

PAWC STATEMENT NO. 7
DOCKET NO. R-2010-2166214

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

DIRECT TESTIMONY OF
PAUL R. HERBERT

ON BEHALF OF PENNSYLVANIA-AMERICAN WATER COMPANY

CONCERNING

NORTHEAST WASTEWATER OPERATIONS

COST OF SERVICE ALLOCATION

AND

CUSTOMER RATE DESIGN

APRIL 2010

BEFORE THE PENNSYLVANIA PUBLIC UTILITY COMMISSION

RE: PENNSYLVANIA-AMERICAN WATER COMPANY

DOCKET R-2010-2166214

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**
7 **state your general duties and responsibilities.**

8 A. I am President of the Valuation and Rate Division. My duties and respon-
9 sibilities include the preparation of accounting and financial data for revenue
10 requirement and cash working capital claims, the allocation of cost of service
11 to customer classifications, and the design of customer rates in support of
12 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 Illinois Commerce Commission, the Tennessee Regulatory
20 Authority, the California Public Utilities Commission, New Mexico Public

1 Regulation Commission, the Delaware Public Service Commission, Arizona
2 Corporate Commission and the Missouri Public Service Commission
3 concerning revenue requirements, cost of service allocation, rate design and
4 cash working capital claims. A list of the cases in which I have testified is
5 provided at the end of my direct 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 serve 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 Corrdry and Carpenter,
17 Inc., predecessor to Gannett Fleming Valuation and Rate Consultants, Inc.,
18 in September 1977, as a Junior Rate Analyst. Since then, I advanced
19 through several positions and was assigned the position of Manager of Rate
20 Studies on July 1, 1990. On June 1, 1994, I was promoted to Vice President
21 and on November 1, 2003, I was promoted to Senior Vice President. On
22 July 1, 2007, I was promoted to my current position as President.

23 While attending Penn State, I was employed during the summers of
24 1972, 1973 and 1974 by the United Telephone System - Eastern Group in its

1 accounting department. Upon graduation from college in 1975, I was
2 employed by Herbert Associates, Inc., Consulting Engineers (now Herbert
3 Rowland and Grubic, Inc.), as a field office manager until September 1977.

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

5 A. My testimony is in support of the cost of service allocation and rate design
6 study conducted under my direction and supervision for the Northeast
7 Wastewater Operations ("Northeast") of the Pennsylvania-American Water
8 Company (the "Company").

9 **Q. Have you prepared exhibits presenting the results of your study?**

10 A. Yes. Exhibit No. 7-A presents the results of the allocation of pro forma cost
11 of service as of December 31, 2010, the proposed rate design and the proof
12 of revenues under present and proposed rates. Also, responses to Rate
13 Structure and Cost of Service Filing Requirements No. RS1, are found in the
14 Appendix to Exhibit No. 7-A.

15 **COST OF SERVICE ALLOCATION**

16 **Q. Briefly describe the purpose of your cost allocation study.**

17 A. The purpose of the study was to allocate the total Northeast cost of service,
18 which is the total revenue requirement, to the several customer
19 classifications. In the study, the total costs were allocated to the residential
20 and commercial customer classifications in accordance with generally
21 accepted principles and procedures.

22 The cost of service allocation study results in indications of the
23 relative cost responsibilities of each class of customers. The allocated cost

1 of service is one of several criteria appropriate for consideration in designing
2 customer rates to produce the required revenues.

3 **Q. Have you prepared an exhibit presenting the results of your studies?**

4 A. Yes. The results of my allocation of the pro forma cost of service as of
5 December 31, 2010, and proposed customer rates to produce the pro forma
6 revenue requirement as of that date are presented in Exhibit No. 7-A.

7 **Q. Please describe the method of cost allocation that was used in your
8 study.**

9 A. The functional cost allocation methodology as described in "Financing and
10 Charges for Wastewater Systems", Manual of Practice No. 27, published by
11 the Water Environment Federation, was used to allocate pro forma costs.
12 This method is recognized for allocating the cost of providing wastewater
13 service to customer classifications in proportion to the classifications' use of
14 the commodity, facilities and services. It is generally accepted as a sound
15 method for allocating the cost of wastewater service.

16 **Q. Please describe the procedure followed in the cost allocation study.**

17 A. The cost of service study for the wastewater operations allocates each
18 element of the cost of service to cost functions and then to customer
19 classifications. The cost functions are flow, infiltration and inflow, customer
20 facilities and customer accounting. The results of allocating costs to the cost
21 functions are then allocated to the Residential and Commercial Customer
22 classifications, based on the water usage and the number of customers of
23 each class.

1 The items of cost, which include operation and maintenance
2 expenses, depreciation expense, taxes and income available for return, are
3 identified in column 1 of Schedule D. The cost of each item, shown in
4 column 3, is allocated to the several cost functions based on allocation
5 factors referenced in column 2. The development of the allocation factors is
6 presented in Schedule E of the exhibit.

7 Costs associated with collection, treatment and transmission vary with
8 total wastewater volume and are allocated partially to the flow cost function
9 and partially to the infiltration and inflow function, to recognize that a portion
10 of the total wastewater flow is not customer induced.

11 Costs associated with customer facilities and customer accounting
12 are allocated directly to those functions.

13 Administrative and general costs and labor related taxes and benefits
14 are allocated using composite factors.

15 Income taxes and return are allocated based on the allocation of rate
16 base shown in Schedule E.

17 **Q. Please describe the next step in the allocation.**

18 A. The result of allocating the costs to cost functions in Schedule D are brought
19 forward to Schedule B. Schedule B shows the allocation of the functional
20 costs to customer classifications using the Factors A through D described in
21 Schedule C. The results of allocating the functional costs to customer
22 classes are brought forward to Schedule A, column 2. These results can be
23 compared to the revenues under present rates in columns 4 and 5 and

1 under proposed rates in columns 6 and 7. The proposed increase is shown
2 in column 8 with percentage increase in column 9.

3 **Q. What was the source of the total cost of service data set forth in**
4 **column 3 of Schedule D of Exhibit No. 7-A?**

5 A. The pro forma costs of service were furnished by the rate department of
6 Pennsylvania-American Water Company, and are set forth in Exhibit No. 3-
7 A.

8 **Q. Have you summarized the results of your cost allocation study?**

9 A. Yes. The results are summarized in columns 1, 2 and 3 of Schedule A of
10 Exhibit No. 7-A. Column 2 sets forth the total allocated pro forma cost of
11 service as of December 31, 2010 for each customer classification identified
12 in column 1. Column 3 presents each customer classification's cost respon-
13 sibility as a percent of the total cost.

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

16 A. Yes. A comparison of the allocated cost responsibilities and the percentage
17 revenue under existing rates can be made by comparing columns 3 and 5 of
18 Schedule A of Exhibit 7-A. A similar comparison of the percentage cost
19 responsibilities (relative cost of service) and the percentage of pro forma
20 revenues (relative revenues) under proposed rates can be made by
21 comparing columns 3 and 7 of Schedule A of Exhibit No. 7-A.

22 CUSTOMER RATE DESIGN

23 **Q. What are the appropriate factors to be considered in the design of the**
24 **rate structure?**

1 A. In preparing a rate structure, one should consider the allocated costs of
2 service, the impact of radical changes from the present rate structure, the
3 understandability and ease of application of the rate structure, community
4 and social influences, and the value of service. General guidelines should
5 be developed with management to determine the extent to which each of
6 these criteria is to be incorporated in the rate structure to be designed,
7 inasmuch as the pricing of a commodity or service is a function of
8 management.

9 **Q. Did management provide rate design guidelines to you?**

10 A. Yes, they did. As described in Ms. Lontz's testimony, the guidelines
11 included (1) increase service charges to reflect appropriate levels of cost of
12 service for each classification and; (2) design uniform volumetric charges for
13 each classification to move revenues more in-line with the cost of providing
14 service; and (3) develop single tariff pricing for the Northeast Wastewater
15 Operations which includes the Lehman Pike, Blue Mountain and Winona
16 Lakes Wastewater operations.

17 **Q. Do the proposed rates comply with these guidelines?**

18 A. Yes, they do.

19 **Q. Please describe the rates proposed in this proceeding.**

20 A. The proposed rates consist of service or customer charges for each
21 classification plus a single volumetric charge applicable to each class. The
22 usage allowance under existing rates for Blue Mountain is being eliminated.

23 **Q. Please explain the increases in the customer charges and volumetric**
24 **rates.**

1 A. The customer charge under existing rates does not recover the fixed costs
2 associated with providing a service lateral for each customer, the costs to bill
3 and collect customers' bills rendered each month, and a portion of the
4 infiltration and inflow costs. Under proposed rates, the residential customer
5 charge is set at \$20.00 per month, and the commercial rate is set at \$40.00
6 per month. These rates will recover the costs associated with customer
7 facilities, customer accounting and a portion of Infiltration and Inflow (I&I)
8 costs.

9 Volumetric rates were designed to recover the remaining cost of
10 service for each classification so that the proposed revenues by class will be
11 nearly aligned with the cost of service results.

12 **Q. Do the proposed rates result in movement toward the cost of service**
13 **for each classification?**

14 A. Yes, as Schedule A on page 7 of Exhibit No. 7-A demonstrates, the
15 revenues under proposed rates for each customer classification are better
16 aligned with the cost of service than the revenues under present rates.

17 **Q. Have you prepared comparisons of present and proposed rates for**
18 **each classification and each rate area?**

19 A. Yes. Schedule G of Exhibit No. 7-A presents comparisons of present and
20 proposed rates.

21 **Q. Have you prepared proof of revenue schedules under present and**
22 **proposed rates?**

23 A. Yes. Schedules H, I and J of Exhibit No. 7-A, set forth the proof of revenues
24 from the application of present and proposed rates to the customer

1 consumption analysis. Schedule H shows a summary of revenues under
2 present and proposed rates. Schedule J sets forth the detailed application
3 of rates to the billing determinants. Schedule I summarizes the revenue
4 from the three service areas under present and proposed rates.

5 **Q. Does this complete your testimony at this time?**

6 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-832399	T. W. Phillips Gas and Oil Co.	Pro Forma Revenues
2.	1989	Pa. PUC	R-891208	Pennsylvania-American Water Company	Bill Analysis and Rate Application
3.	1991	PSC of W. Va.	91-106-W-MA	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 - Shenango Valley Division	Cash Working Capital
16.	1998	Ohio PUC	98-178-WS-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.	1999	Pa. PUC	R-994605	The York Water Company	Cost Allocation and Rate Design
19.	1999	Pa. PUC	R-994868	Philadelphia Suburban Water Company	Cost Allocation and Rate Design
20.	1999	PSC of W.Va.	99-1570-W-MA	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	PUE010312	Virginia-American Water Company	Cost Allocation and Rate Design
26.	2001	WV PSC	01-0326-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
31.	2002	Va. St. Corp Cm	PUE-2002-00375	Virginia-American Water Company	Cost Allocation and Rate Design
32.	2003	Pa. PUC	R-027975	The York Water Company	Cost Allocation and Rate Design
33.	2003	Tn Reg. Auth	03-	Tennessee-American Water Company	Cost Allocation and Rate Design
34.	2003	Pa. PUC	R-038304	Pennsylvania-American Water Company	Cost Allocation and Rate Design
35.	2003	NJ BPU	WR03070511	New Jersey-American Water Company	Cost Allocation and Rate Design
36.	2003	Mo. PSC	WR-2003-0500	Missouri-American Water Company	Cost Allocation and Rate Design
37.	2004	Va. St. Corp Cm	PUE-200 -	Virginia-American Water Company	Cost Allocation and Rate Design
38.	2004	Pa. PUC	R-038805	Pennsylvania Suburban Water Company	Cost Allocation and Rate Design
39.	2004	Pa. PUC	R-049165	The York Water Company	Cost Allocation and Rate Design
40.	2004	NJ BPU	WRO4091064	The Atlantic City Sewerage Company	Cost Allocation and Rate Design
41.	2005	WV PSC	04-1024-S-MA	Morgantown Utility Board	Cost Allocation and Rate Design
42.	2005	WV PSC	04-1025-W-MA	Morgantown Utility Board	Cost Allocation and Rate Design
43.	2005	Pa. PUC	R-051030	Aqua Pennsylvania, Inc.	Cost Allocation and Rate Design
44.	2006	Pa. PUC	R-051178	T. W. Phillips Gas and Oil Co.	Cost Allocation and Rate Design
45.	2006	Pa. PUC	R-061322	The York Water Company	Cost Allocation and Rate Design
46.	2006	NJ BPU	WR-06030257	New Jersey American Water Company	Cost Allocation and Rate Design
47.	2006	Pa. PUC	R-061398	PPL Gas Utilities, Inc.	Cost Allocation and Rate Design
48.	2006	NM PRC	06-00208-UT	New Mexico American Water Company	Cost Allocation and Rate Design
49.	2006	Tn Reg Auth	06-00290	Tennessee American Water Company	Cost Allocation and Rate Design

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>
50.	2007	Ca. PUC	U-339-W	Suburban Water Systems	Water Conservation Rate Design
51.	2007	Ca. PUC	U-168-W	San Jose Water Company	Water Conservation Rate Design
52.	2007	Pa. PUC	R-00072229	Pennsylvania American Water Company	Cost Allocation and Rate Design
53.	2007	Ky. PSC	2007-00143	Kentucky American Water Company	Cost Allocation and Rate Design
54.	2007	Mo. PSC	WR-2007-0216	Missouri American Water Company	Cost Allocation and Rate Design
55.	2007	Oh. PUC	07-1112-WS-AIR	Ohio American Water Company	Cost Allocation and Rate Design
56.	2007	Il. CC	07-0507	Illinois American Water Company	Customer Class Demand Study
57.	2007	Pa. PUC	R-00072711	Aqua Pennsylvania, Inc.	Cost Allocation and Rate Design
58.	2007	NJ BPU	WR07110866	The Atlantic City Sewerage Company	Cost Allocation and Rate Design
59.	2007	Pa. PUC	R-00072492	City of Bethlehem – Bureau of Water	Revenue Requirements, Cost All
60.	2007	WV PSC	07-0541-W-MA	Clarksburg Water Board	Cost Allocation and Rate Design
61.	2007	WV PSC	07-0998-W-42T	West Virginia American Water Company	Cost Allocation and Rate Design
62.	2008	NJ BPU	WR08010020	New Jersey American Water Company	Cost Allocation and Rate Design
63.	2008	Va St Corp Com		Virginia American Water Company	Cost Allocation and Rate Design
64.	2008	Tn. Reg. Auth.	08-00039	Tennessee American Water Company	Cost Allocation and Rate Design
65.	2008	Mo PSC	WR-2008-0311	Missouri American Water Company	Cost Allocation and Rate Design
66.	2008	De PSC	08-96	Artesian Water Company, Inc.	Cost Allocation and Rate Design
67.	2008	Pa PUC	R-2008-2032689	Penna. American Water Co. – Coatesville Wastewater	Cost Allocation and Rate Design
68.	2008	AZ Corp. Com.	W-01303A-08-0227 SW-01303A-08-0227	Arizona American Water Co. - Water - Wastewater	Cost Allocation and Rate Design
69.	2008	Pa PUC	R-2008-2023067	The York Water Company	Cost Allocation and Rate Design
70.	2008	WV PSC	08-0900-W-42T	West Virginia American Water Company	Cost Allocation and Rate Design
71.	2008	Ky PSC	2008-00250	Frankfort Electric and Water Plant Board	Cost Allocation and Rate Design
72.	2008	Ky PSC	2008-00427	Kentucky American Water Company	Cost Allocation and Rate Design
73.	2009	PaPUC	2008-2079660	UGI – Penn Natural Gas	Cost of Service Allocation
74.	2009	PaPUC	2008-2079675	UGI – Central Penn Gas	Cost of Service Allocation
75.	2009	PaPUC	2009-2097323	Pennsylvania American Water Co.	Cost Allocation and Rate Design
76.	2009	Ia St Util Bd	RPU-09-	Iowa-American Water Company	Cost Allocation and Rate Design
77.	2009	Il CC		Illinois-American Water Company	Cost Allocation and Rate Design
78.	2009	Oh PUC	09-391-WS-AIR	Ohio-American Water Company	Cost Allocation and Rate Design
79.	2009	PaPUC	R-2009-2132019	Aqua Pennsylvania, Inc.	Cost Allocation and Rate Design
80.	2009	Va St Corp Com	PUC-00059	Aqua Virginia, Inc.	Cost Allocation (only)
81.	2009	Mo PSC	WR-2010-0131	Missouri American Water Company	Cost Allocation and Rate Design
82.	2010	Va St Corp Com	2010-00001	Virginia American Water Company	Cost Allocation and Rate Design
83.	2010	KyPSC	2010-00036	Kentucky American Water Company	Cost Allocation and Rate Design
84.	2010	NJ BPU		New Jersey American Water Company	Cost Allocation and Rate Design

PENNSYLVANIA AMERICAN WATER COMPANY
NORTHEAST WASTEWATER OPERATIONS

HERSHEY, PENNSYLVANIA

COST OF SERVICE ALLOCATION STUDY
AS OF DECEMBER 31, 2010
AND
PROPOSED CUSTOMER RATES



Gannett Fleming
Valuation and Rate Division

Harrisburg, Pennsylvania

Calgary, Alberta

Valley Forge, Pennsylvania

PENNSYLVANIA AMERICAN WATER COMPANY
 NORTHEAST WASTEWATER OPERATIONS
 COMPARISON OF COST OF SERVICE WITH REVENUES UNDER PRESENT AND PROPOSED RATES
 FOR THE TWELVE MONTHS ENDED DECEMBER 31, 2010

Customer Classification (1)	Cost of Service		Revenues, Present Rates		Revenues, Proposed Rates		Proposed Increase	
	Amount (Schedule B) (2)	Percent (3)	Amount (4)	Percent (5)	Amount (6)	Percent (7)	Amount (8)	Percent Increase (9)
Residential*	\$ 2,575,512	89.4%	\$ 776,683	91.8%	\$2,574,984	89.4%	\$ 1,798,301	231.5%
Commercial**	304,881	10.6%	69,829	8.2%	305,842	10.6%	236,013	338.0%
Total Sales	2,880,393	100.0%	846,512	100.0%	2,880,826	100.0%	2,034,314	240.3%
Other Revenues	92,916		27,307		92,916		65,609	240.3%
Total	\$ 2,973,309		\$ 873,819		\$ 2,973,742		\$ 2,099,923	240.3%

* Includes revenue from Unmetered Sales.

** Includes revenue from Unmetered Sales.

PENNSYLVANIA AMERICAN WATER COMPANY
WASTEWATER OPERATIONS

ALLOCATION OF COST OF SERVICE BY FUNCTION TO CUSTOMER CLASSIFICATIONS

Description (1)	Flow (2)	Infiltration & Inflow (5)	Customer Facilities (6)	Customer Accounting (7)	Total (8)
Total Cost of Service	\$ 1,798,162	\$ 770,641	\$ 194,840	\$ 116,749	\$ 2,880,393
Factor Reference	A	D	B	C	
Residential Factor	0.8543	0.9491	0.9833	0.9965	
Cost of Service	\$ 1,536,170	731,415	191,586	116,341	2,575,512
Commercial Factor	0.1457	0.0509	0.0167	0.0035	
Cost of Service	\$ 261,992	39,226	\$ 3,254	409	\$ 304,881
Total	1,798,162	770,641	194,840	116,750	\$ 2,880,393

PENNSYLVANIA AMERICAN WATER COMPANY
NORTHEAST WASTEWATER OPERATIONS
FACTORS FOR ALLOCATING COSTS BY FUNCTION TO CUSTOMER CLASSIFICATIONS

FACTOR A. ALLOCATION OF FLOW COSTS.

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

<u>Classification</u> (1)	<u>Average Daily Consumption, 100 gallons</u> (2)	<u>Allocation Factor</u> (3)
Residential	3,540	0.8543
Commercial	<u>604</u>	<u>0.1457</u>
Total	<u><u>4,144</u></u>	<u><u>1.0000</u></u>

FACTOR B. ALLOCATION OF COSTS ASSOCIATED WITH CUSTOMER FACILITIES.

Factors are based on the estimated relative cost of customer facilities, as follows:

<u>Customer Classification</u> (1)	<u>Service Equivalents</u> (2)	<u>Allocation Factor</u> (3)
Residential	3,425	0.9833
Commercial	<u>58</u>	<u>0.0167</u>
Total	<u><u>3,483</u></u>	<u><u>1.0000</u></u>

PENNSYLVANIA WATER COMPANY
NORTHEAST WASTEWATER OPERATIONS
BASIS FOR ALLOCATING CUSTOMER FACILITIES TO CUSTOMER CLASSIFICATIONS

Meter Size (1)	5/8" Equivalent (2)	Residential		Commercial		Total	
		Number of Meters (3)	Weighting (4)=(2)X(3)	Number of Meters (5)	Weighting (6)=(2)X(5)	Number of Meters (17)	Weighting (18)
5/8	1.0	3,425	3,425	7	7	3,432	3,432
3/4	1.5	0	0	0	0	0	0
1	2.5	0	0	2	5	2	5
1-1/2	5.0	0	0	0	0	0	0
2	8.0	0	0	3	21	3	21
3	15.0	0	0	0	0	0	0
4	25.0	0	0	1	25	1	25
6	50.0	0	0	0	0	0	0
8	80.0	0	0	0	0	0	0
10	115.0	0	0	0	0	0	0
Total		<u>3,425</u>	<u>3,425</u>	<u>12</u>	<u>58</u>	<u>3,437</u>	<u>3,483</u>

PENNSYLVANIA AMERICAN WATER COMPANY
NORTHEAST WASTEWATER OPERATIONS
FACTORS FOR ALLOCATING COSTS BY FUNCTION TO CUSTOMER CLASSIFICATIONS

FACTOR C. ALLOCATION OF COSTS ASSOCIATED WITH BILLING AND COLLECTING.

Factors are based on the number of customers.

<u>Customer Classification</u> (1)	<u>Number of Customers</u> (2)	<u>Allocation Factor</u> (3)
Residential	3,425	0.9965
Commercial	<u>12</u>	0.0035
Total	<u><u>3,437</u></u>	<u><u>1.0000</u></u>

PENNSYLVANIA AMERICAN WATER COMPANY
NORTHEAST WASTEWATER OPERATIONS
FACTORS FOR ALLOCATING COSTS BY FUNCTION TO CUSTOMER CLASSIFICATIONS

FACTOR D. ALLOCATION OF COSTS ASSOCIATED WITH INFILTRATION AND INFLOW.

Factors are based on a 1/3-2/3 weighting of flow and number of customers.

Customer Classification (1)	Average Daily Flow		Number of Customers		Allocation Factor (6)=(3)+(5)
	Factor A (2)	Weight (3)=(2) x 0.3333	Factor C (4)	Weight (5)=(4) x 0.6667	
Residential	0.8543	0.2847	0.9965	0.6644	0.9491
Commercial	0.1457	0.0486	0.0035	0.0023	0.0509
Total	1.0000	0.3333	1.0000	0.6667	1.0000

PENNSYLVANIA AMERICAN WATER COMPANY
NORTHEAST WASTEWATER OPERATIONS
COST OF SERVICE FOR THE TWELVE MONTHS ENDING DECEMBER 31, 2010, ALLOCATED TO COST FUNCTIONS

Account (1)	Factor Ref. (2)	Cost of Service (3)	Flow (4)	Infiltration & Inflow (7)	Customer Facilities (8)	Customer Accounting (9)
OPERATION AND MAINTENANCE EXPENSES						
COLLECTION						
615.1 Purchased Power	1	0	0	0	0	0
616.1 Purchased Fuel	1	0	0	0	0	0
633.1 Contract Services - Legal	1	726	508	218	0	0
675.1 Miscellaneous Operating Expense	1	1,038	727	311	0	0
675.1 Miscellaneous Maintenance Expense	1	992	694	298	0	0
TOTAL COLLECTION EXPENSE - OPERATION		2,756	1,929	827	0	0
SEWAGE TREATMENT						
601.3 Salary and Wages	1	157,378	110,165	47,213	0	0
601.4 Salary and Wages	1	159	111	48	0	0
615.3 Purchased Water	1	113,804	79,663	34,141	0	0
618.3 Chemicals	1	24,144	16,901	7,243	0	0
620.3 Materials and Supplies - Operation	1	0	0	0	0	0
631.3 Contract Services - Engineering	1	0	0	0	0	0
633.3 Contract Services - Legal	1	0	0	0	0	0
634.3 Contract Services - Management	1	0	0	0	0	0
635.3 Contract Services Test	1	15,870	11,109	4,761	0	0
636.3 Contract Services - Operation	1	0	0	0	0	0
641.3 Rental of Building	1	0	0	0	0	0
642.3 Rental of Equipment	1	0	0	0	0	0
650.3 Transportation	1	0	0	0	0	0
620.4 Materials and Supplies - Maintenance	1	2,590	1,813	777	0	0
636.4 Contract Services - Maintenance	1	0	0	0	0	0
675.4 Misc. Maintenance Expense	1	14,685	10,280	4,406	0	0
675.3 Misc. Operating Expense	1	147,100	102,970	44,130	0	0
TOTAL SEWAGE TREATMENT EXPENSE		475,730	333,011	142,719	0	0

PENNSYLVANIA AMERICAN WATER COMPANY
NORTHEAST WASTEWATER OPERATIONS
COST OF SERVICE FOR THE TWELVE MONTHS ENDING DECEMBER 31, 2010, ALLOCATED TO COST FUNCTIONS

Account (1)	Factor Ref. (2)	Cost of Service (3)	Flow (4)	Infiltration & Inflow (7)	Customer Facilities (8)	Customer Accounting (9)
TRANSMISSION						
601.5 Salary and Wages	1	0	0	0	0	0
601.6 Salary and Wages	1	6,408	4,486	1,922	0	0
604.5 Employee Pension and Benefits	1	0	0	0	0	0
615.5 Purchased Power	1	0	0	0	0	0
620.5 Materials and Supplies	1	0	0	0	0	0
631.5 Contract Services - Engineering	1	0	0	0	0	0
636.5 Contract Services	1	0	0	0	0	0
641.5 Rental of Building	1	0	0	0	0	0
642.5 Rental of Equipment	1	0	0	0	0	0
650.5 Transportation	1	0	0	0	0	0
Miscellaneous Operating Expenses	1	0	0	0	0	0
TOTAL T & D EXPENSE OPERATION		6,408	4,486	1,922	0	0
620.6 Materials and Supplies						
636.6 Contract Services	1	3,347	2,343	1,004	0	0
675.6 Miscellaneous Maintenance Expense	1	0	0	0	0	0
675.5 Miscellaneous Operating Expense	1	26,750	18,725	8,025	0	0
TOTAL T & D EXPENSE - MAINTENANCE		30,097	21,068	9,029	0	0
TOTAL T & D EXPENSE		36,505	25,554	10,952	0	0

PENNSYLVANIA AMERICAN WATER COMPANY
NORTHEAST WASTEWATER OPERATIONS
COST OF SERVICE FOR THE TWELVE MONTHS ENDING DECEMBER 31, 2010, ALLOCATED TO COST FUNCTIONS

Account (1)	Factor Ref. (2)	Cost of Service (3)	Flow (4)	Infiltration & Inflow (7)	Customer Facilities (8)	Customer Accounting (9)
CUSTOMER ACCOUNTS						
601.7 Salary and Wages	3	0	0	0	0	0
620.7 Materials and Supplies	3	0	0	0	0	0
633.7 Contract Services - Legal	3	0	0	0	0	0
634.7 Contract Services - Management	3	0	0	0	0	0
636.7 Contract Services	3	0	0	0	0	0
642.7 Rental of Equipment	3	0	0	0	0	0
650.7 Transportation	3	0	0	0	0	0
657.7 Insurance	3	0	0	0	0	0
670.7 Bad Debts	3	77,774	0	0	0	77,774
675.7 Miscellaneous Expense	3	2,741	0	0	0	2,741
TOTAL CUSTOMER ACCOUNTING EXPENSE		80,515	0	0	0	80,515
ADMINISTRATIVE AND GENERAL EXPENSES						
601.8 Salaries and Wages	4	56,400	32,532	13,942	0	9,926
603.8 Salaries of Officers	4	0	0	0	0	0
604.8 Employee Pension & Benefits	5	52,669	35,209	15,090	0	2,370
615.8 Purchased Power	4	0	0	0	0	0
620.8 Materials and Supplies	4	0	0	0	0	0
631.8 Contract Services	4	0	0	0	0	0
632.8 Contract Services - Accounting	4	0	0	0	0	0
633.8 Contract Services - Legal	4	0	0	0	0	0
634.8 Contract Services - Management	4	0	0	0	0	0
635.8 Contract Services - Test	4	0	0	0	0	0
636.8 Contract Services	4	0	0	0	0	0
641.8 Rental of Building	4	0	0	0	0	0
642.8 Rental of Equipment	4	0	0	0	0	0
650.8 Transportation	4	19,816	11,430	4,899	0	3,488
656.8 Insurance - Vehicles	4	0	0	0	0	0

PENNSYLVANIA AMERICAN WATER COMPANY
NORTHEAST WASTEWATER OPERATIONS
COST OF SERVICE FOR THE TWELVE MONTHS ENDING DECEMBER 31, 2010, ALLOCATED TO COST FUNCTIONS

Account (1)	Factor Ref. (2)	Cost of Service (3)	Flow (4)	Infiltration & Inflow (7)	Customer Facilities (8)	Customer Accounting (9)
657.8 Insurance - Vehicles	4	0	0	0	0	0
658.8 Workers Compensation	5	0	0	0	0	0
659.8 Insurance	4	0	0	0	0	0
660.8 Advertising	4	0	0	0	0	0
666.8 Amortization of Rate Case	8	76,484	47,634	20,414	3,067	5,369
667.8 Regulatory Commission	4	0	0	0	0	0
675.8 Miscellaneous Expense	4	3,542	2,043	876	0	0
TOTAL A & G EXPENSE		<u>208,911</u>	<u>128,848</u>	<u>55,219</u>	<u>3,067</u>	<u>623</u>
			<u>128,848</u>	<u>55,219</u>	<u>3,067</u>	<u>21,777</u>
Total Operation & Maintenance Expenses		<u>804,417</u>	<u>489,342</u>	<u>209,717</u>	<u>3,067</u>	<u>102,292</u>
			<u>489,342</u>	<u>209,717</u>	<u>3,067</u>	<u>102,292</u>
DEPRECIATION EXPENSE						
354.20 Structures and Improvements - Collection	1	79	55	24	0	0
354.30 Structures and Improvements - Pumping	1	24,559	17,191	7,368	0	0
354.40 Structures and Improvements - Treatment	1	165,776	116,043	49,733	0	0
354.70 Structures and Improvements - General	6	17,606	11,018	4,722	1,701	165
355.00 Power Generation Equipment	1	3,472	2,430	1,041	0	0
360.10 Collection Sewers - Force Mains	1	43,425	30,397	13,027	0	0
361.10 Collection Sewers - Gravity Mains	1	2,424	1,697	727	0	0
361.20 Manholes	1	4,547	3,183	1,364	0	0
363.00 Services	2	46,318	0	0	46,318	0
364.00 Flow Measuring Devices	1	1,436	1,005	431	0	0
371.00 Pumping Equipment	1	22,867	16,007	6,860	0	0
380.00 Treatment Equipment	1	229,658	160,761	68,898	0	0
381.00 Plant Sewers	1	12,993	9,095	3,898	0	0
382.00 Outfall Sewer Lines	1	6,873	4,811	2,062	0	0
390.00 Office Furniture and Equipment	4	699	403	173	0	123
391.00 Transportation Equipment	4	1,724	994	426	0	303
393.00 Tools, Shop and Garge Equipment	4	246	142	61	0	43
394.00 Laboratory Equipment	1	5,103	3,572	1,531	0	0
396.00 Communications Equipment	4	20,261	11,687	5,009	0	3,566
397.00 Miscellaneous Equipment	4	500	288	124	0	88
Total Depreciation Expense		<u>610,566</u>	<u>390,781</u>	<u>167,477</u>	<u>48,019</u>	<u>4,289</u>
			<u>390,781</u>	<u>167,477</u>	<u>48,019</u>	<u>4,289</u>

PENNSYLVANIA AMERICAN WATER COMPANY
NORTHEAST WASTEWATER OPERATIONS
COST OF SERVICE FOR THE TWELVE MONTHS ENDING DECEMBER 31, 2010, ALLOCATED TO COST FUNCTIONS

Account (1)	Factor Ref. (2)	Cost of Service (3)	Flow (4)	Infiltration & Inflow (7)	Customer Facilities (8)	Customer Accounting (9)
Taxes Other Than Income						
685100 Utility Reg Assessment Fee	8	18,143	11,299	4,842	728	1,274
685200 Property Taxes	7	112,218	70,226	30,097	10,818	1,077
685320 Payroll Taxes	5	17,850	11,933	5,114	0	803
Total Taxes, Other Than Income		148,211	93,458	40,053	11,545	3,154
Total Operating Expense		1,563,194	973,580	417,247	62,631	109,735
4091 Income Taxes	7	455,852	285,272	122,260	43,944	4,376
Utility Income Available for Return	7	954,263	597,178	255,933	91,991	9,161
Total Cost of Service		2,973,309	1,856,030	795,440	198,566	123,272
Less: Other Water Revenues	8	(92,916)	(57,868)	(24,799)	(3,726)	(6,523)
Total Cost of Service Related to Sales of Wastewater Services		2,880,393	1,798,162	770,641	194,840	116,749

PENNSYLVANIA AMERICAN WATER
NORTHEAST WASTEWATER OPERATIONS

FACTORS FOR ALLOCATING COST OF SERVICE TO COST FUNCTIONS

Reference	Flow	Infiltration & Inflow	Customer Facilities	Customer Accounting	Total
Factor 1 - Flow and i&i	0.7000	0.3000			1.0000
Factor 2 - Customer Facilities			1.0000		1.0000
Factor 3 - Customer Accounting				1.0000	1.0000
Factor 4 - O&M Exp less Power and Chemicals					
Cost	263,930	113,113	0	80,515	457,558
Factor	0.5768	0.2472	0.0000	0.1760	1.0000
Factor 5 - Labor Expense					
Cost	147,293	63,126	0	9,926	220,345
Factor	0.6685	0.2865	0.0000	0.0450	1.0000
Factor 6 - Rate Base less Allocated Costs					
Cost	7,254,760	3,109,183	1,120,018	108,652	11,592,613
Factor	0.6258	0.2682	0.0966	0.0094	1.0000
Factor 7 - Rate Base					
Cost	6,748,928	2,892,398	1,039,698	103,988	10,785,011
Factor	0.6258	0.2682	0.0964	0.0096	1.0000
Factor 8 - Total Cost of Service					
Cost	914,647	391,991	58,836	103,092	1,468,567
Factor	0.6228	0.2669	0.0401	0.0702	1.0000
Factor 9 - O&M Exp					
Cost	489,342	209,717	3,067	102,292	804,417
Factor	0.6083	0.2607	0.0038	0.1272	1.0000

PENNSYLVANIA AMERICAN WATER COMPANY
NORTHEAST WASTEWATER OPERATIONS
COST OF SERVICE FOR THE TWELVE MONTHS ENDING DECEMBER 31, 2010, ALLOCATED TO COST FUNCTIONS

Account (1)	Factor Ref. (2)	Cost of Service (3)	Flow (4)	Infiltration & Inflow (7)	Customer Facilities (8)	Customer Accounting (9)
RATE BASE						
353.20 Land and Land Rights - Collection	1	3	2	1	0	0
353.30 Land and Land Rights - Pumping	1	3	2	1	0	0
353.40 Land and Land Rights - Treatment	1	3	2	1	0	0
354.20 Structures and Improvements - Collection	1	2,555	1,789	767	0	0
354.30 Structures and Improvements - Pumping	1	141,019	98,713	42,306	0	0
354.40 Structures and Improvements - Treatment	1	3,106,913	2,174,839	932,074	0	0
354.70 Structures and Improvements - General	4	376,884	217,387	93,166	0	66,332
355.00 Power Generation Equipment	1	41,201	28,841	12,360	0	0
360.10 Collection Sewers - Force Mains	1	1,719,462	1,203,623	515,839	0	0
361.10 Collection Sewers - Gravity Mains	1	107,817	75,472	32,345	0	0
361.20 Manholes	1	129,509	90,656	38,853	0	0
363.00 Services	2	1,120,018	0	0	1,120,018	0
364.00 Flow Measuring Devices	1	28,075	19,653	8,423	0	0
371.00 Pumping Equipment	1	554,597	388,218	166,379	0	0
380.00 Treatment Equipment	1	3,342,640	2,339,848	1,002,792	0	0
381.00 Plant Sewers	1	541,405	378,984	162,422	0	0
382.00 Outfall Sewer Lines	1	71,859	50,301	21,558	0	0
390.00 Office Furniture and Equipment	4	12,356	7,127	3,054	0	2,175
391.00 Transportation Equipment	4	22,500	12,978	5,562	0	3,960
393.00 Tools, Shop and Garge Equipment	4	4,063	2,344	1,004	0	715
394.00 Laboratory Equipment	1	68,191	47,734	20,457	0	0
396.00 Communications Equipment	4	192,480	111,022	47,581	0	33,876
397.00 Miscellaneous Equipment	4	9,060	5,226	2,240	0	1,595
TOTAL UTILITY PLANT IN SERVICE SEWER		11,592,613	7,254,760	3,109,183	1,120,018	108,652
Other Rate Base Items:						
Cash Working Capital	9	24,849	15,116	6,478	94	3,161
Materials and Supplies	6	4,190	2,622	1,124	405	39
Deferred, Accrued and Prepaid Taxes	6	(836,641)	(523,570)	(224,387)	(80,820)	(7,864)
Total Other Rate Base Elements		(807,602)	(505,832)	(216,785)	(80,320)	(4,664)
Total Original Cost Measure of Value		10,785,011	6,748,928	2,892,398	1,039,698	103,988

PENNSYLVANIA AMERICAN WATER
NORTHEAST WASTEWATER OPERATIONS

CALCULATION OF CUSTOMER COST PER MONTH

		<u>Per Month</u>
(1) Cost Related to Customer Facilities	\$194,840	
(2) Meter Equivalentents X 12	41,800	
(3) Cost per Bill - Meter related		\$4.66
(4) Cost Related to Customer Accounting	116,749	
(5) Number of Bills	41,249	
(6) Cost per Bill		\$2.83
(7) Cost Related to I&I	770,641	
(8) Percentage of I&I Costs to Customer Charge	67%	
(9) Cost Related to I&I allocated to Customer Charge	513,786	
(10) Meter Equivalentents X 12	41,800	
(11) Cost per Bill - I&I Related		\$12.29
(12) Total Customer Costs (3)+(6)		\$19.78

PENNSYLVANIA AMERICAN WATER COMPANY
NORTHEAST WASTEWATER OPERATIONS

SUMMARY OF PRESENT AND PROPOSED RATES
FOR THE TWELVE MONTHS ENDED DECEMBER 31, 2009

Customer Class	Present Rates		Proposed Rates	
	Monthly Customer Charge	Usage Charge Per 100 Gallons	Monthly Customer Charge	Usage Charge Per 100 Gallons
Lehman Pike				
Residential				
5/8" & 3/4"	\$9.45	\$0.2690	\$20.00	\$1.3620
5/8" & 3/4" Low Income	9.45	\$0.2690	7.00	\$1.3620
1"	15.75	\$0.2690	20.00	\$1.3620
1 1/2"	31.50	\$0.2690	20.00	\$1.3620
2"	50.40	\$0.2690	20.00	\$1.3620
3"	94.50	\$0.2690	20.00	\$1.3620
4"	157.50	\$0.2690	20.00	\$1.3620
6"	315.00	\$0.2690	20.00	\$1.3620
Residential Flat Rate	21.56		71.76	
Commercial				
5/8" & 3/4"	9.45	0.2960	40.00	1.3620
1"	15.75	0.2960	40.00	1.3620
1 1/2"	31.50	0.2960	40.00	1.3620
2"	50.40	0.2960	40.00	1.3620
3"	94.50	0.2960	40.00	1.3620
4"	157.50	0.2960	40.00	1.3620
6"	315.00	0.2960	40.00	1.3620
Availability Charge	7.00		-	
Winona Lakes				
Customer Charge	27.33	-	20.00	1.3620
Customer Charge - Low Income	27.33	-	7.00	1.3620
Availability Charge	15.00	-	-	
Blue Mountain				
Residential and Commercial				
Customer Charge	20.00		20.00	
Customer Charge - Low Income	20.00		7.00	
Commercial Customer Charge			40.00	
Minimum (2,667 gallons)		-		NA
Next 2,333 gallons or First 5,000 gallons		0.1750		1.3620
All Over 5,000 gallons		0.3000		1.3620

PENNSYLVANIA AMERICAN WATER COMPANY
 NORTHEAST WASTEWATER OPERATIONS
 SUMMARY OF REVENUE UNDER PRESENT AND PROPOSED RATES
 FOR THE TWELVE MONTHS ENDED DECEMBER 31, 2010

Customer Classification (1)	Proforma Present Rates Revenue 12/31/2010 (2)	Bill Analysis Revenues at Present Rates (3)	Adjustment Factor (4)=(2)/(3)	Bill Analysis Revenues Proposed Rates (5)	Revenues Under Proposed Rates (6)=(5)x(4)
Residential	\$776,683	\$776,607	1.00009747	\$2,574,984	\$2,575,235
Commercial	69,829	69,874	0.99935411	305,842	305,644
Total Sales	\$846,512	\$846,481		\$2,880,826	\$2,880,879
Other Operating Revenues	27,307	27,307		92,916	92,916
Total	\$ 873,819	\$ 873,788		\$ 2,973,742	\$ 2,973,795

PENNSYLVANIA-AMERICAN WATER COMPANY
 NORTHEAST WASTEWATER OPERATIONS
 SUMMARY OF APPLICATION OF PRESENT RATES TO CUSTOMER BILL ANALYSIS
 FOR THE TWELVE MONTHS ENDING DECEMBER 31, 2010

<u>Rate Zone</u> (1)	<u>Residential</u> (2)	<u>Commercial</u> (3)	<u>Total</u> (4)
<u>Present Rate Application</u>			
Lehman Pike	\$527,745	\$69,623	\$597,368
Winona Lakes	27,367		27,367
Blue Mountain	221,495	251	221,746
Total	<u>776,607</u>	<u>69,874</u>	<u>846,481</u>
<u>Proposed Rate Application</u>			
Lehman Pike	\$1,794,191	\$305,047	\$2,099,238
Winona Lakes	68,752		68,752
Blue Mountain	712,041	795	712,835
Total	<u>2,574,984</u>	<u>305,842</u>	<u>2,880,826</u>

PENNSYLVANIA-AMERICAN WATER COMPANY
BLUE MOUNTAIN WASTEWATER OPERATIONS

APPLICATION OF PRESENT RATES AND PROPOSED RATES TO CONSUMPTION ANALYSIS
YEAR ENDED DECEMBER 31, 2010

Rate Block 100 Gallons (1)	Number Of Bills (2)	Present Total Consumption (3)	Present Rate (4)	Revenue (5)	Proposed Total Consumption (6)	Proposed Rate (7)	Proposed Revenue (8)
<u>Residential - Monthly</u>							
Service Charge w/ Minimum 2,667 gallons	8,807	199,052	20.00	176,149		20.00	176,149
Low Income	108	2,441	20.00	2,160		7.00	756
Next 2,333 gallons or First 5,000 gallons		113,906	0.1750	19,934	315,399	1.3620	429,573
All Over 5,000 gallons		77,505	0.3000	23,252	77,505	1.3620	105,562
Subtotal	0	191,411		43,186	392,904		535,135
Total Residential	8,915	392,904		221,495	392,904		712,041
<u>Commercial - Monthly</u>							
Service Charge w/ Minimum 2,667 gallons	10	101	20.00	204		40.00	408
Next 2,333 gallons or First 5,000 gallons		63	0.1750	11	164	1.3620	223
All Over 5,000 gallons		120	0.3000	36	120	1.3620	163
Subtotal	0	183		47	284		387
Total Commercial	10	284		251	284		795
Total Blue Mountain	8,926	393,188		221,746			712,835

PENNSYLVANIA-AMERICAN WATER COMPANY
LEHMAN PIKE WASTEWATER OPERATIONS

APPLICATION OF PRESENT RATES AND PROPOSED RATES TO CONSUMPTION ANALYSIS
YEAR ENDED DECEMBER 31, 2010

Rate Block 100 Gallons (1)	Number Of Bills (2)	Total Consumption (3)	Present Rate (4)	Revenue (5)	Proposed Rate (6)	Proposed Revenue (7)
<u>Residential - Monthly</u>						
Customer Charge	30,419		9.45	287,463	20.00	608,386
Low Income	600		9.45	5,670	7.00	4,200
All Usage	0	858,700	0.2690	230,990	1.3620	1,169,549
Subtotal	0	858,700		230,990		1,169,549
Total Residential	31,019	858,700		524,123		1,782,135
<u>Residential Monthly - Flat Rate</u>						
Customer Charge	168		21.56	3,622	71.76	12,056
Total - Residential	31,187	858,700		527,745		1,794,191
<u>Commercial - Monthly</u>						
Customer Charge						
5/8" & 3/4"	69		9.45	651	40.00	2,755
1"	22		15.75	347	40.00	880
2"	32		50.40	1,613	40.00	1,280
4"	12		157.50	1,890	40.00	480
Total - Service Charge	135			4,500		5,395
All Usage	0	220,009	0.2960	65,123	1.3620	299,652
Subtotal	0	220,009		65,123		299,652
Total Commercial	135	220,009		69,623		305,047
<u>Availability Charge - Monthly</u>						
Customer Charge	6,403		7.00	44,822	0.00	0
Total - Lehman Pike	37,725	1,078,709		642,189		2,099,238

PENNSYLVANIA-AMERICAN WATER COMPANY
WINONA LAKES WASTEWATER OPERATIONS

APPLICATION OF PRESENT RATES AND PROPOSED RATES TO CONSUMPTION ANALYSIS
YEAR ENDED DECEMBER 31, 2010

Rate Block 100 Gallons (1)	Number Of Bills (2)	Present Consumption (3)	Present Rate (4)	Revenue (5)	Proposed Consumption (6)	Proposed Rate (7)	Proposed Revenue (8)
<u>Residential - Monthly</u>							
Customer Charge	989	35,459	27.33	27,039		20.00	19,787
Low Income	12	430	27.33	328		7.00	84
All Usage	<u>0</u>	<u>0</u>	0.0000	<u>0</u>	<u>35,889</u>	1.3620	<u>48,881</u>
Subtotal	<u>0</u>	<u>0</u>		<u>0</u>	<u>35,889</u>		<u>48,881</u>
Total Residential	1,001	35,889		27,367	35,889		68,752
<u>Availability Charge</u>							
Service Charge	<u>192</u>		0.00	<u>0</u>	<u>0</u>	0.00	<u>0</u>
Total Winona Lakes	1,193	35,889		27,367	35,889		68,752

APPENDIX

RESPONSES TO RATE STRUCTURE AND COST OF SERVICE FILING REQUIREMENTS

PENNSYLVANIA-AMERICAN WATER COMPANY

RESPONSES TO RATE STRUCTURE
AND COST OF SERVICE FILING REQUIREMENTS

- RS1. Provide a complete (fully allocated) cost of service study if an interval of approximately three years has passed between a previous cost of service study and the historic test year date of the current filing. The cost of service study shall provide the necessary data to determine if the water rate structure is fair and equitable to all classifications of water users (including public and private fire protection customers) and reflects, as nearly as possible, the cost of providing the service. The study shall correspond to the test year proposed revenue requirements (future test year only, if used). Summaries of conclusions and all back-up calculations shall be made part of the submission of the cost of service study, and shall include the following:
- a. A description of the allocation methods used. A comparison of the allocated cost of service by class with the present and proposed revenues. A cost of service schedule showing the Rate of Return produced by present and proposed rates by class of service.

RESPONSE

A description of the methods used for the cost of service study is provided in PAWC Statement No. 7. A comparison of the allocated cost of service by class with the present and proposed revenues is provided on Schedule A of Exhibit No. 7-A. The attached schedules show the rate of return produced by present and proposed rates by customer classification.

PENNSYLVANIA-AMERICAN WATER COMPANY
NORTHEAST WASTEWATER OPERATIONS
DEVELOPMENT OF RATE OF RETURN BY CUSTOMER CLASSIFICATION
UNDER PRESENT RATES

ITEM (1)	COST OF SERVICE (2)	RESIDENTIAL (3)	COMMERCIAL (4)
1. REVENUES FROM SALES			
2. OTHER REVENUES (BASE ON WATER REVENUE)	846,512	776,683	69,829
	27,307	25,054	2,253
3. TOTAL OPERATING REVENUES	873,819	801,737	72,082
4. LESS: OPERATING EXPENSES	1,495,466	1,330,428	165,037
5. RETURN AND INCOME TAXES	(621,647)	(528,691)	(92,956)
6. LESS: TAXABLE EXCLUSIONS - ALLOCATED ON RATE BASE	326,809	291,785	35,024
7. TAXABLE INCOME	(948,456)	(820,475)	(127,980)
8. LESS: INCOME TAXES (TAX. INC.)	0	0	0
9. NET RETURN (Line 5 - Line 8)	(621,647)	(528,691)	(92,956)
10. ORIGINAL COSTS MEASURE OF VALUE	10,785,010	9,629,182	1,155,828
11. RATE OF RETURN, PERCENT	(5.76)	(5.49)	(8.04)
12. RELATIVE RATE OF RETURN	1.00	0.95	1.40

PENNSYLVANIA-AMERICAN WATER COMPANY
 NORTHEAST WASTEWATER OPERATIONS
 DEVELOPMENT OF RATE OF RETURN BY CUSTOMER CLASSIFICATION
 UNDER PROPOSED RATES

ITEM (1)	COST OF SERVICE (2)	RESIDENTIAL (3)	COMMERCIAL (4)
1. REVENUES FROM SALES	2,880,826	2,574,984	305,842
2. OTHER REVENUES (BASE ON WATER REVENUE)	92,916	83,052	9,864
3. TOTAL OPERATING REVENUES	2,973,742	2,658,035	315,706
4. LESS: OPERATING EXPENSES	1,563,194	1,398,676	164,519
5. RETURN AND INCOME TAXES	1,410,548	1,259,359	151,188
6. LESS: TAXABLE EXCLUSIONS - ALLOCATED ON RATE BASE	326,930	292,122	34,808
7. TAXABLE INCOME	1,083,618	967,237	116,380
8. LESS: INCOME TAXES (TAX. INC.)	455,852	407,315	48,536
9. NET RETURN (Line 5 - Line 8)	954,696	852,044	102,652
10. ORIGINAL COSTS MEASURE OF VALUE	10,785,012	9,636,743	1,148,269
11. RATE OF RETURN, PERCENT	8.85	8.84	8.94
12. RELATIVE RATE OF RETURN	1.00	1.00	1.01

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

- RS1. Provide a complete (fully allocated) cost of service study if an interval of approximately three years has passed between a previous cost of service study and the historic test year date of the current filing. The cost of service study shall provide the necessary data to determine if the water rate structure is fair and equitable to all classifications of water users (including public and private fire protection customers) and reflects, as nearly as possible, the cost of providing the service. The study shall correspond to the test year proposed revenue requirements (future test year only, if used). Summaries of conclusions and all back-up calculations shall be made part of the submission of the cost of service study, and shall include the following:
- b. Indicate if the method used for establishing the allocation factors in the Cost of Service Study deviates from the previous study submitted in the last rate case. If yes, indicate which allocation factors were changed and discuss the reason for the changes.

RESPONSE

This study is the first cost of service study for this wastewater system.

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

- RS1. Provide a complete (fully allocated) cost of service study if an interval of approximately three years has passed between a previous cost of service study and the historic test year date of the current filing. The cost of service study shall provide the necessary data to determine if the water rate structure is fair and equitable to all classifications of water users (including public and private fire protection customers) and reflects, as nearly as possible, the cost of providing the service. The study shall correspond to the test year proposed revenue requirements (future test year only, if used). Summaries of conclusions and all back-up calculations shall be made part of the submission of the cost of service study, and shall include the following:
- c. Supply the average day, the maximum day and the maximum hour deliveries to the system adjusted for storage for the test year and two prior years. Also provide workpapers, analyses, comparative data or other documentation supporting the estimated maximum day and peak hour demands by customer class reflected in the Company's cost of service study.

RESPONSE

	<u>2007</u>	<u>2008</u>	<u>2009</u>
Lehman Pike/Winona			
Average Daily Flow (MDG)	0.279	0.258	0.252
Peak Day Flow (MGD)	0.620	0.580	0.432
Peak Hour Flow (MGD)	NA	NA	0.691
Customer Class Factors	NA	NA	NA
Blue Mountain			
Average Daily Flow (MDG)	0.091	0.094	0.098
Peak Day Flow (MGD)	0.172	0.135	0.132
Peak Hour Flow (MGD)	NA	NA	NA
Customer Class Factors	NA	NA	NA

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

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- d. Explain thoroughly the methodology employed if the Company distinguishes between transmission and distribution mains in its allocation of costs.

RESPONSE

The Company did not make any distinction between collection and transmission mains.

PENNSYLVANIA-AMERICAN WATER COMPANY

RESPONSES TO RATE STRUCTURE
AND COST OF SERVICE FILING REQUIREMENTS

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- e. Provide a detailed explanation of how storage is utilized to meet base, maximum day and maximum hour demands.

RESPONSE

There is no storage for this system.

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

- RS1. Provide a complete (fully allocated) cost of service study if an interval of approximately three years has passed between a previous cost of service study and the historic test year date of the current filing. The cost of service study shall provide the necessary data to determine if the water rate structure is fair and equitable to all classifications of water users (including public and private fire protection customers) and reflects, as nearly as possible, the cost of providing the service. The study shall correspond to the test year proposed revenue requirements (future test year only, if used). Summaries of conclusions and all back-up calculations shall be made part of the submission of the cost of service study, and shall include the following:
- f. Provide workpapers, calculations and supporting documentation which develop the equivalent meters and equivalent service weights reflected in the Company's cost of service study.

RESPONSE

The 5/8-inch equivalent was determined by using the recommended standard minimum meter flow capacity ratios per the American Waterworks Association.

<u>Meter Size</u>	<u>5/8-Inch Equivalent</u>
5/8"	1.0
3/4"	1.5
1"	2.5
1-1/2"	5.0
2"	8.0
3"	15.0
4"	25.0
6"	50.0
8"	80.0
10"	115.0

There are no service equivalents calculated for this study.

PENNSYLVANIA-AMERICAN WATER COMPANY

RESPONSES TO RATE STRUCTURE
AND COST OF SERVICE FILING REQUIREMENTS

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- g. Provide all workpapers and supporting documentation for the fire flow requirement and duration utilized in the cost of service study.

RESPONSE

Because this is a wastewater operation, there is no fire flow requirement.

PENNSYLVANIA-AMERICAN WATER COMPANY

RESPONSES TO RATE STRUCTURE
AND COST OF SERVICE FILING REQUIREMENTS

- RS1. Provide a complete (fully allocated) cost of service study if an interval of approximately three years has passed between a previous cost of service study and the historic test year date of the current filing. The cost of service study shall provide the necessary data to determine if the water rate structure is fair and equitable to all classifications of water users (including public and private fire protection customers) and reflects, as nearly as possible, the cost of providing the service. The study shall correspond to the test year proposed revenue requirements (future test year only, if used). Summaries of conclusions and all back-up calculations shall be made part of the submission of the cost of service study, and shall include the following:
- h. Provide a breakdown of the number and size of private fire services according to the general water service class of customer.

RESPONSE

Because this is a wastewater operation, there are no private fire services.

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

- RS1. Provide a complete (fully allocated) cost of service study if an interval of approximately three years has passed between a previous cost of service study and the historic test year date of the current filing. The cost of service study shall provide the necessary data to determine if the water rate structure is fair and equitable to all classifications of water users (including public and private fire protection customers) and reflects, as nearly as possible, the cost of providing the service. The study shall correspond to the test year proposed revenue requirements (future test year only, if used). Summaries of conclusions and all back-up calculations shall be made part of the submission of the cost of service study, and shall include the following:
- i. Provide a calculation of the Company's base cost of water per unit of consumption.

RESPONSE

The calculation of the average flow cost per hundred gallons is as follows:

Flow Cost	\$1,798,162
Pro Forma Usage (Hundred Gallons)	1,512,436
Flow Cost per Hundred Gallons	\$1.19

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

- RS1. Provide a complete (fully allocated) cost of service study if an interval of approximately three years has passed between a previous cost of service study and the historic test year date of the current filing. The cost of service study shall provide the necessary data to determine if the water rate structure is fair and equitable to all classifications of water users (including public and private fire protection customers) and reflects, as nearly as possible, the cost of providing the service. The study shall correspond to the test year proposed revenue requirements (future test year only, if used). Summaries of conclusions and all back-up calculations shall be made part of the submission of the cost of service study, and shall include the following:
- j. Provide a detailed cost analysis that supports the Company's customer charges, by meter size, showing all direct and indirect costs included.

RESPONSE

Please refer to the attached schedule.

PENNSYLVANIA AMERICAN WATER
NORTHEAST WASTEWATER OPERATIONS

CALCULATION OF CUSTOMER COST PER MONTH

		<u>Per Month</u>
(1) Cost Related to Customer Facilities	\$194,840	
(2) Meter Equivalentents X 12	41,800	
(3) Cost per Bill - Meter related		\$4.66
(4) Cost Related to Customer Accounting	116,749	
(5) Number of Bills	41,249	
(6) Cost per Bill		\$2.83
(7) Cost Related to I&I	770,641	
(8) Percentage of I&I Costs to Customer Charge	67%	
(9) Cost Related to I&I allocated to Customer Charge	513,786	
(10) Meter Equivalentents X 12	41,800	
(11) Cost per Bill - I&I Related		\$12.29
(12) Total Customer Costs (3)+(6)		\$19.78

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

- RS2. Provide a listing of negotiated special rate contracts which includes a comparison of revenues under special rate contracts and under tariff rates. Provide the cost of service treatment of any deficiency in revenues resulting from the negotiated special rate contracts.

RESPONSE

There are no negotiated special rate contracts that are not under a tariff rate.