

Large Filing Separator Sheet

Case Number: 09-391-WS-
AIR

File Date: 2/22/2010

Section: 4 of 4

Number of Pages: 119

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hearing on 1/28/2010

BEFORE THE TENNESSEE REGULATORY AUTHORITY

RE: TENNESSEE-AMERICAN WATER COMPANY

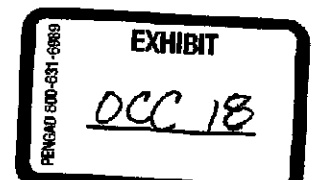
CASE NO. _____

DIRECT TESTIMONY OF PAUL R. HERBERT

Line
No.

- 1 Q. Please state your name and address.
- 2 A. My name is Paul R. Herbert. My business address is 207 Senate Avenue,
3 Camp Hill, Pennsylvania.
- 4 Q. By whom are you employed?
- 5 A. I am employed by Gannett Fleming, Inc.
- 6 Q. Please describe your position with Gannett Fleming, Inc. and briefly state
7 your general duties and responsibilities.
- 8 A. I am President of the Valuation and Rate Division. My duties and
9 responsibilities include the preparation of accounting and financial data for
10 revenue requirement and cash working capital claims, the allocation of cost of
11 service to customer classifications, and the design of customer rates in
12 support of public utility rate filings.
- 13 Q. Have you presented testimony in rate proceedings before a regulatory
14 agency?
- 15 A. Yes. I have testified before the Pennsylvania Public Utility Commission, the
16 New Jersey Board of Public Utilities, the Public Utilities Commission of Ohio,
17 the Public Service Commission of West Virginia, the Kentucky Public Service
18 Commission, the Iowa State Utilities Board, the Virginia State Corporation
19 Commission, the Tennessee Regulatory Authority, the California Public

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1 Utilities Commission, New Mexico Public Regulation Commission and the
2 Missouri Public Service Commission concerning revenue requirements, cost
3 of service allocation, rate design and cash working capital claims. A list of
4 the cases in which I have testified is provided at the end of my direct
5 testimony.

6 Q. What is your educational background?

7 A. I have a Bachelor of Science Degree in Finance from the Pennsylvania State
8 University, University Park, Pennsylvania.

9 Q. Would you please describe your professional affiliations?

10 A. I am a member of the American Water Works Association and served as a
11 member of the Management Committee for the Pennsylvania Section. I am
12 also a member of the Pennsylvania Municipal Authorities Association. In
13 1998, I became a member of the National Association of Water Companies
14 as well as a member of its Rates and Revenue Committee.

15 Q. Briefly describe your work experience.

16 A. I joined the Valuation Division of Gannett Fleming Corddry and Carpenter,
17 Inc., predecessor to Gannett Fleming, Inc., in September 1977, as a Junior
18 Rate Analyst. Since then, I advanced through several positions and was
19 assigned the position of Manager of Rate Studies on July 1, 1990. On June
20 1, 1994, I was promoted to Vice President of the Valuation and Rate Division
21 and on July 1, 2007, I was promoted to my current position as President.

22 While attending Penn State, I was employed during the summers of
23 1972, 1973 and 1974 by the United Telephone System - Eastern Group in its
24 accounting department. Upon graduation from college in 1975, I was

1 employed by Herbert Associates, Inc., Consulting Engineers (now Herbert
2 Rowland and Grubic, Inc.), as a field office manager until September 1977.

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

4 A. The purpose of my testimony is to explain Tennessee-American Water
5 Company's cost of service allocation study and proposed rate design set
6 forth in Exhibit No. PRH-1.

7 COST OF SERVICE ALLOCATION

8 Q. Briefly describe the purpose of your cost allocation study.

9 A. The purpose of the study was to allocate the total cost of service, which is
10 the total revenue requirement, to the several customer classifications. In the
11 study, the total costs were allocated to the residential, commercial, industrial,
12 public authorities, sales for resale, private fire protection and public fire
13 protection classifications in accordance with generally accepted principles
14 and procedures. The cost of service allocation results in indications of the
15 relative cost responsibilities of each class of customers. The allocated cost
16 of service is one of several criteria appropriate for consideration in designing
17 customer rates to produce the required revenues. The results of my
18 allocation of the pro forma cost of service as of November 30, 2007, and
19 proposed customer rates to produce the pro forma revenue requirement as
20 of that date are presented in the study.

21 Q. Please describe the method of cost allocation that was used in your study.

22 A. The base-extra capacity method, as described in 2000 and prior Water
23 Rates Manuals published by the American Water Works Association
24 (AWWA), was used to allocate the pro forma costs. Base-extra capacity is a

1 recognized method for allocating the cost of providing water service to
2 customer classifications in proportion to the classifications' use of the
3 commodity, facilities, and services. It is generally accepted as a sound
4 method for allocating the cost of water service and was used by the
5 Company in the Company's previous studies.

6 Q. Please describe the procedure followed in the cost allocation study.

7 A. Each identified classification of cost in the pro forma cost of service was
8 allocated to the customer classifications through the use of appropriate
9 factors. These allocations are presented in Schedule B on pages 8 through
10 14. The items of cost, which include operation and maintenance expenses,
11 depreciation expense, taxes and income available for return, are identified in
12 columns 1 and 2 of Schedule B. The cost of each item, shown in column 4,
13 is allocated to the several customer classifications based on allocation
14 factors referenced in column 3. The development of the allocation factors is
15 presented in Schedule C. I will use some of the larger cost items to illustrate
16 the principles and considerations used in the cost allocation methodology.
17 Purchased water, purchased electric power, treatment chemicals and waste
18 disposal are examples of costs that tend to vary with the amount of water
19 consumed and are thus considered base costs. They are allocated to the
20 several customer classifications in direct proportion to the average daily
21 consumption of those classifications through the use of Factor 1. The
22 development of Factor 1 is shown in Schedule C on page 15.

23 Other source of supply, water treatment and transmission costs are
24 associated with meeting usage requirements in excess of the average,

1 generally to meet maximum day requirements. Costs of this nature were
2 allocated to customer classifications partially as base costs, proportional to
3 average daily consumption, partially as maximum day extra capacity costs,
4 in proportion to maximum day extra capacity, and, in the case of certain
5 pumping stations and transmission mains, partially as fire protection costs,
6 through the use of Factors 2 and 3. The development of the allocation
7 factors, referenced as Factors 2 and 3, is shown in Schedule C, on pages 15
8 through 17.

9 Costs associated with storage facilities and the capital costs of
10 distribution mains were allocated partly on the basis of average consumption
11 and partly on the basis of maximum hour extra demand, including the
12 demand for fire protection service, because these facilities are designed to
13 meet maximum hour and fire demand requirements. The development of
14 the factors, referenced as Factors 4 and 5, used for these allocations is
15 shown in Schedule C, on pages 18 through 22.

16 Factor 4, used to allocate distribution mains, is based on the same
17 volumes used in Factors 1 through 3 except that the consumption for the
18 larger industrial customers and sales for resale classifications are excluded.
19 This is to recognize that larger industrial and sales for resale customers are
20 served primarily from larger mains. Factor 5, Allocation of Storage Facilities,
21 uses the same basic methodology as Factor 4, although Factor 1 volumes
22 are used and the fire demand weighting is based on the storage capacity for
23 fire service as compared to the total storage capacity.

1 Fire demand costs were allocated to public and private fire protection
2 service in proportion to the relative potential demands on the system by
3 public fire hydrants and private service lines as presented in Schedule C on
4 page 38.

5 Costs associated with pumping facilities and the operation and
6 maintenance of mains were allocated on combined bases of maximum day
7 and maximum hour extra capacity because these facilities serve both
8 functions. For pumping facilities, the relative weightings of Factor 2
9 (maximum day), Factor 3 (maximum day and fire) and Factor 4 (maximum
10 hour) were based on horsepower of pumps serving maximum day, maximum
11 day and fire and maximum hour functions. The development of this
12 weighted factor, referenced as Factor 6, is presented on page 23.

13 For operation and maintenance of mains, the relative weightings of
14 Factor 3 (maximum day and fire) and Factor 5 (maximum hour) were based
15 on the footage of transmission and distribution mains. For cost allocation
16 purposes, mains larger than 10-inch were classified as serving a
17 transmission function and mains 10-inch and smaller were classified as
18 serving a distribution function. The development of this weighted factor,
19 referenced as Factor 7, is presented on page 24.

20 Costs associated with meters were allocated to customer
21 classifications in proportion to the capacity requirements of the sizes and
22 quantities of meters serving each classification. The development of the
23 factor for meters, referenced as Factor 10, is presented on page 26. Factor
24 11, Allocation of Services, was developed in a similar manner as Factor 10,

1 except that the relative unit cost per foot by service size was used in order to
2 weight the number of services by classification. Costs associated with public
3 fire hydrants were assigned directly to the public fire protection class (Factor
4 21).

5 Costs for customer accounting, billing and collecting were allocated
6 on the basis of the number of customers for each classification, and costs
7 for meter reading were allocated on the basis of metered customers. The
8 development of these factors, referenced as Factor 12 and Factor 13, is
9 presented on page 30.

10 Administrative and general costs were allocated on the basis of
11 allocated direct costs, excluding those costs such as purchased water,
12 power, chemicals and waste disposal which require little administrative and
13 general expense. The development of factors for this allocation, referenced
14 as Factor 14, is presented on page 31.

15 Annual depreciation accruals were allocated on the basis of the
16 function of the facilities represented by the depreciation expense for each
17 depreciable plant account. The original cost less depreciation of utility plant
18 in service was similarly allocated for the purpose of developing factors,
19 referenced as Factor 17, for allocating items such as income taxes and
20 return. The development of Factor 17 is presented on pages 32 through 35.

21 Factors 14 and 17, as well as Factors 8, 9, 15, 16 and 18, are
22 composite allocation factors. These factors are based on the result of
23 allocating other costs and are computed internally in the cost allocation

- 1 program. Refer to Schedule C for a description of the bases for each
2 composite allocation factor.
- 3 Q. What was the source of the total cost of service data set forth in column 3 of
4 Schedule B?
- 5 A. The pro forma costs of service were furnished by the Company, and are set
6 forth in various Company exhibits.
- 7 Q. Refer to Schedule C, pages 16 and 19, and explain the source of the system
8 maximum day and maximum hour ratios used in the development of factors
9 referenced as Factors 2, 3 and 4.
- 10 A. The ratios were based on a review of historic Company data. The maximum
11 day ratio of 1.45 times the average day approximates the ratio of maximum
12 daily send-out experienced by the Company in the last five years. The
13 maximum hour ratio of 1.9 times the average hour was estimated based on
14 the relationship of system maximum hour ratios compared to system
15 maximum day ratios for other similar systems.
- 16 Q. What factors were considered in estimating the maximum day extra capacity
17 and maximum hour extra capacity demands used for the customer
18 classifications in the development of Factors 2, 3 and 4?
- 19 A. The estimated demands were based on judgment which considered field
20 studies of actual customer class demands conducted for other American
21 Companies, field observations of the service areas of the Company, field
22 studies of similar service areas, and generally-accepted customer class
23 maximum day and maximum hour demand ratios.
- 24 Q. Have you summarized the results of your cost allocation study?

1 A. Yes. The results are summarized in columns 1, 2 and 3 of Schedule A on
2 page 6. Column 2 sets forth the total allocated pro forma cost of service as
3 of November 30, 2007, for each customer classification identified in column
4 1. Column 3 presents each customer classification's cost responsibility as a
5 percent of the total cost.

6 Q. Have you compared these cost responsibilities with the proportionate
7 revenue under existing rates for each customer classification?

8 A. Yes. A comparison of the allocated cost responsibilities and the percentage
9 revenue under existing rates can be made by comparing columns 3 and 5 of
10 Schedule A. A similar comparison of the percentage cost responsibilities
11 (relative cost of service) and the percentage of pro forma revenues (relative
12 revenues) under proposed rates can be made by comparing columns 3 and
13 7 of Schedule A.

14 **CUSTOMER RATE DESIGN**

15 Q. What are the appropriate factors to be considered in the design of the rate
16 structure?

17 A. In preparing a rate structure, one should consider the allocated costs of
18 service, the impact of radical changes from the present rate structure, the
19 understandability and ease of application of the rate structure, community
20 and social influences, and the value of service. General guidelines should
21 be developed with management to determine the extent to which each of
22 these criteria is to be incorporated in the rate structure to be designed,
23 inasmuch as the pricing of a commodity or service is a function of
24 management.

- 1 Q. Did management discuss rate design guidelines with you?
- 2 A. Yes, they did. The guidelines were to increase service charges and
3 volumetric rates so that each class receives approximately the same
4 percentage increase. In addition, the Company proposes to merge the
5 Lookout Mountain and Lakeview Tariffs into one Mountain Tariff and begin
6 the process of merging Lone Oak and Suck Creek to the Mountain Tariff.
- 7 Q. Does the proposed rate design follow these guidelines?
- 8 A. Yes, it does. The revenues under proposed rates reflects increases by class
9 ranging from 21.3% to 21.7%, with the exception of Other Water Utilities
10 which reflects one customer with no increase due to contract restrictions.
11 Also, merging the mountain service areas into one tariff reflects the similar
12 service characteristics of these areas. The tariffs for Lone Oak and Suck
13 Creek will begin to merge to the Mountain Tariff by adopting the basic
14 blocking structure while remaining revenue neutral.
- 15 Q. Have you prepared comparisons of present and proposed rates for each
16 classification and each rate zone?
- 17 A. Yes. Schedule D on page 40 of the cost allocation study presents
18 comparisons of the present and proposed rates.
- 19 Q. Does this conclude your direct testimony?
- 20 A. Yes, it does.

LIST OF CASES IN WHICH PAUL R. HERBERT TESTIFIED

<u>Year</u>	<u>Jurisdiction</u>	<u>Docket No.</u>	<u>Client/Utility</u>	<u>Subject</u>
1. 1983	Pa. PUC	R-832389	T. W. Phillips Gas and Oil Co.	Pro Forma Revenues
2. 1988	Pa. PUC	R-881208	Pennsylvania-American Water Company	Bill Analysis and Rate Application
3. 1991	PSC of W. Va.	91-108-W-WA	Clarksburg Water Board	Revenue Requirements (Rule 42)
4. 1992	Pa. PUC	R-922276	North Penn Gas Company	Cash Working Capital
5. 1992	NJ BPU	WR92050532J	The Atlantic City Sewerage Company	Cost Allocation and Rate Design
6. 1994	Pa. PUC	R-943053	The York Water Company	Cost Allocation and Rate Design
7. 1994	Pa. PUC	R-943124	City of Bethlehem	Revenue Requirements, Cost Allocation, Rate Design and Cash Working Capital
8. 1994	Pa. PUC	R-943177	Roaring Creek Water Company	Cash Working Capital
9. 1994	Pa. PUC	R-943245	North Penn Gas Company	Cash Working Capital
10. 1994	NJ BPU	WR94070325	The Atlantic City Sewerage Company	Cost Allocation and Rate Design
11. 1995	Pa. PUC	R-953300	Citizens Utilities Water Company of Pennsylvania	Cost Allocation and Rate Design
12. 1995	Pa. PUC	R-953378	Apollo Gas Company	Revenue Requirements and Rate Design
13. 1995	Pa. PUC	R-953379	Carnegie Natural Gas Company	Revenue Requirements and Rate Design
14. 1996	Pa. PUC	R-963619	The York Water Company	Cost Allocation and Rate Design
15. 1997	Pa. PUC	R-973972	Consumers Pennsylvania Water Company - Sheringo Valley Division	Cash Working Capital
16. 1998	Ohio PUC	98-178-W-S-AIR	Citizens Utilities Company of Ohio	Water and Wastewater Cost Allocation and Rate Design
17. 1998	Pa. PUC	R-984375	City of Bethlehem - Bureau of Water	Revenue Requirement, Cost Allocation and Rate Design
18. 1998	Pa. PUC	R-984605	The York Water Company	Cost Allocation and Rate Design
19. 1998	Pa. PUC	R-984868	Philadelphia Suburban Water Company	Cost Allocation and Rate Design
20. 1998	PSC of W. Va.	98-1570-W-WA	Clarksburg Water Board	Revenue Requirements (Rule 42), Cost Allocation and Rate Design
21. 2000	Ky. PSC	2000-120	Kentucky-American Water Company	Cost Allocation and Rate Design
22. 2000	Pa. PUC	R-00005277	PPL Gas Utilities	Cash Working Capital
23. 2000	NJ BPU	WR00080575	Atlantic City Sewerage Company	Cost Allocation and Rate Design
24. 2001	Ia. St Util Bd	RPU-01-4	Iowa-American Water Company	Cost Allocation and Rate Design
25. 2001	Va. St. Corp Cm	PUE010312	Virginia-American Water Company	Cost Allocation and Rate Design
26. 2001	WV PSC	01-0328-W-42T	West-Virginia American Water Company	Cost Allocation and Rate Design
27. 2001	Pa. PUC	R-016114	City of Lancaster	Tapping Fee Study
28. 2001	Pa. PUC	R-016236	The York Water Company	Cost Allocation and Rate Design
29. 2001	Pa. PUC	R-016339	Pennsylvania-American Water Company	Cost Allocation and Rate Design
30. 2001	Pa. PUC	R-016750	Philadelphia Suburban Water Company	Cost Allocation and Rate Design

LIST OF CASES IN WHICH PAUL R. HERBERT TESTIFIED, cont.

<u>Year</u>	<u>Jurisdiction</u>	<u>Docket No.</u>	<u>Client/Utility</u>	<u>Subject</u>
32.	2003	Pa. PUC	The York Water Company	Cost Allocation and Rate Design
33.	2003	Tenn. Reg. Auth	Tennessee-American Water Company	Cost Allocation and Rate Design
34.	2003	Pa. PUC	Pennsylvania-American Water Company	Cost Allocation and Rate Design
35.	2003	NJ BPU	New Jersey-American Water Company	Cost Allocation and Rate Design
36.	2003	Mo. PSC	Missouri-American Water Company	Cost Allocation and Rate Design
37.	2004	Va. St. Corp Cm	Virginia-American Water Company	Cost Allocation and Rate Design
38.	2004	Pa. PUC	Pennsylvania Suburban Water Company	Cost Allocation and Rate Design
39.	2004	Pa. PUC	The York Water Company	Cost Allocation and Rate Design
40.	2004	NJ BPU	The Atlantic City Sewerage Company	Cost Allocation and Rate Design
41.	2005	WV PSC	Morgantown Utility Board	Cost Allocation and Rate Design
42.	2005	WV PSC	Morgantown Utility Board	Cost Allocation and Rate Design
43.	2005	Pa. PUC	Aqua Pennsylvania, Inc.	Cost Allocation and Rate Design
44.	2006	Pa. PUC	T. W. Phillips Gas and Oil Co.	Cost Allocation and Rate Design
45.	2006	Pa. PUC	The York Water Company	Cost Allocation and Rate Design
46.	2006	NJ BPU	New Jersey American Water Company	Cost Allocation and Rate Design
47.	2006	Pa. PUC	PPL Gas Utilities, Inc.	Cost Allocation and Rate Design
48.	2006	NM PRC	New Mexico American Water Company	Cost Allocation and Rate Design
49.	2006	Tenn. Reg Auth	Tennessee American Water Company	Cost Allocation and Rate Design
50.	2007	Ca. PUC	Suburban Water Systems	Water Conservation Rate Design
51.	2007	Ca. PUC	San Jose Water Company	Water Conservation Rate Design
52.	2007	Pa. PUC	Pennsylvania American Water Company	Cost Allocation and Rate Design
53.	2007	Ky. PSC	Kentucky American Water Company	Cost Allocation and Rate Design
54.	2007	Mo. PSC	Missouri American Water Company	Cost Allocation and Rate Design
55.	2007	Oh. PUC	Ohio American Water Company	Cost Allocation and Rate Design
56.	2007	IL CC	Illinois American Water Company	Customer Class Demand Study
57.	2007	Pa. PUC	Aqua Pennsylvania, Inc.	Cost Allocation and Rate Design
58.	2007	NJ BPU	The Atlantic City Sewerage Company	Cost Allocation and Rate Design
59.	2007	Pa. PUC	City of Bethlehem - Bureau of Water	Revenue Requirements, Cost Alloc.
60.	2007	WV PSC	Clarksburg Water Board	Cost Allocation and Rate Design
61.	2007	WV PSC	West Virginia American Water Company	Cost Allocation and Rate Design
62.	2008	NJ BPU	New Jersey American Water Company	Cost Allocation and Rate Design

TENNESSEE REGULATORY AUTHORITY

COMMONWEALTH OF PENNSYLVANIA

COUNTY OF CUMBERLAND

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

He is appearing as a witness on behalf of Tennessee-American Water Company before the Tennessee Regulatory Authority, and if present before the Authority and duly sworn, his testimony would set forth in the annexed transcript consisting 13 of pages.


Paul R. Herbert

Sworn to and subscribed before me
this 11th day of March 2008.


Notary Public

My commission expires February 20, 2011.

COMMONWEALTH OF PENNSYLVANIA
Notarial Seal
Cheryl Ann Fuller, Notary Public
East Pennsboro Twp., Cumberland County
My Commission Expires Feb. 20, 2011
Member, Pennsylvania Association of Notaries

TENNESSEE AMERICAN WATER COMPANY

Chattanooga, Tennessee

COST OF SERVICE ALLOCATION STUDY

AS OF NOVEMBER 30, 2007

AND

PROPOSED CUSTOMER RATES

GANNETT FLEMING, INC. - VALUATION AND RATE DIVISION

Harrisburg, Pennsylvania



GANNETT FLEMING, INC.
P.O. Box 67100
Harrisburg, PA 17106-7100

Location:
207 Senate Avenue
Camp Hill, PA 17011

Office: (717) 783-7211
Fax: (717) 783-4590
www.gannettfleming.com

March 6, 2008

Tennessee American Water Company
P.O. Box 6638
Chattanooga, TN 37401

Attention: John S. Watson
President

Gentlemen:

Pursuant to your request, we have conducted a cost of service allocation study based on pro forma revenue requirements estimated for the test year ended November 30, 2007, and have prepared proposed rate schedules designed to produce the pro forma revenue requirements.

The attached report presents the results of the study, as well as supporting schedules which set forth the detailed cost allocation calculations. Schedule A on page 6 presents a comparison of the cost of service by customer classification with the pro forma revenues produced by each classification under present and proposed rates.

Respectfully submitted,

GANNETT FLEMING, INC.

A handwritten signature in cursive script that reads "Paul R. Herbert".

PAUL R. HERBERT
President
Valuation and Rate Division

PRH/krm

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PART I. INTRODUCTION

TENNESSEE AMERICAN WATER COMPANY

COST OF SERVICE ALLOCATION STUDY AS OF NOVEMBER 30, 2007 AND PROPOSED CUSTOMER RATES

PART I. INTRODUCTION

PLAN OF REPORT

The report sets forth the results of the cost of service allocation study as of November 30, 2007, prepared for Tennessee American Water Company. Part I, Introduction, contains statements with respect to the basis of the study, the procedures employed, and a summary of the results of the study. Part II, Cost of Service by Customer Classification, presents detailed schedules of the allocation of costs to customer classifications, as well as the bases for the allocations. Part III, Proposed Customer Rates, sets forth the proposed rate structure.

BASIS OF THE STUDY

The purpose of the study was to allocate costs to several customer classifications based on considerations of quantity of water consumed, variability of rate of flow, and costs associated with metering, billing and accounting. The allocation study was based on recognized procedures for allocating the several categories of costs to customer classifications in proportion to each classification's use of the facilities, commodities and services which entail the total cost of providing water service.

ALLOCATION PROCEDURES

The allocation study was based on the Base-Extra Capacity Method for allocating costs to customer classifications. The method is described in the 2000 and prior editions

of the Water Rates Manual, published by the American Water Works Association. The four basic categories of cost responsibility are base, extra capacity, customer and fire protection costs. The following discussions present a brief description of these costs and the manner in which they were allocated.

Base Costs are costs that tend to vary with the quantity of water used, plus costs associated with supplying, treating, pumping and distributing water to customers under average load conditions, without the elements necessary to meet peak demands. Base costs were allocated to customer classifications on the basis of average daily usage.

Extra Capacity Costs are costs associated with meeting usage requirements in excess of the average. They include operating and capital costs for additional plant and system capacity beyond that required for average use. The extra capacity costs in this study are subdivided into costs necessary to meet maximum day extra demand and costs to meet maximum hour extra demand. The extra capacity costs were allocated to customer classifications on the bases of each classification's maximum day and hour usage in excess of average usage. (Extra capacity costs related to fire protection are allocated directly to the fire protection classifications.)

Customer Costs are costs associated with serving customers regardless of their usage or demand characteristics. Customer costs include the operating and capital costs related to meters and services, meter reading costs, and billing and collecting costs. The customer costs were allocated on the bases of the relative cost of meters and services, the number of meter readings and the number of bills.

Fire Protection Costs are costs associated with providing the facilities to meet the potential peak demand of fire protection service. Fire protection costs are subdivided into

costs to meet Public Fire Protection and Private Fire Protection demands. Operating and capital costs for hydrants were assigned directly to Public Fire Protection. The extra capacity costs assigned to fire protection service were allocated to Public and Private Fire Protection on the basis of the total relative demands of the hydrants and fire service lines.

RESULTS OF STUDY

The data summarized in Schedule A, "Comparison of Pro Forma Cost of Service with Revenues Under Present and Proposed Rates for the Twelve Months Ended November 30, 2007," constitute the principal results of the allocation study.

The cost of service by customer classification, shown in column 2 of Schedule A, is developed in Schedule B, "Allocation of Cost of Service to Customer Classifications for the Twelve Months Ended November 30, 2007". The allocation of the total cost of service to the several customer classifications was performed by applying the allocation factors referenced in column 3 to the cost of service by account in column 4. The bases of the allocation factors are presented in Schedule C.

DESIGN OF PROPOSED RATES

The results of the cost of service allocation study were discussed with Company management in order that it be afforded the opportunity of performing its role in the design of proposed rates. The rate design guidelines developed during the discussion were to increase service charges and volumetric rates so that each classification receives approximately the same increase.

In addition, the rates for Lookout Mountain and Lakeview will be merged into the proposed Mountain service area tariff. The tariffs for Lone Oak and Suck Creek will begin a phase-in to the Mountain Tariff by adopting the same blocking structure in this case.

The proposed rate structure, as presented in Part III, Proposed Customer Rates, Schedule D, consists of service charges by meter size and volumetric rates by class and service area. The revenues resulting from the proposed rate structure are shown in columns 6 and 7 of Schedule A, and reflect a closer alignment with the cost of service shown in columns 2 and 3.

TENNESSEE-AMERICAN WATER COMPANY

COMPARISON OF PRO FORMA COST OF SERVICE WITH REVENUES UNDER PRESENT AND PROPOSED RATES
FOR THE TWELVE MONTHS ENDED NOVEMBER 30, 2007

Customer Classification (1)	Pro Forma Cost of Service, as of November 30, 2007		Pro Forma Revenues Under Present Rates		Pro Forma Revenues Under Proposed Rates		Proposed Increase	
	Amount (2)	Percent of Total (3)	Amount (4)	Percent of Total (5)	Amount (6)	Percent of Total (7)	Amount (8)	Percent Increase (9)
Residential	\$21,421,847	49.5%	\$14,894,856	42.0%	\$18,185,522	42.0%	\$3,190,566	21.3%
Commercial	11,892,231	27.4%	11,460,266	32.0%	13,825,186	32.1%	2,464,930	21.5%
Industrial	4,771,465	11.0%	3,914,733	10.8%	4,762,983	11.0%	848,260	21.7%
Other Public Authority	2,925,662	6.7%	2,603,078	7.2%	3,164,294	7.3%	561,216	21.6%
Other Water Utilities	1,759,162	4.1%	1,310,628	3.7%	1,506,478	3.4%	194,851	14.9%
Private Fire Protection	583,545	1.3%	1,489,608	4.2%	1,810,465	4.2%	320,857	21.5%
Total Sales of Water	43,353,912	100.0%	35,773,269	100.0%	43,353,949	100.0%	7,580,880	21.2%
Other Water Revenues	1,433,404		1,369,193		1,433,404		64,211	4.7%
Total	\$44,787,316		\$37,142,462		\$44,787,353		\$7,644,891	20.6%

PART II. COST OF SERVICE BY CUSTOMER CLASSIFICATION

TENNESSEE-AMERICAN WATER COMPANY

ALLOCATION OF COST OF SERVICE TO CUSTOMER CLASSIFICATIONS
FOR THE TWELVE MONTHS ENDED NOVEMBER 30, 2007

Account Number	Account Description	Factor Ref.	Cost of Service	Residential	Commercial	Industrial	Other Public Authority	Other Water Utilities	Private Fire Protection	Public Fire Protection
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
OPERATION AND MAINTENANCE EXPENSES										
Source of Supply										
—Operation—										
601.1	Operating Labor	2	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
601.1	Operating Expense	2	0	0	0	0	0	0	0	0
810.1	Purchased Water	1	52,110	18,055	14,940	11,329	4,018	5,414	120	294
—Maintenance—										
620.2	OR MN SS STRUCT & IMP MAT	2	146,762	48,593	43,574	28,134	11,728	14,045	235	455
	Subtotal Source of Supply		198,872	66,648	58,514	39,463	15,744	19,459	355	689
Power and Pumping Expenses										
—Operation—										
601.1	Gen Sup & Eng Lab Oper PU	6	0	0	0	0	0	0	0	0
601.1	Labor Oper PU	6	1,369,499	453,703	407,140	246,913	108,694	119,665	11,503	21,911
615.1	Pump Oper Sup and Eng Elec	1	0	0	0	0	0	0	0	0
615.1	Purch Power PU	1	1,825,736	500,890	466,088	353,435	125,344	168,914	3,739	7,316
615.2	Purch Power PU - Lookout Min. Tariff	19	264,172	208,465	45,939	0	9,748	0	0	0
615.3	Purch Power PU - Lakeview Tariff	20	91,302	78,109	11,208	0	1,990	0	0	0
618.1	Fuel For Power Production	1	1,826	663	529	397	141	190	4	8
620.1	Misc Pumping Exp. Current	8	0	0	0	0	0	0	0	0
660.2	SS & PUMP Transportation	6	0	0	0	0	0	0	0	0
675.1	Misc Pumping Exp. Electric	6	104	34	31	19	8	9	1	2
	Subtotal Power and Pumping		3,352,599	1,241,784	930,934	600,784	248,925	287,708	15,247	29,237
Water Treatment Expenses										
—Operation—										
601.3	Wt Oper Superv & Eng	2	0	0	0	0	0	0	0	0
601.3	General Wt Labor	2	420	138	126	81	34	40	1	1
618.3	General Chemicals	1	1,049,272	323,281	300,826	228,112	80,899	109,019	2,413	4,722
620.3	Misc Wt Expenses-Current	2	49,901	15,521	14,616	9,586	3,967	4,776	80	155
631.3	Wt Contract Services	2	0	0	0	0	0	0	0	0
635.3	Other Wt Oper Contract Services	2	42,402	14,040	12,589	8,128	3,388	4,068	68	131
641.3	Wt Rents	2	0	0	0	0	0	0	0	0
650.3	Wt Oper Transportation	2	0	0	0	0	0	0	0	0
675.3	Waste Disposal Exp (Cur)	1	179,088	55,178	51,345	38,934	13,808	18,607	412	805
675.3	General Wt Expenses	2	106,829	36,034	32,311	20,863	8,896	10,415	174	337
675.3	Misc Wt Expenses-Current	2	82,381	20,655	18,521	11,855	4,984	5,970	100	193

TENNESSEE-AMERICAN WATER COMPANY

ALLOCATION OF COST OF SERVICE TO CUSTOMER CLASSIFICATIONS
FOR THE TWELVE MONTHS ENDED NOVEMBER 30, 2007

Account Number (1)	Account Description (2)	Factor Ref. (3)	Cost of Service (4)	Residential (5)	Commercial (6)	Industrial (7)	Other Public Authority (8)	Other Water Utilities (9)	Private Fire Protection (10)	Public Fire Protection (11)
Maintenance--										
620.4	Or Mn Wt Struct & Imp Mat	2	142,818	47,285	42,401	27,377	11,411	13,887	229	443
636.4	Other Wt Maint Contract Services	2	7,820	2,589	2,322	1,498	825	748	13	24
675.4	Misc. Expense Maint. Wt	2	0	0	0	0	0	0	0	0
650.4	Wt Maint Transportation	2	0	0	0	0	0	0	0	0
	Subtotal Water Treatment		1,642,928	515,719	475,256	346,518	127,831	167,300	3,490	6,812
Transmission & Distribution Expenses										
Operation--										
601.5	T&D Operation Super & Eng	8	118,242	59,242	29,135	8,017	8,350	3,283	757	1,478
601.5	Storage Facilities Labor	6	147,457	47,098	42,305	25,746	11,309	12,313	2,934	5,882
601.5	Misc Meter Labor	10	308,207	220,310	70,221	5,228	13,172	278	0	0
601.5	Maps and Records Labor	7	0	0	0	0	0	0	0	0
615.5	Storage Facilities Expense	5	3,223	1,029	825	683	249	269	64	124
620.5	Other T & D Expense-Current	7	19,424	7,464	6,715	1,970	1,808	319	390	758
635.5	Other T & D Oper Contract Services	7	106,848	40,985	36,868	10,814	8,826	1,749	2,144	4,159
641.5	T&D Rents	8	300	176	74	20	16	8	2	4
660.5	Td Oper Transportation	8	11	6	3	1	1	0	0	0
675.5	T&D Line Expense	7	1,843	631	565	187	163	27	33	64
675.5	Misc Meter Expenses	10	3,339	2,380	758	56	142	3	0	0
675.5	Misc T&D Expense-Current	8	93,306	54,640	22,881	6,328	5,011	2,575	597	1,168
Maintenance--										
601.8	Or Mn T&D Supr & Eng	9	67,934	32,846	17,384	4,239	4,226	666	1,990	5,583
601.8	Or Mn T&D Mains Lab	7	702,563	289,980	242,878	71,239	65,408	11,822	14,121	27,400
601.8	Or Mn Services Lab	11	283,677	230,272	37,608	1,116	4,063	29	20,704	0
601.8	Or Mn Meters Lab	10	103,228	73,649	23,443	1,745	4,398	93	0	0
601.8	Or Mn Hydrants Lab	21	87,623	0	0	0	0	0	0	87,623
601.8	Or Mn Other T&D Plant Lab	9	0	0	0	0	0	0	0	0
620.6	Or Mn T&D Struct & Imp-Mat	7	315,656	121,305	108,122	32,007	29,388	5,177	8,345	12,311
636.6	Other T & D Maint Contract Services	9	2,142	1,036	548	134	133	21	63	208
650.6	Td Maint Transportation	9	5,379	2,599	1,377	396	335	53	158	521
675.6	Maps And Records Expense	10	0	0	0	0	0	0	0	0
675.6	Or Mn Meters Mat	10	8,715	6,210	1,879	147	371	8	0	0
675.6	Or Mn Other T&D Plant Mat	10	200,881	143,127	45,820	3,385	8,566	181	0	0
	Subtotal Transmission & Distribution		2,590,597	1,324,895	690,412	173,284	165,070	38,554	50,302	148,091

TENNESSEE-AMERICAN WATER COMPANY

ALLOCATION OF COST OF SERVICE TO CUSTOMER CLASSIFICATIONS
FOR THE TWELVE MONTHS ENDED NOVEMBER 30, 2007

Account Number	Account Description	Factor Ref.	Cost of Service	Residential	Commercial	Industrial	Other Public Authority	Other Water Utilities	Private Fire Protection	Public Fire Protection
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Customer Accounting Expenses										
601.7	Meter Reading Labor	13	463,364	402,237	55,649	973	4,495	0	0	0
601.7	Contracts & Orders Labor	12	178	154	21	0	2	0	1	0
601.7	Billing & Auditing Salaries	12	0	0	0	0	0	0	0	0
604.7	Employee Benefits Ca	12	0	0	0	0	0	0	0	0
620.7	Misc Ca Expenses-Current	12	2,072	1,768	248	4	20	0	11	0
632.7	Ca Contract Services	12	0	0	0	0	0	0	0	0
635.7	Other Ca Contract Services	12	0	0	0	0	0	0	0	0
642.7	Ca Rents	12	2,247	1,939	269	5	22	0	12	0
650.7	Ca Transportation	12	0	0	0	0	0	0	0	0
670.7	Uncollectible Accounts	12	531,580	459,028	63,525	1,116	5,156	0	2,764	0
676.7	Meter Reading Expenses	13	5,251	4,558	631	11	81	0	0	0
675.7	Collecting Expenses	12	22,750	19,644	2,719	48	231	0	116	0
675.7	Billing & Auditing Computer	12	263,862	219,096	30,313	533	2,461	0	1,315	0
675.7	Cust Acctg-Billing/Telephone	12	11,581	9,983	1,362	24	112	0	80	0
675.7	Cust Acctg-Billing/Postage	12	353,060	287,615	38,803	689	3,231	0	1,732	0
675.7	Misc Cust Acctg Expenses	12	106,875	91,423	12,652	222	1,027	0	561	0
676.7	Misc Oper Ca Cust Serv	12	-1,910	-1,583	-216	-4	-18	0	-9	0
	Subtotal Customer Accounting		1,729,811	1,495,844	206,998	3,631	16,780	0	6,559	0
Administrative and General Expenses										
601.8	Admin & General Salaries	14	1,395,865	772,933	328,398	118,631	75,086	47,034	15,482	38,381
601.8	Employee Payments & Benefits	15	3,042,758	1,546,936	754,299	291,182	179,523	116,536	40,489	119,799
604.8	401K Contributions Expense	15	94,208	47,894	23,354	9,016	5,558	3,608	1,253	3,523
620.8	Or Mn General Ag Plant	14	0	0	0	0	0	0	0	0
632.8	Auditing Services	14	70,883	39,128	16,852	6,008	3,603	2,382	785	1,944
633.8	Legal Services	14	69,875	38,682	16,442	5,939	3,759	2,355	776	1,922
634.8	Management Fees - Water Quality	1	85,949	26,357	24,827	18,596	6,896	8,899	197	385
634.8	Management Fees - Cust. Billing/Service	12	602,112	518,826	71,862	1,284	5,840	0	3,131	0
634.8	Management Fees - Administration	14	3,469,657	1,620,802	816,410	294,921	186,668	116,927	38,513	95,416
634.8	Management Fees - Empl. Service	15	177,872	90,432	44,094	17,022	10,484	6,812	2,368	6,852
635.8	Contract Services - Other	14	4,798	2,555	1,128	406	255	162	53	132
635.8	Other WT Contract Services	2	0	0	0	0	0	0	0	0
635.8	Other WT Contract Services	2	0	0	0	0	0	0	0	0
641.8	AG Rents	14	-16,528	-9,205	-3,813	-1,413	-895	-560	-185	-457
642.8	Admin & General Rents	14	25,417	14,071	5,961	2,190	1,367	867	282	686
650.8	AG Transportation	14	479,775	265,604	112,891	40,781	25,812	16,168	5,325	13,194
657.8	General Liability	14	360,036	198,316	84,717	30,603	19,370	12,133	3,986	9,901
658.8	Workers Comp Premium Exp	15	146,052	74,274	36,216	13,681	8,619	5,595	1,943	5,484
659.8	Insurance Other	14	77,364	42,828	18,204	6,576	4,162	2,807	859	2,128
660.8	Advertising Exp	14	57,865	32,045	13,820	4,820	3,114	1,951	843	1,592
666.8	Regulatory Commission Expenses	16	543,364	255,553	141,932	56,947	34,940	22,061	7,338	24,815

TENNESSEE-AMERICAN WATER COMPANY

ALLOCATION OF COST OF SERVICE TO CUSTOMER CLASSIFICATIONS
FOR THE TWELVE MONTHS ENDED NOVEMBER 30, 2007

Account Number	Account Description	Factor Ref.	Cost of Service	Residential	Commercial	Industrial	Other Public Authority	Other Water Utilities	Private Fire Protection	Public Fire Protection
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
675.8	Expenses Of Employees	15	39,161	19,909	9,708	3,748	2,310	1,500	821	1,465
675.8	Misc Office Expenses	14	68,161	37,734	15,038	5,794	3,567	2,297	757	1,874
675.8	Injuries & Damages Exp	14	0	0	0	0	0	0	0	0
675.8	Research & Dev-Service Co	14	0	0	0	0	0	0	0	0
675.8	Or Min A&G Struc & Imp Mat	14	0	0	0	0	0	0	0	0
675.8	Misc General Expense - Current	14	362,111	200,465	85,205	30,779	19,482	12,203	4,019	9,938
657.8	Miscellaneous General Exp	14	421,971	233,603	99,280	35,868	22,702	14,220	4,884	11,604
657.8	AFUDC Adjustment	14	(463,880)	(288,698)	(108,108)	(39,414)	(24,947)	(15,628)	(5,147)	(12,751)
	Subtotal Administrative and General		11,114,189	6,114,943	2,608,019	954,329	597,288	390,113	128,068	331,440
	Total Operation & Maintenance Expenses		20,628,994	10,757,833	4,970,131	2,117,569	1,169,638	883,134	204,021	516,269

TENNESSEE-AMERICAN WATER COMPANY

ALLOCATION OF COST OF SERVICE TO CUSTOMER CLASSIFICATIONS
FOR THE TWELVE MONTHS ENDED NOVEMBER 30, 2007

Schedule B
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Account Number (1)	Account Description (2)	Factor Ref. (3)	Cost of Service (4)	Residential (5)	Commercial (6)	Industrial (7)	Other Public Authority (8)	Other Water Utilities (9)	Private Fire Protection (10)	Public Fire Protection (11)
DEPRECIATION EXPENSE										
335600	Intangible Comprehensive Planning Study	14	0	0	0	0	0	0	0	0
30300	Source of Supply Land & Land Rights	2	0	0	0	0	0	0	0	0
306000	Lakes, Rivers, & Other Intakes	2	4,060	1,345	1,206	778	324	389	6	13
339200	Other P/E SS	2	0	0	0	0	0	0	0	0
309000	Supply Mains	2	11,232	3,788	3,353	2,165	902	1,081	18	35
304200	Pumping Equipment Pumping Structures Lookout Mountain Tariff Lakeview Tariff	6 19 20	75,903 647 49	25,147 432 42	22,566 96 8	13,685 0 0	6,080 20 1	8,573 0 0	638 0 0	1,214 0 0
310100	Power Generation Equipment -other	8	28,041	9,289	8,337	5,058	2,246	2,428	236	449
311200	Electric Pumping Equipment Lookout Mountain Tariff Lakeview Tariff	6 19 20	130,210 7,583 2,502	43,139 5,980 1,970	36,711 1,315 282	23,477 0 0	10,430 278 50	11,276 0 0	1,094 0 0	2,083 0 0
311300	Diesel Pumping Equipment	8	2,982	887	887	538	239	288	26	48
311500	Other Pumping Equipment	6	5,803	1,922	1,725	1,046	468	503	49	93
30300	Water Treatment Land & Land Rights	2	0	0	0	0	0	0	0	0
304300	Water Treatment Structures	2	121,859	40,347	36,180	23,360	9,737	11,662	186	378
304301	Water Treatment Structures-Painting	2	204,394	97,574	80,886	38,182	16,331	19,561	327	634
320100	Water Treatment Equipment	2	198,724	45,932	41,187	26,583	11,084	19,278	222	430
320200	Granular Activated Carbon	2	0	0	0	0	0	0	0	0
30300	Transmission & Distribution Land & Land Rights	7	0	0	0	0	0	0	0	0
304400	T & D Structures	7	11,178	4,286	3,884	1,133	1,041	183	225	435
330000	T & D Reservoirs & Standpipes Lookout Mountain Tariff Lakeview Tariff	5 19 20	111,567 4,185 0	36,834 3,303 0	32,009 728 0	19,480 0 0	8,602 154 0	9,316 0 0	2,220 0 0	4,306 0 0
330003	T & D Reservoirs & Standpipes-Painting Lookout Mountain Tariff Lakeview Tariff	5 19 20	203,048 0 17,950	64,853 0 15,367	58,254 0 2,202	35,452 0 0	15,865 0 391	18,955 0 0	4,041 0 0	7,838 0 0
330100	Elevated Tanks & Standpipes	6	51,789	16,542	14,868	9,042	3,893	4,324	1,031	1,998
330400	Clearwells	2	11,233	3,719	3,335	2,153	886	1,075	18	36
331001	T & D Mains not Classified	4	53,268	13,213	11,887	2,765	3,200	0	749	1,454
331100	T & D Mains - Mains (4" or less)	4	70,173	27,972	25,073	5,831	6,751	0	1,579	3,087

TENNESSEE-AMERICAN WATER COMPANY

ALLOCATION OF COST OF SERVICE TO CUSTOMER CLASSIFICATIONS
FOR THE TWELVE MONTHS ENDED NOVEMBER 30, 2007

Account Number	Account Description	Factor Ref. (3)	Cost of Service (4)	Residential (5)	Commercial (6)	Industrial (7)	Other Public Authority (8)	Other Water Utilities (9)	Private Fire Protection (10)	Public Fire Protection (11)
331200	T & D Mains - Mains (8" - 36")	4	22	8	8	2	2	0	0	1
331210	T & D Mains - Mains (36" - 108") TN	4	982,123	382,155	343,767	79,952	82,556	0	21,648	42,046
331300	T & D Mains - Mains (10" - 18")	3	101,184	32,784	29,424	19,002	7,923	9,471	880	1,710
331350	T & D Mains - Mains (12" or More)	3	388,755	125,879	113,050	73,008	30,440	36,387	3,421	6,570
333000	Services	11	333,477	281,480	42,585	1,287	4,602	33	23,510	0
334100	Meters	10	323,673	230,474	73,461	5,487	13,780	291	0	0
334120	Meters-Metal Case/Old Style	10	91,480	65,188	20,777	1,546	3,897	82	0	0
334131	Meters - Plastic Case	10	0	0	0	0	0	0	0	0
334131	Meters - Metal Case/New Style	10	57,562	41,013	13,072	973	2,452	52	0	0
334200	Meter Installations	10	349,187	248,787	78,300	5,901	14,875	314	0	0
335000	Hydrants	21	212,447	0	0	0	0	0	0	212,447
303.00	General Plant	14	0	0	0	0	0	0	0	0
304600	Land & Land Rights AG	14	3,465	1,919	815	285	186	117	36	95
304703	Office Structures	14	2,282	1,253	637	194	123	77	25	63
304.65	Stores, Shop, & Garage Structures	14	0	0	0	0	0	0	0	0
304800	Structures and Imp. Mec.	14	3,222	1,763	758	274	173	109	36	89
340100	Miscellaneous Structures	14	8,445	4,875	1,887	718	454	285	94	232
340200	Office Furniture	14	6,750	3,737	1,888	574	363	227	75	186
340210	Computer & Peripheral Equipment	14	13,216	7,317	3,110	1,123	711	445	147	363
340220	Computer and Mainframe Equipment	14	9,042	5,005	2,128	769	486	305	100	248
340230	Computer & Periph. Other	14	4,183	2,316	984	356	225	141	46	115
340300	Computer Software	14	7,301	4,041	1,718	621	383	246	81	201
340310	Computer Software Mainframe	14	64,882	35,814	15,222	5,499	3,480	2,180	718	1,778
340320	Computer Software Personal	14	3,504	1,940	824	298	189	118	39	98
340330	Computer Software Other	14	280	144	61	22	14	9	3	7
340400	Data Handling Equipment	14	756	418	178	64	41	25	8	21
340500	Other Office Equipment	14	1,288	715	303	108	89	43	14	35
341100	Light Trucks	14	221,057	122,378	52,015	16,790	11,893	7,450	2,454	6,079
341200	Heavy Trucks	14	158,398	87,599	37,271	13,484	8,522	5,338	1,758	4,356
341300	Automobiles	14	34,028	18,837	8,007	2,882	1,831	1,147	378	836
341400	Transportation-Other	14	17,176	8,508	4,042	1,480	924	579	191	472
342000	Stores Equipment	14	0	0	0	0	0	0	0	0
343000	Tools, Shop, & Garage Equipment	14	90,606	50,159	21,319	7,701	4,875	3,053	1,006	2,492
344000	Laboratory Equipment	2	3,854	1,278	1,144	739	308	389	6	12
345000	Power Operated Equipment	14	0	0	0	0	0	0	0	0
346100	Communication Equipment Non Telephone	14	16,434	8,088	3,867	1,397	884	554	182	452
346200	Communication Equipment-Telephone	14	3,241	1,795	783	275	174	108	38	89
347000	Miscellaneous Equipment	14	69,452	38,448	16,342	6,903	3,737	2,341	771	1,910
348000	Other Tangible Plant	14	251	139	59	21	14	8	3	7
Total Depreciation Expense			4,810,741	2,230,893	1,258,230	482,412	309,469	170,755	70,551	307,521

TENNESSEE-AMERICAN WATER COMPANY

ALLOCATION OF COST OF SERVICE TO CUSTOMER CLASSIFICATIONS
FOR THE TWELVE MONTHS ENDED NOVEMBER 30, 2007

Account Number	Account Description	Factor Ref.	Cost of Service	Residential	Commercial	Industrial	Other Public Authority	Other Water Utilities	Private Fire Protection	Public Fire Protection
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
AMORTIZATIONS										
680.51	Amort of CIAC	4	(186,427)	(74,040)	(66,610)	(15,482)	(17,934)	-	(4,195)	(6,147)
680.52	Amort of Capital Leases	14	109,093	58,699	24,960	9,013	5,706	3,573	1,177	2,816
	Total Depreciation & Amortization		4,730,947	2,216,543	1,217,570	455,833	287,240	174,338	67,333	302,390
TAXES OTHER THAN INCOME TAXES										
685.20	Property Taxes	16	2,853,180	1,235,428	804,311	276,473	204,573	85,310	53,354	193,731
685.32	FUTA Oper AG	15	5,069	2,587	1,262	487	300	195	68	190
686.33	PICA Oper AG	15	376,917	192,841	83,694	36,262	22,366	14,513	5,040	14,171
686.35	SUTA Oper AG	15	2,545	1,284	631	244	150	97	34	95
686.43	Franchise Taxes	18	344,020	181,794	89,858	36,053	22,120	13,967	4,844	15,584
685.00	PSC Fee	18	74,295	34,941	19,406	7,786	4,777	3,016	1,003	3,366
685.00	Franchise Tax - Lookout Mtn	19	0	0	0	0	0	0	0	0
685.00	Filing Fee	18	0	0	0	0	0	0	0	0
685.44	Gross Receipts Tax	18	762,817	368,668	199,196	79,922	49,036	30,962	10,295	34,547
	Total Taxes Other Than Income Taxes		4,420,663	1,987,344	1,206,908	437,227	303,312	148,060	74,438	261,684
INCOME TAXES										
408.16	Federal and State Income Taxes	17	4,800,605	2,075,301	1,332,168	506,464	337,483	180,023	79,690	289,476
	Total Income Taxes		4,800,605	2,075,301	1,332,168	506,464	337,483	180,023	79,690	289,476
UTILITY OPERATING INCOME										
	Total Cost of Service	17	10,208,710	4,412,360	2,832,362	1,076,808	717,532	382,762	169,431	615,465
	Total Cost of Service		44,787,319	21,448,361	11,580,828	4,894,401	2,825,205	1,778,307	594,913	1,985,284
Lease:										
	Other Fees	18	(471,363)	(221,776)	(123,173)	(49,420)	(30,322)	(19,145)	(6,366)	(21,362)
	Billing Services and Misc. Revenues	12	(881,841)	(830,546)	(114,940)	(2,020)	(9,330)	-	(5,002)	-
	Total Cost of Service Related to Sales		43,363,915	20,396,058	11,322,717	4,842,961	2,785,553	1,759,162	583,545	1,963,922
	Allocation of Public Fire			1,028,840	569,487	228,483	140,102	0	0	(1,963,922)
	Total		43,363,915	\$21,424,898	\$11,892,204	\$4,771,454	\$2,925,655	\$1,759,162	\$583,545	\$0

TENNESSEE-AMERICAN WATER COMPANY

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS

FACTOR 1. ALLOCATION OF COSTS WHICH VARY WITH THE AMOUNT OF WATER CONSUMED.

Factors are based on the pro forma test year average daily consumption for each customer classification.

Customer Classification	Average Daily Consumption, 100 Cu. Ft.	Allocation Factor
(1)	(2)	(3)
Residential	12,206	0.3081
Commercial	11,357	0.2867
Industrial	8,616	0.2174
Other Public Authority	3,057	0.0771
Other Water Utilities	4,119	0.1039
Private Fire Protection	92	0.0023
Public Fire Protection	178	0.0045
Total	39,625	1.0000

FACTOR 2. ALLOCATION OF COSTS ASSOCIATED WITH FACILITIES SERVING BASE AN MAXIMUM DAY EXTRA CAPACITY FUNCTIONS.

Factors are based on the weighting of the factors for average daily consumption (Factor 1) and the factors derived from maximum day extra capacity demand for each customer classification, as follows:

Customer Classification	Average Daily Consumption		Maximum Day Extra Capacity		Allocation Factor
	Allocation Factor 1	Weighted Factor	Allocation Factor	Weighted Factor	
(1)	(2)	(3)=(2)x 0.6897	(4)	(5)=(4)x 0.3103	(6)=(3)+(5)
Residential	0.3081	0.2125	0.382	0.1186	0.3311
Commercial	0.2867	0.1977	0.3198	0.0992	0.2969
Industrial	0.2174	0.1499	0.1348	0.0418	0.1917
Other Public Authority	0.0771	0.0532	0.0861	0.0267	0.0799
Other Water Utilities	0.1039	0.0717	0.0773	0.024	0.0957
Private Fire Protectio	0.0023	0.0016			0.0016
Public Fire Protection	0.0045	0.0031			0.0031
Total	1.0000	0.6897	1.0000	0.3103	1.0000

TENNESSEE-AMERICAN WATER COMPANY

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS, cont.

FACTOR 2. ALLOCATION OF COSTS ASSOCIATED WITH FACILITIES SERVING BASE AND
MAXIMUM DAY EXTRA CAPACITY FUNCTIONS, cont.

Customer Classification (1)	Average Daily Consumption, 100 Cu. Ft. (2)	Maximum Day Extra Capacity		Allocation Factor (5)
		Factor* (3)	Rate of Flow, 100 Cu. Ft. Per Day (4)=(2)x(3)	
Residential	12,206	1.0	12,206	0.3820
Commercial	11,357	0.9	10,221	0.3198
Industrial	8,616	0.5	4,308	0.1348
Other Public Authority	3,057	0.9	2,751	0.0861
Other Water Utilities	4,119	0.6	2,471	0.0773
Subtotal	<u>39,355</u>		<u>31,958</u>	<u>1.0000</u>

The weighting of the factors is based on the maximum day ratio of 1.45, based on a review of maximum day ratios experienced during the period 1995 through 2007.

	Maximum Day Ratio	Weight
Average Day	1.00	0.6897
Maximum Day Extra Capacity	0.45	0.3103
Total	<u>1.45</u>	<u>1.0000</u>

* Ratio of maximum day to average day minus 1.0.

TENNESSEE-AMERICAN WATER COMPANY

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS, cont.

FACTOR 3. ALLOCATION OF COSTS ASSOCIATED WITH FACILITIES SERVING BASE, MAXIMUM DAY AND FIRE SERVICE FUNCTIONS.

Factors are based on the weighting of the factors for average daily consumption (Factor 1), the factors derived from maximum day extra capacity demand and the fire protection demand by each customer classification, as follows:

Customer Classification (1)	Average Daily Consumption		Maximum Day Extra Capacity		Fire Protection		Allocation Factor (8)=(3)+(5)+(7)
	Allocation Factor 1 (2)	Weighted Factor (3)=(2)x 0.6751	Allocation Factor (4)	Weighted Factor (5)=(4)x 0.3038	Allocation Factor (6)	Weighted Factor (7)=(6)x 0.0211	
Residential	0.3081	0.2079	0.3820	0.1159			0.3238
Commercial	0.2867	0.1936	0.3198	0.0972			0.2908
Industrial	0.2174	0.1468	0.1348	0.0410			0.1878
Other Public Authority	0.0771	0.0521	0.0861	0.0262			0.0783
Other Water Utilities	0.1039	0.0701	0.0773	0.0235			0.0936
Private Fire Protection	0.0023	0.0016			0.3399	0.0072	0.0088
Public Fire Protection	0.0045	0.0030			0.6801	0.0139	0.0189
Subtotal	1.0000	0.6751	1.0000	0.3038	1.0000	0.0211	1.0000

The weighting of the factors is based on the maximum day ratio of 1.45 and the system demand for fire protection, as shown below. The fire protection factors in column 6 are developed on the following page.

Average Day Maximum Day Extra Capacity Subtotal	Maximum Day Ratio	System Delivery, GPD	Weight
	1.00	40,297,797	0.8751
	0.45	18,134,009	0.3038
	1.45	58,431,806	0.9789
Fire Protection		1,280,000	0.0211
Total		58,691,806	1.0000

TENNESSEE-AMERICAN WATER COMPANY

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS, cont.

FACTOR 4. ALLOCATION OF COSTS ASSOCIATED WITH FACILITIES SERVING BASE, MAXIMUM HOUR AND FIRE SERVICE FUNCTIONS.

Factors are based on the weighting of the factors for the adjusted average hour consumption, the factors derived from maximum hour extra capacity demand and the fire protection demand by each customer classification, as follows:

Customer Classification (1)	Average Hour Consumption		Maximum Hour Extra Capacity		Fire Protection		Allocation Factor (8)=(3)+(5)+(7)
	Allocation Factor (2)	Weighted Factor (3)=(2)x 0.4938	Allocation Factor (4)	Weighted Factor (5)=(4)x 0.4444	Allocation Factor (6)	Weighted Factor (7)=(6)x 0.0618	
Residential	0.4049	0.2000	0.4438	0.1972			0.3972
Commercial	0.3767	0.1880	0.3854	0.1713			0.3573
Industrial	0.1080	0.0533	0.0670	0.0298			0.0831
Other Public Authority	0.1014	0.0501	0.1038	0.0461			0.0862
Other Water Utilities	0.0000	0.0000	0.0000	0.0000			0.0000
Private Fire Protection	0.0031	0.0015			0.3399	0.0210	0.0225
Public Fire Protection	0.0059	0.0029			0.6601	0.0408	0.0437
Subtotal	1.0000	0.4938	1.0000	0.4444	1.0000	0.0618	1.0000

The weighting of the factors and the maximum hour extra capacity factors in column 4 are shown on the following page.

TENNESSEE-AMERICAN WATER COMPANY

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS, cont.

FACTOR 4. ALLOCATION OF COSTS ASSOCIATED WITH FACILITIES SERVING BASE,
MAXIMUM HOUR AND FIRE SERVICE FUNCTIONS.

Customer Classification (1)	Average Hour Consumption, 100 Cu. Ft. (2)	Maximum Hour Extra Capacity		Allocation Factor (5)
		Factor* (3)	Rate of Flow, 100 Cu. Ft. Per Hour (4)=(2)x(3)	
Residential	509	3.0	1,526	0.4438
Commercial	473	2.8	1,325	0.3854
Industrial	136	1.7	231	0.0670
Other Public Authority	127	2.8	357	0.1038
Other Water Utilities	0	1.7	0	0.0000
Total	<u>1,245</u>		<u>3,438</u>	<u>1.0000</u>

The weighting of the factors is based on the maximum hour ratio of 1.90 and the system demand for fire protection, as follows:

	Maximum Hour Ratio	System Delivery, GPM	Weight
Average Hour	1.0	27,985	0.4938
Maximum Hour Extra Capacity	0.9	25,187	0.4444
Subtotal	1.9	53,172	0.9382
Fire Protection		3,500	0.0618
Total		<u>56,672</u>	<u>1.0000</u>

* Ratio of maximum hour to average day minus 1.0.

TENNESSEE-AMERICAN WATER COMPANY

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS, cont.

FACTOR 5. ALLOCATION OF COSTS ASSOCIATED WITH STORAGE FACILITIES.

Factors are based on the weighting of the factors for average hour consumption (Factor 1), the factors derived from maximum hour extra capacity demand and the fire protection demand by each customer classification, as follows:

Customer Classification (1)	Average Hour Consumption		Maximum Hour Extra Capacity		Fire Protection		Allocation Factor (8)=(3)+(5)+(7)
	Allocation Factor 1 (2)	Weighted Factor (3)=(2)x 0.4973	Allocation Factor (4)	Weighted Factor (5)=(4)x 0.4475	Allocation Factor (6)	Weighted Factor (7)=(6)x 0.0552	
Residential	0.3081	0.1533	0.3713	0.1661			0.3194
Commercial	0.2867	0.1428	0.3224	0.1443			0.2868
Industrial	0.2174	0.1081	0.1485	0.0665			0.1746
Other Public Authority	0.0771	0.0383	0.0688	0.0388			0.0771
Other Water Utilities	0.1039	0.0517	0.0710	0.0318			0.0835
Private Fire Protection	0.0023	0.0011			0.3389	0.0188	0.0198
Public Fire Protection	0.0045	0.0022			0.6601	0.0364	0.0386
Subtotal	1.0000	0.4973	1.0000	0.4475	1.0000	0.0552	1.0000

The weighting of the factors and the maximum hour extra capacity factors in column 4 are shown on the following page.

TENNESSEE-AMERICAN WATER COMPANY

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS, cont.

FACTOR 5. ALLOCATION OF COSTS ASSOCIATED WITH STORAGE FACILITIES.

Customer Classification (1)	Average Hour Consumption, 100 Cu. Ft. (2)	Maximum Hour Extra Capacity		Allocation Factor (5)
		Factor* (3)	Rate of Flow, 100 Cu. Ft. Per Hour (4)=(2)x(3)	
Residential	509	3.0	1,526	0.3713
Commercial	473	2.8	1,325	0.3224
Industrial	359	1.7	610	0.1485
Other Public Authority	127	2.8	357	0.0868
Other Water Utilities	172	1.7	292	0.0710
Total	<u>1,640</u>		<u>4,110</u>	<u>1.0000</u>

* Ratio of maximum hour to average day minus 1.0.

TENNESSEE-AMERICAN WATER COMPANY

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS, cont.

FACTOR 5. ALLOCATION OF COSTS ASSOCIATED WITH STORAGE FACILITIES.

The weighting of the factors is based on the ratio of the capacity required for a 6-hour demand of fire flow, as related to total storage capacity.

$$\text{Fire Protection Weight} = \frac{3500 \text{ GPM} \times 60 \text{ min.} \times 6 \text{ Hours}}{22,806,000 \text{ Gallons Storage}} = 0.0552$$

$$\text{General Service Weight} \quad 1 \quad - \quad 0.0552 = 0.9448$$

The weighting of the average hourly consumption and maximum hour extra demand for general service is based on the maximum hour ratio, as follows.

	Maximum Hour Ratio	Percent	Weight
Average Hour	1.0	52.63	0.4973
Extra Capacity Maximum Hour	0.9	47.37	0.4475
Total	1.9	100.00	0.9448

TENNESSEE-AMERICAN WATER COMPANY

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS, cont.

FACTOR 6. ALLOCATION OF COSTS ASSOCIATED WITH POWER AND PUMPING FACILITIES.

Factors are based on the weighting of the factors for maximum daily demand (Factor 2), maximum day extra capacity and fire demand (Factor 3) and maximum hour extra capacity and fire demand (Factor 4) for each customer classification.

Customer Classification (1)	Maximum Day Extra Capacity		Maximum Day Extra Capacity and Fire		Maximum Hour Extra Capacity and Fire		Allocation Factor (8)=(3)+(5)+(7)
	Allocation Factor 2 (2)	Weighted Factor (3)=(2)x 0.2200	Allocation Factor 3 (4)	Weighted Factor (5)=(4)x 0.7001	Allocation Factor 4 (6)	Weighted Factor (7)=(6)x 0.0799	
Residential	0.3311	0.0727	0.3238	0.2267	0.3972	0.0319	0.3313
Commercial	0.2969	0.0653	0.2908	0.2036	0.3573	0.0284	0.2973
Industrial	0.1817	0.0422	0.1878	0.1315	0.0831	0.0066	0.1803
Other Public Authority	0.0789	0.0176	0.0783	0.0548	0.0952	0.0077	0.0801
Other Water Utilities	0.0957	0.0211	0.0936	0.0655	-	-	0.0866
Private Fire Protection	0.0018	0.0004	0.0088	0.0062	0.0225	0.0018	0.0084
Public Fire Protection	0.0031	0.0007	0.0169	0.0118	0.0437	0.0035	0.0160
Subtotal	1.0000	0.2200	1.0000	0.7001	1.0000	0.0799	1.0000

The weighting of the factors is based on an analysis of pumping equipment by function, as follows:

	Horse Power of Pumps	Weight
Maximum Day Extra Capacity	2,700	0.2200
Maximum Day Extra Capacity and Fire	8,580	0.7001
Maximum Hour Extra Capacity and Fire	980	0.0799
Total	12,270	1.0000

TENNESSEE-AMERICAN WATER COMPANY

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS, cont.

FACTOR 7. ALLOCATION OF COSTS ASSOCIATED WITH TRANSMISSION AND DISTRIBUTION MAINS.

Factors are based on the weighting of the factors for maximum day extra capacity and fire demand (Factor 3) and maximum hour extra capacity and fire demand (Factor 4) for each customer classification, as follows:

Customer Classification	Maximum Day Extra Capacity and Fire		Maximum Hour Extra Capacity and Fire		Allocation Factor
	Allocation Factor 3	Weighted Factor	Allocation Factor 4	Weighted Factor	
(1)	(2)	(3)=(2)x 0.1751	(4)	(5)=(4)x 0.8249	(6)=(3)+(5)
Residential	0.3238	0.0568	0.3972	0.3277	0.3843
Commercial	0.2908	0.0510	0.3573	0.2947	0.3457
Industrial	0.1878	0.0329	0.0831	0.0685	0.1014
Other Public Authority	0.0783	0.0137	0.0962	0.0794	0.0931
Other Water Utilities	0.0936	0.0164	-	-	0.0164
Private Fire Protection	0.0088	0.0015	0.0225	0.0188	0.0201
Public Fire Protection	0.0169	0.0030	0.0437	0.0360	0.0390
Total	1.0000	0.1751	1.0000	0.8249	1.0000

The weighting of the factors is based on the footage of transmission and distribution mains as set forth below:

	Footage of Mains	Weight
Transmission Mains	1,180,594	0.1751
Distribution Mains	5,563,554	0.8249
Total	6,744,148	1.0000

TENNESSEE-AMERICAN WATER COMPANY

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS, cont.

FACTOR 8. ALLOCATION OF TRANSMISSION AND DISTRIBUTION OPERATIONS AND SUPERVISION EXPENSES.

Factors are based on the allocation of transmission and distribution operation labor, as follows:

Customer Classification (1)	Transmission & Distribution Operating Labor (2)	Allocation Factor (3)
Residential	\$287,408	0.5856
Commercial	112,526	0.2464
Industrial	30,972	0.0678
Other Public Authority	24,541	0.0537
Other Water Utilities	12,591	0.0276
Private Fire Protection	2,934	0.0064
Public Fire Protection	5,692	0.0125
Total	<u>\$456,664</u>	<u>1.0000</u>

FACTOR 9. ALLOCATION OF TRANSMISSION AND DISTRIBUTION MAINTENANCE SUPERVISION EXPENSES.

Factors are based on the allocation of transmission and distribution maintenance labor, as follows:

Customer Classification (1)	Transmission & Distribution Maintenance Labor (2)	Allocation Factor (3)
Residential	\$573,811	0.4835
Commercial	303,819	0.2559
Industrial	74,100	0.0624
Other Public Authority	73,859	0.0622
Other Water Utilities	11,644	0.0098
Private Fire Protection	34,825	0.0293
Public Fire Protection	115,023	0.0969
Total	<u>\$1,187,081</u>	<u>1.0000</u>

TENNESSEE-AMERICAN WATER COMPANY

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS, *cont.*

FACTOR 10. ALLOCATION OF COSTS ASSOCIATED WITH METERS.

Factors are based on the relative cost of meters by size as developed on the following page and summarized below:

<u>Customer Classification</u> (1)	<u>Meter Equivalents</u> (2)	<u>Allocation Factor</u> (3)
Residential	86,462	0.7125
Commercial	21,179	0.2271
Industrial	1,578	0.0169
Other Public Authority	3,971	0.0426
Other Water Utilities	83	0.0009
Subtotal	<u>83,273</u>	<u>1.0000</u>

TENNESSEE-AMERICAN WATER COMPANY

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS, cont.

FACTOR 11. ALLOCATION OF COSTS ASSOCIATED WITH SERVICES.

Factors are based on the relative cost of services by size as developed on the following page and summarized below:

<u>Customer Classification</u> (1)	<u>Service Equivalents</u> (2)	<u>Allocation Factor</u> (3)
Residential	65,870	0.7841
Commercial	10,722	0.1277
Industrial	309	0.0038
Other Public Authority	1,156	0.0138
Other Water Utilities	11	0.0001
Private Fire Protection	5,923	0.0705
Subtotal	<u>83,991</u>	<u>1.0000</u>

TENNESSEE-AMERICAN WATER COMPANY

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS, cont.
BASIS FOR ALLOCATING METER COSTS TO CUSTOMER CLASSIFICATIONS

Meter Size (1)	5/8" Equivalent (2)	Residential		Commercial		Industrial		Other Public Authority		Other Water Utilities	
		Number of Meters (3)	Weighting (4)=(2)x(3)	Number of Meters (5)	Weighting (6)=(2)x(5)	Number of Meters (7)	Weighting (8)=(2)x(7)	Number of Meters (9)	Weighting (10)=(2)x(9)	Number of Meters (11)	Weighting (12)=(2)x(11)
5/8-inch	1	65,329	65,329	8,115	6,115	23	23	182	182	-	-
3/4-inch	1.5	134	201	136	204	2	3	12	18	-	-
1-inch	2.5	291	728	1,475	3,688	24	60	152	380	-	-
1-1/2-inch	5	20	100	312	1,560	7	36	68	330	-	-
2-inch	8	13	104	994	7,952	78	632	297	2,376	1	8
3-inch	16	-	-	42	630	-	-	4	60	-	-
4-inch	25	-	-	18	450	21	525	21	525	3	75
6-inch	50	-	-	10	500	8	300	2	100	-	-
8-inch	80	-	-	1	80	-	-	-	-	-	-
Total		65,787	68,462	9,103	21,179	182	1,578	736	3,971	4	83

TENNESSEE-AMERICAN WATER COMPANY

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS, cont.
BASIS FOR ALLOCATING SERVICES COSTS TO CUSTOMER CLASSIFICATIONS

Meter Size (1)	3/4" Equivalent (2)	Residential	Commercial	Industrial	Other Public Authority	Other Water Utilities	Private Fire Service
		Number of Services (3)	Number of Services (5)	Number of Services (7)	Number of Services (9)	Number of Services (11)	Number of Services (13)
		Weighting (4)=(2)x(3)	Weighting (6)=(2)x(5)	Weighting (8)=(2)x(7)	Weighting (10)=(2)x(9)	Weighting (12)=(2)x(11)	Weighting (14)=(2)x(13)
3/4-inch	1	65,463	6,251	25	194	184	0
1-inch	1.2	291	1,475	24	152	182	0
1-1/2-inch	1.6	20	312	7	86	106	1
2-inch	2	13	26	79	297	594	14
3-inch	2.7	0	0	0	4	11	2
4-inch	2.9	0	0	21	21	61	63
6-inch	4.2	0	0	6	2	6	757
8-inch	7	0	0	0	0	0	2,093
10-inch	9.5	0	0	0	0	0	15
12-inch	12.2	0	0	0	0	0	232
Total		65,757	9,103	162	736	1,166	1,190
			10,722	308			5,923

TENNESSEE-AMERICAN WATER COMPANY

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS, cont.

FACTOR 12. ALLOCATION OF CUSTOMER ACCOUNTING COSTS.

Factors are based on the number of bills by classification, as follows:

<u>Customer Classification</u> (1)	<u>Number of Bills</u> (2)	<u>Allocation Factor</u> (3)
Residential	789,452	0.8635
Commercial	109,244	0.1195
Industrial	1,939	0.0021
Other Public Authority	8,830	0.0097
Other Water Utilities	43	0.0000
Private Fire Protection	4,760	0.0052
Public Fire Protection	0	0.0000
Total	<u>914,268</u>	<u>1.0000</u>

FACTOR 13. ALLOCATION OF METER READING COSTS.

Factors are based on the number of meter readings by classification, as follows:

<u>Customer Classification</u> (1)	<u>Number of Meter Readings</u> (2)	<u>Allocation Factor</u> (3)
Residential	789,452	0.8681
Commercial	109,244	0.1201
Industrial	1,939	0.0021
Other Public Authority	8,830	0.0097
Other Water Utilities	43	0.0000
Total	<u>909,508</u>	<u>1.0000</u>

TENNESSEE-AMERICAN WATER COMPANY

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS, *cont.*

FACTOR 14. ALLOCATION OF ADMINISTRATIVE AND GENERAL EXPENSE.

Factors are based on the allocation of operation and maintenance expenses excluding power and chemicals, as follows:

Customer Classification (1)	Operation and Maintenance Expenses (2)	Allocation Factor (3)
Residential	\$3,460,331	0.5536
Commercial	1,471,238	0.2353
Industrial	531,433	0.0850
Other Public Authority	336,402	0.0538
Other Water Utilities	210,877	0.0337
Private Fire Protection	69,265	0.0111
Public Fire Protection	171,743	0.0275
Total	<u>\$6,251,289</u>	<u>1.0000</u>

FACTOR 15. ALLOCATION OF LABOR RELATED TAXES AND BENEFITS.

Factors are based on the allocation of operation and maintenance labor expense, as follows:

Customer Classification (1)	Labor Expense (2)	Allocation Factor (3)
Residential	\$2,572,172	0.5084
Commercial	1,254,197	0.2479
Industrial	483,926	0.0957
Other Public Authority	298,287	0.0590
Other Water Utilities	193,833	0.0383
Private Fire Protection	67,503	0.0133
Public Fire Protection	189,069	0.0374
Total	<u>\$5,058,987</u>	<u>1.0000</u>

TENNESSEE-AMERICAN WATER COMPANY

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS, cont.

FACTOR 16. ALLOCATION OF INTANGIBLE PLANT AND OTHER RATE BASE ELEMENTS.

Factors are based on the allocation of utility plant in service less depreciation, follows:

Customer Classification (1)	Utility Plant in Service Less Depreciation Reserve (2)	Allocation Factor (3)
Residential	\$60,835,533	0.4330
Commercial	39,802,472	0.2819
Industrial	13,619,915	0.0969
Other Public Authority	10,089,415	0.0717
Other Water Utilities	4,193,835	0.0299
Private Fire Protection	2,633,077	0.0187
Public Fire Protection	9,535,601	0.0679
Total	<u>\$140,489,848</u>	<u>1.0000</u>

FACTOR 17. ALLOCATION OF INCOME TAXES AND INCOME AVAILABLE FOR RETURN.

Factors are based on the allocation of original cost rate base, as shown on the following pages and summarized below.

Customer Classification (1)	Original Cost Rate Base (2)	Allocation Factor (3)
Residential	\$51,809,866	0.4323
Commercial	33,264,513	0.2775
Industrial	12,852,428	0.1055
Other Public Authority	8,432,373	0.0703
Other Water Utilities	4,499,138	0.0375
Private Fire Protection	1,993,231	0.0166
Public Fire Protection	7,229,973	0.0603
Total	<u>\$119,881,522</u>	<u>1.0000</u>

TENNESSEE-AMERICAN WATER COMPANY

**ALLOCATION OF COST OF SERVICE TO CUSTOMER CLASSIFICATIONS
FOR THE TWELVE MONTHS ENDED NOVEMBER 30, 2007**

Account Number (1)	Account Description (2)	Factor Ref. (3)	Cost of Service (4)	Residential (5)	Commercial (6)	Industrial (7)	Other Public Authority (8)	Other Water Utilities (9)	Private Fire Protection (10)	Public Fire Protection (11)
UTILITY PLANT IN SERVICE LESS DEPRECIATION										
Intangibles										
339500	Comprehensive Planning Study	18	(54,856)	(23,868)	(15,408)	(5,296)	(3,919)	(1,834)	(1,022)	(3,711)
Source of Supply										
303.00	Land & Land Rights	2	73,444	24,317	21,806	14,079	5,868	7,029	118	228
304.21	Struct & Improv SS	2	0	0	-	-	-	-	-	-
306.00	Collecting and Impound Res	2	0	0	-	-	-	-	-	-
306.20	Lakes, Rivers, & Other Intakes	2	234,578	77,968	69,846	44,968	18,743	22,449	375	727
307.00	Wells and Springs	2	0	0	-	-	-	-	-	-
308.00	Infiltration Galleries and Tunnels	2	0	0	-	-	-	-	-	-
309.00	Supply Mains	2	515,341	170,830	153,005	95,791	41,176	49,318	825	1,598
339.00	Other P/E SS	2	-7,352	(2,434)	(2,183)	(1,406)	(587)	(704)	(12)	(23)
Pumping Equipment										
304.22	Pumping Structures	6	2,538,948	873,290	783,667	475,261	211,139	226,273	22,142	42,175
	Lookout Mountain Tariff	19	3,680	3,070	678	-	144	-	-	-
	Lakeview Tariff	20	1,150	884	141	-	25	-	-	-
310.20	Power Generation Equipment	8	179,144	59,350	53,260	32,300	14,349	15,514	1,505	2,998
311.22	Electric Pumping Equipment	8	2,928,752	989,933	870,123	527,993	234,433	253,467	24,686	46,928
	Lookout Mountain Tariff	19	239,014	188,830	41,565	-	8,820	-	-	-
	Lakeview Tariff	20	50,144	42,888	6,153	-	1,093	-	-	-
311.23	Diesel Pumping Equipment	6	65,098	21,564	19,351	11,735	5,214	5,637	547	1,041
311.27	Other Pumping Equipment	6	225,048	74,558	66,907	40,576	18,026	19,489	1,890	3,801
Water Treatment										
303.00	Land & Land Rights	2	18,008	5,983	5,347	3,452	1,439	1,723	29	56
304.31	Water Treatment Structures	2	1,997,871	529,055	474,408	306,312	127,670	152,916	2,557	4,953
304.32	Water Treatment Structures-Painting	2	287,897	89,701	79,538	61,366	21,405	25,638	429	830
320.31	Water Treatment Equipment	2	2,841,415	940,793	843,618	544,889	227,029	271,923	4,546	8,808
320.33	Granular Activated Carbon	2	0	0	-	-	-	-	-	-
Transmission & Distribution										
303.00	Land & Land Rights	7	555,021	213,285	191,871	56,278	51,672	9,102	11,166	21,846
304.40	T & D Structures	7	118,286	45,446	40,891	11,981	11,010	1,939	2,377	4,612
330.40	Cleanwell	2	472,780	156,537	140,368	90,832	37,775	43,245	756	1,466
330.41	T & D Reservoirs & Standpipes	5	3,639,200	1,162,360	1,044,088	835,404	280,862	303,873	72,420	140,473
	Lookout Mountain Tariff	19	100,106	79,004	17,408	-	3,684	-	-	-
	Lakeview Tariff	20	0	0	-	-	-	-	-	-

TENNESSEE-AMERICAN WATER COMPANY

ALLOCATION OF COST OF SERVICE TO CUSTOMER CLASSIFICATIONS
FOR THE TWELVE MONTHS ENDED NOVEMBER 30, 2007

Account Number (1)	Account Description (2)	Factor Ref. (3)	Cost of Service (4)	Residential (5)	Commercial (6)	Industrial (7)	Other Public Authority (8)	Other Water Utilities (9)	Private Fire Protection (10)	Public Fire Protection (11)
330.42	T & D Reservoirs & Standpipes-Painting Lookout Mountain Tariff	6	1,183,647	378,067	339,598	206,865	91,259	98,835	23,535	48,689
330.43	Elevated Tanks & Standpipes	19	136,063	116,402	16,895	-	2,966	-	-	-
331.40	T & D Mains not Classified	5	1,335,115	426,436	383,045	233,111	102,937	111,482	26,568	51,535
331.41	T & D Mains - Mains (4" or less)	4	1,837,780	729,966	656,639	152,719	176,794	-	41,350	80,311
331.44	T & D Mains - Mains (6" - 8")	4	3,658,721	1,453,244	1,307,261	304,040	351,869	-	82,321	168,896
331.42	T & D Mains - Mains (8" - 10")	4	1,012	402	382	84	97	-	23	44
331.43	T & D Mains - Mains (10" - 16")	4	61,359,480	20,399,976	18,360,735	4,267,971	4,040,780	-	1,155,588	2,244,408
331.45	T & D Mains - Mains (16" - 18")	3	4,774,841	1,545,987	1,388,437	896,859	373,847	446,897	42,016	80,890
331.43	T & D Mains - Mains (18" or More)	3	20,965,095	6,798,212	6,106,374	3,942,878	1,643,916	1,965,141	184,757	364,817
333.40	Services	11	12,537,910	9,630,975	1,501,091	47,844	173,023	1,254	883,923	-
334.41	Meters	10	5,325,772	3,784,813	1,208,483	90,306	228,878	4,793	-	-
334.42	Meters-Metal Case/Old Style	10	0	-	-	-	-	-	-	-
334.43	Meters - Plastic Case	10	-	-	-	-	-	-	-	-
334.44	Meters - Metal Case/New Style	10	740,625	527,624	166,173	12,515	31,546	686	-	-
334.45	Meters, Other	10	9,506,578	6,773,437	2,156,844	160,861	404,980	8,556	-	-
335.40	Meter Installations	21	6,120,574	-	-	-	-	-	-	6,120,574
335.40	Hydrants	21	-	-	-	-	-	-	-	-
303.00	Land & Land Rights AG	14	25,022	13,852	5,888	2,127	1,348	843	278	688
304.51	Office Structures	14	166,220	92,020	39,112	14,129	8,943	5,602	1,845	4,571
304.52	Stores, Shop, & Garage Structures	14	27,856	15,422	6,555	2,368	1,499	938	309	766
304.53	Miscellaneous Structures	14	62,368	28,000	12,328	4,483	2,516	1,765	581	1,441
340.51	Office Furniture	14	203,931	112,619	47,867	17,263	10,945	6,866	2,258	5,594
340.53	Computer & Peripheral Equipment	14	(13,485)	(7,469)	(3,173)	(1,146)	(726)	(454)	(150)	(371)
340.53	Computer and Mainframe Equipment	14	(43,816)	(24,237)	(10,310)	(3,724)	(2,357)	(1,477)	(486)	(1,205)
340.56	Computer & Periph Personal	14	156,320	88,839	36,762	13,287	8,410	5,268	1,735	4,289
340.57	Computer & Periph Other	14	(7,941)	(4,366)	(1,888)	(676)	(427)	(288)	(88)	(218)
340.55	Computer Software	14	(58,838)	(32,572)	(13,844)	(5,001)	(3,196)	(1,963)	(853)	(1,618)
340.56	Computer Software Mainframe	14	(262,728)	(145,446)	(61,820)	(22,332)	(14,136)	(8,854)	(2,916)	(7,225)
340.58	Computer Software Personal	14	(18,820)	(10,418)	(4,426)	(1,600)	(1,012)	(634)	(208)	(518)
340.59	Computer Software Other	14	(3,309)	(1,832)	(778)	(281)	(178)	(112)	(37)	(91)
340.64	Other Office Equipment	14	18,829	10,424	4,431	1,800	1,013	635	209	518
340.54	Data Handling Equipment	14	4,271	2,364	1,006	363	230	144	47	117
341.52	Light Trucks	14	1,057,895	585,540	246,876	89,804	58,904	35,644	11,740	29,087
341.53	Heavy Trucks	14	688,369	366,918	166,804	58,844	36,862	22,458	7,397	18,326
341.54	Automobiles	14	196,062	108,640	46,133	16,856	10,548	6,807	2,176	5,392
341.55	Transportation-Other	14	192,865	106,781	45,388	16,365	10,377	6,500	2,141	5,304
342.60	Stores Equipment	14	(5,433)	(3,008)	(1,278)	(462)	(292)	(183)	(60)	(146)
343.50	Tools, Shop, & Garage Equipment	14	873,169	483,361	205,454	74,219	48,976	28,425	9,692	24,012

TENNESSEE-AMERICAN WATER COMPANY

ALLOCATION OF COST OF SERVICE TO CUSTOMER CLASSIFICATIONS
FOR THE TWELVE MONTHS ENDED NOVEMBER 30, 2007

Account Number	Account Description	Factor Ref. (3)	Cost of Service (4)	Residential (5)	Commercial (6)	Industrial (7)	Other Public Authority (8)	Other Water Utilities (9)	Private Fire Protection (10)	Public Fire Protection (11)
344.50	Laboratory Equipment	2	18,828	5,808	4,937	3,188	1,329	1,391	27	52
345.50	Power Operated Equipment	14	(14,754)	(8,188)	(3,472)	(1,254)	(794)	(497)	(164)	(406)
346.51	Communication Equipment	14	111,710	61,847	28,287	9,496	6,010	3,765	1,240	3,072
346.53	Communication Equipment-Telephone	14	24,089	13,336	5,868	2,048	1,238	812	267	662
347.51	Miscellaneous Equipment	14	886,018	473,892	201,421	72,762	48,064	28,848	9,502	23,540
348.00	Other Tangible Plant	14	4,438	2,457	1,044	377	239	150	49	122
	Total Utility Plant in Service (Net)		140,435,198	80,811,867	38,587,054	13,614,819	10,985,498	4,192,201	2,632,055	9,531,890
Other Rate Base Elements										
331.4	Accumulated Deferred ITC	16	(37,993)	(16,451)	(10,710)	(3,692)	(2,724)	(1,136)	(710)	(2,580)
	Accumulated Amortization of Capital Lease	2	(1,139,858)	(377,407)	(338,424)	(218,511)	(91,075)	(108,084)	(1,824)	(3,534)
	CIAC - Meters	4	(12,704,576)	(5,046,258)	(4,539,345)	(1,055,750)	(1,222,180)	-	(285,853)	(555,180)
	CIAC - Services	11	(1,535,630)	(1,204,087)	(796,100)	(5,835)	(21,192)	(154)	(108,282)	-
	CIAC - Meters	10	(198,286)	(113,496)	(36,176)	(2,992)	(6,786)	(143)	-	-
	CIAC - Hydrants	21	(793,450)	-	-	-	-	-	-	(793,450)
	Deferred Taxes	16	(16,931,771)	(7,331,456)	(4,773,086)	(1,640,669)	(1,214,006)	(606,260)	(316,624)	(1,149,667)
	Utility Plant Acquisition Adjustment	16	(67,365)	(29,168)	(16,960)	(6,528)	(4,830)	(2,014)	(1,280)	(4,574)
	CWIP - Mains not classified	4	15,000	5,958	3,360	1,247	1,443	-	338	856
	CWIP - Mains 6"-10"	4	595,000	220,446	196,302	48,121	53,391	-	12,486	24,264
	CWIP - Mains 12" and Greater	3	130,000	42,094	37,804	24,414	10,179	12,168	1,144	2,197
304.3	CWIP - Water treatment Structures	2	8,142,500	2,693,982	2,417,008	1,560,917	650,686	779,237	13,028	25,242
340.2	CWIP - Pumping Structures	6	2,000	683	585	381	180	173	17	32
330.4	CWIP - Elevated Tanks and Standpipes	5	100,000	31,940	28,690	17,460	7,710	8,350	1,980	3,860
320.3	CWIP - Water Treatment Equipment	2	5,000	1,666	1,465	959	400	479	8	16
	CWIP - Services	11	55,000	45,478	7,407	220	800	6	4,089	-
	CWIP - Meters	10	32,000	22,800	7,267	541	1,383	29	-	-
	CWIP - Hydrants	21	42,000	-	-	-	-	-	-	42,000
	CWIP - Office Furniture	14	1,600	830	363	128	81	51	17	41
	CWIP - Tools, Shop, & Garage Equip.	14	-	-	-	-	-	-	-	-
	RWIP	16	151,361	65,535	42,868	14,688	10,652	4,525	2,830	10,277
	Deferred Maintenance	14	-	-	-	-	-	-	-	-
	Utility Plant Capital Lease	14	1,590,500	880,501	374,245	135,193	65,559	53,600	17,555	43,739
	Limited Term Utility Plant - Net	16	-	-	-	-	-	-	-	-
	Working Capital Allowance	14	1,991,408	1,102,442	488,578	189,289	107,136	67,110	23,105	54,764
	Subtotal Other Rate Base Elements		(20,553,892)	(8,002,001)	(6,322,551)	(962,181)	(1,633,123)	306,937	(638,824)	(2,301,917)
	Total Original Cost Rate Base		119,881,306	51,809,866	33,264,513	12,652,428	8,432,373	4,499,138	1,993,231	7,229,873

TENNESSEE-AMERICAN WATER COMPANY

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS, cont.

FACTOR 18. ALLOCATION OF OTHER REVENUES.

Factors are based on the allocation of total cost of service.

<u>Customer Classification</u>	<u>Total Cost of Service</u>	<u>Allocation Factor</u>
(1)	(2)	(3)
Residential	\$19,806,885	0.4703
Commercial	10,995,497	0.2612
Industrial	4,411,673	0.1048
Other Public Authority	2,705,002	0.0643
Other Water Utilities	1,708,301	0.0408
Private Fire Protection	566,633	0.0135
Public Fire Protection	1,907,172	0.0453
Total	<u>\$42,101,163</u>	<u>1.0000</u>

TENNESSEE-AMERICAN WATER COMPANY

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS

FACTOR 19. ALLOCATION OF COSTS WHICH VARY WITH THE AMOUNT OF WATER CONSUMED IN THE LOOKOUT MOUNTAIN SERVICE AREA.

Factors are based on the pro forma test year average daily consumption for each customer classification.

<u>Customer Classification</u> (1)	<u>Average Daily Consumption, 100 Cu. Ft.</u> (2)	<u>Allocation Factor</u> (3)
Residential	749	0.7892
Commercial	165	0.1739
Other Public Authority	35	0.0369
Total	<u>949</u>	<u>1.0000</u>

FACTOR 20. ALLOCATION OF COSTS WHICH VARY WITH THE AMOUNT OF WATER CONSUMED IN THE LAKEVIEW SERVICE AREA.

Factors are based on the pro forma test year average daily consumption for each customer classification.

<u>Customer Classification</u> (1)	<u>Average Daily Consumption, 100 Cu. Ft.</u> (2)	<u>Allocation Factor</u> (3)
Residential	509	0.8555
Commercial	73	0.1227
Other Public Authority	13	0.0218
Total	<u>595</u>	<u>1.0000</u>

FACTOR 21. ALLOCATION OF COSTS ASSOCIATED WITH FIRE HYDRANTS.

These costs are assigned directly to the public fire protection classification.

<u>Customer Classification</u> (1)	<u>Allocation Factor</u> (3)
Public Fire Protection	1.0000

TENNESSEE-AMERICAN WATER COMPANY

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS, cont.

BASIS FOR ALLOCATION OF DEMAND-RELATED COSTS OF
FIRE SERVICE TO PRIVATE AND PUBLIC FIRE PROTECTION

Description (1)	Restrictive Diameter(s) Squared (2)	Number of Units (3)	Relative Demand (4)=(2)X(3)	Allocation Factor (5)
<u>Private Fire Protection</u>				
1 -Inch Fire Line	1	0	0	
1.5 -Inch Fire Line	2.25	1	2	
2 -Inch Fire Line	4	13	52	
2.5 -Inch Fire Line	6.25	1	6	
3 -Inch Fire Line	9	2	18	
4 -Inch Fire Line	16	83	1,328	
6 -Inch Fire Line	36	757	27,252	
8 -Inch Fire Line	64	299	19,136	
10 -Inch Fire Line	100	15	1,500	
12 -Inch Fire Line	144	19	2,736	
Total Private Fire Protection		<u>1,190</u>	<u>52,031</u>	0.3399
<u>Public Fire Protection</u>				
4-1/2 inch, 3 way	20.25	<u>4,989</u>	<u>101,027</u>	
Total Public Fire Protection		<u>4,989</u>	<u>101,027</u>	0.6601
Total Fire Protection Service		<u>6,179</u>	<u>153,058</u>	<u>1.0000</u>

PART III. PROPOSED CUSTOMER RATES

Tennessee-American Water Company
Comparison of Present and Proposed Rates

Line No.	Rates Effective May 22, 2007			Proposed Rates			Percent Increase	
	Lookout			Lookout			Lookout	
	Chattanooga	Mountain	Lakeview	Chattanooga	Mountain	Lakeview	Chattanooga	Mountain Lakeview
1	\$	10.42	\$ 11.70	\$	12.80	\$ 12.80	22.84%	9.40%
2		17.51	17.51	21.51	21.51	21.51	22.84%	22.84%
3		28.14	28.14	35.80	35.80	35.80	22.85%	22.85%
4		58.30	58.30	71.62	71.62	71.62	22.85%	22.85%
5		93.27	93.27	114.57	114.57	114.57	22.84%	22.84%
6		174.88	174.88	214.84	214.84	214.84	22.84%	22.84%
7		291.49	291.49	358.07	358.07	358.07	22.84%	22.84%
8		582.99	582.99	716.15	716.15	716.15	22.84%	22.84%
9		932.77	932.77	1,145.82	1,145.82	1,145.82	22.84%	22.84%
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Service Charges:

- 5/8 - inch meter
- 3/4 - inch meter
- 1 - inch meter
- 1 1/2 - inch meter
- 2 - inch meter
- 3 - inch meter
- 4 - inch meter
- 6 - inch meter
- 8 - inch meter

Volumetric Rates:

- First 480 Cubic Feet
- Next 6,100 Cubic Feet
- Next 43,500 Cubic Feet
- Next 450,000 Cubic Feet
- Next 1,000,000 Cubic Feet
- All Over 1,500,000 Cubic Feet

Ft. Oglethorpe; Catcoosa
Signal Mountain

Suck Creek

- First 1500 gal or 200 cubic feet
- Next 8000 gal or 1067 cubic feet
- All over 9000 gal or 1267 cubic feet

Lone Oak

- First 2000 gal or 267 cubic feet
- All over 2000 gal or 267 cubic feet

Tennessee-American Water Company
Comparison of Present and Proposed Rates

Line No.		Rates Effective May 22, 2007		Proposed Rates		Percent Increase	
		Lookout		Lookout		Lookout	
		Chattanooga	Mountain Lakeview	Chattanooga	Mountain Lakeview	Chattanooga	Mountain Lakeview
1							
2							
3							
4							
5							
6	Private Fire Service						
7	1 - Inch Service	\$ 27.15		\$ 33.02		21.63%	
8	1 1/2 - Inch Service	81.24		74.49		21.63%	
9	2 - Inch Service	108.92		132.48		21.63%	
10	2 1/2 - Inch Service	186.09		202.02		21.63%	
11	3 - Inch Service	244.83		297.79		21.63%	
12	4 - Inch Service	480.28		596.33		21.63%	
13	6 - Inch Service	979.79		1,191.73		21.63%	
14	8 - Inch Service	1,961.24		2,385.47		21.63%	
15	10 - Inch Service	2,942.09		3,578.49		21.63%	
16	12 - Inch Service	3,923.10		4,771.70		21.63%	

**DATA INFORMATION REQUEST
Ohio-American Water Company
CASE NO. 09-391-WS-AIR**

Requested From: Gary VerDouw
Date Requested: 10/19/09

Information Requested:

Refer to page 10 of the Company's Cost of Service Study (Water) that was provided in response to RPD 017-R2 for Allocator 2. Identify the source and support for the individual "factors" contained in column 3.

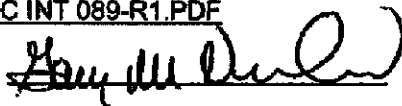
Requested By: Office of the Ohio Consumers' Counsel – 614-466-8574
Melissa R. Yost yost@occ.state.oh.us
Gregory J. Poulos poulos@occ.state.oh.us

Information Provided:

Please see Mr. Paul Herbert's testimony pages 10 and 11. In addition, attached as Exhibit OCC INT 089-R1 are class ratios from demand studies for other water systems.

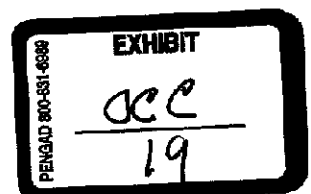
Hyperlink: [OCC INT 089-R1.PDF](#)

Signed By:



Date Response Provided: 11-6-09

Prepared By: Paul Herbert



Data Extract for Cost of Service Studies

01/23/09 2:02 PM

Line No.	Description	SPSPSB	Champaign	Chicago	Lincoln	Pekin	Sterling
System Coincidental Operating Statistics							
1	Average Day Pumpage - mgd	82.295	21.004	13.205	2.373	7.055	1.632
2	Maximum Day Demand - mgd	121.177	33.320	27.902	3.114	10.353	2.448
3	Maximum Hour Demand - mgd	140.400	38.039	39.940	3.937	12.082	3.581
4	Max Day/Average Day Ratio	1.472	1.586	2.113	1.312	1.467	1.500
5	Max Hour/Average Day Ratio	1.706	1.811	3.025	1.659	1.713	2.194
6	Maximum Day Allocation						
7	Base	67.91%	63.04%	47.33%	76.20%	68.14%	66.67%
8	Maximum Day	32.09%	36.96%	52.67%	23.80%	31.86%	33.33%
9	Maximum Hour Allocation						
10	Base	58.61%	55.22%	33.06%	60.27%	58.39%	45.57%
11	Maximum Day	27.69%	32.38%	36.80%	18.82%	27.30%	22.79%
12	Maximum Hour	13.70%	12.40%	30.14%	20.91%	14.31%	31.64%
Maximum Day Noncoincidental Customer Class Demands							
13	Residential	205%	215%	220%	185%	220%	195%
14	Commercial	175%	190%	210%	155%	185%	180%
15	Large Commercial			210%			
16	Industrial	155%	135%	140%	135%	145%	140%
17	Large Industrial	140%					
18	Other Public Authority	180%	165%	235%	135%	190%	170%
19	Large Other Public Authority	180%	165%				
20	Other Water Utilities	190%	185%	155%			
21	Large Other Water Utilities	190%					
22	Raw Water (University of Illinois)		165%				
Maximum Hour Noncoincidental Customer Class Demands							
23	Residential	255%	265%	315%	255%	280%	300%
24	Commercial	200%	205%	280%	190%	210%	250%
25	Large Commercial			280%			
26	Industrial	170%	140%	170%	160%	160%	185%
27	Large Industrial	150%					
28	Other Public Authority	190%	170%	285%	160%	205%	220%
29	Large Other Public Authority	190%	170%				
30	Other Water Utilities	210%	190%	155%			
31	Large Other Water Utilities	210%					
32	Raw Water (University of Illinois)		170%				

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THE YORK WATER COMPANY
SUMMARY OF OBSERVED MAXIMUM DAY AND HOUR RATIOS
FROM 1976 AND 1977 FIELD STUDIES

	<u>Maximum Day Ratio</u>	<u>Maximum Hour Ratio</u>
RESIDENTIAL		
Wilshire Hills	2.0	3.0
Prospect Street	1.4	2.6
Fayfield	2.8	6.3
COMMERCIAL & PUBLIC		
Apartments	1.6	3.3
Hotels	1.9	4.6
Country Club	1.7	7.0
Retail Stores	1.7	3.0
Schools	2.1	6.6
Hospital	1.5	2.9
INDUSTRIAL	1.5	2.7

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PENNSYLVANIA-AMERICAN WATER COMPANY
RESPONSES TO RATE STRUCTURE
AND COST OF SERVICE FILING REQUIREMENTS

RS1c., cont.

CUSTOMER CLASS DEMAND STUDY

The purpose of the customer class demand study is to develop empirical bases for the maximum day and hour extra capacity factors used in the cost allocation study. The current study of customer demands is being conducted pursuant to the Plan for Conducting Further Customer Class Demand Studies submitted to the Pennsylvania Public Utility Commission on April 29, 1992. In accordance with the plan, this report sets forth the data obtained thus far in the study and the current conclusions of maximum day and hour ratios.

Recording devices were installed at Sales for Resale customers in the Spring of 1992; at Commercial, Public and Industrial customers in the Spring of 1993; and at Residential customers in the Summer and Fall of 1993.

The usage data have been reviewed to determine the maximum day and hour usage for each customer being monitored. The maximum usage was divided by the customer's average usage during the year in which the maximum was recorded to determine ratios of maximum day and hour demand to average demand. These data are presented in the schedule which begins on page 14 of 31.

Residential. The residential maximum day and hour ratios used in the most recent cost allocation study were 2.5 and 6.0, respectively. Maximum day and hour ratios used in studies of other water utilities which were based on empirical demands range from 2.1 to 2.5 and 4.4 to 4.5, respectively. The observed maximum day ratios of selected clusters

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PENNSYLVANIA-AMERICAN WATER COMPANY
RESPONSES TO RATE STRUCTURE
AND COST OF SERVICE FILING REQUIREMENTS

RS1c., cont.

of Pennsylvania-American residential customers range from 1.81 to 6.80 and average 3.12.

The observed maximum hour ratios range from 4.88 to 19.64 and average 8.95.

Based on the previous estimates and the current indications, a maximum day ratio of 2.5 is used in the allocation study. The observed maximum hour ratios continue to be higher than those experienced in other utilities and confirm the continued use of a maximum hour ratio of 6.0 for the purposes of the allocation study.

Commercial and Public. The commercial and public maximum day and hour ratios used in the most recent study were 2.5 and 5.0, respectively. Maximum day ratios used in studies of other water utilities which were based on empirical demands range from 1.6 to 2.0. The maximum hour ratios range from 3.3 to 3.8. The observed maximum day ratios of selected commercial and public customers range from 1.06 to 46.38 and average 2.69 for commercial and 3.31 for public customers. The observed maximum hour ratios range from 1.18 to 128.43 and average 6.24 for commercial and 8.10 for public customers.

Based on the previous estimates and the current indications, maximum day and hour ratios of 2.5 and 5.0, respectively, are used in the allocation study for both commercial and public customers.

Industrial. The industrial maximum day and hour ratios used in the most recent study were 1.8 and 2.7, respectively. Maximum day and hour ratios used in studies of other water utilities which were based on empirical demands range from 1.5 to 1.7 and 2.5 to 2.7,

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PENNSYLVANIA-AMERICAN WATER COMPANY
RESPONSES TO RATE STRUCTURE
AND COST OF SERVICE FILING REQUIREMENTS

RS1c., cont.

respectively. The observed maximum day ratios of selected industrial customers range from 1.09 to 6.94 and average 1.78. The observed maximum hour ratios range from 1.43 to 19.61 and average 2.82.

The observed maximum day and hour ratios appear to confirm the continued use of a 1.8 maximum day to average day ratio and 2.7 maximum hour to average hour ratio for the industrial class.

Sales for Resale (Other Water Utilities). The maximum day and hour ratios of Sales for Resale customers vary widely depending on the customer's use of water, i.e., base load, peak load, or total load and, therefore, the class has been segregated into lower peaking, Group A customers and higher peaking, Group B customers. The observed maximum day ratios of selected Group A customers range from 1.04 to 7.17 and average 2.76 and the maximum day ratios of selected Group B customers range from 5.68 to 67.19 and average 11.41. The observed maximum hour ratios of selected Group A customers range from 1.99 to 25.55 and average 7.10 and the maximum hour ratios of selected Group B customers range from 6.34 to 1,612.50 and average 21.54. Based on the observed maximum day and hour ratios of the selected Group A and Group B customers, maximum day and hour ratios of 2.0 and 5.0, respectively, are retained for Group A customers and maximum day and hour ratios of 10.0 and 20.0, respectively, are retained for Group B customers in the allocation study.

Exhibit No 50-B
Docket No R-00072711
Witness P R Herbert

AQUA PENNSYLVANIA, INC.
BRYN MAWR, PENNSYLVANIA

COST OF SERVICE ALLOCATION STUDY
AS OF JUNE 30, 2008



Harrisburg, Pennsylvania

Calgary, Alberta

Valley Forge, Pennsylvania

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CUSTOMER CLASS DEMAND STUDY

The purpose of the customer class demand study is to develop empirical bases for the maximum day and hour extra capacity factors used in the cost allocation study. The study of customer demands is being conducted in accordance with the plans submitted by the Company to the Pennsylvania Public Utility Commission during the course of the rate proceeding at Docket No. R-911892.

Previous reports on the customer class demand study were submitted as Exhibit No. 9-A in Docket No. R-00922476, and as part of Exhibit No. 50-B in Docket Nos. R-00932868, R-00953343 and R-00973952. The initial report sets forth descriptions of the selection of customers, the initial experience with data collection in 1991, and the data obtained in 1992. Subsequent reports included the observed maximum day and hour use for each customer or group of customers being monitored during the 1992 through 1996 data collection periods.

This report sets forth the data through the 1996 monitoring period as shown in the schedule on pages 7 through 22 of this response. Data during each period were reviewed to determine the maximum day and hour use for each customer or group of customers being monitored. The maximum use was divided by the average use for the year in which the monitoring was performed to develop indications of maximum day and hour ratios for the customer's classification.

The customers and customer groups, i.e., residential neighborhoods, were classified based on their revenue or billing category or, with respect to residential

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neighborhoods, the housing density and annual use. The monitoring results were organized in this manner, inasmuch as data related to the proportions of the customer classification represented by these categories were available. For example, the Company prepares an analysis of consumption in each of its load control areas which indicates the housing density, high, medium or low, the number of residential customers and their annual consumption. The neighborhoods were grouped according to housing density and annual consumption, e.g., medium density housing with customers whose average annual use is between 60,000 and 70,000 gallons. Similarly, commercial and public customers were organized by revenue categories such as apartments, colleges, etc., and industrial customers were organized based on their billing frequency, quarterly or monthly.

Average ratios were calculated for each category and also are presented in the schedule on pages 7 through 22 of this response. The average ratios of the categories for which empirical data were available, and estimated ratios for six residential categories representing 3.49 percent of residential consumption, are weighted to determine the composite ratios for the several classifications in the schedule on pages 23 and 24 of this response.

Residential. The residential maximum day and hour ratios used in the most recent cost allocation study were 2.1 and 4.5, respectively. The maximum day ratio used in studies of other water utilities which were based on empirical demands is 2.5 and the maximum hour ratios range from 4.5 to 6.0.

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The observed maximum day ratios of selected Philadelphia Suburban residential neighborhoods range from 0.76 to 5.27. The observed maximum hour ratios range from 1.31 to 33.86. The average maximum day and hour ratios by residential neighborhood category range from 1.23 to 3.87 and from 2.57 to 7.31, respectively. The weighted ratios, as shown in the schedule on page 23 of this response, are 2.119 for maximum day and 4.508 for maximum hour. The weighted maximum day and hour ratios of 2.1 and 4.5 confirm their continued use in the cost allocation study.

Commercial and Public. The commercial and public maximum day and hour ratios used in the most recent study were 2.0 and 3.8, respectively. Maximum day and hour ratios used in studies of other water utilities which were based on empirical demands range from 1.6 to 2.5 and 3.3 to 5.0, respectively.

The observed maximum day ratios of selected commercial and public customers range from 0.70 to 9.88. The observed maximum hour ratios range from 1.85 to 39.95. The average maximum day and hour ratios by revenue category range from 1.28 to 6.36 and from 2.52 to 23.84, respectively. The upper end of each range represents data for a golf course. A review of the data indicates that the golf course would likely contribute to the peak day load; however, its peak hour occurs in the early morning and would not occur at the same time as the peak hour of other commercial and public customers.

Thus, the weighted maximum day ratio of 2.0, as shown in the schedule on page 24 of this response, continues to be used for the commercial and public classifications. It includes the effect of the golf course and is within the range of

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ratios used in other studies. The weighted maximum hour ratio excluding the golf course data of 3.8 is maintained for use in the cost allocation study and also is within the range of ratios used in other studies.

The weighted ratios for commercial and public customers do not reflect the initial data obtained in 1996 for six small commercial customers as shown in the schedule on page 18 of this response. The ratios for the small customers are generally higher than the weighted ratios of the other commercial and public customers. However, inasmuch as limited data are available, no further increase in the ratios for these classifications is proposed.

Industrial. The industrial maximum day and hour ratios used in the most recent study were 1.7 and 2.7, respectively. Maximum day ratios used in studies of other water utilities which were based on empirical demands range from 1.5 to 1.8 for day and the maximum hour ratio is 2.7.

The observed maximum day ratios of selected industrial customers range from 1.03 to 3.10. The observed maximum hour ratios range from 1.43 to 6.25. The average maximum day ratios by billing frequency are 1.68 and 1.73 and the weighted maximum day ratio is 1.69. The average maximum hour ratios by billing frequency are 2.58 and 3.12 and the weighted maximum hour ratio is 2.73.

Based on the current estimates, estimates of other utilities and the observed ratios during 1992-1996; maximum day and hour ratios of 1.7 and 2.7, respectively, continue to be used in the allocation study.

Sales to Other Water Utilities. The Sales to Other Water Utilities maximum day and hour ratios used in the most recent cost allocation study were

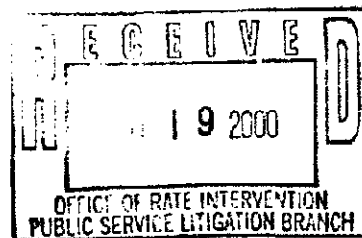
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10.0 and 20.0, respectively, for the customers located in the Main Division. Maximum day and hour ratios used in a study for another water utility which were based on empirical demands range from 2.0 to 10.0 for maximum day and 5.0 to 20.0 for maximum hour. The observed maximum day ratios of selected resale customers range from 1.46 to 20.23. The observed maximum hour ratios range from 4.80 to 52.52. The maximum day and hour ratios for the Bristol Division customers in the last study were estimated at 1.5 and 2.0, respectively.

As a result of acquisitions since the last study, the Company has lost and gained Sales to Other Water Utilities customers. There are now several customers with relatively uniform demand characteristics. These customers have been assigned maximum day and hour ratios of 1.50 and 2.00, respectively, and designated as Group A. There also are several customers whose demand characteristics are less favorable, but collectively, not as high as the Main Division customers in the last study. Maximum day and hour ratios of 3.00 and 5.00, respectively, have been assigned to these customers, designated as Group B.

BEFORE THE
KENTUCKY PUBLIC SERVICE COMMISSION

CASE NO. 00-120



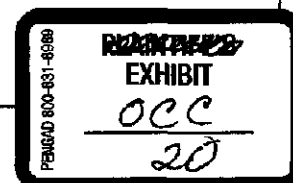
RE: KENTUCKY-AMERICAN WATER COMPANY

Pursuant to notice duly given, the above-styled matter came to be heard October 4, 2000, at 8:30 a.m. in the Hearing Room of the Kentucky Public Service Commission, 211 Sower Boulevard, Frankfort, Kentucky 40601; The Honorable Martin J. Huelsmann presiding.

VOLUME II OF II

C O P Y

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BEFORE THE
KENTUCKY PUBLIC SERVICE COMMISSION
CASE NO. 00-120

RE: KENTUCKY-AMERICAN WATER COMPANY

APPEARANCES:

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Chairman
PUBLIC SERVICE COMMISSION

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Vice-Chairman
PUBLIC SERVICE COMMISSION

Hon. Gary Gillis
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CHAIRMAN HUELSMANN:

Okay, the record should reflect it is Wednesday, it is about 8:35, Ms. Bridwell you continue under oath and be sworn and Mr. Shepherd is asking questions at this point.

MR. SHEPHERD:

About to finish up, hopefully, Your Honor.

The witness, LINDA BRIDWELL, having been previously sworn, testified as follows:

CONTINUED CROSS EXAMINATION

BY MR. SHEPHERD:

Q Ms. Bridwell, I just have a few more questions, really. One matter I would like to direct your attention to concerning some of the questions that we heard yesterday and the testimony yesterday about the acquisition of the wastewater treatment plant at Boonesboro. As the engineer in charge of Kentucky-American's process on issues, are you the engineer who has reviewed matters related to the wastewater treatment plant--

A Some of them, yes.

Q --at Boonesboro?

A Yes.

MR. SPENARD:

Yes, sir.

CHAIRMAN HUELSMANN:

Let's take a fifteen minute break and come back at five after ten.

(OFF THE RECORD)

CHAIRMAN HUELSMANN:

We would like to break at 12:15 for an hour if that is acceptable to all of you, and if you want to bring in sandwiches there's places to eat in the building and vending machines. So--okay.

MR. INGRAM:

Call Paul Herbert.

CHAIRMAN HUELSMANN:

Mr. Herbert.

(WITNESS DULY SWORN)

CHAIRMAN HUELSMANN:

Have a seat sir.

The witness, PAUL HERBERT, having first been duly sworn, testified as follows:

DIRECT EXAMINATION

BY MR. INGRAM:

Q State your name, please, sir.

A Paul R. Herbert.

Q Who do you work for?

A I am Vice President of Gannett Fleming Valuation and Rate Consultants.

Q Where do you work?

A In Harrisburg, Pennsylvania.

Q What do you do?

A I prepare cost-of-service allocation, revenue requirement and rate design studies for water, gas and wastewater plants.

Q Did Kentucky-American Water Company ask Gannett Fleming to assist it in this case with a cost-of-service study?

A Yes, it did.

Q Were you assigned that responsibility?

A Yes, I was.

Q Do you work for other American Water Works companies?

A Yes I have.

Q Have you filed direct and rebuttal testimony in this case?

A Yes, I did.

Q If I asked you the questions contained therein today, would you give me the same answers?

A Yes, I would

Q Do you have corrections to make to your testimony or rebuttal testimony?

A Just on my rebuttal testimony. I noticed when it was printed pages 2 through the end, at the top of the page, indicated my direct testimony and that should be corrected to say rebuttal testimony.

MR. INGRAM:

Thank you Mr. Herbert. I have no further questions at this time Your Honor.

CHAIRMAN HUELSMANN:

Mr. Spenard?

CROSS EXAMINATION

BY MR. SPENARD:

Q Good morning Mr. Herbert.

A Good morning.

Q Mr. Herbert, with respect to your rebuttal testimony, page 2--do you have that in front of you?

A Yes, I do.

Q It indicates with question 8, beginning on line 16, do you agree with eliminating wastewater cost

from the cost-of-service? In looking at the response to this question, is it--will you confirm that it is your testimony that all sewer operations related cost should be removed from the cost-of-service used in determining the appropriate revenue requirement and rate design in this case?

A Yes, I did.

Q Turning to page 3 of your rebuttal testimony, lines 20 and 21. You state that Kentucky-American's load research does not mention if the sample is statistically valid. Do you see that sentence?

A Yes, I do.

Q I have had distributed the Response to Attorney General Data Request Number 1, question 11, and everyone should have a copy. Do you have that copy in front of you?

A Yes, I do.

Q And would you please turn to page 4 of 64 of this Response. And when I am identifying page 4 of 64 I am looking at the upper right-hand corner. Do you have that in front of you?

A Yes, I do.

Q Okay. Would you read the--would you read into the transcript of evidence the first sentence of the first paragraph of that introduction?

A The first sentence of the first paragraph?

Q Yes, sir.

A "During the summer of 1999, June, July, August and September, the Kentucky-American Water Company (KAWC) installed FloSearch devices on a representative sample of customers in the commercial, other public authority (OPA), industrial and other water utility (OWU) customer classes in order to perform a customer class water demand study."

Q Yes, sir. And are you challenging this statement by the authors of the study?

A Yes, I have--there is no supporting evidence as to that--how a representative sample were selected.

Q Well, do you have any information to indicate that the customers included in the study are not representative of the customer classes from which they are drawn?

A No, I don't.

Q Okay. In your rebuttal testimony, page 3, lines 21 to 23, you note a concern with weather patterns

affecting the results of the load studies. Do you see that?

A Yes, I do.

Q And, again, going back to the introduction on page 4 of 64, the Response to Attorney General Data Request Number 1, question 11, the authors conclude in the last paragraph on that page that because of the weather conditions during the summer of 1999 their measured residential maximum day peaking factor of 1.65 should be increased to 1.90; is that correct?

A Yes, I did that by taking an average of those peaking factors and applying a 15% increase to that amount. If you took the peak number of 1.77 times the same factor, you would get over 2 as the factor.

Q Okay. Mr. Herbert, did Mr. Rubin use the 1.65 figure or the 1.90 figure?

A He used the 1.90 figure.

Q Looking at page 7 of 64 of this Response--are you there yet?

A Yes, I am.

Q Do the authors of the load study--excuse me--do the authors of the load research study also

conclude that because of weather conditions it would be appropriate to average the five highest peaking ratios for each class rather than just using the highest peak?

A I believe they mention that but I don't necessarily agree with that.

Q Okay. And did Mr. Rubin rely on the averages of the five highest peaks rather than the single highest peak?

A I believe he did.

Q So, Mr. Rubin's analysis is consistent with the advice of the study's authors, which reflects a recognition of 1999's particular weather conditions; is that correct?

A For that specific part of the study.

Q In your rebuttal testimony on page 3, lines 23 and 24, you note that the Company's load study uses just one year of data, which might lead to inaccuracies. Do you see that sentence?

A Yes.

Q Do the authors of Kentucky-American's demand study recognize this?

A I believe the authors mention that further study is desirable.

Q Okay. Well, do the authors of Kentucky-American's demand study adopt any procedures to adjust for this fact?

A I am not aware of any.

Q Okay. Mr. Herbert, if you would turn to page 10 of 64 in the Response and take a look at the third paragraph on that page. In that paragraph the authors state that the use of the average of the five highest peaks, rather than the single highest peak, also recognizes that the results for one particular year might not be representative. Is that the case?

A That is what it says.

Q Okay.

A I don't necessarily agree with it.

Q But the authors of the study recognize the shortfall you identify in your rebuttal testimony. Is that the case?

A Sir, could you repeat the question?

Q Yes, sir. The authors of the study recognize the shortfall that you identify in your rebuttal testimony, is that the case?

A Well, this is their way of addressing it, I would imagine.

Q So, this is the procedure they recommend to address that shortfall?

A Well, it doesn't substitute providing more study in subsequent years.

Q Mr. Herbert, did Mr. Rubin rely upon the author's adjusted results to adjust and reflect the average of the five highest peaks rather than a single peak?

A As previously noted on the residential 1.90 factor, yes.

Q Turning to page 4 of your rebuttal testimony, lines 23 and 24, you state that factors like the percentage of multi-family dwellings can affect average water use. Do you see that sentence?

A I am referring there to a response that Mr. Rubin supplied from a data request.

Q Okay. Well, can factors like the percentage of multi-family dwellings affect average water use?

A Multi-family dwellings would tend to reduce average residential use because of the lack of large lawns and outdoor use requirements.

Q So, they can have an impact?

A They can, yes.

Q Can they also affect peak water usage?

A I would say they would have a lesser impact on peak usage than single family residential homes.

Q Would you expect a multi-family dwelling like an apartment building to have a lower peak usage than that of a comparable number of single family detached dwellings?

A Yes, I would.

Q I'm sorry?

A Yes, I would. But I would add to that that in many instances those types of customers are classified as commercial.

Q Mr. Herbert, please turn to page 5 of your rebuttal testimony. Are you there?

A Yes, I am.

Q On line 8 you show a figure of 4,800 gallons per month for the average monthly residential usage for Pennsylvania-American Water Company. Are you generally familiar with Pennsylvania-American's service territory?

A Yes, I am.

Q Okay. Do you agree with Mr. Rubin's characterization that the utility services more than 100 separate communities in various portions of Pennsylvania?

A Yes.

Q Now, is the 4,800 gallon per month for Pennsylvania-American from a particular portion of Pennsylvania-American's service area or is this a statewide average for Pennsylvania-American?

A It is the statewide average.

Q Does the average monthly consumption for Pennsylvania-American differ in various parts of its service area?

A Yes, it does.

Q Okay. And have you analyzed the reasons why it differs in the various parts of its service territory?

A No, I have not.

Q Have you attempted to determine which portions of Pennsylvania-American's service territories are most comparable to Kentucky-American?

A No, I did not make that study.

Q Mr. Herbert, on page 5, lines 14 and 15, you indicate that the differences in consumption are primarily related to outdoor and other non-essential use. Do you see that statement?

A Yes, I do.

Q Would differences in household size account for

some of the differences in water usage as well?

A Yes, it would but over--that averages out over the population.

Q Mr. Herbert, what about the age of plumbing fixtures?

A Well, that can have an affect on water usage.

Q Okay. Mr. Herbert, would another factor that affects household consumption also be the amount of time that the housing unit is occupied during the day?

A Absolutely.

Q And what about the types of appliances in the home, do they affect water usage; for example, whether there is a dishwasher or whether there is a hot tub?

A Sure.

Q Moving to page 9 of your rebuttal testimony. On lines 1 through 3 you review Mr. Rubin's rate design recommendations and I believe that your first recommendation is pretty clear. Am I correct that you believe that the 5/8 inch customer charge should be increased but that the other customer charges should not change?

A No, that is not my recommendation.

Q Okay. What is your recommendation?

A My recommendation is the proposed rates that accompany my original exhibit, increasing all service charges.

Q Mr. Herbert, please turn to page 10 of your rebuttal testimony. In response to question 44, beginning on line 7--excuse me, question 44, beginning on line 7, should the existing service charges for the 3/4 inch and larger be reduced to equal the cost based rate? And your answer is no, at least your answer in part, no, I agree with Mr. Rubin that no rate should be decreased. Is that the case?

A That is what it says.

Q Okay. And you further state in that response, "I would not oppose a proposal to maintain the existing service charges for the 3/4 inch and larger." Is that the case?

A That's what it reads. But--the last part of that is that "however I still recommend the service charges as originally filed because the proposed rates are not overly burdensome."

Q And that is your recommendation?

A Yes.

Q Okay. Again, going back to page 9, you agree with Mr. Rubin's third recommendation, is that right?

A Yes, I do.

Q Okay. Let's take a look at your positions on his second and fourth recommendations. Can you state for the record whether you agree with his second recommendation?

A I agree with it and I did not increase any class more than twice the average.

Q Do you agree with his fourth recommendation?

A I can't agree with it in total. I would have to refer to the way I allocated the revenue distribution increase in my exhibit that I recommend. So, I don't believe I can agree with that blanket statement.

Q Okay. Mr. Herbert, there is a difference between you and Mr. Rubin in terms of rate design principals; is that correct?

A I believe so, yes.

Q And you believe that the 5/8 inch customer charge should be increased, while Mr. Rubin believes that it should remain unchanged; is that accurate?

A That's accurate.

Q Okay. Let's take a look at the exhibits that are

attached to your rebuttal testimony, specifically, let's go to Schedule 36-R-1. Are you there?

A Yes, I am.

Q This shows 4,335 one inch service lines were installed by Kentucky-American from 1997 through 1999; is that the case?

A Yes.

Q Okay. Let's take a look at Exhibit 36, which is from the filing requirements, Volume II of II, Schedule C.

A Is this my original exhibit or my rebuttal?

Q This is from the Kentucky-American Water Company forecasted test period ending November 30, 2001, Filing Requirements, Volume II of II.

A I have it.

Q Okay. Will you go to page 11 of 40 of Schedule C.

A I have it.

Q Okay. On this page it shows that Kentucky-American has a total of 3,518 one inch service lines. Do you see that?

A The Schedule you are referring to refers to meters. So, I would agree that it does, 3,518 one inch meters.

Q Okay. Mr. Herbert, can you reconcile the

difference between the schedule that shows 3,518 one inch service lines and the Schedule 36-R-1 that shows 4,335 one inch service lines--excuse me, 3,518 meters for the one inch meter and 4,335 one inch service lines?

A No, I can't reconcile it because you are comparing apples with oranges. The one inch service lines feed 5/8 inch meters.

Q Okay. Mr. Herbert, is it the case that some of those one inch service lines are installed to serve two residential customers?

A Recently the Company has been installing service lines, one inch service lines, to serve two residential customers, but the vast majority of the customers on the system have single service lines--single three-quarter inch service lines.

Q With respect to the customers who are being served--with respect to the service lines that are serving multiple customers, the service line cost is really one-half of the cost of the one inch service line; is that correct?

A The recent cost would be that way, yes.

Q Okay. Have you made the assumption that all residential 5/8 inch meters are served by separate

3/4 inch service line?

A Well, like I said just earlier, the--over-- approximately 70 to 75%, or more, I don't have the exact figures, but most of the residential customers served prior to the late 1980s are served through a single three-quarter inch service line.

Q Your assumption for your cost-of-service is that all residential 5/8 inch meters are served by a separate 3/4 inch service line. Is that the case?

A Yes, I included any residential customer with a 5/8 inch meter as being served through a three-quarter inch service line.

Q Okay. Your Schedule 36-R-1 utilizes a \$459 amount as the cost for installing a service line--excuse me, this schedule uses \$459 as the cost for installing a service line to serve a 5/8 inch residential meter; is that the case?

A That is what this exhibit shows, but I did not use that information to develop my service line factor allocation.

Q Just focusing on this particular schedule, the \$459 average cost figure actually overstates the actual average cost for installing a service line;

is that correct?

A To make the--probably the correct comparison, by size, on this schedule, you would need to include about 75% of the \$459 cost and about 25% of half of the \$470 as being representative of the total population of customers served by a 5/8 inch meter, residential customer.

Q Okay. Let's take a look at your Revised Exhibit 36, in particular, Schedule H, which is right at the end of that exhibit. Do you have that in front of you?

A Yes, I do.

Q Looking at the top of Schedule H, did you reflect difference in meter reading costs by meter size when you developed the \$1.26 per month for meter reading cost?

A The \$1.26 is the average cost. Down below and under column 7 I reflected the difference for meter reading costs by size.

Q With respect to the portion at the top of that schedule, do you reflect it in the number of metered customers, the \$1.26 amount, is that reflected? Do you reflect that difference in that amount?

A I don't understand your question.

Q You indicate that you reflect the difference in column 7 and I am curious as to whether you reflect that difference--or that difference is reflected in the amount that appears in the cost per unit per month, column 5, above, the \$1.26 amount?

A I lowered the unit cost for meter reading for the 5/8 inch size to reflect the change in the meter reading allocation that I included in my revised exhibit. When you take that \$1.23 times the number of bills, you recover the allocated portion of meter reading costs being allocated to the 5/8 inch customers. That is how I got the \$1.23. And then when you apply the remaining unit cost for meter reading times all of the bills, by size, you recover the total meter reading cost of \$1,508,581.

Q Thank you. Mr. Herbert, in developing the 3/4 inch service equivalents on the top of this page, did you change the figure 106,742 from your original study?

A No, because I did not change the basis for my 3/4 inch service line allocation.

Q Mr. Herbert, is it the case that you did not change the ratios to account for differences in service installation costs?

A Could I hear that again? I'm sorry.

Q Yes, sir. Is it the case that you did not change the ratios to account for differences in service installation costs?

A I did not, in my Revised Exhibit 36-R, I did not change the basis for allocating the 3/4 inch service line costs.

Q Mr. Herbert, did you consider meter installation costs in developing the 5/8 inch meter equivalence that you used on Schedule H?

A No, I only considered the cost of the meter.

Q Mr. Herbert, in your rebuttal testimony you reject Mr. Rubin's inclusion of meter installation cost in the equivalent service ratio calculation; is that the case?

A That is correct.

Q Mr. Herbert, did you use meter installation cost in developing either the equivalent meter ratios or the equivalent service ratios?

A No, I did not.

Q Mr. Herbert, do you assume that the meter

installation costs are directly proportional to the cost of the meter itself?

A It is much more closely follows the cost of the meter rather than the cost of the service line.

Q So, for your study, is your assumption that the installation costs are directly proportional?

A The assumption in my study is that they are directly proportional to the cost of the meter.

Q And just so I am clear, you did not revise either the meter or service equivalency ratios to account for the service installation cost; is that correct?

A That is correct.

MR. SPENARD:

At this stage we have no further questions for Mr. Herbert.

CHAIRMAN HUELSMANN:

Mr. Barberie?

MR. BARBERIE:

I have no questions for this witness.

CHAIRMAN HUELSMANN:

Mr. Shepherd?

MR. SHEPHERD:

No questions.

CHAIRMAN HUELSMANN:

Mr. Hendricks?

MR. HENDRICKS:

Yes, sir, I have a few questions.

CROSS EXAMINATION

BY MR. HENDRICKS:

Q Mr. Herbert, how are you doing today?

A Fine, thank you.

Q My name is Doug Hendricks, I am on Committee Staff. I have just a few questions for you. First one I want to start with is could you explain again why you didn't include service installation costs?

A I did use service--I used--let me start over. Excuse me. In the allocation of service line costs I used costs from a construction manual that indicated the relative cost of installing service lines by size. I did not include meter installation costs into that analysis because it is not appropriate.

Q Why isn't it appropriate?

A Because I am allocating service line costs, not meter installations. Meter installations is in a

separate account.

Q I want to refer to your direct testimony, I am looking at question 18 which is on page 8. Let me know when you get that page.

A I have it.

Q On page 9 you mention some of the studies that you reviewed, could you just tell me why you decided to use field studies from Pennsylvania?

A Well, I indicate that the demand study results from the Kentucky-American study were rather limited and because of that I rely on more extensive studies that my firm has conducted in Pennsylvania as a basis for making those judgments. AWWA Manual M-1 suggests that you should use as much information as available to make those judgments.

Q Did you look at studies from any other states besides Pennsylvania?

A No, I did not.

Q Why didn't you? Is it because you focused on the ones that your firm had already done?

A I am more familiar with the way those studies were conducted and have more faith in those results.

Q You may have already answered this question but I

will ask you again. Can you explain for us why the Pennsylvania studies were similar enough to Kentucky-American's situation for you to consider them.

A Well, I think the most convincing comparison is to look at the average residential usage between the Philadelphia Suburban residential class and the Kentucky-American residential class, are within a hundred gallons per month of each other. That to me is an indication of similar residential water use.

Q Of the studies that your firm had performed previously, were the ones that you relied on the only ones that were similar, in your opinion, to Kentucky-American?

A Well, I relied more heavily on the Philadelphia Suburban results, because I am more familiar with that, that particular service area as being quite similar to, I think, the Lexington area.

Q And that is based on?

A My observations.

Q Okay. I want to turn to page 10 of your direct testimony, I am looking at question 25.

A I have it.

Q In that--in your response to that question you mention some general guidelines that should be developed with management. Are those guidelines the ones that you have set forth in your response to question 26?

A Yes.

Q Who did you work with at Kentucky-American to determine these guidelines?

A Primarily Coleman Bush and Ed Grubb.

Q Could you just describe for me how you all went about making the decision that these were the guidelines that you were going to rely on?

A Well, I visited the Company's offices back in, I believe, early April and had some preliminary cost allocation results at the time and we talked about these different aspects of rate design.

Q Okay. The tap fees that are proposed by Kentucky-American include automatic meter reading costs; is that correct?

A That is beyond the scope of my testimony.

Q I want you to refer to Mr. Rubin's testimony, actually one of his exhibits, it is Exhibit SJR-2, page 6.

A I have it.

Q Okay, thanks. Now, do you agree with--well, go to page 6. I didn't tell you which page to go to.

A Page 6 of 8?

Q Yes, sir.

A I have it now.

Q I always helps to know which page you are going to go to, doesn't it? Do you agree with his allocation factors used to allocate meter reading costs?

A Yes. I revised my exhibit to reflect his analysis of meter reading requirements.

Q Do you agree that maximum day and maximum hour ratios that are used in the AWWA Manual, as shown in the guidelines, are not meant to be used in setting customer class ratios for all utilities?

A Why--I don't view them as standard ratios that should be used regardless of any other information, I only relied upon them to--as a validity check on the judgments that I had included from the other information.

MR. HENDRICKS:

That's all we have right now.

CHAIRMAN HUELSMANN:

Mr. Ingram?

MR. INGRAM:

Just a couple.

REDIRECT EXAMINATION

BY MR. INGRAM:

Q Mr. Herbert, is your recommendation for the rate design of Kentucky-American's requested revenue in this case contained in your rebuttal exhibits?

A No, it is not. It is just in my original exhibit.

Q Do you believe that there is required in the design of rates an application of opinion?

A In the design of the rate?

Q Yes, in the allocation of costs, do you believe opinion enters into the allocation of costs?

A Judgment enters into that.

Q Judgment, opinion?

A Yes.

Q How many demand studies have you been involved in for your company?

A Primarily the two major studies that have been ongoing since the early '90s for the Pennsylvania-American Water Company and the Philadelphia Suburban Water Company.

Q How many cost-of-service studies have you been

involved in?

A Oh, my. Probably at least a hundred.

MR. INGRAM:

That's all I have. Thank you Your
Honor.

CHAIRMAN HUELSMANN:

Mr. Spenard?

MR. SPENARD:

We have no further questions.

CHAIRMAN HUELSMANN:

Mr. Barberie?

MR. BARBERIE:

No questions Your Honor.

CHAIRMAN HUELSMANN:

Mr. Shepherd?

MR. SHEPHERD:

I have just a couple Your Honor. And I apologize,
I should have asked these on the first round.

RE CROSS EXAMINATION

BY MR. SHEPHERD:

Q Are you familiar with the involvement that your
firm had with relation to the Kentucky-American
Water Company's Bluegrass Water Project, or the

pipeline from Louisville to Lexington?

A No, I am not aware. That is a separate division of our company.

Q You weren't involved in that work?

A No, I was not.

Q Okay. And, so, you are not familiar with the expenditures that the Company has indicated were made from Gannett Fleming for the Bluegrass Water Project? That is something that is outside the scope of your engagement?

A Yes, that is outside of the scope.

MR. SHEPHERD:

Okay.

CHAIRMAN HUELSMANN:

Mr. Hendricks?

MR. HENDRICKS:

No questions.

CHAIRMAN HUELSMANN:

Mr. Ingram?

MR. INGRAM:

No, Your Honor.

CHAIRMAN HUELSMANN:

Mr. Spenard?

MR. SPENARD:

No, sir.

CHAIRMAN HUELSMANN:

And Mr. Barberie?

MR. BARBERIE:

Nothing.

CHAIRMAN HUELSMANN:

May this witness be excused?

MR. INGRAM:

Yes, Your Honor. That is the case in chief for the applicant.

CHAIRMAN HUELSMANN:

The applicant rests? I guess would be an appropriate--

MR. INGRAM:

That is the word that we use, I don't think that I get to rest. But that is the word.

CHAIRMAN HUELSMANN:

Case submitted. My understanding is that the Attorney General wants to change the order of witnesses; is that correct?

MR. SPENARD:

Yes, sir.

OHIO AMERICAN WATER COMPANY

Rate Case No. 09-391-WS-AIR

Adjustment for Management Fees

For the Twelve Months Ended September 30, 2009

Date: 3 Months Actual and 9 Months Estimated

Type of Filing: ☒ Original ☐ Updated ☐ Revised

Work Paper Reference No(s): WPC-3.9

Schedule C-3.9

Page 1 of 1

Witness Responsible: E. J. Grubb

Line No	Purpose and Description	Amount
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The pro forma expense to management fees includes the actual management fees billed for October 2008 through December 2008 and budgeted information for January 2009 through September 2009. Pro forma adjustments were made to 1) eliminate one time costs relative to Sarbanes-Oxley implementation and divestiture from RWIE; 2) eliminate one time non-recurring costs; 3) eliminate non-recoverable costs; 4) eliminate lobbying and penalty expense; 5) increase Pension and OPEB expense to reflect increases in latest actuarial study; 6) adjust labor and labor related benefits reflected annualization and salary increases; 7) increase other known and measurable expenses; and 8) make a downward adjustment to correct difference in billing and general ledger balance.

	Water A	Water C	Wastewater	Total
Pro forma expense	\$ 2,972,331	\$ 621,804	\$ 466,318	\$ 4,060,453
Less: test year expense	2,845,182	595,205	446,370	3,886,757
Pro forma expense adjustment	\$ 127,149	\$ 26,599	\$ 19,948	\$ 173,696

