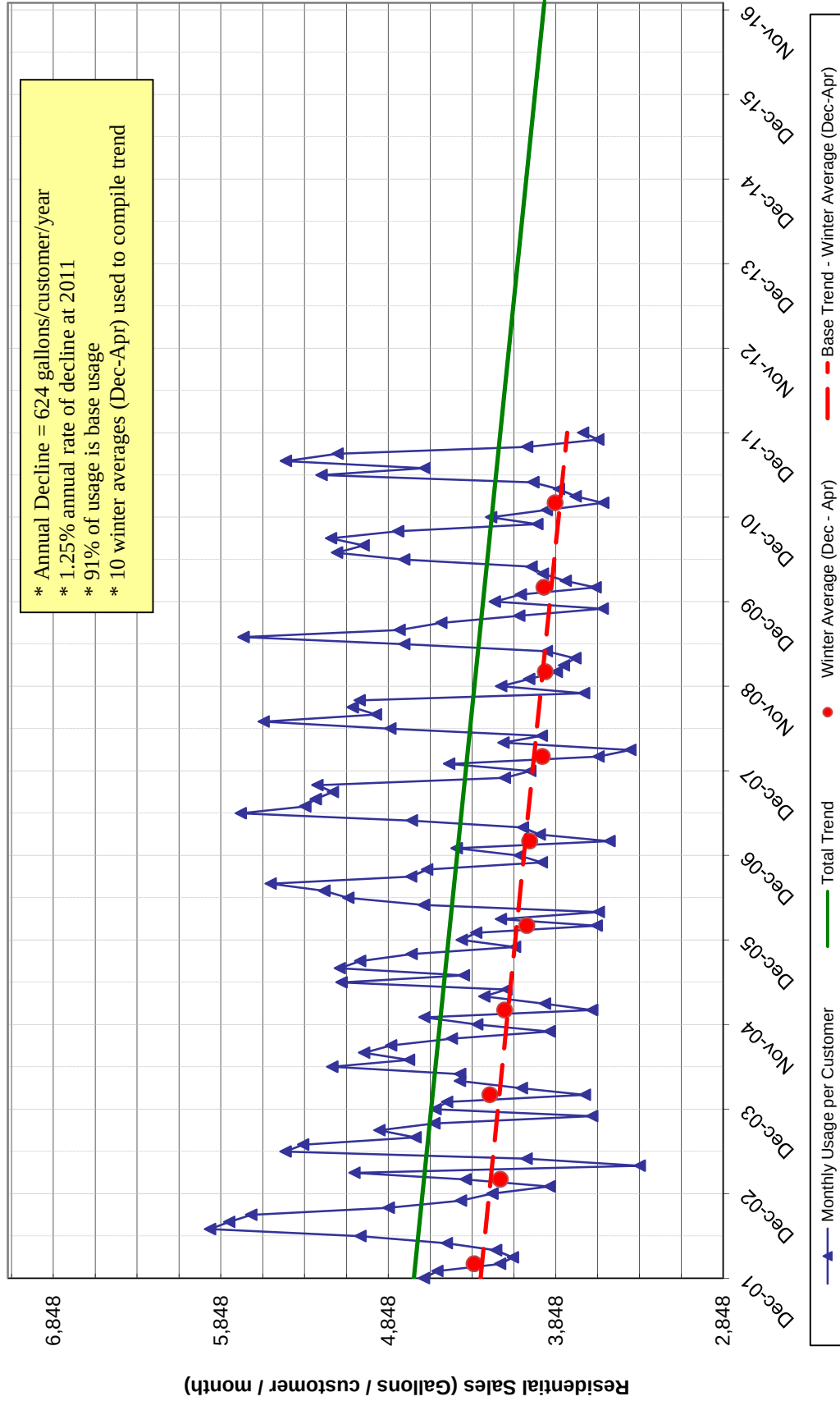


Chattanooga, TN American Water Residential Sales Per Customer (10-Year Winter Trend)

Exhibit JJC- 31.3.C

$$y = -0.1415x + 9563.3$$

$$R^2 = 0.9206$$



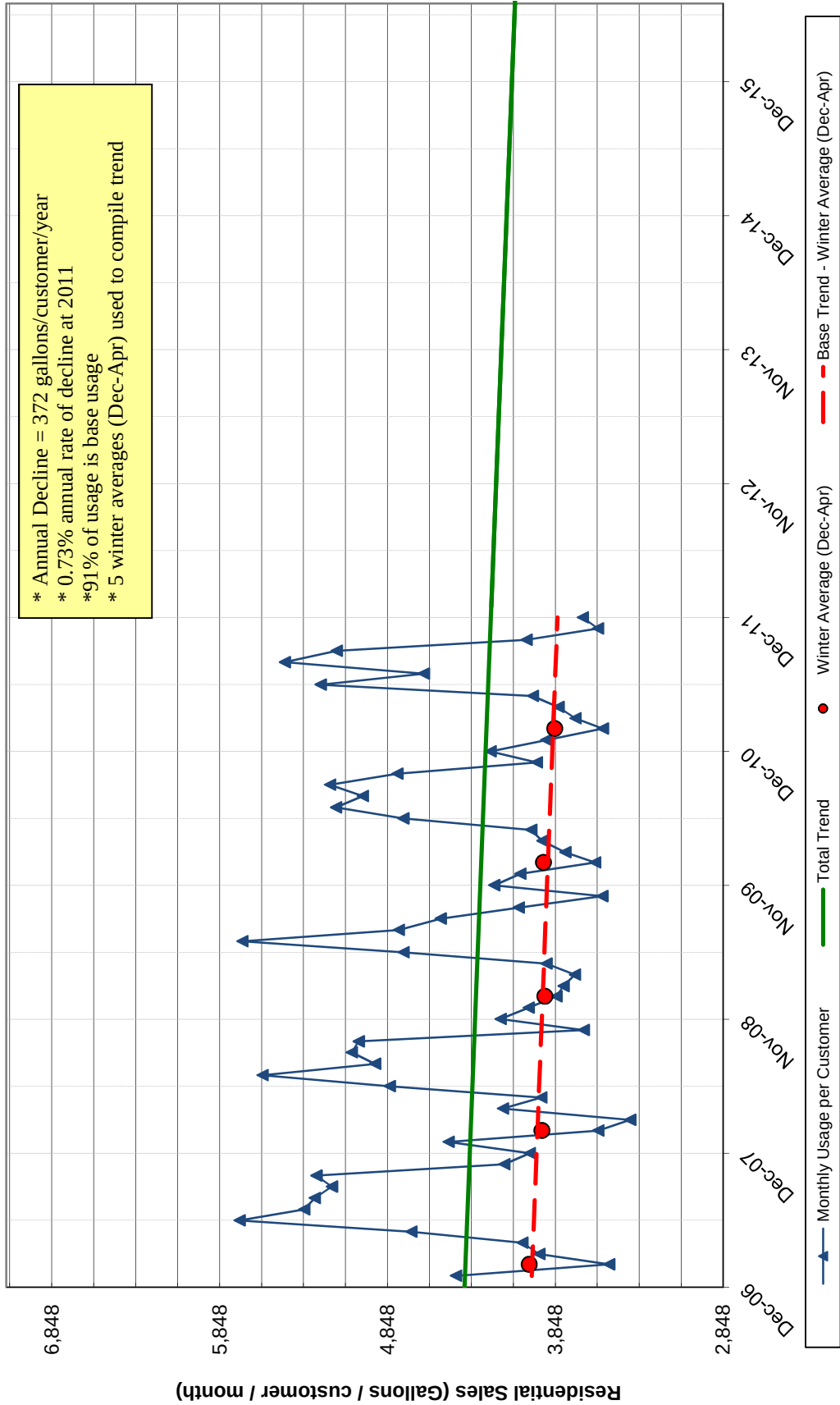
Note: The months of December through April were chosen as the representation of "winter" residential usage, felt to be indicative of indoor usage and little or no outdoor usage. This period of five months was chosen so that it would encompass 5 full cycles of meter readings for customers whose meters have been historically read monthly.

Chattanooga, TN American Water Residential Sales Per Customer (5-Year Winter Trend)

Exhibit JJC- 31.3.D

$$y = -0.0858x + 7339.6$$

$$R^2 = 0.8319$$



Note: The months of December through April were chosen as the representation of "winter" residential usage, felt to be indicative of indoor usage and little or no outdoor usage. This period of five months was chosen so that it would encompass 5 full cycles of meter readings for customers whose meters have been historically read monthly.

Exhibit JJC- 31.2.A

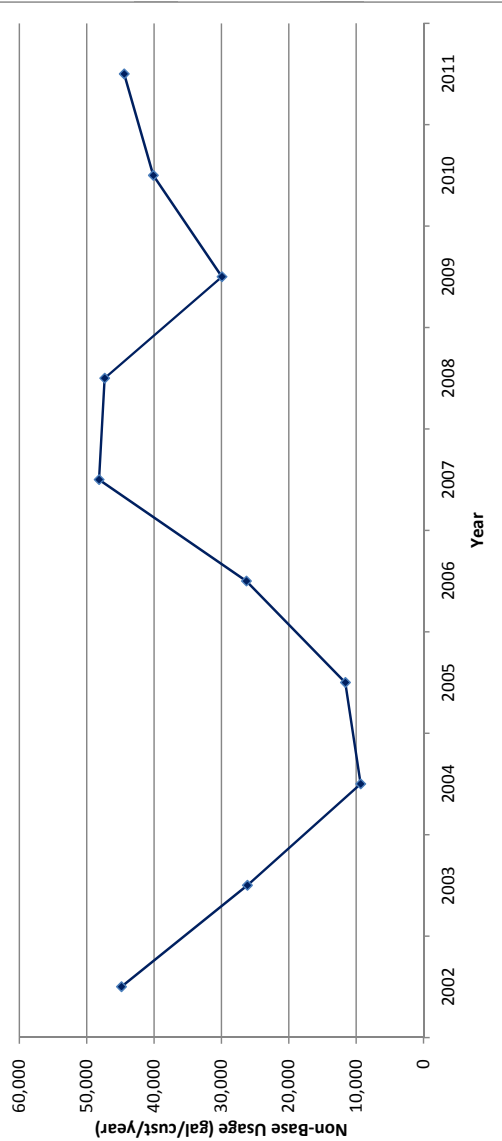
CHATTANOOGA, TENNESSEE AMERICAN WATER Commercial Customer and Industrial Data January 2002 - December 2011					3-MONTH WINTER JANUARY- MARCH						
					Winter Avg. Mo. Usage Per Cust. (JAN-MAR)	10-YEAR		5-YEAR			
						Trendline 2003-2012	% Base 91.3%	Trendline 2008-2012	% Base 91.3%		
							Non-Base Usage (gal/custmo) 2,736.08		Non-Base Usage (gal/custmo) 2,736.08		
DATE	Day	USAGE (KGAL)	# Cust.	Mo. Usage per cust.							
Jan-02	37,257	237,384	7,918	29,980	28,518	30,569	y = -1.1117x + 71988 R² = 0.3529				
Feb-02	37,288	220,641	7,934	27,810		30,535					
Mar-02	37,316	221,638	7,983	27,764		30,504					
Apr-02	37,347	236,201	8,017	29,463		30,469					
May-02	37,377	247,253	8,032	30,783		30,436					
Jun-02	37,408	331,456	8,084	41,001		30,402					
Jul-02	37,438	257,534	8,109	31,759		30,368					
Aug-02	37,469	305,586	8,137	37,555		30,334					
Sep-02	37,500	301,621	8,209	36,743		30,299					
Oct-02	37,530	274,885	8,213	33,469		30,266					
Nov-02	37,561	253,521	8,189	30,959		30,231					
Dec-02	37,591	233,487	8,192	28,502		30,198					
Jan-03	37,622	207,576	8,207	25,293	28,033	30,164					
Feb-03	37,653	205,040	8,244	24,871		30,129					
Mar-03	37,681	280,800	8,275	33,934		30,098					
Apr-03	37,712	218,737	8,342	26,221		30,064					
May-03	37,742	216,574	8,381	25,841		30,030					
Jun-03	37,773	344,664	8,361	41,223		29,996					
Jul-03	37,803	299,972	8,370	35,839		29,962					
Aug-03	37,834	256,573	8,360	30,691		29,928					
Sep-03	37,865	275,079	8,334	33,007		29,893					
Oct-03	37,895	267,545	8,295	32,254		29,860					
Nov-03	37,926	216,293	8,274	26,141		29,826					
Dec-03	37,956	241,305	8,260	29,214		29,792					
Jan-04	37,987	276,894	8,148	33,983	32,754	29,758					
Feb-04	38,018	276,894	8,135	34,037		29,723					
Mar-04	38,047	247,039	8,169	30,241		29,691					
Apr-04	38,078	249,534	8,179	30,509		29,657					
May-04	38,108	244,590	8,202	29,821		29,623					
Jun-04	38,139	296,368	8,242	35,958		29,589					
Jul-04	38,169	278,729	8,254	33,769		29,556					
Aug-04	38,200	299,176	8,254	36,246		29,521					
Sep-04	38,231	293,816	8,221	35,740		29,487					
Oct-04	38,261	322,565	8,214	39,270		29,453					
Nov-04	38,292	263,274	8,191	32,142		29,419					
Dec-04	38,322	248,783	8,189	30,380		29,385					
Jan-05	38,353	309,193	8,148	37,947	31,713	29,351					
Feb-05	38,384	232,169	8,153	28,477		29,317					
Mar-05	38,412	234,321	8,160	28,716		29,285					
Apr-05	38,443	247,294	8,191	30,191		29,251					
May-05	38,473	270,321	8,188	33,014		29,218					
Jun-05	38,504	284,967	8,223	34,655		29,183					
Jul-05	38,534	281,845	8,221	34,284		29,150					
Aug-05	38,565	290,710	8,233	35,310		29,115					
Sep-05	38,596	300,690	8,244	36,474		29,081					
Oct-05	38,626	280,006	8,234	34,006		29,047					
Nov-05	38,657	262,871	8,219	31,983		29,013				y = -1.3682x + 81876 R² = 0.758	
Dec-05	38,687	246,903	8,208	30,081		28,980					
Jan-06	38,718	247,002	8,178	30,203	29,254	28,945		28,902			
Feb-06	38,749	212,969	8,185	26,019		28,911		28,860			
Mar-06	38,777	257,214	8,155	31,541		28,880		28,821			
Apr-06	38,808	206,542	8,186	25,231		28,845		28,779			
May-06	38,838	292,320	8,186	35,710		28,812		28,738			
Jun-06	38,869	290,413	8,231	35,283		28,777		28,695			
Jul-06	38,899	280,863	8,228	34,135		28,744		28,654			
Aug-06	38,930	322,192	8,234	39,129		28,710		28,612			
Sep-06	38,961	272,617	8,225	33,145		28,675		28,570			
Oct-06	38,991	285,026	8,211	34,713		28,642		28,529			
Nov-06	39,022	230,106	8,191	28,093		28,607		28,486			
Dec-06	39,052	227,225	8,168	27,819		28,574		28,445			
Jan-07	39,083	251,924	8,163	30,862	28,436	28,539		28,403			
Feb-07	39,114	210,348	8,173	25,737		28,505		28,360			
Mar-07	39,142	235,698	8,210	28,709		28,474		28,322			
Apr-07	39,173	235,843	8,242	28,615		28,439		28,280			
May-07	39,203	264,083	8,242	32,041		28,406		28,238			
Jun-07	39,234	307,137	8,284	37,076		28,372		28,196			
Jul-07	39,264	303,212	8,269	36,669		28,338		28,155			
Aug-07	39,295	302,586	8,292	36,491		28,304		28,113			
Sep-07	39,326	307,039	8,297	37,006		28,269		28,070			
Oct-07	39,356	306,989	8,298	36,996		28,236		28,029			
Nov-07	39,387	256,440	8,246	31,099		28,201		27,987			
Dec-07	39,417	247,611	8,232	30,079		28,168		27,946			
Jan-08	39,448	250,852	8,204	30,577	27,896	28,134		27,903			
Feb-08	39,479	219,399	8,192	26,782		28,099		27,861			
Mar-08	39,508	216,745	8,232	26,330		28,067		27,821			
Apr-08	39,539	249,256	8,266	30,154		28,032		27,779			
May-08	39,569	240,409	8,281	29,031		27,999		27,738			
Jun-08	39,600	277,313	8,324	33,315		27,965		27,695			
Jul-08	39,630	324,219	8,327	38,936		27,931		27,654			
Aug-08	39,661	301,254	8,339	36,126		27,897		27,612			
Sep-08	39,692	309,222	8,340	37,077		27,862		27,569			
Oct-08	39,722	296,054	8,320	35,583		27,829		27,528			
Nov-08	39,753	234,683	8,285	28,326		27,795		27,486			
Dec-08	39,783	236,945	8,259	28,689		27,761		27,445			
Jan-09	39,814	218,880	8,248	26,537	26,828	27,727		27,402			
Feb-09	39,845	221,144	8,196	26,982		27,692		27,360			
Mar-09	39,873	219,081	8,125	26,964		27,661		27,322			
Apr-09	39,904	224,995	8,160	27,573		27,627		27,279			
May-09	39,934	218,611	8,167	26,768		27,593		27,238			
Jun-09	39,965	267,226	8,207	32,561		27,559		27,196			
Jul-09	39,995	304,789	8,214	37,106		27,526		27,155			
Aug-09	40,026	277,539	8,236	33,698		27,491		27,112			
Sep-09	40,057	269,389	8,211	32,808		27,457		27,070			
Oct-09	40,087	246,027	8,198	30,011		27,423		27,029			
Nov-09	40,118	210,947	8,172	25,813		27,389		26,987			
Dec-09	40,148	239,487	8,126	29,472		27,355		26,946			
Jan-10	40,179	237,172	8,120	29,208	27,531	27,321		26,903			
Feb-10	40,210	212,482	8,091	26,262		27,287		26,861			
Mar-10	40,238	219,446	8,091	27,122		27,255		26,822			
Apr-10	40,269	235,751	8,113	29,058		27,221		26,780			
May-10	40,299	233,453	8,121	28,747		27,188		26,739			
Jun-10	40,330	265,506	8,134	32,642		27,153		26,696			
Jul-10	40,360	288,201	8,129	35,453		27,120		26,655			
Aug-10	40,391	292,691	8,139	35,962		27,085		26,613			
Sep-10	40,422	302,367	8,143	37,132		27,051		26,571			
Oct-10	40,452	277,742	8,161	34,033		27,018		26,530			
Nov-10	40,483	238,751	8,146	29,309		26,983		26,487			
Dec-10	40,513	236,380	8,115	29,129		26,950		26,446			
Jan-11	40,544	217,574	8,106	26,841	26,120	26,915		26,404			
Feb-11	40,575	203,196	8,091	25,114		26,881		26,361			
Mar-11	40,603	214,877	8,138	26,404		26,850		26,323			
Apr-11	40,634	210,638	8,114	25,960		26,815		26,281			
May-11	40,664	233,214	8,137	28,661		26,782		26,240			
Jun-11	40,695	288,634	8,143	35,446		26,747		26,197			
Jul-11	40,725	285,932	8,146	35,101		26,714		26,156			
Aug-11	40,756	301,814	8,141	37,073		26,680		26,114			
Sep-11	40,787	305,154	8,131	37,530		26,645		26,071			
Oct-11	40,817	243,511	8,125	29,971		26,612		26,030			
Nov-11	40,848	225,905	8,113	27,845		26,577		25,988			
Dec-11	40,878	208,785	8,112	25,738		26,544		25,947			
					WINTER (BASE)	TOTAL TREND PROJ.		WINTER (BASE)	TOTAL:		
					12/31/2011	40,908	(Base) + (10-yr Avg Non-Base) 12/31/2011:	26,511	29,247	25,906	28,642
					11/30/2013	41,608		25,732	28,468	24,948	27,684
					7/1/2014	41,821		25,496	28,232	24,657	27,393
					7/1/2015	42,186		25,090	27,826	24,157	26,893
					7/1/2016	42,552		24,683	27,419	23,656	26,392
					7/1/2017	42,917		24,277	27,013	23,157	25,893
					7/1/2018	43,282		23,871	26,607	22,658	25,394
					(406) (gal/cust/month)			(499) (gal/cust/month)			
					(4,869) (gal/cust/year)			(5,993) (gal/cust/year)			
					Annual Rate at 2011	-1.39%	Annual Rate at 2011	-1.74%			

Exhibit JJC- 31.2.B

Calculation of Percentage of Usage that is Base Usage

CHATTANOOGA, TENNESSEE		Basis of Calc.	Unit	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	10-YR AVG
Winter Commercial Usage	Jan-Mar		KGAL	679,663	693,416	800,827	775,683	717,185	697,970	686,996	659,105	669,100	635,647	
Winter Commercial Usage Per Day	Divide by 90 or 91		KGAL/DAY	7,552	7,705	8,800	8,619	7,969	7,755	7,549	7,323	7,434	7,063	
Annual Base Commercial Usage	Multiply by 365 or 366		KGAL	2,756,411	2,812,187	3,220,909	3,145,826	2,908,584	2,830,656	2,763,083	2,673,037	2,713,572	2,577,902	
Total Annual Commercial Usage	Jan-Dec		KGAL	3,121,207	3,030,158	3,297,662	3,241,290	3,124,489	3,228,910	3,156,351	2,918,115	3,039,942	2,939,234	
Percent Base Commercial Usage			%	88%	93%	98%	97%	93%	88%	88%	92%	89%	88%	91%
Annual Non-Base Commercial Usage			KGAL	364,796	217,971	76,753	95,464	215,905	398,254	393,268	245,078	326,370	361,332	
Average Number of Customers	Apr-Dec			8,131	8,331	8,216	8,218	8,207	8,267	8,305	8,188	8,133	8,129	
Non-Base Usage	Apr-Dec		GAL/CUST/YR	44,863	26,165	9,342	11,617	26,309	48,175	47,356	29,932	40,127	44,449	32,833

Non-Base Usage

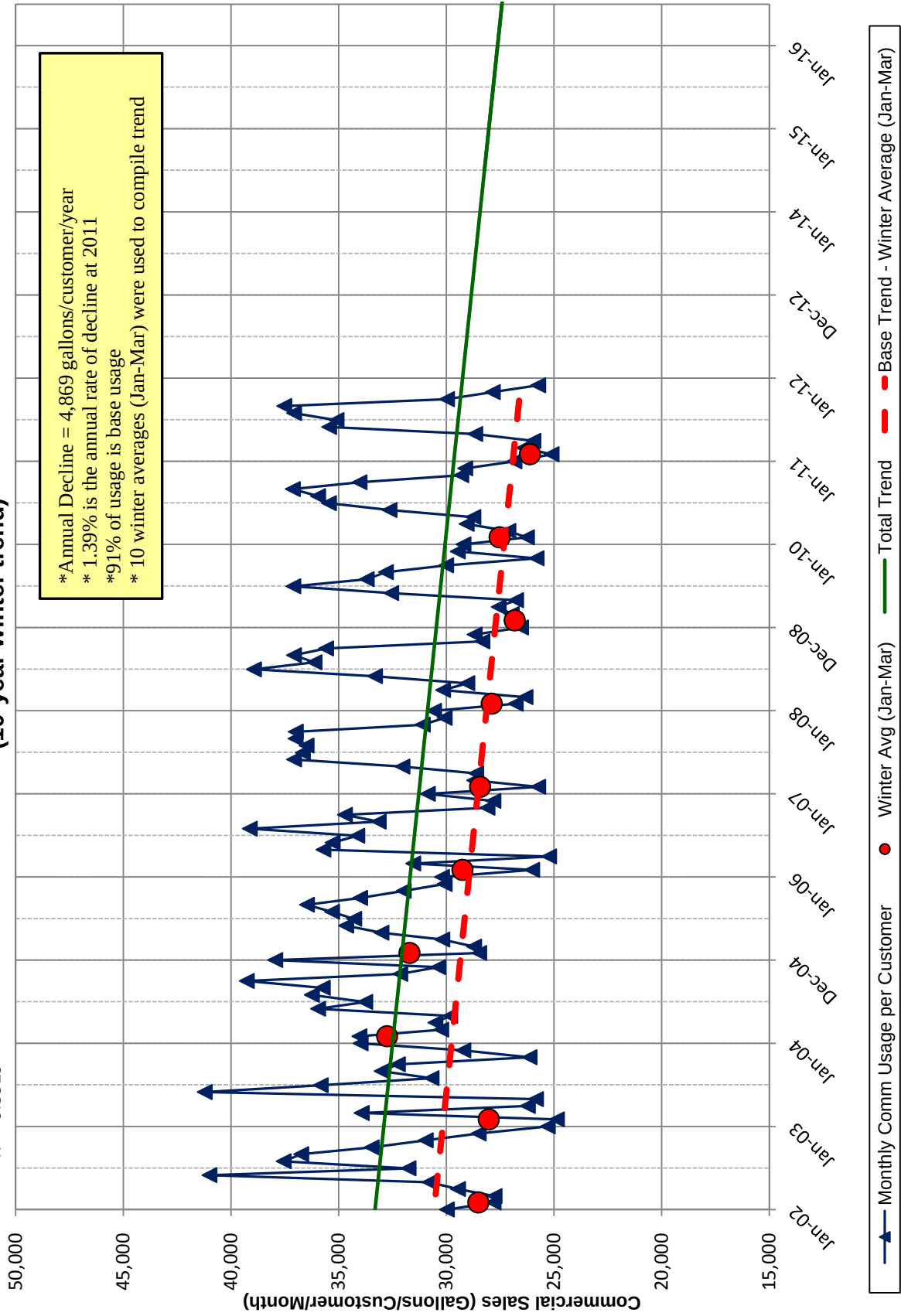


Chattanooga, TN American Water Commercial Sales per Customer (10-year winter trend)

Exhibit JJC- 31.2.C

$$y = -1.1117x + 71988$$

$$R^2 = 0.3529$$



Chattanooga, TN American Water Commercial Sales per Customer (5-year winter trend)

Exhibit JJC- 31.2.D

$$Y = -1.3682x + 81,875.5549$$

$$R^2 = 0.7580$$

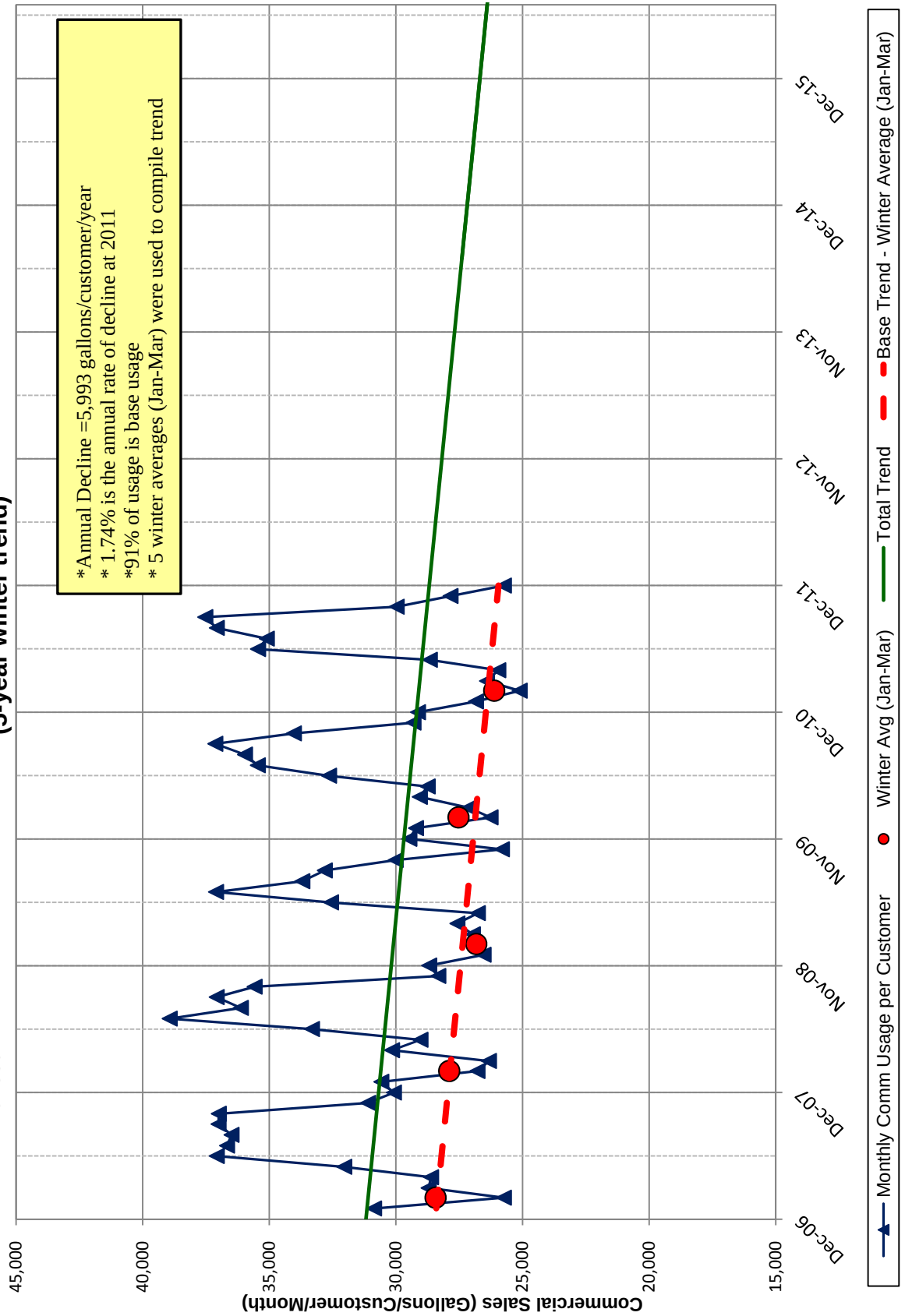


Exhibit JJC- 31.1.A

CHATTANOOGA, TENNESSEE AMERICAN WATER

Residential Customer and Consumption Data
January 2002- December 2011

DATE		Day	USAGE (KGAL)	# Cust.	Mo. Usage per cust.	Non-Base Usage (gallcust/mo)		Non-Base Usage (gallcust/mo)		
						414.75	414.75			
Jan-02	37257	274,368	60,233	4,555	4,280	4,317	y = -0.1826x + 11,119.9289 R² = 0.8510			
Feb-02	37288	252,050	60,300	4,180		4,311				
Mar-02	37316	247,680	60,348	4,104		4,306				
Apr-02	37347	253,959	60,406	4,204		4,300				
May-02	37377	271,891	60,442	4,498		4,295				
Jun-02	37408	304,131	60,641	5,015		4,289				
Jul-02	37438	358,931	60,709	5,912		4,284				
Aug-02	37469	351,510	60,626	5,798		4,278				
Sep-02	37500	343,887	60,692	5,666		4,272				
Oct-02	37530	293,925	60,653	4,846		4,267				
Nov-02	37561	267,075	60,496	4,415		4,261				
Dec-02	37591	255,054	60,344	4,227		4,256				
Jan-03	37622	234,611	60,371	3,886	4,441	4,250				
Feb-03	37653	265,318	60,467	4,388		4,244				
Mar-03	37681	305,549	60,505	5,050		4,239				
Apr-03	37712	202,285	60,439	3,347		4,234				
May-03	37742	243,666	60,579	4,022		4,228				
Jun-03	37773	331,179	60,635	5,462		4,223				
Jul-03	37803	325,332	60,735	5,357		4,217				
Aug-03	37834	285,492	60,929	4,686		4,211				
Sep-03	37865	299,193	61,041	4,902		4,206				
Oct-03	37895	279,342	61,090	4,573		4,200				
Nov-03	37926	221,991	61,137	3,631		4,195				
Dec-03	37956	278,313	60,951	4,566		4,189				
Jan-04	37987	273,899	60,905	4,497	4,074	4,184				
Feb-04	38018	224,241	61,034	3,674		4,178				
Mar-04	38047	247,709	61,156	4,050		4,173				
Apr-04	38078	271,144	61,335	4,421		4,167				
May-04	38108	271,407	61,410	4,420		4,161				
Jun-04	38139	319,245	61,600	5,183		4,156				
Jul-04	38169	291,424	61,687	4,724		4,150				
Aug-04	38200	308,520	61,802	4,992		4,145				
Sep-04	38231	298,804	61,848	4,831		4,139				
Oct-04	38261	277,006	61,985	4,469		4,133				
Nov-04	38292	239,885	61,750	3,885		4,128				
Dec-04	38322	266,315	61,688	4,317		4,122				
Jan-05	38353	284,772	61,481	4,632	4,059	4,117				
Feb-05	38384	223,752	61,626	3,631		4,111				
Mar-05	38412	241,985	61,842	3,913		4,106				
Apr-05	38443	264,845	61,965	4,274		4,100				
May-05	38473	257,056	62,061	4,142		4,095				
Jun-05	38504	319,265	62,262	5,128		4,089				
Jul-05	38534	274,141	62,358	4,396		4,084				
Aug-05	38565	321,583	62,593	5,138		4,078				
Sep-05	38596	314,674	62,728	5,016		4,072				
Oct-05	38626	294,943	62,640	4,709		4,067				
Nov-05	38657	255,622	62,474	4,092		4,061				
Dec-05	38687	274,801	62,328	4,409		4,056				
Jan-06	38718	269,530	62,337	4,324	4,035	4,050	y = -0.1325x + 9123.9 R² = 0.7579			
Feb-06	38749	225,381	62,533	3,604		4,044				
Mar-06	38777	261,577	62,634	4,176		4,039				
Apr-06	38808	225,497	62,798	3,591		4,034				
May-06	38838	292,111	63,009	4,636		4,028				
Jun-06	38869	321,428	63,184	5,087		4,022				
Jul-06	38899	331,341	63,356	5,230		4,017				
Aug-06	38930	352,728	63,547	5,551		4,011				
Sep-06	38961	299,353	63,532	4,712		4,006				
Oct-06	38991	293,431	63,565	4,616		4,000				
Nov-06	39022	249,382	63,436	3,931		3,995				
Dec-06	39052	257,490	63,356	4,064		3,989				
Jan-07	39083	282,005	63,517	4,440	3,970	3,983	3,945			
Feb-07	39114	224,383	63,612	3,527		3,978				3,941
Mar-07	39142	251,522	63,784	3,943		3,973				3,938
Apr-07	39173	258,304	63,862	4,045		3,967				3,933
May-07	39203	301,215	63,995	4,707		3,961				3,930
Jun-07	39234	367,325	64,109	5,730		3,956				3,925
Jul-07	39264	342,680	64,121	5,344		3,950				3,921
Aug-07	39295	339,089	64,201	5,282		3,945				3,917
Sep-07	39326	333,215	64,339	5,179		3,939				3,913
Oct-07	39356	338,741	64,260	5,271		3,934				3,909
Nov-07	39387	266,070	64,078	4,152		3,928				3,905
Dec-07	39417	256,376	64,090	4,000		3,922				3,901
Jan-08	39448	287,562	64,123	4,485	3,826	3,917	3,895			
Feb-08	39479	230,409	64,143	3,592		3,911				3,893
Mar-08	39508	218,662	64,262	3,403		3,906				3,889
Apr-08	39539	267,636	64,324	4,161		3,900				3,885
May-08	39569	253,609	64,502	3,932		3,895				3,881
Jun-08	39600	312,126	64,553	4,835		3,889				3,877
Jul-08	39630	360,982	64,545	5,593		3,883				3,873
Aug-08	39661	318,540	64,724	4,922		3,878				3,869
Sep-08	39692	327,161	64,647	5,061		3,872				3,865
Oct-08	39722	323,993	64,547	5,019		3,867				3,861
Nov-08	39753	236,435	64,259	3,679		3,861				3,857
Dec-08	39783	268,221	64,262	4,174		3,856				3,853
Jan-09	39814	258,120	64,414	4,007	3,883	3,850	3,849			
Feb-09	39845	246,225	64,095	3,842		3,844				3,844
Mar-09	39873	243,777	64,163	3,799		3,839				3,841
Apr-09	39904	239,107	64,083	3,731		3,833				3,837
May-09	39934	250,021	64,090	3,901		3,828				3,833
Jun-09	39965	305,236	64,224	4,753		3,822				3,829
Jul-09	39995	367,447	64,321	5,713		3,817				3,825
Aug-09	40026	307,869	64,400	4,781		3,811				3,820
Sep-09	40057	291,368	64,304	4,531		3,806				3,816
Oct-09	40087	260,805	64,139	4,066		3,800				3,812
Nov-09	40118	228,718	64,099	3,568		3,794				3,808
Dec-09	40148	269,525	63,989	4,212		3,789				3,804
Jan-10	40179	259,329	63,921	4,057	3,819	3,783	3,800			
Feb-10	40210	231,028	63,981	3,611		3,778				3,796
Mar-10	40238	242,985	64,131	3,789		3,772				3,792
Apr-10	40269	252,614	64,359	3,925		3,767				3,788
May-10	40299	257,090	64,400	3,992		3,761				3,784
Jun-10	40330	306,956	64,574	4,754		3,756				3,780
Jul-10	40360	333,528	64,709	5,154		3,750				3,776
Aug-10	40391	323,423	64,748	4,995		3,745				3,772
Sep-10	40422	336,320	64,795	5,191		3,739				3,768
Oct-10	40452	310,025	64,731	4,789		3,733				3,764
Nov-10	40483	255,676	64,594	3,958		3,728				3,760
Dec-10	40513	273,045	64,486	4,234		3,722				3,756
Jan-11	40544	250,997	64,325	3,902	3,732	3,717	3,752			
Feb-11	40575	229,477	64,366	3,565		3,711				3,748
Mar-11	40603	240,350	64,461	3,729		3,706				3,744
Apr-11	40634	246,332	64,326	3,829		3,700				3,740
May-11	40664	256,424	64,391	3,982		3,695				3,736
Jun-11	40695	339,273	64,667	5,246		3,689				3,732
Jul-11	40725	300,188	64,811	4,632		3,684				3,728
Aug-11	40756	354,104	64,862	5,459		3,678				3,724
Sep-11	40787	334,434	64,925	5,151		3,672				3,720
Oct-11	40817	260,518	64,811	4,020		3,667				3,716
Nov-11	40848	232,678	64,736	3,594		3,661				3,712
Dec-11	40878	237,936	64,571	3,685		3,656				3,708
12/31/2011	40908	(Base) + (10-yr Avg Non-Base) 12/31/2011:				WINTER (BASE)	TOTAL:	WINTER (BASE)	TOTAL:	
11/30/2013	41608					3,650	4,065	3,704	4,118	
7/1/2014	41821					3,522	3,937	3,611	4,026	
7/1/2015	42186					3,483	3,898	3,583	3,997	
7/1/2016	42552					3,417	3,832	3,534	3,949	
7/1/2017	42917					3,350	3,765	3,486	3,901	
7/1/2018	43282					3,283	3,698	3,437	3,852	
						3,217	3,631	3,389	3,804	

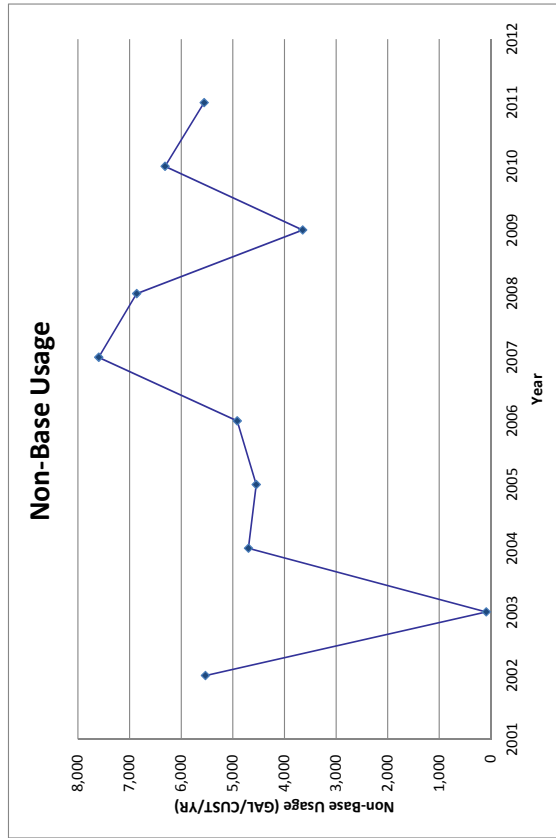
-67	gal/cust/month	-48	gal/cust/month
-804	gal/cust/year	-576	gal/cust/year
Annual rate at 2011	-1.65%	Annual rate at 2011	-1.17%

Annual rate at 2011	-1.65%	Annual rate at 2011	-1.17%
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Calculation of Percentage of Usage that is Base Usage

Exhibit JJC- 31.1.B

Basis of Calc.		Unit	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	10-YR AVG
CHATTANOOGA, TENNESSEE													
Winter Residential Usage	Jan-Mar	KGAL	774,098	805,478	745,849	750,509	756,488	757,910	736,633	748,122	733,342	720,824	
Winter Residential Usage Per Day	Divide by 90 or 91	KGAL/DAY	8,601	8,950	8,196	8,339	8,405	8,421	8,095	8,312	8,148	8,009	
Annual Base Residential Usage	Multiply by 365 or 366	KGAL	3,139,397	3,266,661	2,998,788	3,043,731	3,067,979	3,073,746	2,962,722	3,034,050	2,974,109	2,923,342	
Total Annual Residential Usage	Jan-Dec		3,474,461	3,272,271	3,289,599	3,327,439	3,379,249	3,560,925	3,405,336	3,263,218	3,382,019	3,282,711	
Percent Base Residential Usage		%	90.4%	99.8%	91.2%	91.5%	90.8%	86.3%	87.0%	92.8%	87.9%	89.1%	90.7%
Annual Non-Base Residential Usage		KGAL	335,064	5,610	289,811	283,708	311,270	487,179	442,614	234,168	407,910	359,369	
Average Number of Customers	Apr-Dec		60,557	60,837	61,678	62,379	63,309	64,117	64,485	64,183	64,600	64,678	
Non-Base Usage	Apr-Dec	GAL/CUST/YR	5,533	92	4,699	4,548	4,917	7,598	6,864	3,648	6,314	5,556	4,977

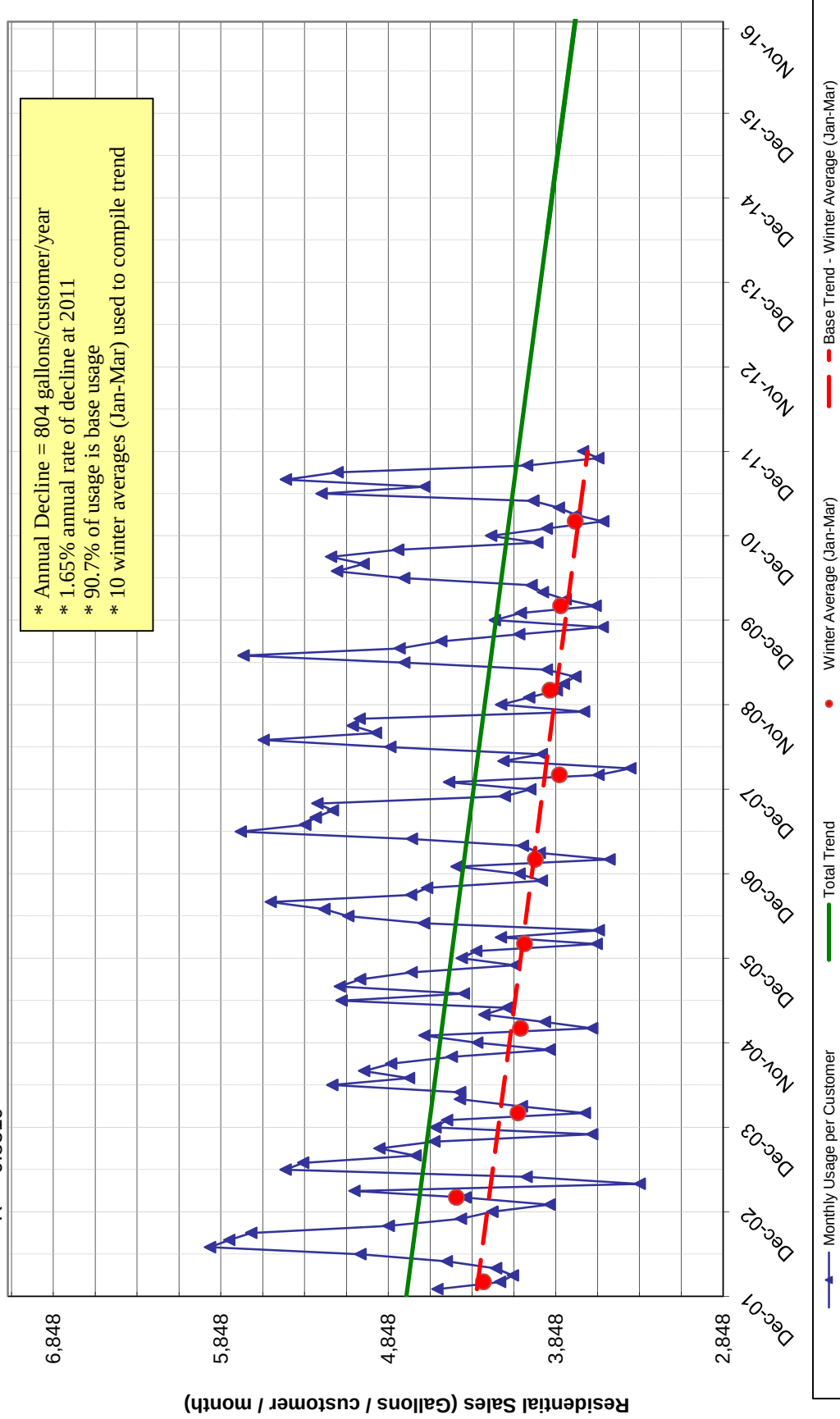


Chattanooga, TN American Water Residential Sales Per Customer (10-Year Winter Trend)

Exhibit JJC- 31.1.C

$$y = -0.1826x + 11,119.9289$$

$$R^2 = 0.8510$$



Chattanooga, TN American Water Residential Sales Per Customer (5-Year Winter Trend)

Exhibit JJC- 31.1.D

$$y = -0.1325x + 9123.9$$
$$R^2 = 0.7579$$

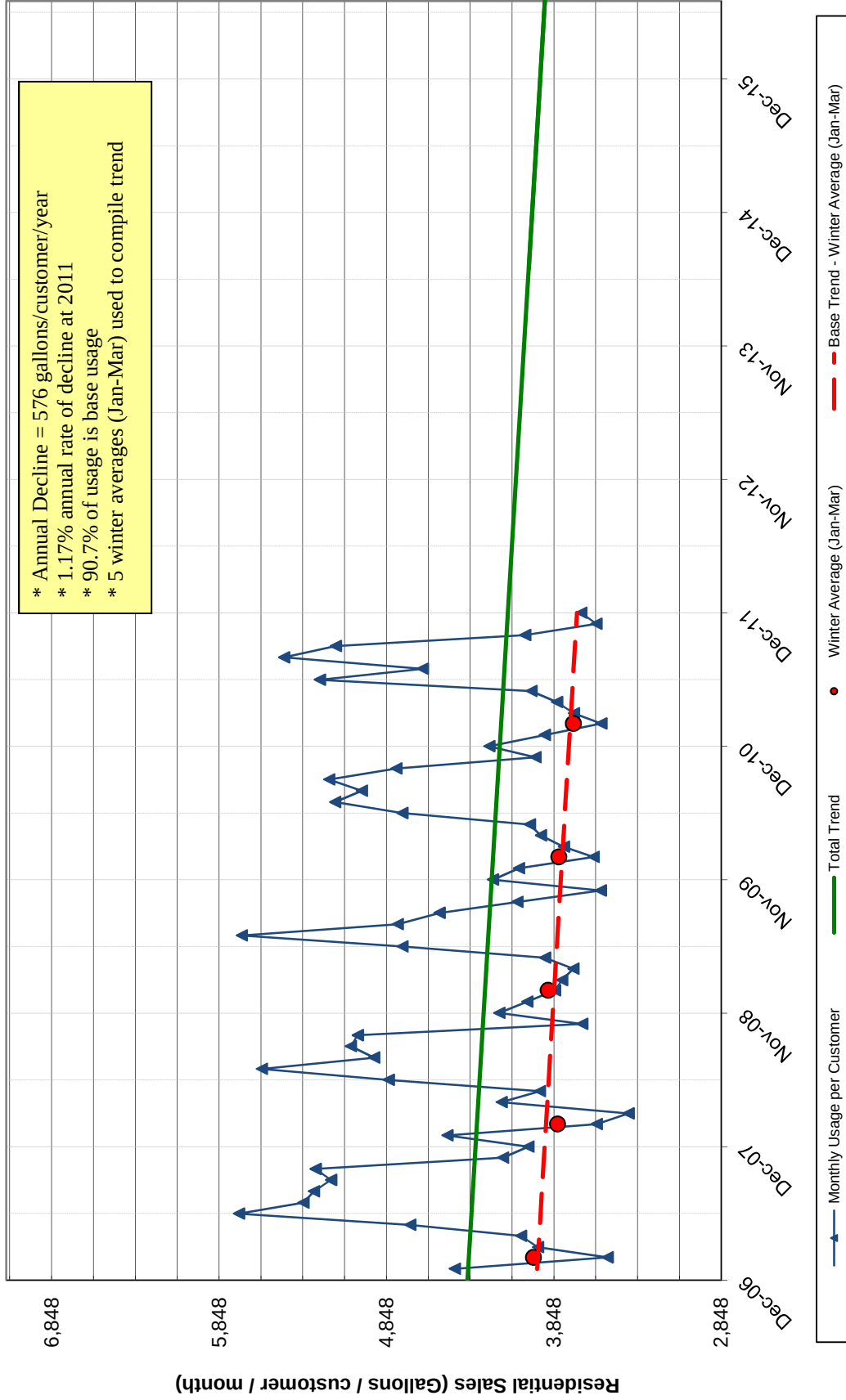


Exhibit JJC- 31.4.A

CHATTANOOGA, TENNESSEE AMERICAN WATER Commercial Customer and Industrial Data December 2001 - December 2011					5-MONTH WINTER DECEMBER - APRIL			
					Winter Avg. Mo. Usage Per Cust. (DEC - APR)	10-YEAR		5-YEAR
						Trendline 2003-2012	% Base 92.9%	Trendline 2008-2012
						Non-Base Usage (gal/cust/mo) 2,203.42		Non-Base Usage (gal/cust/mo) 2,203.42
DATE	Day	USAGE (KGAL)	# Cust.	Mo. Usage per cust.				
Dec-01	37,226	236,691	7,902	29,953		29,956		
Jan-02	37,257	237,384	7,918	29,980	28,994	29,934	y = -0.7224x + 56848 R² = 0.2702	
Feb-02	37,288	220,641	7,934	27,810		29,911		
Mar-02	37,316	221,638	7,983	27,764		29,891		
Apr-02	37,347	236,201	8,017	29,463		29,869		
May-02	37,377	247,253	8,032	30,783		29,847		
Jun-02	37,408	331,456	8,084	41,001		29,824		
Jul-02	37,438	257,534	8,109	31,759		29,803		
Aug-02	37,469	305,586	8,137	37,555		29,780		
Sep-02	37,500	301,621	8,209	36,743		29,758		
Oct-02	37,530	274,885	8,213	33,469		29,736		
Nov-02	37,561	253,521	8,189	30,959		29,714		
Dec-02	37,591	233,487	8,192	28,502		29,692		
Jan-03	37,622	207,576	8,207	25,293	27,764	29,670		
Feb-03	37,653	205,040	8,244	24,871		29,647		
Mar-03	37,681	280,800	8,275	33,934		29,627		
Apr-03	37,712	218,737	8,342	26,221		29,605		
May-03	37,742	216,574	8,381	25,841		29,583		
Jun-03	37,773	344,664	8,361	41,223		29,561		
Jul-03	37,803	299,972	8,370	35,839		29,539		
Aug-03	37,834	256,573	8,360	30,691		29,517		
Sep-03	37,865	275,079	8,334	33,007		29,494		
Oct-03	37,895	267,545	8,295	32,254		29,473		
Nov-03	37,926	216,293	8,274	26,141		29,450		
Dec-03	37,956	241,305	8,260	29,214		29,429		
Jan-04	37,987	276,894	8,148	33,983	31,597	29,406		
Feb-04	38,018	276,894	8,135	34,037		29,384		
Mar-04	38,047	247,039	8,169	30,241		29,363		
Apr-04	38,078	249,534	8,179	30,509		29,340		
May-04	38,108	244,590	8,202	29,821		29,319		
Jun-04	38,139	296,368	8,242	35,958		29,296		
Jul-04	38,169	278,729	8,254	33,769		29,275		
Aug-04	38,200	299,176	8,254	36,246		29,252		
Sep-04	38,231	293,816	8,221	35,740		29,230		
Oct-04	38,261	322,565	8,214	39,270		29,208		
Nov-04	38,292	263,274	8,191	32,142		29,186		
Dec-04	38,322	248,783	8,189	30,380		29,164		
Jan-05	38,353	309,193	8,148	37,947	31,142	29,142		
Feb-05	38,384	232,169	8,153	28,477		29,119		
Mar-05	38,412	234,321	8,160	28,716		29,099		
Apr-05	38,443	247,294	8,191	30,191		29,077		
May-05	38,473	270,321	8,188	33,014		29,055		
Jun-05	38,504	284,967	8,223	34,655		29,033		
Jul-05	38,534	281,845	8,221	34,284		29,011		
Aug-05	38,565	290,710	8,233	35,310		28,989		
Sep-05	38,596	300,690	8,244	36,474		28,966		
Oct-05	38,626	280,006	8,234	34,006		28,945		
Nov-05	38,657	262,871	8,219	31,983		28,922	y = -1.0615x + 70176 R² = 0.5267	
Dec-05	38,687	246,903	8,208	30,081		28,901		
Jan-06	38,718	247,002	8,178	30,203	28,615	28,878		29,077
Feb-06	38,749	212,969	8,185	26,019		28,856		29,044
Mar-06	38,777	257,214	8,155	31,541		28,835		29,014
Apr-06	38,808	206,542	8,186	25,231		28,813		28,981
May-06	38,838	292,320	8,186	35,710		28,791		28,949
Jun-06	38,869	290,413	8,231	35,283		28,769		28,917
Jul-06	38,899	280,863	8,228	34,135		28,747		28,885
Aug-06	38,930	322,192	8,234	39,129		28,725		28,852
Sep-06	38,961	272,617	8,225	33,145		28,703		28,819
Oct-06	38,991	285,026	8,211	34,713		28,681		28,787
Nov-06	39,022	230,106	8,191	28,093		28,659		28,754
Dec-06	39,052	227,225	8,168	27,819		28,637		28,722
Jan-07	39,083	251,924	8,163	30,862	28,348	28,614		28,689
Feb-07	39,114	210,348	8,173	25,737		28,592		28,656
Mar-07	39,142	235,698	8,210	28,709		28,572		28,627
Apr-07	39,173	235,843	8,242	28,615		28,549		28,594
May-07	39,203	264,083	8,242	32,041		28,528		28,562
Jun-07	39,234	307,137	8,284	37,076		28,505		28,529
Jul-07	39,264	303,212	8,269	36,669		28,484		28,497
Aug-07	39,295	302,586	8,292	36,491		28,461		28,464
Sep-07	39,326	307,039	8,297	37,006		28,439		28,431
Oct-07	39,356	306,989	8,298	36,996		28,417		28,400
Nov-07	39,387	256,440	8,246	31,099		28,395		28,367
Dec-07	39,417	247,611	8,232	30,079		28,373		28,335
Jan-08	39,448	250,852	8,204	30,577	28,784	28,351		28,302
Feb-08	39,479	219,399	8,192	26,782		28,328		28,269
Mar-08	39,508	216,745	8,232	26,330		28,307		28,238
Apr-08	39,539	249,256	8,266	30,154		28,285		28,205
May-08	39,569	240,409	8,281	29,031		28,263		28,174
Jun-08	39,600	277,313	8,324	33,315		28,241		28,141
Jul-08	39,630	324,219	8,327	38,936		28,219		28,109
Aug-08	39,661	301,254	8,339	36,126		28,197		28,076
Sep-08	39,692	309,222	8,340	37,077		28,174		28,043
Oct-08	39,722	296,054	8,320	35,583		28,153		28,011
Nov-08	39,753	234,683	8,285	28,326		28,130		27,978
Dec-08	39,783	236,945	8,259	28,689		28,109		27,946
Jan-09	39,814	218,880	8,248	26,537	27,349	28,086		27,913
Feb-09	39,845	221,144	8,196	26,982		28,064		27,881
Mar-09	39,873	219,081	8,125	26,964		28,044		27,851
Apr-09	39,904	224,995	8,160	27,573		28,021		27,818
May-09	39,934	218,611	8,167	26,768		28,000		27,786
Jun-09	39,965	267,226	8,207	32,561		27,977		27,753
Jul-09	39,995	304,789	8,214	37,106		27,956		27,721
Aug-09	40,026	277,539	8,236	33,698		27,933		27,688
Sep-09	40,057	269,389	8,211	32,808		27,911		27,655
Oct-09	40,087	246,027	8,198	30,011		27,889		27,624
Nov-09	40,118	210,947	8,172	25,813		27,867		27,591
Dec-09	40,148	239,487	8,126	29,472		27,845		27,559
Jan-10	40,179	237,172	8,120	29,208	28,224	27,823		27,526
Feb-10	40,210	212,482	8,091	26,262		27,800		27,493
Mar-10	40,238	219,446	8,091	27,122		27,780		27,463
Apr-10	40,269	235,751	8,113	29,058		27,758		27,430
May-10	40,299	233,453	8,121	28,747		27,736		27,399
Jun-10	40,330	265,506	8,134	32,642		27,714		27,366
Jul-10	40,360	288,201	8,129	35,453		27,692		27,334
Aug-10	40,391	292,691	8,139	35,962		27,670		27,301
Sep-10	40,422	302,367	8,143	37,132		27,647		27,268
Oct-10	40,452	277,742	8,161	34,033		27,625		27,236
Nov-10	40,483	238,751	8,146	29,309		27,603		27,203
Dec-10	40,513	236,380	8,115	29,129		27,581		27,171
Jan-11	40,544	217,574	8,106	26,841	26,690	27,559		27,139
Feb-11	40,575	203,196	8,091	25,114		27,537		27,106
Mar-11	40,603	214,877	8,138	26,404		27,516		27,076
Apr-11	40,634	210,638	8,114	25,960		27,494		27,043
May-11	40,664	233,214	8,137	28,661		27,472		27,011
Jun-11	40,695	288,634	8,143	35,446		27,450		26,978
Jul-11	40,725	285,932	8,146	35,101		27,428		26,946
Aug-11	40,756	301,814	8,141	37,073		27,406		26,914
Sep-11	40,787	305,154	8,131	37,530		27,383		26,881
Oct-11	40,817	243,511	8,125	29,971		27,362		26,849
Nov-11	40,848	225,905	8,113	27,845		27,339		26,816
Dec-11	40,878	208,785	8,112	25,738		27,318		26,784
12/31/2011 40,908 11/30/2013 41,608 7/1/2014 41,821 7/1/2015 42,186 7/1/2016 42,552 7/1/2017 42,917 7/1/2018 43,282					(Base) + (10-yr Avg Non-Base) 12/31/2011:			
					WINTER (BASE)	TOTAL TREND PROJ.	WINTER (BASE)	TOTAL:
						27,296	29,499	28,956
						26,790	28,994	28,213
						26,637	28,840	27,986
						26,373	28,576	27,599
						26,108	28,312	27,210
						25,845	28,048	26,823
						25,581	27,784	26,436
					(264) (gal/cust/month)		(387) (gal/cust/month)	
					(3,164) (gal/cust/year)		-4,649 (gal/cust/year)	
					Annual Rate at 2011	-0.89%	Annual Rate at 2011	-1.3

Exhibit JJC- 31.4.B

Calculation of Percentage of Usage that is Base Usage

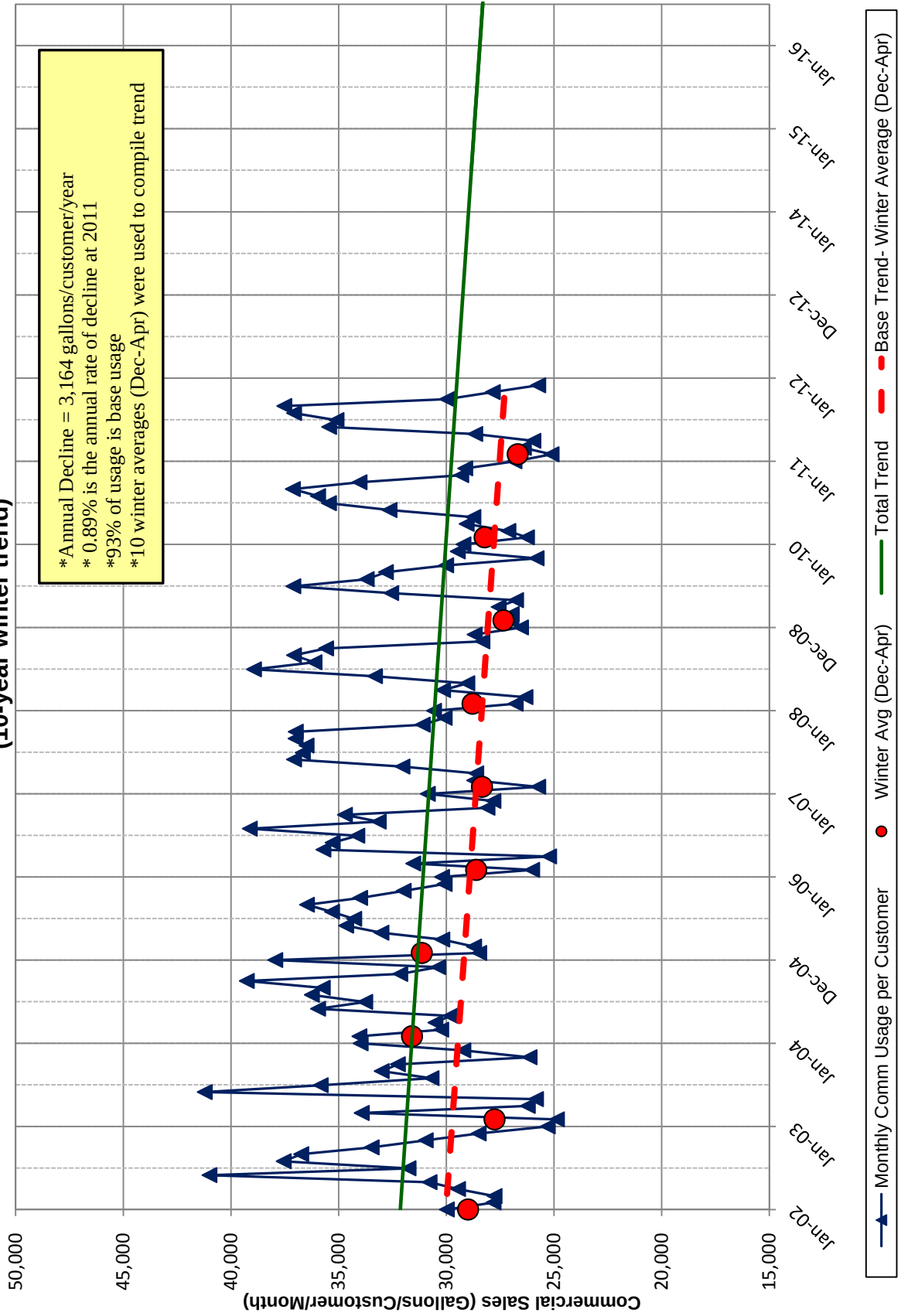
CHATTANOOGA, TENNESSEE		Basis of Calc.										10-YR AVG
Unit		2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	
Dec-Apr	Winter Commercial Usage	1,152,555	1,145,640	1,291,666	1,271,760	1,170,630	1,425,121	1,183,863	1,121,045	1,144,338	1,082,665	
Divide by 151 or 152	Winter Commercial Usage Per Day	7,633	7,587	8,498	8,422	7,753	9,438	7,789	7,424	7,578	7,170	
Multiply by 365 or 366	Annual Base Commercial Usage	2,785,978	2,769,262	3,110,196	3,074,122	2,829,669	3,444,817	2,850,519	2,709,817	2,766,115	2,617,038	
Dec-Nov	Total Annual Commercial Usage	3,124,411	3,022,340	3,250,184	3,243,170	3,144,167	3,456,135	2,919,406	2,915,573	3,043,049	2,966,829	
	Percent Base Commercial Usage	89%	92%	95%	95%	90%	100%	98%	93%	91%	88%	
	Annual Non-Base Commercial Usage	338,434	253,078	179,988	169,048	314,498	11,306	68,789	205,762	276,934	349,791	
May - Nov	Average Number of Customers	8,139	8,339	8,225	8,223	8,215	8,275	8,317	8,201	8,139	8,134	
May - Nov	GAL/CUST/YR	41,582	30,348	21,882	20,558	38,283	1,366	8,271	25,091	34,026	43,005	
	Non-Base Usage										26,441	

Chattanooga, TN American Water Commercial Sales per Customer (10-year winter trend)

Exhibit JJC- 31.4.C

$$y = -0.7585x + 58277$$

$$R^2 = 0.2969$$



Chattanooga, TN American Water Commercial Sales per Customer (5-year winter trend)

Exhibit JJC- 31.4.D

$$y = -1.0615x + 70176$$

$$R^2 = 0.5267$$

