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August 26, 2010

VIA FIRST CLASS MAIL

Rosemary Chiavetta, Secretary
Pennsylvania Public Utility Commission
Commonwealth Keystone Building
400 North Street
P.O. Box 3265
Harrisburg, PA 17105-3265

Re: Pennsylvania Public Utility Commission v. Pennsylvania-American Water Company – Claysville Wastewater Operations
Docket No. R-2010-2166210

Dear Secretary Chiavetta:

Enclosed for filing is a Certificate of Service (original and three copies) evidencing service of the Rebuttal Testimony and Exhibits of Pennsylvania-American Water Company, Claysville Wastewater Operations, upon the parties of record.

Very truly yours,

Anthony C. DeCusatis or

Anthony C. DeCusatis

ACD/tp
Enclosures

cc: Per Certificate of Service
Seth A. Mendelsohn
Rod Nevirauskas

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

PENNSYLVANIA PUBLIC UTILITY COMMISSION	:	
v.	:	
PENNSYLVANIA-AMERICAN WATER COMPANY – Claysville Wastewater Operations	:	**DOCKET NO. R-2010-2166210**

CERTIFICATE OF SERVICE

I hereby certify and affirm that I have this day served copies of the Rebuttal Testimony and Exhibits on behalf of Pennsylvania-American Water Company upon the following persons in the matter specified in accordance with the requirements of 52 Pa. Code § 1.54:

VIA ELECTRONIC MAIL AND FEDERAL EXPRESS

The Honorable Charles E. Rainey, Jr.
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Pennsylvania Public Utility Commission
Office of Administrative Law Judge
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Date: August 26, 2010

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Counsel for Pennsylvania-American Water Company

PAWC STATEMENT NO. 2-R

REBUTTAL TESTIMONY
OF
ROD P. NEVIRAUSKAS

WITH REGARD TO

PENNSYLVANIA AMERICAN WATER

CLAYSVILLE WASTEWATER OPERATIONS

REVENUE DEFICIENCY SUMMARY, UTILITY PLANT ACQUISITION ADJUSTMENT, O&M EXPENSES, INCOME TAXES, RATE OF RETURN, CUSTOMER ASSISTANCE PROGRAM, AND PHASE-IN OF RATES.

DOCKET NO. R-2010-2166210

DATED: AUGUST 26, 2010

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REBUTTAL TESTIMONY
OF
ROD P. NEVIRAUSKAS

I. INTRODUCTION

1. Q. Please state your name, occupation and business address.

My name is Rod P. Nevirauskas and my business address is 800 West Hersheypark Drive, Hershey, Pennsylvania 17033. I am the Director of Rates and Regulations for Pennsylvania American Water ("PAW").

2. Q. Have you submitted any other testimony in this proceeding?

Yes, I submitted PAWC Statement No. 2, which includes a statement of my work experience and qualifications.

3. Q. What is the purpose of your testimony?

The purpose of my rebuttal testimony is as follows:

1) To provide the Company's revised statement of revenue requirement in this proceeding, as set forth in Exhibit 1-Revised.

2) To detail the Company's adjustments to its claimed revenue requirement and to acknowledge the Company's acceptance of several adjustments proposed by witnesses for the Office of Trial Staff ("OTS") and Office of Consumer Advocate ("OCA").

3) To detail and address the proposed adjustments by the opposing parties that the Company is not accepting.

II. THE COMPANY'S REVISED STATEMENT OF REVENUE REQUIREMENT

4. Q. Has the Company made any revisions to its revenue requirement claim in this proceeding?

Yes, it has. The Company has accepted various adjustments proposed by the opposing parties in this case which serve to reduce the revenue requirement originally requested by the Company. In addition, PAW has decided to propose a rate phase-in plan similar to the rate phase-in plan recommended by the OTS.

5. Q. Has the Company prepared a revised statement of its revenue requirement?

Yes, it has. PAWC Exhibit 1-Revised presents the Company's updated revenue requirement claim in this proceeding. It incorporates the changes explained in my rebuttal testimony, as well as revisions to the Company's original claims as previously supplied in interrogatory responses and the acceptance of certain adjustments proposed by other parties. Each page of Exhibit 1-Revised that has been revised from the original Exhibit 1 carries the designation "R" following the page number. In addition, a summary of the revisions is provided as the first page of Exhibit 1-Revised, which sets forth: (1) a brief description of the revision; (2) the page of Exhibit 1 to which it relates; (3) a reference to where the revision has been identified or discussed in an interrogatory response or testimony; (4) the Company's original claimed amount; (5) the Company's revised claim; and (6) the

net change between the original and revised claim. The result of these revisions is a proposed revenue increase of $387,954, in lieu of the $487,486 increase originally requested by the Company.

III. COMPANY ADJUSTMENTS

6. Q. Please identify and explain the Company adjustments that have been reflected in Exhibit 1 Revised.

The Company adjustments consist of the following:

Cash Working Capital

Expense Lag – The Company has eliminated rate case amortization from its cash working capital calculations.

IV. OTS AND OCA ADJUSTMENTS ACCEPTED

7. Q. Please identify the adjustments proposed by OTS and OCA that the Company is not contesting.

The adjustments the Company is not contesting consist of the following:

Operating Expenses

Inflation Factor – Updated GDP %	1.20%	OCA Ex. LA-2, Sch. C-5
Negative Acquisition Adj. Amortization	$ (54,723)	OTS Ex. 3, Sch. 2
Rate Case Expense	$ (10,845)	OTS St. 2, pg. 14

Rate Base

Deferred Taxes – Repairs and Maint.	$ (59,519)	OCA Ex. LA-2, Sch. B-1

Income Taxes

Consolidated Tax Savings	$ (10,000)	OCA Ex. LA-2, Sch. C-2
Negative State and Federal Income Tax at Present Rates December 31, 2010	Company will reflect	OCA Ex LA-2, Sch. C-1
State Tax NOL – Carry Forward	20% reduction	OCA Ex LA-2, Sch. A-1

Inflation Factor – Based on the Company's response to Interrogatory OCA-25-6, Mr. Smith proposes that the most recent average quarterly forecasted change in GDP be used to calculate the inflation factor to be applied to HTY expenses upon which the inflation adjustment is based. The Company agrees with Mr. Smith and has applied the 1.20% forecasted GDP in its Exhibit 1-Revised.

Negative Acquisition Adjustment – OTS witness Cline has argued that the acquisition of the Claysville Wastewater operations did not meet the "substantial public interest" described in Section 1327(e) of the Public Utility Code. Therefore, Mr. Cline has proposed that the Company remove the original $547,232 negative acquisition adjustment (i.e., excess of depreciated original cost over purchase price) from plant in service, and add a corresponding $132,248 to rate base as the amount amortized as of December 31, 2010. In addition, Mr. Cline has recommended that the Company impute $54,723 of additional annual income to reflect one year's worth of amortization on the $547,232 total acquisition adjustment. The Company disagrees with Mr. Cline's recommendation for two reasons: (1) the acquisition does meet the criteria of "substantial public interest" and (2) the method in which Mr. Cline has developed his adjustment is in error.

As described in my direct testimony and further supplemented in the Company's response to Interrogatory OCA-27-95, the acquisition is in the substantial public interest because at the time of acquisition by PAW, Claysville Wastewater was operating under the terms of a DEP Consent Order and the system required significant improvements by PAW to bring it into compliance with DEP regulations.

In addition, counsel advises that Section 1311(a) of the Public Utility Code requires that property purchased at less than depreciated cost be included in rate base at depreciated original cost and that the net effect of Mr. Cline's proposal would be to flow back to customers the same amount twice.

Notwithstanding the foregoing, the Company has agreed, in order to mitigate the proposed rate increase in this proceeding, to reflect the annual amortization of $54,723 to income over a ten year period beginning with the effective date of rates and has reduced its requested rate increase by that amount.

Rate Case Expense – Ms. Wilson recommends a thirty-six (36) month, or three-year, normalization period for the recovery of rate case expense for Claysville in lieu of the two-year period utilized by PAW. The Company accepts this adjustment.

Deferred Taxes – In response to Interrogatory OCA-27-8, the Company quantified the effect on the income taxes of the accounting change regarding "repairs and maintenance". Based on that response, Mr. Smith has proposed to reduce rate base by $59,519 to reflect the increase in deferred taxes associated with this accounting change.

The Company agrees with the proposed adjustment, which is reflected on page 19R of Exhibit No. 1-Revised.

Consolidated Tax Savings – In response to Interrogatory OCA-27-74, the Company quantified the effect of so-called Consolidated Tax Savings (CTS) employing the most recent 5-year data. Based on that response, Mr. Smith has proposed a $10,000 allocation of the total Company CTS in this wastewater filing. Even though it believes that customers received the full benefit of the total Company CTS in PAW's last water rate proceeding, the Company is accepting Mr. Smith's proposed adjustment for purposes of this case.

State Net Operating Loss (SNOL) – Mr. Smith has proposed to reduce State taxable income by 20% as a result of the Company's 2008 State net operating loss. The Company has reflected this adjustment in the calculation of State income taxes in its Exhibit 1-Revised.

V. ADJUSTMENTS CONTESTED

8. Q. Please identify the adjustments the Company is contesting.

The adjustments the Company is contesting that I will address consist of the following:

Rate Base

Negative Acquisition Adjustment	OTS	OTS Ex. 3, Sch. 2

Operating Expenses

Salary and Wages	OTS & OCA	Discussed below
Purchased Power Expense	OTS & OCA	Discussed below
Eliminated Items	OCA	Discussed below
Rate Case Expense	OCA	Discussed below

Capital Structure - Inclusion of short term debt in overall capital structure.

In addition to the foregoing items, Mr. Spanos addresses depreciation expense (PAW St. No. 5-R), Mr. Herbert addresses rate design (PAW St. No. 4-R) and Mr. Moul addresses rate of return (PAW St. No. 6-R).

A. Negative Acquisition Adjustment

9. Q. Please address OTS witness Cline's proposed adjustment to reduce utility plant in service below original cost to reflect his understanding of the proper ratemaking treatment of negative acquisition adjustments.

The approach is flawed because if the acquisition adjustment were both deducted from rate base and amortized to income, the same amount would be flowed-through to customers twice. If the acquisition adjustment were eliminated (by deducting it from rate base), there would be nothing to amortize to income. In addition, and as previously noted, I am advised that Section 1311(a) of the Public Utility Code requires that property purchased for less than its depreciated original cost is to be included in rate base at depreciated original cost.

B. Salary and Wages

10. Q. Please describe OTS witness Wilson's and OCA witness Smith's proposed adjustments to Salary and Wages.

Ms. Wilson and Mr. Smith have both recommended adjustments to eliminate the January, 1, 2011 salary increase proposed by the Company. In addition, Ms. Wilson has proposed to reflect a capitalization ratio of 10.5%.

11. Q. Do you agree with their proposed adjustments?

No, I do not. It has been the practice of the Commission to grant PAW recovery of wage increases that will occur within six months of the end of the future test year. Such adjustments have historically included both actual contracted–for increases and estimated increases for non union and union employees whose contracts will expire. The hourly employees of Claysville are non-union, there are no documented performance issues and they will receive an increase on January 1, 2011. While the Company concedes it does not know the exact amount of the increase, its 3.0% estimate is reasonable and generally consistent with the increases awarded in prior years.

Mr. Smith acknowledges that the Commission has previously allowed the annualization of salary and wage increases six months beyond the FTY, but argues for a deviation from Commission practice because PAW's claim purportedly would place an undue burden on customers. However, the total salary increase associated with the January 1, 2011 increase is only approximately $3,100.

12. Q. Do Mr. Smith and Ms. Wilson propose any additional adjustments to payroll related expenses based upon their elimination of the Company's proposed January 1, 2011 wage increase?

Yes, Mr. Smith and Ms. Wilson propose derivative adjustments to payroll tax expense, defined contribution plan expense and group insurance expense based upon their proposed elimination of the Company's January 1, 2011 wage increase. Given that Mr. Smith's and Ms. Wilson's proposed elimination of the Company's claimed January 1, 2011 wage increase is improper, their derivative adjustments should also be rejected.

13. Q. Please describe OTS witness Wilson's proposed adjustment to increase the capitalization ratio associated with salary and wages.

Ms. Wilson has proposed to utilize a capitalization ratio of 10.5% for salary and wages and associated expenses based on the Company's total recorded expensed and capitalized payroll for Claysville wastewater operations in 2009. What Ms. Wilson fails to take into account is that the Company's claimed FTY expenses reflect only the costs of those employees who devote all of their time to the Claysville Wastewater operations. In other words, no claim has been made for the costs of employees who allocated only a portion of their time to the Claysville wastewater operations in 2009. As explained in response to Interrogatory OTS-RE-6, the direct (i.e., full-time) employees of the Claysville Wastewater operations charged 100% of their time to expense and it is their capitalization ratio that should be used in setting rates.

14. Q. Does Ms. Wilson propose corresponding adjustments to rate base due to her recommended increase in the capitalization ratio?

Yes, Ms. Wilson proposes derivative adjustments to capitalized salary and wages, capitalized payroll taxes, capitalized defined contribution plan and capitalized group insurance. For the reasons previously explained, there is no justification for imputing a higher capitalization rate. Consequently, if Ms. Wilson's expense adjustment is rejected, her rate base adjustment should be rejected as well.

C. Purchased Power Expense

15. Q. Please address OTS witness Wilson's and OCA witness Smith's proposed adjustments to PAW's claim for purchased power expense.

Ms. Wilson and Mr. Smith both propose an adjustment to purchased power expense based on the Company's response to Interrogatory OTS-RE-11. In short, their adjustments would reduce PAW's claim based on a limited sampling of actual costs incurred to date in 2010. The Company believes that its use of twelve months of historical data is more reliable and should be approved.

D. Eliminated Items

16. Q. Please address OCA witness Smith's proposed adjustment to eliminated items.

Mr. Smith has proposed to reduce FTY expenses by the full amount of the HTY costs associated with certain eliminated items that the Company, through prudent review, normalized over multiple years. Mr. Smith's assertion that these normalized expenses will not be incurred in the future is incorrect. For example, the Company normalized lab supply costs over a 2 year period. Lab supplies are a justifiable and necessary cost and the supplies will be expended during the normal course of wastewater operations. Therefore, to exclude the entire expense is unreasonable.

E. Rate Case Expense

17. Q. Please address OCA witness Smith's proposed adjustment to reduce rate case expense to a level associated with settlement.

Mr. Smith has proposed to reduce PAW's rate case expense claim to a level that the Company might expect to incur if this proceeding were settled and did not proceed to full litigation. If the case settles, it will be because the parties were able to agree on a "black box" rate increase amount; if the case does not settle, Mr. Smith's proposed adjustment is not applicable.

F. Capital Structure

18. Q. OCA witness Woolridge has advocated the inclusion of short term debt (STD) as a part of the Company's permanent capital structure for purposes of determining the Company's overall rate of return. Do you agree?

Absolutely not. This Commission has routinely eliminated STD from PAW's capital structure, recognizing its purpose for what it is, which is a temporary funding source for infrastructure that is eventually and timely converted to permanent capital in the form of LTD and common equity. The Company has in fact converted its STD balance to permanent capital routinely, as demonstrated by the permanent financings that have taken place over recent years. One needs to look no further then the approximate $1 Million STD balance at 3/31/10 as a portion of an almost $2 billion capital structure for PAW. For these and the other reasons explained by Mr. Moul, Dr. Woolridge's proposal should be rejected.

G. Phase-In

19. Q. What is the Company's position in regards to OTS witness Cline's phase-in proposal?

After reviewing all of the testimony presented in this proceeding, the Company is willing to phase-in its requested rate increase as follows: (1) rates would be increased to recover an additional $213,100 in annual base rate wastewater revenue at the conclusion of this case (the Effective Date); (2) rates would be increased to recover an additional $174,854 in annual base rate wastewater revenue commencing one year later; (3) rates would be increased by an additional $174,854

in annual base rate wastewater revenue, plus carrying charges thereon, commencing two years from the Effective Date to recover the amount not recovered in year one; and (4) rates would be decreased by $174,854 in annual base rate wastewater revenue commencing three years from the Effective Date.

H. Customer Assistance Program

20. Q. Please address OCA witness Rubin's proposed change to the Company's proposed Customer Assistance Program.

Mr. Rubin recommends that the discount provided to low income customers be equal to 15% of the total wastewater bill. In contrast, the Company proposes a 65% reduction to the monthly service charge portion of the bill. The Company believes that its proposal, which generally mirrors the low income customer assistance program previously approved for PAW's water operations, is in the best interests of its customers and should be approved.

VI. CONCLUSION

21. Q. Does this conclude your rebuttal testimony?

Yes, it does

Exhibit 1 Revised

R-2010-2166210

August 26, 2010

Pennsylvania American Water
Claysville Wastewater Operations
R-2010-2166210
Exhibit 1 R

Adjustment	Reference	Description	Revised Page No.	Original Adjustment	Revised Adjustment	Change
Rate Base:						
Deferred Taxes	Stmt 2-R	Reflect repairs and maint. Adjustment	19 R	32,430	91,949	59,519
Cash Working Capital	*Stmt 2-R*	*Eliminate Rate Case Amortization from Expense Lag*	*15 R*	32,527		(21,682)
Expenses:						
Rate Case Expense	Stmt 2-R	Three year normalization period	28 R	32,527	21,682	(10,845)
Inflation	Stmt 2-R	Updated GDP indicator	29 R	700	560	(140)
Negative UPAA Amortization	Stmt 2-R	Negative UPAA Amortization flowed to income over 10 yrs	33 A	-	(54,723)	(54,723)
Income Taxes						
Consolidated Tax Savings	Stmt 2-R	Allocate Consolidated Tax Savings	37 R line 31	0	10,000	10,000
State NOL 20%	Stmt 2-R	Reflect 20% State Net Operating Loss on State Taxable Inc.	37 R line 18	0	57,178	57,178

Concomitant Changes:

Revenues	
Penalties	5 R
Summary of Rate Base Elements	9 R
CWC Expenses	14 R
Expense Lag	*15 R*
Accrued and Prepaid Taxes	16 R
CWC Interest	18 R
Summary of Operating Expenses	22 R
Uncollectibles	32 R
General Assessment	*35 R*
Income Taxes	36 R
Long Term Debt	38 R
Application of Income Deductions	39 R

PRO FORMA STATEMENT OF INCOME FOR THE TWELVE MONTHS ENDING DECEMBER 31, 2009

AND DECEMBER 31, 2010 UNDER PRESENT AND PROPOSED RATES

LINE NO.	DESCRIPTION	PRESENT RATES 12/31/09 PER BOOKS	ADJUSTMENT	12/31/09 AMOUNT	ADJUSTMENT	12/31/10 AMOUNT	ADJUSTMENT	PROPOSED RATES AMOUNT	LINE NO.
1	OPERATING REVENUE	$313,647	-$2,290	$311,357	-$2,290	$309,067	$387,954	$697,021	1
2	OPERATING REVENUE DEDUCTIONS:								2
3	OPERATING EXPENSES	304,464	-614	303,850	-23,540	280,310	6,760	287,070	3
4	DEPRECIATION	63,822	29,067	92,889	37,949	130,838	0	130,838	4
5	AMORTIZATIONS	0	0	0	-54,723	-54,723	0	-54,723	5
6	TAXES, OTHER THAN INCOME:								6
7	LOCAL PROPERTY AND MISCELLANEOUS	0	0	0	0	0	0	0	7
8	FEDERAL ENVIRONMENTAL TAX	0	0	0	0	0	0	0	8
9	PUBLIC UTILITY REALTY TAXES	0	0	0	0	0	0	0	9
10	PAYROLL TAXES	8,164	0	8,164	846	9,010	0	9,010	10
11	GENERAL ASSESSMENT	1,427	524	1,951	-14	1,937	2,431	4,368	11
12	STATE CAPITAL STOCK TAX	0	0	0	0	0	0	0	12
13	TOTAL TAXES OTHER THAN INCOME	9,591	524	10,115	832	10,947	2,431	13,378	13
14	UTILITY OPERATING INCOME BEFORE INCOME TAXES	-64,230	-31,267	-95,497	37,192	-58,305	378,763	320,458	14
15	INCOME TAXES:								15
16	STATE INCOME TAX	-10,493	-187	-10,680	3,257	-7,423	30,271	22,848	16
17	FEDERAL INCOME TAX	-51,152	-10,878	-62,030	6,630	-55,400	121,972	66,572	17
18	AMORTIZATION OF ITC & EXCESS DEFERRED TAXES	0	0	0	0	0	0	0	18
19	TOTAL INCOME TAXES	-61,645	-11,065	-72,710	9,887	-62,823	152,243	89,420	19
20	TOTAL OPERATING REVENUE DEDUCTIONS	316,232	17,912	334,144	-29,595	304,549	161,434	465,983	20
21	UTILITY OPERATING INCOME	-2,585	-20,202	-22,787	27,305	4,518	226,520	231,038	21
22	INCOME DEDUCTIONS:								22
23	INTEREST ON LONG TERM DEBT	64,133	0	64,133	15,021	79,154	-1	79,153	23
24	AMORTIZATION OF DEBT DISCOUNT EXPENSE	0	0	0	0	0	0	0	24
25	INTEREST ON NOTES PAYABLE TO OTHERS	29	0	29	-29	0	0	0	25
26	TOTAL INCOME DEDUCTIONS	64,162	0	64,162	14,992	79,154	-1	79,153	26
27	NET INCOME	-66,747	-20,202	-86,949	12,313	-74,636	226,521	151,885	27
28	PREFERRED DIVIDENDS	1,241		1,241		1,525		1,525	28
29	NET INCOME TO COMMON	-$67,988		-$88,190		-$76,161		$150,360	29

PENNSYLVANIA AMERICAN WATER - CLAYSVILLE WW OPERATIONS

TOTAL INCREASE IN REVENUES BY TARIFF SUBDIVISIONS PROJECTED TO

AN ANNUAL BASIS FOR THE TWELVE MONTHS ENDING DECEMBER 31, 2009

LINE NO.	ACCT NO.	CUSTOMER CLASS	PER BOOKS 12/31/2009	CHANGE IN NUMBER OF CUSTOMERS	SPECIFIC CUSTOMER ADJUSTMENTS	OTHER REVENUE ADJUSTMENTS					PRO FORMA PRESENT RATES 12/31/2009
1		OPERATING REVENUES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
2		METERED SALES									
3	461.1	RESIDENTIAL	$199,710	($1,379)	$0	$0		$0	$0	$0	$198,331
4	461.2	COMMERCIAL	88,951	(899)	0	0		0	0	0	88,052
5	461.3	INDUSTRIAL	0	0	0	0		0	0	0	0
6	464	MUNICIPAL	13,122	0	0	0		0	0	0	13,122
7	466	SALES FOR RESALE	0	0	0	0		0	0	0	0
9		TOTAL METERED SALES	301,783	(2,278)	0	0	0	0	0	0	299,505
10		UNMETERED SALES									
11	460	RESIDENTIAL	10,234	0	0	0	0	0	0	0	10,234
12	460	COMMERCIAL	0	0	0	0	0	0	0	0	0
13	460	INDUSTRIAL	0	0	0	0	0	0	0	0	0
14	460	MUNICIPAL	0	0	0	0	0	0	0	0	0
15	460	MISCELLANEOUS	0	0	0	0	0	0	0	0	0
16		TOTAL UNMETERED SALES	10,234	0	0	0	0	0	0	0	10,234
17	462.1	PRIVATE FIRE PROTECTION	0	0	0	0	0	0	0		0
18	462.2	PUBLIC FIRE PROTECTION	0	0	0	0	0	0	0		0
19		TOTAL WATER SALES	312,017	(2,278)	0	0	0	0	0	0	309,739
20		OTHER OPERATING REVENUES									
21	470	PENALTIES	1,630	0	0	(12)		0	0	0	1,618
22	471	MISC SERVICE REVENUES	0	0	0	0		0	0	0	0
23	472	RENTS FROM PROPERTIES	0	0	0	0		0	0	0	0
24	474	OTHER WATER REVENUES	0	0	0	0		0	0	0	0
25		TOTAL OTHER OPERATING									
26		REVENUES	1,630	0	0	(12)	0	0	0	0	1,618
27		TOTAL OPERATING REVENUES	$313,647	($2,278)	$0	($12)	$0	$0	$0	$0	$311,357

PENNSYLVANIA AMERICAN WATER - CLAYSVILLE WW OPERATIONS

TOTAL INCREASE IN REVENUES BY TARIFF SUBDIVISIONS PROJECTED TO

AN ANNUAL BASIS FOR THE TWELVE MONTHS ENDING DECEMBER 31, 2010

LINE NO.	ACCT. NO.	CUSTOMER CLASSIFICATION	PRO FORMA PRESENT RATES 12/31/2010	CUSTOMER CHANGES	SPECIFIC CUSTOMERS	OTHER OPERATING REVENUES	RECLASSIFY REVENUE	PRO FORMA PRESENT RATES 12/31/2010	PERCENT	AMOUNT	PRO FORMA PROPOSED RATES
1		OPERATING REVENUES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
2		METERED SALES									
3	461.1	RESIDENTIAL	$198,331	(1,379)	$0	$0	$0	$196,952	107.91%	212,530	$409,482
4	461.2	COMMERCIAL	88,052	(899)	0	0	0	87,153	153.88%	134,115	221,268
5	461.3	INDUSTRIAL	0	0	0	0	0	0	0.00%	0	0
6	464	MUNICIPAL	13,122	0	0	0	0	13,122	206.74%	27,128	40,250
7	466	SALES FOR RESALE	0	0	0	0	0	0	0.00%	0	0
9		TOTAL METERED SALES	299,505	(2,278)	0	0	0	297,227	125.75%	373,773	671,000
10		UNMETERED SALES									
11	460	RESIDENTIAL	10,234	0	0			10,234	118.87%	12,165	22,399
12	460	COMMERCIAL	0	0	0			0	0.00%	0	0
13	460	INDUSTRIAL	0	0	0			0	0.00%	0	0
14	460	MUNICIPAL	0	0	0			0	0.00%	0	0
15	460	MISCELLANEOUS	0	0	0			0	0.00%	0	0
16		TOTAL UNMETERED SALES	10,234	0	0	0	0	10,234	0.00%	12,165	22,399
17	462.1	PRIVATE FIRE PROTECTION	0	0	0	0	0	0	0.00%	0	0
18	462.2	PUBLIC FIRE PROTECTION	0	0	0	0	0	0	0.00%	0	0
19		TOTAL WASTEWATER SALES	309,739	(2,278)	0	0	0	307,461	125.52%	385,938	693,399
20		OTHER OPERATING REVENUES									
21	470	PENALTIES	1,618	0	0	-12	0	1,606	125.53%	2,016	3,622
22	471	MISC SERVICE REVENUES	0	0	0	0	0	0	0.00%	0	0
23	472	RENTS FROM PROPERTIES	0	0	0	0	0	0	0.00%	0	0
24	474	OTHER REVENUES	0	0	0	0	0	0	0.00%	0	0
25 26		TOTAL OTHER OPERATING REVENUE	1,618	0	0	-12	0	1,606	125.53%	2,016	3,622
27		TOTAL OPERATING REVENUES	$311,357	($2,278)	$0	-$12	$0	$309,067	125.52%	$387,954	$697,021

PENNSYLVANIA AMERICAN WATER - CLAYSVILLE WW OPERATIONS

NOTES TO STATEMENT OF INCOME

OPERATING REVENUES

PENALTIES

The following adjustment reflects the annualization of penalty revenues associated with billed sales projected during 2010. Additionally, annualized late payment charges are calculated based on revenues at the proposed rate level.

LINE NO.	DESCRIPTION	PER BOOKS 12/31/09	PRESENT RATES 12/31/10	PROPOSED RATES
1	TOTAL BILLED SALES	$312,017	$307,461	$693,399
2	% OF PENALTIES TO TOTAL			
3	SALES (3 YEAR AVERAGE)		0.5224000%	0.5224000%
4	PENALTIES	1,630	1,606	3,622
5	LESS: PER BOOKS AT 12-31-09		1,630	
6	LESS: PRESENT RATES AT 12-31-10			1,606
7	PRO FORMA ADJUSTMENTS		($24)	$2,016

WITNESS: ROD NEVIRAUSKAS

PENNSYLVANIA AMERICAN WATER - CLAYSVILLE WW OPERATIONS

NOTES TO RATE BASE ELEMENTS

SUMMARY OF RATE BASE ADJUSTMENTS

LINE NO.	DESCRIPTION		DEPRECIATED ORIGINAL COST 12/31/09	DEPRECIATED ORIGINAL COST 12/31/10	DEPRECIATED ORIGINAL COST PROPOSED
1	NON-DEPRECIABLE PLANT		$162,010	$162,010	$162,010
2	DEPRECIABLE PLANT		3,551,570	4,340,879	4,340,879
3	TOTAL UTILITY PLANT IN SERVICE		3,713,580	4,502,889	4,502,889
4	DEDUCT:				
5	CONTRIBUTIONS IN AID OF CONSTRUCTION		0	179,966	179,966
6	CUSTOMER ADVANCES FOR CONSTRUCTION		24,000	0	0
7	SUB-TOTAL		24,000	179,966	179,966
8	NET UTILITY PLANT IN SERVICE		3,689,580	4,322,923	4,322,923
9	ACCRUED DEPRECIATION		1,593,129	1,636,795	1,636,795
10	DEPRECIATED UTILITY PLANT IN SERVICE		2,096,451	2,686,128	2,686,128
11	ADD:				
12	MATERIALS AND SUPPLIES		1,110	1,110	1,110
13	CASH WORKING CAPITAL - EXPENSES		26,258	23,318	23,318
14	ACCRUED AND PREPAID TAXES		1,390	1,434	1,402
15	DEDUCT:				
16	CASH WORKING CAPITAL - INT AND DIV		7,166	8,834	8,834
17	DEFERRED TAXES		50,054	91,949	91,949
18	TOTAL RATE BASE ELEMENTS		$2,067,989	$2,611,207	$2,611,175
19	UTILITY OPERATING INCOME				
20	PER BOOKS	-$2,585	-0.13%	-0.10%	-0.10%
21	PRESENT RATES AT 12-31-09	-$22,787	-1.10%	-	-
22	PRESENT RATES AT 12-31-10	$4,518	-	0.17%	-
23	PROPOSED RATES	$231,038	-	-	8.85%

PENNSYLVANIA AMERICAN WATER - CLAYSVILLE WW OPERATIONS

NOTES TO RATE BASE ELEMENTS

CALCULATION OF CASH WORKING CAPITAL REQUIREMENTS

Charges for water and wastewater services are billed in arrears on a monthly basis. The calculation set forth below reflects summarized operating revenues billed for the twelve months ended December 31, 2009, and as annualized under present rates for the twelve months ending December 31, 2009 and 2010. The calculation further reflects the average lag in receipt of revenues less the lag in payment of operating expenses to determine cash working capital requirements.

LINE NO.	DESCRIPTION	PER BOOK AMOUNT	PRESENT RATES 12/31/09 AMOUNT	PRESENT RATES 12/31/10 AMOUNT
1	OPERATING REVENUE BILLED DURING THE TWELVE MONTHS ENDED 12/31/09			
2	BI-MONTHLY BILLINGS			
3	LAG DAYS			
4	*DOLLAR DAYS*			
5	QUARTERLY			
6	LAG DAYS			
7	DOLLAR DAYS			
8	MONTHLY BILLINGS	312,017	309,739	307,461
9	LAG DAYS	50.5	50.5	50.5
10	DOLLAR DAYS	15,756,859	15,641,820	15,526,781
11	TOTAL BILLED REVENUE	$312,017	$309,739	$307,461
12	TOTAL DOLLAR DAYS	$15,756,859	$15,641,820	$15,526,781
13	AVERAGE LAG IN RECEIPT OF REVENUE			
14	(LINE 12 / LINE11)	50.5	50.5	50.5
15	DEDUCT:			
16	AVERAGE LAG IN PAYMENT			
17	OF OPERATING EXPENSES	18.4	18.4	16.9
18	AVERAGE LAG BETWEEN PAYMENT OF OPERATING			
19	EXPENSES AND RECEIPT OF REVENUES	32.1	32.1	33.6
20	WORKING CAPITAL REQUIREMENTS			
21	ANNUAL OPERATING EXPENSES		$298,424	$253,242
22	OPERATING EXPENSES PER DAY			
23	(LINE 18 / 365 DAYS)		818	694
24	CASH WORKING CAPITAL REQUIRED			
25	(LINE 16 * LINE 20)		$26,258	$23,318

WITNESS: JOHN COX

PENNSYLVANIA AMERICAN WATER - CLAYSVILLE WW OPERATIONS

NOTES TO RATE BASE ELEMENTS

SUPPORT OF EXPENSE DAYS

LINE NO.	DESCRIPTION	LAG DAYS	PER BOOKS AMOUNT	PER BOOKS DOLLAR DAYS	PRESENT RATES 12-31-09 AMOUNT	PRESENT RATES 12-31-09 DOLLAR DAYS	PRESENT RATES 12-31-10 AMOUNT	PRESENT RATES 12-31-10 DOLLAR DAYS
1	CHEMICALS	30 0	$13,592	$407,760	$13,592	$407,760	$14,680	$439,800
2	GROUP INSURANCE	(13.4)	20,947	(280,690)	20,947	(280,690)	20,769	(278,305)
3	LABOR AND LABOR RELATED	12 5	107,571	1,344,638	107,571	1,344,638	112,709	1,408,863
4	LEASED EQUIPMENT	2 0	0	0	0	0	0	0
5	TRANSPORTATION	29 1	0	0	0	0	0	0
6	MISCELLANEOUS	26.3	99,357	2,613,732	99,357	2,513,732	47,219	1,194,641
7	PURCHASED POWER	26.5	26,570	704,105	26,570	704,105	29,346	777,669
8	WASTE DISPOSAL	26.1	30,387	793,101	30,387	793,101	28,539	744,868
9	TOTALS		298,424	5,482,646	298,424	5,482,646	253,242	4,287,536
10	AVERAGE LAG			18 4		18.4		16 9

PENNSYLVANIA AMERICAN WATER - CLAYSVILLE WW OPERATIONS

NOTES TO RATE BASE ELEMENTS

ACCRUED AND PREPAID TAXES

LINE NO.	DESCRIPTION	NET LEAD/ LAG DAYS FUTURE	PRESENT RATES 12-31-09 TAXES PAYABLE	PRESENT RATES 12-31-09 ACCRUED TAXES ADJ	PRESENT RATES 12-31-10 TAXES PAYABLE	PRESENT RATES 12-31-10 ACCRUED TAXES ADJ	PROPOSED RATES TAXES PAYABLE	PROPOSED RATES ACCRUED TAXES ADJ
1	GENERAL ASSESSMENT	125	$1,951	$668	$1,937	$663	$4,368	$1,496
2	STATE INCOME TAX	21.8	-10,680	-638	-7,423	-443	22,848	1,365
3	FEDERAL INCOME TAX	-8.0	-62,030	1,360	-55,400	1,214	66,572	-1,459
4	TOTALS			$1,390		$1,434		$1,402

WITNESS: JOHN COX

PENNSYLVANIA AMERICAN WATER - CLAYSVILLE WW OPERATIONS

NOTES TO RATE BASE ELEMENTS

CALCULATION OF CASH WORKING CAPITAL REQUIREMENTS
INTEREST AND PREFERRED DIVIDENDS

The payment of interest on the Company's long term debt is made six months in arrears. Payment of interest on the Company's short term debt is made monthly in arrears. The payment of dividends on the Company's preferred stock is made quarterly. The average lag days of interest and dividend payments and the deduction of the average lag days for the receipt of revenue is calculated below to determine capital requirements.

LINE NO.	DESCRIPTION						
1	AVERAGE LAG CALCULATION	LONG TERM INTEREST		SHORT TERM INTEREST		PREFERRED DIVIDEND	
2	FUTURE REVENUE LAG DAYS	50.5		50.5		50.5	
3	LESS: INTEREST PAYMENTS LAG DAYS	91.3		15.2		45.6	
4	AVERAGE LAG BETWEEN THE PAYMENT						
5	OF INTEREST AND THE RECEIPT						
6	OF REVENUES	-40.8		35.3		4.9	
7	LONG TERM DEBT	PRESENT RATES 12/31/09		PRESENT RATES 12/31/10		PROPOSED AMOUNT	
8	WORKING CAPITAL REQUIREMENTS						
9	PRO FORMA ANNUAL INTEREST EXPENSE	$64,133		$79,154		$79,153	
10	INTEREST EXPENSE PER DAY						
11	(LINE 9 / 365 DAYS)	176		217		217	
12	CASH WORKING CAPITAL REQUIRED						
13	(LINE 6 COL.1 x LINE 10)		(7,181)		(8,854)		(8,854)
14	SHORT TERM DEBT						
15	WORKING CAPITAL REQUIREMENTS						
16	PRO FORMA ANNUAL INTEREST EXPENSE	29		0		0	
17	INTEREST EXPENSE PER DAY						
18	(LINE 16 / 365 DAYS)	0		0		0	
19	CASH WORKING CAPITAL REQUIRED						
20	(LINE 6 COL.2 x LINE 17)		0		0		0
21	PREFERRED DIVIDENDS						
22	WORKING CAPITAL REQUIREMENTS						
23	PRO FORMA ANNUAL DIVIDEND EXPENSE	1,241		1,525		1,525	
24	DIVIDEND EXPENSE PER DAY						
25	(LINE 23 / 365 DAYS)	3		4		4	
26	CASH WORKING CAPITAL REQUIRED						
27	(LINE 6 COL.3 x LINE 24)		15		20		20
28	TOTAL CASH WORKING CAPITAL REQUIRED						
29	(LINE 13 + LINE 20 + LINE 27)		($7,166)		($8,834)		($8,834)

WITNESS: JOHN COX

PENNSYLVANIA AMERICAN WATER - CLAYSVILLE WW OPERATIONS

NOTES TO RATE BASE ELEMENTS

CALCULATION OF DEFERRED INCOME TAXES

The following calculation is being made to reflect the tax difference between using accelerated and straight-line depreciation, and is carried as a rate base reduction.

LINE NO.	VINTAGE YEARS	TAX BASE PROPERTY	ACCELERATED TAX DEPRECIATION	STRAIGHT-LINE REMAINING LIFE	EXCESS DEPRECIATION	DEFERRED FEDERAL TAXES
1	7/08 - 12/10	$2,247,124	$71,021	$121,375	-$50,354	($17,624)
2	PLUS: REPAIRS & MAINTENACE ADJUSMTENT					59,519
3						41,895
4	BALANCE OF DEFERRED INCOME TAXES AT 12-31-09					(50,054)
5	BALANCE OF DEFERRED INCOME TAXES AT 12-31-10					(91,949)

REFERENCE: SUPPORTING SCHEDULES
WITNESS: JOHN COX

PENNSYLVANIA AMERICAN WATER - CLAYSVILLE WW OPERATIONS

NOTES TO STATEMENT OF INCOME

OPERATING EXPENSES

SUMMARY OF OPERATING EXPENSE ADJUSTMENTS

LINE NO.	DESCRIPTION	12/31/09 DETAIL	PRESENT RATES 12/31/09 AMOUNT	12/31/10 DETAIL	PRESENT RATES 12/31/10 AMOUNT
1	PER BOOKS		$304,464		
2	PRESENT RATES AT 12-31-09				$303,850
3	SALARIES AND WAGES	0		4,813	
4	GROUP INSURANCE	0		(178)	
5	401K & DEFINED CONTRIBUTION PLAN	0		325	
6	CHEMICALS	0		1,068	
7	PURCHASED POWER	0		2,778	
8	RATE CASE EXPENSE	0		21,682	
9	INFLATION	0		560	
10	ELIMINATED ITEMS	0		(52,698)	
11	WASTE DISPOSAL	0		(1,848)	
12	UNCOLLECTABLES	(614)		(40)	
13	PRO FORMA ADJUSTMENTS		(614)		-23,540
14	PRESENT RATES 12-31-09		$303,850		
15	PRESENT RATES 12-31-10				$280,310

PENNSYLVANIA AMERICAN WATER - CLAYSVILLE WW OPERATIONS

NOTES TO STATEMENT OF INCOME

OPERATING EXPENSES

RATE CASE EXPENSE

The following adjustment reflects the estimated cost of this rate case at December 31, 2010.

LINE NO.	DESCRIPTION	PRESENT RATES 12/31/2010 AMOUNT
1	LEGAL FEES AND EXPENSES	$40,000
2	RATE OF RETURN	7,000
3	COST OF SERVICE AND RATE DESIGN	4,941
4	DEPRECIATION	6,750
5	MISCELLANEOUS	6,362
6	TOTAL	65,053
7	NORMALIZED OVER 3 YEARS	21,682
8	LESS: AMOUNT CHARGED TO OPERATING EXPENSE DURING THE TWELVE MONTHS ENDED 12-31-09	0
9	PRO FORMA ADJUSTMENT	$21,682
	666.8 REGULATORY COMMISSION EXPENSE	$21,682

REFERENCE: SUPPORTING SCHEDULES
WITNESS: JOHN COX

PENNSYLVANIA AMERICAN WATER

CLAYSVILLE WASTEWATER OPERATIONS

NOTES TO STATEMENT OF INCOME

OPERATING EXPENSES

INFLATION

The Company has presented various pro forma adjustments for specific expense items. The remaining expense items are anticipated to continue to rise due to inflationary increases. The following adjustment reflects projection of increases due to inflation.

LINE NO.	DESCRIPTION	PRESENT RATES 12/31/2010 AMOUNT
1	TOTAL O & M EXPENSES	$304,464
2	LESS: ADJUSTMENTS	257,805
3	EXPENSES SUBJECT TO INFLATION	46,659
4	INFLATION FACTOR	1.20%
5	*PRO FORMA ADJUSTMENT*	*$560*
	675.3 MISCELLANEOUS EXPENSE	$560

REFERENCE: SUPPORTING SCHEDULES
WITNESS: JOHN COX

PENNSYLVANIA AMERICAN WATER - CLAYSVILLE WW OPERATIONS

NOTES TO STATEMENT OF INCOME

OPERATING EXPENSES

CALCULATION OF UNCOLLECTABLE ACCOUNTS EXPENSE

The following adjustment reflects the uncollectable accounts expense calculated on the ratio of actual per books revenue to net write-offs. This ratio is applied to pro forma water sales at present and proposed rates.

LINE NO	DESCRIPTION	PER BOOKS	PRESENT RATES 12/31/09 AMOUNT	PRESENT RATES 12/31/10 AMOUNT	PROPOSED RATES AMOUNT
1	WASTEWATER SALES	$312,017	$309,739	$307,461	$693,399
2	2009 RATIO	0.017517	0.017517	0.017517	0.017517
3	ANNUALIZED UNCOLLECTABLE EXPENSE		$5,426	$5,386	$12,146
4	LESS: AMOUNT CHARGED TO OPERATING EXPENSE				
5	DURING THE TWELVE MONTHS ENDED 12-31-09		6,040	-	-
6	LESS: PRESENT RATES AT 12-31-09		-	5,426	-
7	LESS: PRESENT RATES AT 12-31-10		-	-	5,386
8	PRO FORMA ADJUSTMENT		(614)	-$40	$6,760
670.7	CUSTOMER ACCOUNTING AND COLLECTING - BAD DEBT		(614)	-$40	$6,760

WITNESS: JOHN COX
REFERENCE: EXHIBIT 3-B

PENNSYLVANIA AMERICAN WATER

CLAYSVILLE WW OPERATIONS

NOTES TO STATEMENT OF INCOME

ACQUISITION ADJUSTMENT

The following adjustment is being made to reflect a ten year amortization of the negative utility plant acquisition adjustment.

LINE NO.	DESCRIPTION	PRESENT RATES 12/31/2010 AMOUNT
1	ACQUISITION ADJUSTMENT	(547,232)
2	PERIOD - 10 YEARS	10
3	ANNUAL AMORTIZATION	$ (54,723)
4	LESS: PER BOOKS	0
5	ADJUSTMENT	$ (54,723)

WITNESS: ROD NEVIRAUSKAS

PENNSYLVANIA AMERICAN WATER - CLAYSVILLE WW OPERATIONS

NOTES TO STATEMENT OF INCOME

CALCULATION OF GENERAL ASSESSMENT BY THE PENNSYLVANIA PUBLIC UTILITY COMMISSION, CONSUMER ADVOCATE AND SMALL BUSINESS ADVOCATE FEES

LINE NO.	DESCRIPTION	PRESENT RATES 12/31/09 AMOUNT	PRESENT RATES 12/31/10 AMOUNT	PROPOSED AMOUNT
1	TOTAL WASTEWATER SALES	$309,739	$307,461	$693,399
2	ESTIMATED GENERAL ASSESSMENT BY THE PENNSYLVANIA			
3	PUBLIC UTILITY COMMISSION AT .004777980298			
4	PER DOLLAR OF TOTAL WASTEWATER SALES SUBJECT TO TAX	1,480	1,469	3,313
5	CONSUMER ADVOCATE FEE AT .001388377500			
6	PER DOLLAR OF TOTAL WASTEWATER SALES	430	427	963
7	SMALL BUSINESS ADVOCATE FEE AT .000132518596			
8	PER DOLLAR OF TOTAL WASTEWATER SALES	41	41	92
		1,951	1,937	4,368
9	LESS: AMOUNT CHARGED TO OPERATING EXPENSES DURING			
10	THE TWELVE MONTHS ENDED 12-31-09	1,427	-	-
11	LESS: PRO FORMA UNDER PRESENT RATES AT 12-31-09	-	1,951	-
12	LESS: PRO FORMA UNDER PRESENT RATES AT 12-31-10	-	-	1,937
13	PRO FORMA ADJUSTMENT	$524	-$14	$2,431
	507.1 TAXES OTHER THAN INCOME			$2,941

WITNESS: JOHN COX

PENNSYLVANIA AMERICAN WATER - CLAYSVILLE WW OPERATIONS

NOTES TO STATEMENT OF INCOME

PRO FORMA STATE AND FEDERAL INCOME TAXES UNDER PRESENT AND PROPOSED RATES

LINE NO.	DESCRIPTION	PRESENT RATES 12/31/09 AMOUNT	PRESENT RATES 12/31/10 AMOUNT	PROPOSED AMOUNT
1	STATE INCOME TAX PER COMPUTATION			
2	*SHOWN ON FOLLOWING PAGE*	-$10,680	-$7,423	$22,848
3	LESS: STATE INCOME TAX PER BOOK			
4	COMPUTATION SHOWN ON FOLLOWING PAGE	-10,493	-	-
5	LESS: PRESENT RATES 12-31-09	-	-10,680	-
6	LESS: PRESENT RATES 12-31-10	-	-	-7,423
7	PRO FORMA ADJUSTMENT	($187)	$3,257	$30,271
8	FEDERAL INCOME TAX PER COMPUTATION			
9	SHOWN ON FOLLOWING PAGE	-$62,030	-$55,400	$66,572
10	LESS: FEDERAL INCOME TAX PER BOOK			
11	COMPUTATION SHOWN ON FOLLOWING PAGE	-51,152	-	-
12	LESS: PRESENT RATES 12-31-09	-	-62,030	-
13	LESS: PRESENT RATES 12-31-10	-	-	-55,400
14	PRO FORMA ADJUSTMENT	($10,878)	$6,630	$121,972

WITNESS: ROD NEVIRAUSKAS

PENNSYLVANIA AMERICAN WATER - CLAYSVILLE WW OPERATIONS

NOTES TO STATEMENT OF INCOME

CALCULATION OF STATE AND FEDERAL INCOME TAXES

LINE NO.	DESCRIPTION	PER BOOKS	PRESENT RATES 12/31/09 AMOUNT	PRESENT RATES 12/31/10 AMOUNT	PROPOSED AMOUNT
1	UTILITY OPERATING INCOME BEFORE TAXES	-$64,230	-$95,497	-$58,305	$320,458
2	LESS: INTEREST EXPENSE	64,162	64,162	79,154	79,153
3	TAXABLE OPERATING INCOME	-128,392	-159,659	-137,459	241,305
4	ADD:				
5	PREMATURE PROPERTY LOSSES	0	0	0	0
6	DEPR - STRAIGHT LINE-REMAINING LIFE	63,822	92,889	130,838	130,838
7	TAXABLE MEALS & ENTERTAINMENT	321	321	321	321
8					
9	TOTAL	64,143	93,210	131,159	131,159
10	DEDUCT:				
11	TAX DEPRECIATION:				
12	ADR ON PRE 1981 ASSETS	0	0	0	0
13	ACRS ON POST 1980 ASSETS	0	0	0	0
14	MACRS ON POST 1986 ASSETS	59,323	59,323	77,112	77,112
15	COST OF REMOVAL	0	0	9,463	9,463
16	TOTAL	59,323	59,323	86,575	86,575
17	TAXABLE INCOME (IF NEGATIVE USE ZERO)	-123,572	-125,772	-92,875	285,889
18	STATE NOL	-18,536	-18,866	-18,575	57,178
19	TAXABLE INCOME AFTER STATE NOL	-105,036	-106,906	-74,300	228,711
20	STATE INCOME TAX AT:				
21	HISTORIC - 9.99%, FUTURE - 9 99%	-10,493	-10,680	-7,423	22,848
22	TAXABLE INCOME AFTER STATE INCOME TAX	-94,543	-96,226	-66,877	205,863
23	ADD:				
24	COST OF REMOVAL NON ADR PROPERTY	0	0	9,463	9,463
25	ACRS ON POST 1980 ASSETS	0	0	0	0
26	MACRS ON POST 1986 ASSETS	59,323	59,323	77,112	77,112
	STATE NOL	-18,536	-18,866	-18,575	57,178
27	DEDUCT:				
28	SLRL ON POST 1980 ASSETS	63,822	92,889	130,838	130,838
29	INCOME SUBJECT TO FEDERAL INCOME TAX	-117,578	-148,658	-129,715	218,778
30	FEDERAL INCOME TAX AT 35%	-$41,152	-$52,030	-$45,400	$76,572
31	CONSOLIDATED TAX SAVINGS ADJUSTMENT	$10,000	$10,000	$10,000	$10,000
32	FEDERAL TAX LIABILITY	-$51,152	-$62,030	-$55,400	$66,572

PENNSYLVANIA AMERICAN WATER - CLAYSVILLE WW OPERATIONS

NOTES TO STATEMENT OF INCOME

PRO FORMA INTEREST UNDER PRESENT AND PROPOSED RATES

LINE NO.	DESCRIPTION	PRESENT RATES 12/31/09 AMOUNT	PRESENT RATES 12/31/10 AMOUNT	PROPOSED AMOUNT
1	INTEREST ON LONG TERM DEBT PER COMPUTATION			
2	SHOWN ON FOLLOWING PAGE	$64,133	$79,154	$79,153
3	LESS: INTEREST ON LONG TERM DEBT AS PER BOOK			
4	COMPUTATION ON FOLLOWING PAGE	64,133	-	-
5	LESS: PRESENT RATES AT 12-31-09	-	64,133	-
6	LESS: PRESENT RATES AT 12-31-10	-	-	79,154
7	PRO FORMA ADJUSTMENT	$0	$15,021	($1)
8	INTEREST ON SHORT TERM DEBT PER COMPUTATION			
9	SHOWN ON FOLLOWING PAGE	$29	$0	$0
10	LESS: INTEREST ON SHORT TERM DEBT AS PER BOOK			
11	COMPUTATION ON FOLLOWING PAGE	29	-	-
12	LESS: PRESENT RATES AT 12-31-09	-	29	-
13	LESS: PRESENT RATES AT 12-31-10	-	-	0
14	PRO FORMA ADJUSTMENT	$0	($29)	$0

WITNESS: ROD NEVIRAUSKAS

PENNSYLVANIA AMERICAN WATER - CLAYSVILLE WW OPERATIONS

NOTES TO STATEMENT OF INCOME

APPLICATION OF INCOME DEDUCTIONS

LINE NO.	DESCRIPTION	PRESENT RATES AT DECEMBER 31, 2009 AMOUNT	CAPITAL STRUCTURE	COST RATE	PRESENT RATES AT DECEMBER 31, 2010 AMOUNT	CAPITAL STRUCTURE	COST RATE
1	CAPITAL STRUCTURE						
2	LONG TERM DEBT	$951,447,759	49.62%	6.25%	$966,055,512	49.21%	6.16%
3	SHORT TERM DEBT	7,496,277	0.39%	0.36%	0	0.0%	0.00%
4	TOTAL DEBT	958,944,036	50.01%		966,055,512	49.21%	
5	PREFERRED STOCK	14,171,700	0.74%	8.11%	14,171,700	0.72%	8.11%
6	COMMON EQUITY	944,413,846	49.25%		982,987,846	50.07%	
7	TOTALS	$1,917,529,582	100.0%		$1,963,215,058	100.0%	

		PRESENT RATES 12-31-09 AMOUNT	PRESENT RATES 12/31/2010 AMOUNT	PROPOSED AMOUNT
8	APPLICATION OF LONG TERM DEBT INTEREST:			
9	ORIGINAL COST RATE BASE	$2,067,989	$2,611,207	$2,611,175
10	DEBT PERCENTAGE (FROM ABOVE)	49.62%	49.21%	49.21%
11	DEBT PORTION OF RATE BASE	1,026,136	1,284,975	1,284,959
12	INTEREST COST (FROM ABOVE)	6.25%	6.16%	6.16%
13	PRO FORMA LONG TERM INTEREST DEDUCTION	$64,133	$79,154	$79,153
14	APPLICATION OF SHORT TERM DEBT INTEREST:			
15	ORIGINAL COST RATE BASE	$2,067,989	$2,611,207	$2,611,175
16	DEBT PERCENTAGE (FROM ABOVE)	0.39%	0.00%	0.00%
17	DEBT PORTION OF RATE BASE	8,065	0	0
18	INTEREST COST (FROM ABOVE)	0.36%	0.00%	0.00%
19	PRO FORMA SHORT TERM INTEREST DEDUCTION	$29	$0	$0

WITNESS: ROD NEVIRAUSKAS

PAWC STATEMENT NO. 4-R

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

REBUTTAL TESTIMONY OF
PAUL R. HERBERT

ON BEHALF OF PENNSYLVANIA-AMERICAN
WATER COMPANY

DOCKET NO. R-2010-2166210

CONCERNING

CLAYSVILLE WASTEWATER OPERATIONS
COST OF SERVICE ALLOCATION

AND

CUSTOMER RATE DESIGN

AUGUST 26, 2010

BEFORE THE PENNSYLVANIA PUBLIC UTILITY COMMISSION

RE: PENNSYLVANIA-AMERICAN WATER COMPANY
DOCKET R-2010-2166210
REBUTTAL TESTIMONY OF PAUL R. HERBERT

Line No.

Q. Please state your name and address.

A. My name is Paul R. Herbert. My business address is 207 Senate Avenue, Camp Hill, Pennsylvania.

Q. By whom are you employed?

A. I am employed by Gannett Fleming, Inc.

Q. Are you the same Paul R. Herbert that submitted direct testimony in this case?

A. Yes. I submitted Statement No. 4 and Exhibit No. 4-A concerning the proposed rate design for the Claysville Wastewater Operations.

Q. What is the subject of your rebuttal testimony?

A. I will address the rate design proposal of OCA witness Scott Rubin concerning the residential customer charge.

Q. What is Mr. Rubin's proposal?

A. Mr. Rubin recommends that the residential customer charge should not exceed $5.15 per month.

Q. What is the Company's proposal?

A. The Company proposed a monthly residential customer charge of $25.00 per month with no allowance. The existing charge is $25.50 which also includes a 1,000 gallon allowance.

Q. Do you agree with Mr. Rubin's recommendation?

A. No, I do not. First, the existing customer charge is $25.50 per month with a 1,000 gallon allowance. If you remove the value of the 1,000 gallon allowance at the existing consumption rate of $5.75 per thousand gallons, the effective existing customer charge is $19.75 per month. ($25.50 – $5.75 = $19.75). Mr. Rubin's recommended rate of $5.15 per month would be a decrease of 74% from the $19.75 charge. It makes no sense to reduce the customer charge by any percentage when the overall increase is approximately 139%. Customers have been paying at least $25.50 per month under the existing rate structure. To reduce this minimum bill to $5.15 will place an even greater burden on those customers that have just average usage while at the same time, give customers with little or no usage large decreases.

Q. For what other reasons do you disagree with Mr. Rubin's recommendation?

A. Mr. Rubin excludes uncollectible accounts expense and costs associated with I&I from the customer charge. I will address each of these items separately.

Mr. Rubin excluded the costs associated with uncollectible accounts of $13,881 from his customer charge. As a result, nearly 100% of these costs would be recovered in the volumetric charge under his proposal. (Mr. Rubin's 1.74% factor would include only about 7 cents per month in his customer charge).

Q. Do uncollectible accounts vary with usage?

A. No, they do not. Uncollectible accounts vary with the number of customers and the occurrence of uncollectible accounts closely tracks how many

customers are on the system, not the total volume. Large commercial customers for example typically pay their bills on time and do not cause any uncollectible account expense, but Mr. Rubin would have such customers pay a disproportionate share of uncollectible accounts by recovering such costs almost entirely in the volumetric charge. By including such costs in the customer charge, however, each customer pays a small amount each month to cover uncollectible expense and customers with relatively higher usage are not required to pay a disproportionate amount of such costs..

Q. Please explain Mr. Rubin's reason for excluding Infiltration and Inflow (I&I) costs from the customer charge.

A. Mr. Rubin excludes I&I costs from the customer charge because he contends I&I costs are not incurred when a new customer is added to the system.

Q. Do you agree with that statement?

A. No, I do not. Mr. Rubin adequately describes the causes of I&I in the system on pages 5 and 6 of his direct testimony. These causes include groundwater entering the system through broken pipes, defective pipe joints, illegal connection of foundation drains, leaks through manholes and manhole covers, and possible cross connections with storm sewers. All of these causes of I&I are directly related to adding new customers. In fact, they are the predominant cause of additional I&I flow. When the collection system is extended to add new customers, you have more pipe in the ground with the potential for defective joints, added service laterals where additional joints are created, additional manholes for potential leakage, additional property-owners who may connect their downspouts or foundation drains, and additional storm

sewers that potentially could lead to cross connections. Mr. Rubin is simply wrong that additional customers do not cause additional I&I flow.

Q. Is it proper to recover a portion of the costs associated with I&I flow in the customer charge?

A. Yes, it is. In the text "Financing and Charges for Wastewater Systems", published by the Water Environment Federation (WEF), Chapter 8, "Development and Design of a Schedule of Rates and Charges", discusses fixed charges on pages 146 and 147, where it states:

> "Finally, a meter charge and service charge may be combined with a quantity allowance to establish a minimum charge. In this case, a fixed charge could recover all or a portion of volume-related costs (including infiltration and inflow [I/I] costs allocated on a customer basis) as part of the minimum."

Further in the same chapter discussing fixed charges, on page 154, it states:

> "For those rate designs that include a fixed charge, additional revenue stability may be achieved by recovering some of those costs allocated to volume and strength parameters through the customer charge. For example, I/I costs allocated in proportion to customers are often recovered through the fixed-charge component."

Q. How do you propose to recover the costs associated with I&I flow?

A. Consistent with the text, "Financing and Charges for Wastewater Systems", I have allocated two-thirds of the costs associated with I&I flow to customer charges and one-third to volume charges. The one-third of I&I costs to the volume charge recognizes that larger customers have larger impervious areas such as parking lots and roof tops which cause additional runoff.

The two-thirds allocation of I&I costs to the customer charge is appropriate and properly reflects the cost causation of I&I flow and the fixed

cost recovery of such costs. The Company's proposed customer charge of $25.00 per month should be approved and Mr.Rubin's recommendation should be rejected.

Q. Are customer charges for sewer utilities in Pennsylvania common at this level?

A. Yes. See the attached Exhibit No. 4-R-1, which shows a summary of the Commission-approved rates for Pennsylvania sewer utilities. The applicable tariff pages are also attached. Most of the customer charges shown on the summary far exceed the $25.00 per month customer charge proposed for Claysville.

Q. Please comment on Mr. Rubin's recommendation for low-income customers.

A. The Company proposed a customer charge for low income customers of $8.75 per month or 35% of the $25.00 proposed residential customer charge. This is a $16.25 monthly reduction for low income customers and is consistent with the Company's water tariff for low income customers.

Mr. Rubin suggests an alternative calculation for low income users because his recommended customer charge of $5.15 per month is too low. At 35% of his $5.15, the low income charge would be $1.80 or only a $3.35 reduction in the bill. This is another reason to reject Mr. Rubin's recommendation. To remedy this, Mr. Rubin recommends a 15% reduction in the total bill for low income customers. This method would produce different reductions for each customer depending on the level of usage.

The Company's low income tariff is straight forward, is consistent with the water tariff, and provides a significant and uniform reduction for each low income customer. The Company's proposal should be approved and Mr. Rubin's recommendation should be rejected.

Q. Does this complete your rebuttal testimony at this time?

A. Yes, it does.

EXHIBIT NO. 4-R-1 (Claysville)

Monthly Residential Rates for Sewer by Company

Company Name	Flat Rate	Meter Size	Minimum Charge	EDU	Charge Per 1,000 Gallons	Usage Amount 1,000 Gallons
Cecil Wastewater Treatment Company Inc	$ 34.79					
Clean Treatment Sewage Company	$ 58.47					
Delaware Sewer Company	$ 52.00					
Glendale Yearound Sewer Company	$ 20.90					
Johnstown Regional Sewage			$ 7.25			0-2,000
					3.62	2,000-13,333
					2.04	13,333-33,333
					1.23	33,333-66,667
					0.87	66,667-100,000
					0.76	Over 100,000
Little Washington Wastewater Company						
Pinecrest Division - Inside Development	$ 41.95					
Pinecrest Division - Outside Development	$ 50.00					
Willistown Woods Division			$ 42.00		2.40	
Gettysburg Division			$ 44.00		6.13	
East Bradford Division			$ 60.00		7.66	
Twin Hills Division			$ 47.00		1.76	
Plumsock Division			$ 60.00		7.91	
Media Division		5/8	$ 5.07		3.20	
		3/4	$ 7.20		3.20	
		1	$ 12.82		3.20	
		1 1/2	$ 28.94		3.20	
		2	$ 51.34		3.20	
		3	$ 115.60		3.20	
		4	$ 205.35		3.20	
		6	$ 461.88		3.20	
		8	$ 821.10		3.20	
Bridlewood Division - Family Homes			$ 36.00		1.52	
Bridlewood Division - Townhomes			$ 31.00		1.52	
White Haven Division - Metered			$ 41.35	per EDU	1.20	
White Haven Division - Unmetered	$ 41.35			per EDU		
Eagle Rock Division - Step 1			$ 32.25	per EDU	1.20	
Eagle Rock Division - Step 2			$ 35.50	per EDU	1 20	
Thornhurst Division - Step 1			$ 36.00	per EDU	0.60	
Thornhurst Division - Step 2			$ 46.75	per EDU	120.00	
Thornhurst Division - Unmetered	$ 36.00					
Rivercrest Division			$ 27.00		5.02	
Little Washington Division			$ 67.00		5.15	
Laurel Lakes Division - Step 1			$ 36.00	per EDU	0.60	
Laurel Lakes Division - Step 2			$ 44.00	per EDU	1.20	

Monthly Residential Rates for Sewer by Company

Company Name	Flat Rate	Meter Size	Minimum Charge	EDU	Charge Per 1,000 Gallons	Usage Amount 1,000 Gallons
Deerfield Knoll Division			$ 45.00		3.37	
CS Sewer Division	$ 20.66					
Peddlers View Division			$ 49.00		4.75	
The Greens at Penn Oaks Division			$ *90.00*	*per EDU*	1.50	
Newlin Green Division			$ 90.00	per EDU	1.50	
Woodloch Springs Division - Metered			$ 47.00	per EDU	1.20	
Woodloch Springs Division - Unmetered	$ 47.00			per EDU		
Loren K. Dixon Sewer Works	$ 15.00					
Manwalamink Sewer Company - Flat Rate	$ 26.50					
Manwalamink Sewer Company - Metered Rate			$ 10.00		3.98	10,000
					1.34	Over 10,000
Regent Acres Mobile Home Park	$ 30.75					
Reynolds Disposal Company	$ 27.57			per EDU		
School House Villages Wastewater Division	$ *45.00*			*per EDU*		
Schuylkill Haven Borough					6.65	
Pennsylvania Utility Company			$ 18.94		10.62	
Wonderview Sanitary Facilities	$ 35.65					

Cecil Wastewater Treatment
Company, Inc.
P.O. Box 253
Cecil, PA 15321-0253

Supplement No. 18 to
Sewage-Pa. P.U.C. 1
9th Revised Page No. 4
Canceling 8th Revised Page No. 4

SCHEDULE OF FLAT RATES (I)

1. This Schedule Shall Apply to All Residential Customers. The Rate Shall be $34.79 a Month.

(I) Indicates Increase

Issued: January 31, 1996

Effective: February 1, 1996

By: Edward E. Monaco
President

SCHEDULE OF RATES

Application:

This schedule is available to all residential and non-residential customers, as indicated below.

Charges:

(1) Residential Service: (I) (C)

A charge of $23.25 per month per lot shall be payable by the owner of each lot which is located within the development known as Marcel Lake Estates and upon which no structure has been erected. Such charge shall be payable irrespective of the quantity of sewage discharged.

A charge of $58.47 per month per lot shall be payable by the owner of each lot which is located within the development known as Marcel Lake Estates and upon which a structure has been erected. Such charge shall be payable irrespective of the quantity of sewage discharged.

The term "structure" shall be deemed to mean any building connected to the sewage collection system and containing any one or more of the following fixtures: a wash stand, a flush toilet, a bathtub, a shower or a kitchen faucet.

(2) Non-residential Service:	Per Month	(I) (C)
Each Outdoor Pool and Bathhouse	$58.47	
Each Clubhouse	$58.47	
Each Association Office or Maintenance Building	$58.47	
Each Bathhouse at Each Lake Site	$58.47	

Terms of Payment:

Charges will be billed payable monthly. (C)

(I) Indicated Increase
(C) Indicates Change

SCHEDULE OF RATES

Application:

This schedule is available to all residential customers as indicated below.

Charges:

(1) Residential Service:

A charge of $52.00 per month per lot shall be payable by the owner of each lot which is located within the development known as Wild Acres and upon which a structure has been erected which is connected to the Delaware Sewer Company facilities. Such charge shall be payable irrespective of the quantity of sewage discharged.

The term "structure" shall be deemed to mean any building connected to the sewage collection system and containing any one or more of the following fixtures: a wash stand, a flush toilet, a bathtub, a shower or a kitchen faucet.

Terms of Payment:

Charges will be billed payable monthly.

SCHEDULE OF RATES (I)

Application

This schedule is available to all customers.

Rates	Net Rate Per Quarter	Net Rate Per Month
Utilization at Homesites of 5 or less spigots	$62.70	$20.90
Each additional spigot at homesite above 5	8.64	2.88
Campsites with sewer lines extended thereto	41.80	13.93
Campsites which utilize dump station	16.59	5.53
Ski Slope	486.23	162.07
Swimming Pool up to 10,000 gallons capacity	66.76	22.25
Swimming Pool over 10,000 gallons capacity	332.80	110.93
Each Spigot other then Homesite or Campsite	17.41	5.80
Dump Station	272.03	90.68

Pursuant to the terms of the sales agreement utilized in connection with the sale of homesite lots within the Company's service territory, and pursuant to beneficial restrictive covenants filed of record on the Company's service territory, homesite lot owners are obligated to pay a charge when sewer lines are extended to their homesite lots and upon which no structure has been erected. Such charge, as established hereby, is $24.00 per lot per quarter and shall be paid irrespective of the fact that sewage is not discharged.

Terms of Payment

Charges will be billed and payable quarterly, or monthly (C)
at the option of the customer.

(I) Indicates Increase
(C) Indicates Change

SCHEDULE OF RATES AND CHARGES

Rates for Sewer Service (Treatment)

There is hereby imposed upon each property served by Johnstown Regional Sewage (JRS) and having the use thereof, a quarterly sewer rent or charge payable as hereinafter provided, for the use, whether direct or indirect, of JRS's system, based on the rates hereinafter set forth. All owners connected to JRS's system shall be billed according to the following schedule of sewer rates and the billing practice of JRS, by determining the total number of billing units for which such owners are responsible, and the following charges shall be imposed for each such billing unit:

QUARTERLY SEWER RATES, TO BE BILLED MONTHLY

SEWAGE VOLUME	RATES
0 - 6,000 gallons /3	$21.74 Minimum /3
6,000 - 40,000 gallons	$3.62 per 1,000 gallons
40,000 - 100,000 gallons	$2.04 per 1,000 gallons
100,000 - 200,000 gallons	$1.23 per 1,000 gallons
200,000 - 300,000 gallons	$0.87 per 1,000 gallons
ALL OVER - 300,000 gallons	$0.76 per 1,000 gallons

Sewage for properties not served by a metered public water connection shall receive an average bill. JRS reserves the right to have a meter installed and read to compute actual water consumed.

ADDITIONAL CHARGES AND FEES

Accounting and Clerical Fees		
Returned Check Fee	$35.00	
Inquiry Fee (Lien Status)	$15.00	Inquiries made to and check payable to JRS as administrative subcontractor.

SHUT OFF FEES (based upon agreements with local water suppliers):

Greater Johnstown Water Authority	$25.00 - includes both turn-off and turn-on
Southwest Central Water Authority	$50.00 - includes both turn-off and turn-on
Jackson Township Water Authority	$50.00 - includes both turn-off and turn-on
East Taylor Township Water Authority	$50.00 - includes both turn-off and turn-on
Highland Sewer and Water Authority	$25.00 - includes both turn-off and turn-on

SCHEDULE OF RATES

Meter Service (I)

Minimum Charge - for all metered customers.

Customer Charge	
Quarterly	Monthly
$ 125.85	$ 41.95

Pinecrest Unmetered Rates:

Residential-Inside Pinecrest Development $41.95 per month per equivalent dwelling unit

Residential-Outside Pinecrest Development $50.00 per month per equivalent dwelling unit.

Pinecrest Commercial Agreements:
Commercial- The Pinecrest commercial contracts have not been increased in this rate filing because they are not tariff customers. The Company will negotiate escalations to the contracts separately when warranted.

(I) Indicates Increase

SCHEDULE OF RATES

Meter Service

Customer Charge - for all metered customers for which no minimum allowance is given. (I)

Customer Charge		
Quarterly	Bi-Monthly	Monthly
$ 126.00	$ 84.00	$42.00

Consumption Charges: (I)

Wastewater will be charged for at the following rates:

For water used $2.40 1,000 gallons

Multiple Apartment Billing (Willistown Woods Area Only): (I)
For apartments that have multiple units and are metered through a master meter, the customer charge shall be calculated by multiplying the customer charge shown above by the number of dwelling units in the apartment being metered. There is no minimum allowance in this division. Therefore, all consumption shall be charged at the $2.40 per thousand gallon rate.

(I) Indicates Increase

SCHEDULE OF RATES

Meter Service (I)

Customer Charge - for all metered customers for which no minimum allowance is given.

	Customer Charge	
	Quarterly	Monthly
Residential	$132.00	$44.00
Commercial	$252.00	$84.00

Consumption Charges:

Waste Water will be charged for at the following rates:

For all water used $6.13 / 1,000 gallons

(I) Indicates Increase

SCHEDULE OF RATES

Meter Service

Customer Charge - for all metered customers.

Customer Charge Monthly	
$ 60.00	(I)

Consumption Charges:

Waste Water will be charged for at the following rates:

For all water used $7.66 / 1,000 gallons (I)

(I) Indicates Increase

SCHEDULE OF RATES

Meter Service

Customer Charge - for all metered customers. (I)

Minimum Charge	
Quarterly	Monthly
$ 141.00	$ 47.00

Consumption Charges: (I)

Wastewater will be charged for at the following rates:

For all water used $1.76 / 1,000 gallons

SCHEDULE OF RATES

Meter Service

Customer Charge - for all metered customers.

	Customer Charge Monthly	
	$ 60.00 ✓	(I)

Consumption Charges:

Wastewater will be charged for at the following rates:

For all water used	$7.91 / 1,000 gallons	(I)

(I) Indicates Increase

SCHEDULE OF RATES

Meter Service

Customer Charge - for all metered customers.

Size	Customer Charge Quarterly	Monthly	
5/8"	$ 15.21	$ 5.07	(I)
3/4"	21.60	7.20	
1"	38.46	12.82	
1 ½"	86.82	28.94	
2"	154.02	51.34	
3"	346.80	115.60	
4"	616.05	205.35	
6"	1385.64	461.88	
8"	2463.30	821.10	

Consumption Charges:

Wastewater will be charged for at the following rates:

For water used in excess of the minimum allowance $3.20 / 1,000 gallons

(I) Indicates Increase

SCHEDULE OF RATES

Metered Rate Service (C)(I)

Residential Customers:

Customer Charge-Single Family Homes	$36.00 per month
Customer Charge-Townhomes	$31.00 per month

Commercial Customers:

Customer Charge-Apartment Complex	$8,344.00 per month
Customer Charge-Childrens World Daycare	$262.00 per month
Consumption Charge:Residential customers	$1.52 per thousand gallons

(C) Indicates Change
(I) Indicates Increase

SCHEDULE OF RATES
White Haven Borough Metered Service (C)(I)

Residential Customers:

Customer Charge	$41.35 per month per EDU
Consumption Charge	$1.20 per thousand gallons
Unmetered Residential	$41.35 per month per EDU

Commercial Customers:

Class A Charge	$62.50 per month per unit
Class B Charge	$37.50 per month per unit
Class C Charge	$25 per month per unit
Class D Charge	$41.35 per month per unit
Unmetered Commercial	$41.35 per month per unit
Consumption Charge (Class D charge only)	$1.20 per thousand gallons

Kidder Township Metered Service (I)

Kidder Township	$750.00 per year per EDU (O&M & debt service)

Municipal Service Contracts

Dennison Township	$240.00 per year per EDU (O&M fee only)
East Side Borough	$352.00 per year per EDU (O&M fee & debt service)
Penn Lake Park Borough	$240.00 per year per EDU (O&M fee only)
Foster Township	$348.00 per year per EDU (O&M fee only)

Please note that the municipal service contracts will be negotiated separately with the municipalities at the appropriate time.

(C) Indicates Change
(I) Indicates Increase

SCHEDULE OF RATES

Metered Service (C)(I)

All Residential metered customers.

		Customer Charge Monthly
Step 1:	Residential	$32.25 per month per EDU
	Consumption Charge	$1.20 per thousand gallons
Step 2:	Residential	$35.50 per month per EDU
	Consumption Charge	$1.20 per thousand gallons

Commercial metered Customers.

		Customer Charge Monthly
Step 1:	Eagle Rock Inn	$516 per month
	Eagle Rock Lodge	$161.25 per month
	Eagle Rock Clubhouse	$129 per month
	Other Commercial	$32.25 per month per EDU
	Consumption Charge	$1.20 per thousand gallons
Step 2:	Eagle Rock Inn	$568 per month
	Eagle Rock Lodge	$177.50 per month
	Eagle Rock Clubhouse	$142 per month
	Other Commercial	$35.50 per month per EDU
	Consumption Charge	$1.20 per thousand gallons

(I) Indicates Increase

SCHEDULE OF RATES

Metered Service (C)(I)

Residential & Non-Residential Customers:

Step 1:	Customer Charge	$36.00 per month per EDU
	Consumption Charge	$.60 per thousand gallons
Step 2:	Customer Charge	$46.75 per month per EDU
	Consumption Charge	$1.20 per thousand gallons

Clubhouse or other building Based on peak flow usage converted to an EDU basis

Unmetered Service

Residential	Lot with no building	$20.00 per quarter
		$36.00 per month

Note: In the event that two or more contiguous lots are merged in a deed into one lot under common ownership, the property owner shall be charged for one lot charge if the lot is vacant, or for no lot charge if a house has been established as a regular customer on the lot.

(C) Indicates Change
(I) Indicates Increase

SCHEDULE OF RATES

Meter Service

Customer Charge - for all metered customers. (I)

Minimum Charge	
Quarterly	Monthly
$ 81.00	$ 27.00

Consumption Charges: (I)

Wastewater will be charged for at the following rates:

For all water used $5.02 / 1,000 gallons

SCHEDULE OF RATES

Meter Service

Minimum Charge - for all Residential metered customers.

	Customer Charge Monthly	
Residential	$67.00	(I)

Consumption Charges:

Wastewater will be charged for at the following rates:

For all water used	$5.15 / 1,000 gallons	(I)

Contract with East Brandywine Township Water & Sewer Authority (EBTWSA)

The EBTWSA owns its collection system and bills its customers independently. Suburban Wastewater Company bills EBTWSA for the use of its wastewater treatment plant at the following rate: $5.49 per thousand gallons

(I) Indicates Increase

SCHEDULE OF RATES

Metered Service (C)(I)

All Residential metered customers.

		Customer Charge Monthly
Step 1:	Residential	$36.00 per EDU
	Consumption Charge	$.60 per thousand gallons
Step 2:	Residential	$44.00 per EDU
	Consumption Charge	$1.20 per thousand gallons

Note: The number of equivalent dwelling units (EDUs) to be billed for Non-Residential connections is determined by dividing the peak daily usage, based on measurements or reasonable estimates, by 230 gallons.

(C) Indicates Change
(I) Indicates Increase

SCHEDULE OF RATES

Metered Service (I)

Metered Rate Charge - for all Residential metered customers

Customer Charge:

	Monthly
Residential	$45.00

Consumption Charge:

For all consumption	$3.37 per thousand gallons

(I) Indicates Increase

SCHEDULE OF RATES

Unmetered Service

Residential Service:

Flat Rate	$20.66 per month

Residential Availability Service:

Flat Rate	$6.00 per month

Apartment Service:

Flat rate per equivalent dwelling unit as specified by the Department of Environmental Protection at 25 PA Code Section 73.17	$20.66 per month

Commercial Service:

Flat rate per equivalent dwelling unit as specified by the Department of Environmental Protection at 25 PA Code Section 73.17	$20.66 per month

SCHEDULE OF RATES

Meter Service

Customer Charge - for all metered customers for which no minimum allowance is given. **(I)**

Customer Charge		
Quarterly	Bi-Monthly	Monthly
$147.00	$98.00	$49.00

Consumption Charges:

Waste Water will be charged for at the following rates:

For all water used	$4.75 / 1,000 gallons	**(I)**

(I) Indicates Increase

SCHEDULE OF RATES

Meter Service

Customer Charge - for all metered customers.

	Minimum Charge Quarterly	Monthly
Per EDU	$ 270.00	$ 90.00

Consumption Charges:

Wastewater will be charged for at the following rates:

For all water used $1.50 / 1,000 gallons

Note that all Residential customers will be charged the customer charge based on one (1) EDU. When the service to the clubhouse is made, billing for the clubhouse will be based on five (5) EDUs. There are no other non-Residential customers served in this rate division. Should there be occasion in the future to serve other non-Residential customers, an equivalent EDU factor will be required to be determined.

SCHEDULE OF RATES

Meter Service

Customer Charge - for all metered customers.

	Minimum Charge	
	Quarterly	Monthly
Per EDU	$ 270.00	$ 90.00

Consumption Charges:

Wastewater will be charged for at the following rates:

For all water used	$1.50 / 1,000 gallons

Note that all Residential customers will be charged the customer charge based on one (1) EDU. There are no non-Residential customers served in this rate division at the present time. Should there be occasion in the future to serve other non-Residential customers, an equivalent EDU factor will be required to be determined.

SCHEDULE OF RATES

Metered Service (C)(I)

All Residential metered customers.

	Customer Charge Monthly
Residential	$47.00 per month per EDU
Consumption Charge	$1.20 per thousand gallons
Unmetered Residential	$47.00 per month per EDU

Commercial:

Woodloch Springs Clubhouse Facilities	$282.21 per month
Other Commercial Charge	$47.00 per month per EDU
Unmetered Residential	$47.00 per month per EDU
Consumption Charge	$1.20 per thousand gallons

Note: The number of equivalent dwelling units (EDUs) to be billed for Non-Residential connections is determined by dividing the peak daily usage, based on measurements or reasonable estimates, by 230 gallons.

(C) Indicates Change
(I) Indicates Increase

RATES

Rule 12. The charge to each customer shall be a flat rate of Fifteen ($15.00) Dollars per month. (I)

No customer's sewer service will be shut off for non-payment of bills or violation of any rules without the company's first complying with the shut-off procedure prescribed by Public Utility Commission rules and regulations.

(I) Indicates increase

Supplement No. 11
To Tariff Sewer – Pa. P.U.C. No. 1
Fifth Revised page No. 3
Canceling Fourth Revised page No. 3

MANWALAMINK SEWER COMPANY

SCHEDULE OF RATES

Flat Rates

Non Metered Rates

Customer Category	Monthly Rates
1. Residential Users	$ 26.50
2. Commercial Users	
(a) Small Commercial Users	$ 35.30
(b) Large Commercial Users	
1. Ridgetop Recreational Area Pool	$ 73.50
2. River Village Recreational Area Pool	$ 73.50
3. Sun Mountain Recreational Area Pool	$ 73.50
4. Shawnee Mountain Ski Area	$ 252.00

Application

This schedule is available to all customers.

Terms of Payment:

Bills for sewer service shall be due and payable monthly.

Issued: July 10, 2000

Effective: October 1, 2000

MANWALAMINK SEWER COMPANY

SCHEDULE OF RATES (continued)

Metered Rates (C)

Service Charge:
$10.00 Charge Per Month

Volume Charge:
In addition to a monthly service charge presented above, a volume charge based on metered water usage will be charged as follows:

	Rate Per 1,000 Gallons
For the First 10,000 gallons per month	$3.98
For All Over 10,000 gallons per month	$1.34

Multiple Unit Billing:
In cases where service is provided to several customers through a single meter, the bill is computed as follows:

Service Charge: Based on the actual number of units served through such meter

Plus: Volume charge computed by dividing the metered volume by the number of units. The dollar amount for a unit is calculated on the above rates and multiplied by the number of units.

Terms of Payment:
Bill for sewer service shall be due and payable monthly.

(C) Indicates Change

SCHEDULE OF FLAT RATES

This Schedule is available to all Domestic and Commercial Customers. All Customers served under this Schedule shall be subject to a monthly charge of $30.75. There are no industrial customers served by the Company.

SCHEDULE OF FLAT RATES (I)

Domestic and Commercial Service

Domestic Service

The following flat rate for domestic service shall apply to single family dwellings having their own unmetered water supply. Should a second facility (apartment, mobile home, etc.) be added to an existing service, same shall be billed as an individual domestic unit.

Domestic Service	Net Rate Per Quarter	
Each Domestic Unit	$82.70	(I)

Commercial Service

The quarterly rate for Commercial Service customers having their own source of unmetered water shall be as follows:

Basic commercial customer with no more than two (2) individual (men and women) rest rooms, one (1) floor drain, one (1) supply sink, one (1) utility sink and one (1) drinking fountain shall be classed as single commercial.

Each additional connection (stack tap or floor drain) shall be added at the rate indicated below.

Known heavy users, such as laundromats, car washes, or other water-intensive customers shall be billed at the same rates as metered customers with such quantities estimated on a monthly basis by a representative of Reynolds Disposal Company.

If such estimates are questioned by the customer, it shall be the responsibility of the customer to furnish metering devices with prior approval of such device by the Company.

Commercial Service	Per Quarter	
Each Commercial Unit	$82.70	(I)

(I) Indicates Increase

8) Wastewater Service Charge per EDU: For EDU's actually allocated to and used by an improved property to discharge domestic sanitary wastewater during any portion of any billing period the annual wastewater service charge per EDU shall consist of a fixed charge of fifteen dollars ($15.00) and an operating and maintenance charge of thirty dollars ($30.00), for a total wastewater service charge of forty five dollars ($45.00). total per EDU

5. Wastewater Service Charge by Owner of Multiple Use Improved Property: In the case of multiple use improved property sharing a common connection to the wastewater system or a common structure, each such classification of improved property shall pay a separate wastewater service charge, as though it were housed in a separate structure and had a direct and separate connection to the wastewater system, computed in accordance with the provisions of this Part I, Section A, Sub-Section 4, a), 1).

6. Owner and/or Customer to Provide Information to Company:

a) The owner of any improved property and/or customer discharging wastewater into the wastewater system shall furnish to the Company all information deemed essential or appropriate by the Company for the determination of all applicable wastewater service charges and surcharges. The costs of obtaining such information shall be borne by such owner of the improved property and/or customer. The Company reserves the right to review the disposition of customer wastewaters at any time service is in force.

b) In the event of the failure of the owner and/or customer to provide adequate information, the Company shall estimate the applicable wastewater service charge and surcharge based upon available information or until such time as adequate information is received. There shall be no rebate of past payment if the owner and/or customer refusal to provide such information results in overpayment.

BACK

BOROUGH OF SCHUYLKILL HAVEN
SCHUYLKILL COUNTY, PENNSYLVANIA

ORDINANCE NO. 1120

AN ORDINANCE AMENDING ORDINANCE NO. 1012 SETTING FORTH AND REDUCING SEWER CHARGES FOR ALL CUSTOMERS OF THE PUBLIC SEWER COLLECTION, CONVEYANCE, AND TREATMENT SYSTEM.

BE IT ENACTED and ORDAINED by the Council of the Borough of Schuylkill Haven, Schuylkill County, Pennsylvania, and it is hereby enacted and ordained by the authority of the same as follows:

SECTION 1. Section 8(a), entitled Computation of Sewer Rentals or Charges, the fourth paragraph shall be amended to read as follows:

(a) Metered Services...

In either of the foregoing cases, such sewer rentals or charges shall be computed in accordance with the following metered rate schedules; subject, however, to the minimum sewer rentals or charges provided in this Ordinance:

Metered Rate Schedule

Water Consumption	Monthly Sewer Rates
Gallons as charged- Schuylkill Haven Borough Residents	✓ $6.6542/1,000 gallons
Gallons as charged- Schuylkill Haven Borough Large Commercial & Industrial Users (water consumption in excess of 250,000 gal./mo.)	$5.9404/1,000 gallons
Gallons as charged- North Manheim Sewer Authority	$6.6542/1,000 gallons

The above shown Sewer Rate shall become effective commencing January 1, 2005.

PART I: SCHEDULE OF RATES AND CHARGES

Section A - Rates for Service: Phase I (I)

Residential (Metered Rate):

Customer Charge	
Eagle Village (Quarterly)	$56.83/3 = $18.94 monthly
Eagle Village – Office (Quarterly)	$56.83
The Glen at Tamiment (Quarterly)	$56.83
Eagle Point (Quarterly)	$56.83
Consumption Charge	
All Consumption	$10.62 per thousand gallons
Availability Charge for Unoccupied Lots	$20.66 per quarter

Commercial (Metered Rate):

Customer Charge (Monthly)	$126.30
Consumption Charge	$10.62 per thousand gallons

Schedule of Rates

Application:

This schedule applies to all service throughout the entire territory served.

Rates For Sewerage Service:

Sewerage service rate is a flat rate per service for both residential and commercial customers.

Commercial customers is service territory are multi-unit residential buildings.

The rate is $35.65 per month billed monthly.

PAWC Statement No. 5-R

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

REBUTTAL TESTIMONY OF
JOHN J. SPANOS

ON BEHALF OF
PENNSYLVANIA-AMERICAN WATER COMPANY

DOCKET NO. R-2010-2166210

CONCERNING
DEPRECIATION

CLAYSVILLE WASTEWATER OPERATIONS

August 26, 2010

PENNSYLVANIA-AMERICAN WATER COMPANY (PAWC)

REBUTTAL TESTIMONY OF JOHN J. SPANOS

I. INTRODUCTION

Q. Please state your name and business address.

A. My name is John J. Spanos. My business address is 207 Senate Avenue, Camp Hill, Pennsylvania.

Q. Have you previously submitted testimony in this proceeding?

A. Yes. My pre-filed testimony was submitted in April 2010 and marked PAWC Statement No. 5. My qualifications are set forth in that statement.

Q. What is the purpose of your rebuttal testimony?

A. I will respond to the pre-filed direct testimony of the Office of Consumer Advocate's (OCA) witness, Ralph C. Smith.

Q. What is the subject of your rebuttal testimony?

A. The subject of my rebuttal testimony is depreciation expense and accumulated depreciation including changes to the Company's depreciation claims the OCA's witness has proposed.

II. The OCA Witness' Proposal

Q. Please summarize OCA Witness Smith's depreciation proposal?

A. Mr. Smith proposes to use the remaining life accrual method for the net salvage component instead of adhering to standard Pennsylvania practice of amortizing net salvage.

Q. Has Mr. Smith offered any support for deviating from standard depreciation procedures employed in Pennsylvania?

A. No, he has not. It appears that his recommendations have been made as a means of reducing depreciation expense and, therefore, revenue requirement by shifting a larger portion of cost recovery to later in the lives of existing assets.

Q. Please discuss Mr. Smith's proposal to employ the remaining life method to recover net salvage?

A. At the outset, it should be emphasized that in virtually all jurisdictions other than Pennsylvania, net salvage is recovered prospectively.[1] This means that in other jurisdictions, there is an element of the annual accrual for depreciation that recovers the estimated cost to dismantle and remove plant over the period that such plant is actually in service. That element of the annual accrual is booked to, and increases, accrued depreciation. Thus, by the time the plant is retired, the cost of removal (except for any variation between estimated and actual costs) will have been recovered and appropriately recorded in accrued depreciation. In contrast to procedures employed elsewhere, the Superior Court of Pennsylvania in Penn Sheraton Hotel v. Pennsylvania Public Utility Commission, 198 Pa. Super. 618, 184 A.2d 324 (1962) has held that prospective recovery of net salvage is not permitted under Pennsylvania law and, instead, such costs, when they have actually been incurred at the end of the service life of a property, must be "capitalized and amortized":

[1] Net salvage is the sum of positive salvage and cost of removal. Given the nature of utility property, net salvage for utilities is generally negative. In other words, cost of removal exceeds positive salvage. For that reason, I focus on the recovery of net negative salvage even though it may be possible that net salvage could be positive, in which case the amortization would flow positive salvage back to customers over the amortization period.

> If the utility retires and removes a property without replacing it or replaces it after removal and incurs actual negative salvage in doing so, the expenditure should be capitalized and amortized by some reasonable method and for and over a reasonable length of time.

The Commission has implemented the Superior Court's directive by having utilities (1) deduct the amount of actual net salvage from accrued depreciation when such net salvage is first incurred; (2) amortizing actual net salvage over five years; and (3) each year, adding to accrued depreciation the annual amount of the amortization. This procedure was explained in a 2004 decision for the Company, where the Commission once again affirmed this procedure. Pennsylvania Public Utility Commission v. Pennsylvania-American Water Company, 231 P.U.R.4th 277 (2004):

> Additionally, the ALJ averred that PAWC's capitalizing net salvage is directed by the most recent Uniform System of Accounts for Class A Water Utilities prescribed by the National Association of Regulatory Utility Commissioners (NARUC). The ALJ also noted that PAWC is required, by Commission regulation, to keep its accounts in conformity with this NARUC prescript. 52 Pa. Code § 65.16(a). The ALJ concluded that a Pennsylvania appellate court and the Commission itself, repeatedly, have determined that PAWC's treatment of net negative salvage is proper. Consequently, the ALJ recommended that the OTS' proposed adjustment should be rejected. (R.D. at 16). . . .
>
> No Party excepts to the ALJ's recommendation on this issue. Finding the ALJ's recommendation to be reasonable, appropriate and otherwise in accord with the record evidence, it is adopted.

Mr. Smith proposed employing the remaining life concept to recover the removal costs of old utility plant over the (prospective) life of new utility plant. This recovery method is a marked departure from Commission-approved practice and raises a material issue of intergenerational equity as between today's and future customers because, under Mr. Smith's proposal, a significant portion for the cost

of removal would not be recovered until even further in the future than under current Commission practice.

Q. Please address Mr. Smith's contention that your study produces "double recovery" of net salvage?

A. This claim is inaccurate and is based on Mr. Smith's misunderstanding of how depreciation rates are developed in a future test year calculation. As shown on Tables 1 and 2 of Exhibit 5-B, the future test year "bring-forward" of the book reserve is calculated based on procedures consistently approved by this Commission, which is clear from Pennsylvania Public Utility Commission v. Pennsylvania-American Water Company, 231 P.U.R.4th 277 (2004). I used the same procedure here. Mr. Smith's concern arises from the cost of removal incurred for the removal of the old utility plant. However, the offset of this amount that occurs from amortizing the cost of removal (in the manner I explained previously) does not begin until 2011. Thus, the combination of the remaining life method, to recover the original cost of utility plant, and the amortization of net salvage, to recover net salvage, that I have proposed, will recover the service value of the Company's property, neither more nor less.

Additionally, although the two components of cost recovery, capital investment and net salvage, are set forth in one book reserve amount for each account, the recoveries are booked individually.

IV. CONCLUSION

Q. Does this conclude your rebuttal testimony?

A. Yes, it does.

PAWC STATEMENT NO. 6-R

PENNSYLVANIA-AMERICAN WATER COMPANY
CLAYSVILLE WASTEWATER DIVISION

DOCKET NO. R-2010-2166210

REBUTTAL TESTIMONY

OF

PAUL R. MOUL, MANAGING CONSULTANT
P. MOUL & ASSOCIATES

CONCERNING

CAPITAL STRUCTURE RATIOS AND THE COST OF EQUITY

DATE: AUGUST 26, 2010

REBUTTAL TESTIMONY
OF
PAUL R. MOUL

Q. Please state your name, occupation and business address.

A. My name is Paul R. Moul and I am Managing Consultant at the firm P. Moul & Associates. My business address is 251 Hopkins Road, Haddonfield, NJ 08033-3062.

Q. Mr. Moul, have you previously submitted direct testimony in this proceeding?

A. Yes. My direct testimony, pre-marked as PAWC Statement No. 6, was submitted on April 30, 2010.

SCOPE OF TESTIMONY AND SUMMARY

Q. What is the purpose of your rebuttal testimony?

A. Pennsylvania-American Water Company ("PAWC" or the "Company") has requested that I respond to the testimony presented by Dr. J. Randall Woolridge, a witness appearing on behalf of the Office of Consumer Advocate ("OCA"), and Mr. Andrew R. O'Donnell, a witness appearing on behalf of the Office Trial Staff ("OTS"). My silence on any particular matter discussed by Dr. Woolridge or Mr. O'Donnell regarding my direct testimony should not be interpreted as my agreement with any of their assertions.

Q. Please identify the principal areas of controversy concerning the rate of return issue in this proceeding.

A. Although I disagree with Dr. Woolridge on many points, my rebuttal testimony will address two principal recommendations put forth by Dr. Woolridge. First, Dr. Woolridge has proposed an inappropriate capital structure that includes short-term debt, which is conceptually flawed and contrary to Commission practice for water companies. Second, Dr. Woolridge has proposed an inadequate rate of return on the

Company's common equity, which does not come close to the level of return that investors expect.

Mr. O'Donnell adopts much of the Company's proposed rate of return, including capital structure and the embedded costs of long-term debt and preferred stock. He also adopts the barometer group of water companies that I propose in this case. In fact, the only element that Mr. O'Donnell disputes is the Company's proposed cost of equity.

CAPITAL STRUCTURE RATIOS

Q. How do the Company's actual capital structure ratios differ from those advocated by Dr. Woolridge?

A. The Company's proposed capital structure ratios were calculated using the Company's actual capital structure for the future test-year ending December 31, 2010, computed without short-term debt. Dr. Woolridge, in contrast, has recommended that the Company's ratemaking capital structure include a short-term debt component.

Q. Dr. Woolridge notes that the Company has used short-term debt consistently in the past three years. Does this justify the inclusion of short-term debt in PAWC's capital structure in this proceeding?

A. No. While it is true that the Company has employed short-term debt historically, these borrowings have been used primarily to finance construction-work-in-progress ("CWIP"), to support plant in service until it is reflected in rates, and to acquire other water companies. Indeed, the procedure used to calculate the Company's allowance for funds used during construction ("AFUDC") rate attributes the borrowing cost for short-term debt to CWIP. If the Commission were to adopt Dr. Woolridge's short-term debt proposal, then a different method would be required to calculate the Company's AFUDC rate. Moreover, even after a project is completed and no longer accrues

AFUDC, there is usually a lag between the time such plant is placed in service and included in the Company's base rates. In the interim, the Company may continue to finance the plant with short-term debt.

COST OF EQUITY

Q. What are the principal deficiencies in the cost of equity analyses presented by Dr. Woolridge and Mr. O'Donnell?

A. Dr. Woolridge and Mr. O'Donnell have proposed considerably lower rates of return on common equity than my analysis has indicated is necessary. The major differences between our cost of equity findings involve: (i) the return level that will be acceptable to the financial community, (ii) the selection of proxy group companies to measure the cost of equity, (iii) the determination of a reasonable Discounted Cash Flow (DCF) growth rate, (iv) whether a leverage adjustment to the DCF is necessary, (v) the extent to which other methods of determining the cost of equity provide a reasonable measure of the appropriate cost of common equity, and (vi) whether adjustments are necessary to the Company's cost of equity due to its rate design proposal.

Q. How would the financial community react if the Commission were to accept either Dr. Woolridge's or Mr. O'Donnell's equity cost rate proposals?

A. The financial community would be extremely concerned, if not shocked, if the Commission set the Company's cost of equity at either 9% (Dr. Woolridge), or 9.5% (Mr. O'Donnell). Either level of return is not sufficient to sustain utility operations or to attract capital at a reasonable cost. In its July 31, 2008 Order at Docket No. R-00072711, the Commission provided Aqua Pennsylvania, Inc. with an 11.00% return on equity. Since then, and as described in my direct testimony, the financial markets have experienced the worst financial crisis since the Great Depression. While capital markets have stabilized, the volatility of the stock market continues to exceed that

which existed prior to the crisis, thereby indicating that the return for the Company should not be lower.

Q. Are the 9% equity return proposed by Dr. Woolridge and the 9.5% figure recommend by Mr. O'Donnell compatible with the current risk of common stocks?

A. No. They are much too low. This is particularly true today given the wide swings in share values and the overall financial market uncertainty that currently exists. The behavior of the Chicago Board Options Exchange ("CBOE") Volatility Index (i.e., "VIX") indicates that the risk of common stocks is relatively high at this time. The VIX is based on real-time prices of options on the S&P 500 Index, and is designed to reflect investors' consensus view of future (30-day) expected stock market volatility.

Q. What has been the recent performance of the VIX?

A. It is well-established that greater volatility indicates higher risk, which, all else being equal, translates into a higher cost of equity. As shown in the following table, the VIX for the first half of 2010 has averaged 23.23, while the average VIX prior to the financial crisis was less than 13.00.

Year	VIX	Month	VIX
2005	12.81	January-10	20.77
2006	12.81	February-10	22.54
2007	17.54	March-10	17.77
2008	32.69	April-10	17.42
2009	31.48	May-10	31.93
		June-10	29.92

Q. Are there other objective indications of the level of returns expected by investors which show that the opposing parties' proposed cost of equity is much too low?

A. Yes. According to the data provided by Dr. Woolridge, water utilities are forecast to earn 11.8% as the average and 11.0% as the median (see page 5 of Exhibit JRW-10).

COMPARABLE COMPANIES

Q. Have proxy groups of companies been employed in this case to determine the Company's cost of equity?

A. Yes. Mr. O'Donnell and I have used exactly the same companies in our respective proxy groups. Dr. Woolridge also uses my barometer group companies but has erroneously added Artesian Resources to his proxy group. Artesian Resources is not in the Value Line publication. Also, Artesian Resources is the only company considered by Dr. Woolridge that has two classes of common stock, one of which does not have voting rights. This is a highly unusual situation for a water company.

Q. Dr. Woolridge also considers data for a group of natural gas distribution utilities in his cost of equity analysis. Please comment.

A. The Commission disfavors the use of natural gas distribution company data as a basis to determine the cost of equity for water utilities. Indeed, such a proposal was specifically rejected in a rate proceeding involving Pennsylvania-American Water Company (see Recommended Decision of Administrative Law Judge Wayne L. Weismandel dated November 26, 2003 at Docket No. R-00038304). Moreover, Dr. Woolridge has not compared the business risk characteristics of his natural gas group companies to PAWC's wastewater operations. Notably in this regard, most of the natural gas distribution companies considered by Dr. Woolridge have some form of Revenue Decoupling Mechanism ("RDM"), which makes their recovery of fixed costs very different than PAWC.

DCF DIVIDEND YIELD

Q. Do you have any comments regarding Dr. Woolridge's criticism of your dividend yield calculation?

A. Yes. Dr. Woolridge complains that my dividend yield is overstated due to some unexplained failure to properly annualize the quarterly dividend amount and the compounding associated with the quarterly payment of dividends. But here, Dr. Woolridge has created a straw-man. As shown on pages E-4, E-5, and E-6 of Appendix E of Statement No. 6, my proposed 3.67% dividend yield derived from the formula D_0/P_0 (1 +.5g), which is embraced by Dr. Woolridge (see page 29 of Dr. Woolridge's direct testimony), produces virtually the same dividend yield (i.e., 3.68%) that I derived using the other methods. As such, Dr. Woolridge's criticism is a "tempest in a teapot" and should be ignored.

DCF GROWTH RATE

Q. As to the DCF growth component, what financial variables should be given greatest weight when assessing investor expectations?

A. The theory of the DCF holds that (1) the value of a firm's equity (i.e., share price) will grow at the same rate as earnings per share and (2) dividend growth will equal earnings growth with a constant payout ratio. Therefore, to properly reflect investor expectations within the limitations of the DCF model, earnings per share growth, which is the basis for the capital gains yield and the source of dividend payments, must be emphasized. The reason that earnings per share growth is the primary determinant of investor expectations rests with the fact that the capital gains yield (i.e., price appreciation) will track earnings growth with a constant price earnings multiple (another key assumption of the DCF model). It is also important to recognize that analysts' forecasts significantly influence investor growth expectations (see pages E-6 through

E-10 of Appendix E that accompanies my direct testimony). Lastly, it is instructive to note that Professor Myron Gordon, the foremost proponent of the DCF model in public utility rate cases, has established that the best measure of growth for use in the DCF model is forecasts of earnings per share growth. For these reasons, earnings per share forecasts must be given primary weight.

Q. Dr. Woolridge has questioned the reliability of analysts' forecasts of earnings per share growth used in the DCF model. Do you agree?

A. No, I do not. Indeed, Dr. Woolridge uses analysts' forecasts extensively in his own DCF analysis. Moreover, Dr. Woolridge says that it is necessary to adjust downward the growth rate for his perceived bias in analysts' forecasts, but he makes no mention of any upward adjustment to the dividend yield. If investors are placing reliance on an analysts' forecast of growth, the prices of stocks will be overstated according to Dr. Woolridge's reasoning. So if Dr. Woolridge is correct in his assessment that analysts' growth forecasts are overstated, stock prices would have to be adjusted downward and thus dividend yields adjusted upwards to accompany the downward adjustment that he proposes for the growth rate. Failure to make both adjustments would result in a mis-specified cost of equity.

Q. Do you agree with Dr. Woolridge's view that analysts' forecasts of earnings per share contain some form of bias?

A. I find inadequate support for this assertion. With entry of the final judgment in the Global Research Analyst Settlement ("GRAS"), which resolved the equity research analysts practices at major investment banks that had been accused of conflicts of interest, Wall Street firms have separated their research and investment banking services. However, thirteen (13) of the studies that Dr. Woolridge lists under the category "Ex Ante Model (Puzzle Research)" on page 5 of Exhibit JRW-11 pre-date

2003. Hence, the criticisms offered by Dr. Woolridge are out-of-date. I also find Dr. Woolridge's criticism of analysts' forecasts somewhat perplexing because he provides extensive evidence of analysts' forecasts (see pages 5 and 6 of Exhibit JRW-10) in his DCF analysis. More importantly, it matters not what Dr. Woolridge may think about the analysts' forecasts. Rather, what is important is what investors actually use in their decisions regarding the purchase, sale or holding of stocks. The bottom line is that the growth rate must be synchronized with the price that investors establish when valuing a stock.

Q. Is there any reason to believe that analysts' forecasts may understate actual earnings growth?

A. Yes. In an article entitled "Wall Street's Missed Expectations," dated April 26, 2010, The Wall Street Journal reported that 64% of companies have beaten the analysts' forecasts since the start of 1999. This means that over the past decade analysts were actually too conservative in their forecasts.

Q. Dr. Woolridge also appears to have considered, and perhaps to have given some weight to, historical growth rates in earnings, dividends, and book value. Please comment.

A. History cannot be ignored. However, in developing a forecast of future earnings growth, an analyst would first apprise himself/herself of the historical performance of a company. Hence, there is no need to count historical growth rates a second time, because historical performance is already reflected in analysts' forecasts which reflect an assessment of how the future will diverge from the past.

Q. Did Dr. Woolridge also consider retention growth?

A. Yes. However, the retention growth formula was misapplied on page 5 of his Exhibit JRW-10. In particular, Dr. Woolridge relied upon the Value Line forecasts of year-end,

rather than annual average, book values to calculate his return on book value. This creates a downward bias in the results because, assuming some retention growth, the average book value for the year will be less than the year-end book value. In fact, when the FERC employs these data, it adjusts the year-end returns to derive the average yearly return. Generally speaking, this adjustment would increase the retention growth rate.

Q. Has Dr. Woolridge included external financing growth in his growth rate analyses?

A. No. This omission results in a further downward bias. Forecasts by Value Line indicate that future growth from external stock financing will add to the growth in equity, which, if recognized, would result in a higher internal/external growth rate.

Q. As part of his DCF analysis, Dr. Woolridge used dividends per share growth rates published by Value Line. Are these growth rates useful in the DCF?

A. No. The Value Line forecast growth rates in dividends per share shown on page 5 of Exhibit JRW-10 are the lowest of all growth rate indicators (earnings per share, book value per share, and earnings retention from Value Line, Yahoo First Call, Zacks, and Reuters -- when corrected for negative growth rates). As I explain in my direct testimony, under the constant growth assumption of the DCF model, dividends per share are presumed to grow in the long-run at the same rate as earnings per share with a constant dividend payout ratio, and stock price is presumed to grow in the long-run at the same rate as earnings per share with a constant price-earnings multiple. Hence, earnings per share growth is the correct growth rate to be used in the DCF model.

Q. Dr. Woolridge also provides forecasts of book value per share growth. Please comment.

A. Book value per share growth, as shown on pages 4 and 5 of Exhibit JRW-10, should not be used in DCF analyses because stocks do not trade at constant market-to-book ratios.

Q. Do you believe that the growth rates in dividends per share and book value per share, as reported by Dr. Woolridge, are reasonable for DCF purposes?

A. No. The average analyst's forecast of earnings growth for Dr. Woolridge's water proxy group is 5.58%, while the average of the dividend and book value growth rates is just 3.45% (3.2% + 3.7% = 6.9% ÷ 2). For his gas group, the forecasted earnings growth of 4.6% exceeds the 3.50% (4.0% + 3.0% = 7.0% ÷ 2) average of the dividends and book value growth. This clearly shows that the dividends and book values play no useful role in the DCF analysis.

Q. Should the forecast negative growth rates for Middlesex Water and SJW Corporation, as reported by Dr. Woolridge using the *Reuters* source, be considered?

A. No. Negative growth rates provide no reliable guide to gauge investor expected growth for the future. Investor expectations encompass long-term positive growth rates and, as such, could not be represented by sustainable negative rates of change. Therefore, statistics that include negative growth rates should not be given any weight when formulating a composite growth rate expectation. Although investors have knowledge that negative growth and losses can occur, their expectations are for positive growth -- otherwise they would hold cash rather than invest with the expectation of a loss. After removing the negative growth rates, the Reuters average growth rate forecast is 6.4%, which provides an overall group average growth rate of 6.4% (7.8% + 5.1% + 6.4% =

19.3% + 3). I should note that there is also a conflict in the Zacks growth rate reported by Dr. Woolridge. On page 6 of Exhibit JRW-10, Dr. Woolridge reports a 4% Zacks growth rate for California Water Service Group; Mr. O'Donnell, on the other hand, shows a higher 6% growth rate for California Water Service Group.

Q. How would the use of these data impact the DCF employed by Dr. Woolridge?

A. The DCF result using the six-month average dividend yield, the 6.4% growth rate developed above, and the leverage adjustment associated with using the book value capitalization, is as follows:

Discounted Cash Flow (DCF)	D_0/P_0	x	(1+0.5g)	+	g	+	lev.	=	k
Woolridge Water Group	3.5%	x	1.03200	+	6.40%	+	1.03%	=	11.04%

Q. Please comment on Mr. O'Donnell's growth rate proposal.

A. The growth rate proposed by Mr. O'Donnell is 6.00%. Unfortunately, this growth rate contains a downward bias because he erroneously factored historical growth rates into his analysis. His approach is incorrect for the reasons previously given, namely (i) historical performance is already considered by analysts when making their forecasts and (ii) the negative historical growth rates should not be given weight. If the negative historical growth rates from Yahoo Finance are removed from Mr. O'Donnell's analysis, the average analysts' growth rate is 7.08%. Hence, his growth rate must be increased from 6% to 7% to reasonably represent investors' expectations for the water companies.

Q. What would be the DCF result using the forecasts of earnings per share growth?

A. As shown on page 1 of Schedule 2 of OTS Exhibit No. 1, that result would be:

	D/P	+	***g***	+	***lev.***	=	***k***
Water Group	3.57%	+	7.00%	+	1.03%	=	11.60%

Q. Mr. O'Donnell asserts that your DCF growth rate is overstated. Please respond.

A. As shown by the data presented on Schedule 5 of OTS Exhibit No. 1, the average of growth rate indicators, excluding dividend per share and book value per share values, is 7.42% (8.19% + 6.18% + 8.92% + 7.83% + 6.00% = 37.12% ÷ 5), which amply supports the 7% growth rate that I used in my testimony.

Leverage Adjustment

Q. Please respond to the Dr. Woolridge's criticism of your leverage adjustment.

A. As in many (but not all) prior cases, I have proposed an adjustment to reflect the difference in risk attributed to changes in leverage that occur when the book value capital structure, rather than the market value capital structure, is used to compute the weighted average cost of capital. This modification to the DCF model must be recognized in order to make the DCF results relevant to the book value capital structure.

Q. Is Dr. Woolridge's challenge to your leverage adjustment well founded?

A. No. I am somewhat surprised by Dr. Woolridge's challenge to my leverage adjustment. In a book that he co-authored, Dr. Woolridge noted:

> Market professionals always use the market value of common stock when they examine the capitalization of the corporation. As we will see in valuation examples, the market value of common stock sometimes bears little relationship to its book value. Stock prices are readily available.[1]

[1] Gray, Gary, Cusatis, Patrick J., Woolridge, Randall J. Streetsmart Guide to Valuing a Stock: The Savvy Investor's Key to Beating the Market, Second Edition. New York: McGraw-Hill Companies (2004)

Q. Dr. Woolridge contends that in a recent Aqua Pennsylvania rate case the Commission denied the leverage adjustment. Please respond.

A. The fact that the PPUC declined to make a leverage adjustment in the Aqua Pennsylvania case does not invalidate its use. Rather, the PPUC merely indicated that the adjustment was optional. The PPUC did not repudiate the leverage adjustment, but instead arrived at an 11.00% return on equity for Aqua Pennsylvania by providing a separate return increment for management performance. Just like an increment for management performance is not adopted in all rate case decisions, the PPUC seems to be taking a similar approach to the leverage adjustment.

Q. Do you have any additional comments regarding Dr. Woolridge's comments on the leverage adjustment?

A. Yes. Dr. Woolridge has not disputed the fact that there is less financial risk associated with a 64.91% (market price-based) equity ratio than there is with a 50.98% (book value-based) equity ratio for my Water Group (see page E-11 of Appendix E that accompanies my direct testimony). Moreover, and as noted previously, Dr. Woolridge has acknowledged in his book that the market value of common equity is the most relevant item for professional investors. Because financial risk increases when the common equity ratio is lower, the cost of equity must likewise increase when used in the ratesetting process.

Q. Dr. Woolridge also claims that the leverage adjustment will serve to increase the return for companies with high market-to-book ratios and decrease the returns for companies with low market-to-book ratios. Please respond.

A. In making this assertion, Dr. Woolridge neglects to mention that, all else being equal, a company with a higher market-to-book ratio will have a lower dividend yield. The reverse is also true, i.e., lower market-to-book ratios, serve to increase the DCF return.

Essentially, the leverage adjustment adds stability since it provides an offset to the relative level of DCF returns.

Further, there are many factors that impact the leverage adjustment, including changes in the market capitalization and book capitalization, the components of the yield and growth (noted above), and the overall level of capital costs as revealed by the marginal cost of debt and preferred stock. Although rare, the formulas that I use to compute the leverage adjustment could actually produce a lower adjustment with a higher differential between the market capitalization and book capitalization.

Q. Mr. O'Donnell also questions your leverage adjustment by reference to an old Blue Mountain case in which you testified. Please comment.

A. The Commission has consistently recognized that the Blue Mountain decision, which is now 30 years old, and the environment in which it was issued, are distinguishable in a number of important respects.

First, that case was not decided using the DCF method. Rather, the Commission relied heavily on earnings/prices ratios to set the return on equity in the context of a fair value rate base. Second, in its decision on remand, the Commission noted that over a period of years it was relatively easy to discern the trends in market-to-book ratios which, when compared to performance as measured by other financial ratios, can indicate the return levels the Commission must award to assure reasonable access by public utilities to the capital markets. Notably, the trends in market-to-book ratios during that period were substantially different from today. At the time that case was litigated, market-to-book ratios for the broader market generally approximated 1:1. That is to say, market prices in the late 1970s were about equal to book value.

Since that time, share prices have moved much higher vis-à-vis their underlying book values. So, while the market-to-book ratio of the DJI approximated 1:1 in the late

1970s, today the DJI trades at 4.52:1 of book value. In short, the capital markets today are markedly different than those that existed at the time of the Blue Mountain case. I should also note that, since that time, the Commission has adopted my leverage adjustment to the DCF model on numerous occasions.

CAPITAL ASSET PRICING MODEL

Q. Do you have concerns regarding the application of the CAPM by Dr. Woolridge?

A. As a preliminary matter, Dr. Woolridge produced a 7.5% CAPM result for his Water Proxy Group and 7.0% for his Gas Proxy Group. These results are not credible. This is especially true in the circumstance where the average yield on A-rated public utility bonds was 5.71% for the six-months through June, 2010. The opportunity cost of equity must be higher than the cost of debt by a meaningful margin, which is not the case with Dr. Woolridge's CAPM. Dr. Woolridge's CAPM analysis understates the cost of equity for a number of reasons: (i) his use of a wholly unrealistic market premium, (ii) his failure to use leveraged adjusted betas, and (iii) his failure to make a size adjustment.

Q. What is your primary objection to the CAPM as applied by Dr. Woolridge?

A. It appears to me that Dr. Woolridge has substantially misstated the total return for the market as a whole from which he calculates his market premium (i.e., Rm-Rf). The market returns he uses, such as 7.05% (see page 7 of Exhibit JRW-11), cannot possibly be correct. What Dr. Woolridge appears to show on his bar graph on page 7 of Exhibit JRW-11 is that the S&P 500 has a DCF return that is comprised of a 1.9% dividend yield and 5.15% (2.5% + 2.65%) growth rate.

Q. Is the 7.05% total market return developed by Dr. Woolridge reasonable?

A. No. Any forecast market return below 12% is unreasonable at this time. Current market evidence produces total market returns of:

Value Line	Dividend Yield		Appreciation Potential		Total Return
As of June 25, 2010	2.0%	+	13.34% [(2)]	=	15.34%

DCF Result for the S&P 500 Composite

D/P	(	1+.5g	)	+	g	=	k
2.12%	(	1.0501	)	+	10.02%	=	12.25%

where:	Price (P)	at	30-Jun-2010	=	1030.71
	Dividend (D)	for	1st Qtr. '10	=	5.46
	Dividend (D)		annualized	=	21.84
	Growth (g)		First Call EpS	=	10.02%

The average of the market returns is 13.80% (15.34% + 12.25% = 27.59% ÷ 2). The resulting market premium would be 9.80% using Dr. Woolridge risk-free rate of return of 4.00%, which indicates that his 4.68% market premium is much too low.

Q. Are there other reasons to believe that the 7.05% market return determined by Dr. Woolridge is unrealistic?

A. Yes. A 7.05% overall return for the market as a whole is less than the DCF return that Dr. Woolridge calculates for his purportedly less risky water and gas groups (see page 1 of Exhibit JRW-10). It is simply inconceivable that the return on the stock market as a whole is only 7.05% if the return is 9.1% for his Water Proxy Group and 8.9% for his Gas Proxy Group. It is apparent that his total market return is flawed.

[2]The estimated median appreciation potential is forecast to be 65% for 3 to 5 years hence. The annual capital gains yield at the midpoint of the forecast period is 13.34% (i.e., $1.65^{.25}$ - 1).

Q. Dr. Woolridge and Mr. O'Donnell have also criticized your leverage-adjusted betas. Please respond.

A. The betas that I have used are calculated strictly from market values, using a firm's stock price as the dependent variable and the market index as the independent variable. There is no reference to book values in the calculation of betas. Yet, as I have previously explained, the regulatory-determined cost of equity must be adjusted for the difference between the risks implicit in the market-based ROE models versus the financial risk associated with book value capital structure used in ratesetting. The Hamada formula that I utilized to adjust the betas is merely an extension of the Modigliani and Miller formula that I used in connection with my DCF calculations. And, of course, Mr. O'Donnell is off the mark by suggesting that Value Line should publish market-to-book adjusted betas. Contrary to Mr. O'Donnell's apparent suggestion, betas only measure systematic risk, not total investment risk. It is for this very reason that the betas should reflect a leverage adjustment as circumstances warrant.

Q. Do you have additional concerns regarding Mr. O'Donnell's application of the CAPM?

A. Yes. Mr. O'Donnell has incorrectly used the geometric mean to measure historical returns. The theoretical foundation of the CAPM requires that the arithmetic mean be used because it conforms to the single period specification of the model, provides a representation of all probable outcomes and has a measurable variance. The geometric mean, which Mr. O'Donnell employs, consists merely of a rate of return taken from two data points and cannot provide a reasonable representation of the market risk premium in the context of the CAPM. As stated by Ibbotson:

> *Arithmetic Versus Geometric Differences*
> For use as the expected equity risk premium in the CAPM, the arithmetic or simple difference of the arithmetic means of stock market returns and riskless rates is the relevant

number. This is because the CAPM is an additive model where the cost of capital is the sum of its parts. Therefore, the CAPM expected equity risk premium must be derived by arithmetic, not geometric, subtraction.

Arithmetic Versus Geometric Means
The expected equity risk premium should always be calculated using the arithmetic mean. The arithmetic mean is the rate of return which, when compounded over multiple periods, gives the mean of the probability distribution of ending wealth values....This makes the arithmetic mean return appropriate for computing the cost of capital. The discount rate that equates expected (mean) future values with the present value of an investment is that investment's cost of capital. The logic of using the discount rate as the cost of capital is reinforced by noting that investors will discount their (mean) ending wealth values from an investment back to the present using the arithmetic mean, for the reason given above. They will therefore require such an expected (mean) return prospectively (that is, in the present looking toward the future) in order to commit their capital to the investment. (Stocks, Bonds, Bills and Inflation - 1996 Yearbook, pages 153-154

Q. If historical market returns are to be considered, how should the S&P Composite Index data be employed?

A. A 9.60% historical market return considered by Mr. O'Donnell using geometric means for the S&P 500 cannot possibly be correct given that the expected returns he measured were 12.92% using Value Line data. The historic return using the correct arithmetic mean is 11.7%, which is more realistic given the forecasts noted above. The resulting market return would be 12.31% (12.92% + 11.7% = 24.62% ÷ 2). With this market return, the market premium is 8.41% (12.31% - 3.90%) using Mr. O'Donnell's risk-free rate of return.

Q. Dr. Woolridge and Mr. O'Donnell also question the need to further adjust the CAPM results for size differences. Please comment.

A. Both Dr. Woolridge and Mr. O'Donnell have relied upon the Wong article to support their positions. But, the Wong article employed data going back into the 1960s.

Enormous changes have occurred in the industry since the 1960s that have fundamentally changed the utility business. The Wong article also noted that betas for the non-regulated companies were larger than the betas of the utilities. This, however, is not a revelation, because history shows that utilities generally have lower betas than many other companies. This fact does not invalidate the additional risk associated with small size.

The Wong article further concludes that the risk impacts of size cannot be explained in terms of beta. Again, this should not be a surprise. Beta is not the tool that should be employed to make that determination. Indeed, beta is a measure of systematic risk and it does not provide the means to identify the return necessary to compensate for the additional risk of small size. In contrast, the famous Fama/French study (see "The Cross-Section of Expected Stock Returns," The Journal of Finance, June 1992) identified size as a separate factor that helps explain returns. Further, the article by Dr. Thomas Zepp[3] presented research on water utilities that supports a small firm effect in the utility industry.

Q. Have you restated Mr. O'Donnell's CAPM?

A. Yes. I have restated his CAPM results as indicated below by correcting his market premium, by reflecting the size adjustment, and by employing the leverage adjusted betas for the Water Group.

	Rf	+	*β*	(*Rm-Rf*)	+	*size*	=	*K*
Water Group	3.90%	+	0.93	(8.41%)	+	0.94%	=	12.66%

[3] Zepp, Thomas M. (2002) "Utility stocks and the size effect: revisited". Economics and Finance Quarterly, 43, 578-582.

Risk Premium Method

Q. Do you have any comments concerning Dr. Woolridge's criticism of the risk premium approach?

A. Yes. Concerning his point on pages 73-74 of his direct testimony, Dr. Woolridge seems to imply that use of the base yield in my risk premium analysis that includes A-rated public utility bonds is not correct. He attributes this in part to interest rate risk and default risk that are reflected in the yields on A-rated public utility bonds. These are invalid criticisms because common stock investors are faced with these same risks. Moreover, if the compensation for these risks were removed from the yield on A-rated public utility bonds, then the resulting risk premium would be larger when computed from a smaller base yield.

Dr. Woolridge's other criticisms of the historical relationship between stock and bond returns are invalid because: (1) common stock investors are subject to the risk of changing levels of interest rates since a primary determinant of the cost of equity is the level of interest rates (especially for utility stocks), and (2) the credit risk associated with a company's bonds is also a major concern for common stock investors (e.g., default on a company's bonds would adversely affect the common stockholders).

Q. Please address the alphabetic medley of criticisms listed by Dr. Woolridge on pages 76 to 82 of his direct testimony.

A. Most of these require only a brief response. As to item (A), (biased historical returns) the capital losses concerning historical bond returns were non-existent for long-term government bonds (used by Dr. Woolridge as a proxy for bond yields). Over the period 1926-2008, capital appreciations (rather than capital losses) were: 0.3% as the geometric mean and 0.6% as the arithmetic mean. Hence, his claim of losses is not correct. Dr. Woolridge also does not identify the magnitude of any difference between

the published yield and investor expected returns on bonds. With bond portfolio immunization strategies, a desired rate of return can be achieved over a fixed investment horizon when the duration of a bond portfolio equals the investment horizon. Because of strategies such as these, the probability of realizing expected returns on public utility bonds from issuance to maturity is extremely high. Consequently, Dr. Woolridge's reasoning provides no basis to reject my risk premium approach.

As to item (B) (arithmetic vs. geometric mean returns), Dr. Woolridge criticizes my use of arithmetic means in applying the risk premium method. However, as stated in the 2003 Yearbook published by Ibbotson Associates:

> The arithmetic mean is the rate of return which, when compounded over multiple periods, gives the mean of the probability distribution of ending wealth values....This makes the arithmetic mean return appropriate for forecasting, discounting, and computing the cost of capital. The discount rate that equates expected (mean) future values with the present value of an investment is that investment's cost of capital. The logic of using the discount rate as the cost of capital is reinforced by noting that investors will discount his expected (mean) ending wealth values from an investment back to the present using the arithmetic mean, for the reason given above. They will, therefore, require such an expected (mean) return prospectively (that is, in the present looking toward the future) to commit his capital to the investment.

In the 2006 Yearbook, Ibbotson added:

> A simple example illustrates the difference between geometric and arithmetic means. Suppose $1.00 was invested in a large company stock portfolio that experiences successive annual returns of +50 percent and -50 percent. At the end of the first year, the portfolio is worth $1.50. At the end of the second year, the portfolio is worth $0.75. The annual arithmetic mean is 0.0 percent, whereas the annual geometric mean is -13.4 percent. Both are calculated as follows:

$$r_A = \frac{1}{2}\,(0.50 - 0.50) = 0.0, \textit{ and}$$

$$r_G = \left[\frac{0.75}{1.00}\right]^{\frac{1}{2}} - 1 = -0.134$$

> The geometric mean is backward-looking, measuring the change in wealth over more than one period. On the other hand, the arithmetic mean better represents a typical performance over single periods.
>
> In general, the geometric mean for any time period is less than or equal to the arithmetic mean. The two means are equal only for a return series that is constant (i.e., the same return in every period). For a non-constant series, the difference between the two is positively related to the variability or standard deviation of the returns. For example, in Table 6-7, the difference between the arithmetic and geometric mean is much larger for risky large company stocks than it is for nearly riskless Treasury bills.

As to item (C), Dr. Woolridge points to the relatively high standard deviation of the historically measured risk premium as an indication of possible forecasting error. But, this is an incorrect criticism. Since common stocks are more risky than bonds or other low risk investments, the standard deviation should be relatively high. If, as Dr. Woolridge asserts, the common equity risk premium is unreliable because the standard deviation is relatively high, then he is repudiating the basic riskiness of common stocks.

As to item (D) (unattainable and allegedly biased historical stock returns), with the proliferation of stock-index mutual funds and exchange-traded funds ("ETF") that are designed to replicate the returns on major indexes, the overall market returns are attainable. Transaction costs associated with both stock-index mutual funds are minimal for low cost managers, such as The Vanguard Group and ETFs can be

purchased and sold through discount on-line brokerage accounts. Therefore, Dr. Woolridge's criticisms are misplaced.

As to item (E) (company survivorship bias), the survivorship issue is not a valid criticism because the historical returns contain the results of the companies that comprised the index in each year. That is to say, as companies entered and exited the index, the market performance in each year reflected the companies in the index each year. Obviously, Microsoft Corporation had no impact on the S&P 500 return in 1960, nor does Nash-Kelvinator Corporation impact the returns of the S&P 500 in 2010. But, these companies did provide returns to investors in the years that they were included in the index.

Finally, to item (F) (The "Peso Problem" – U.S. stock market survivorship bias), Dr. Woolridge provides no quantification of the impact of the "peso problem" on the historical return. Just as higher than expected returns may have been experienced in the past, so too lower than expected returns also were experienced. Further, the possibility of "highly improbable returns" (e.g., positive or negative) is the reason that long-time series are used in the risk premium analysis in order to normalize the influence of unusually high or low returns.

Q. Does this conclude your rebuttal testimony?

A. Yes, it does.