Pittsfield Aqueduct Company, Inc.
Pittsfield Division

Report on
Cost of Service Allocations
and Rate Design

AUS Consultants

By

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Pittsfield Aqueduct Company, Inc.
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Introduction

This report sets forth the procedures, findings, and results of a cost of service allocation and rate design study for the Pittsfield Division of Pittsfield Aqueduct Company, Inc. (PAC or the Company). As of the end of calendar year 2007, the Company provided water service to a total of 635 customers via its water system located in Pittsfield, New Hampshire.

This cost of service allocation and rate design study is based on the total pro forma revenue requirement for the twelve months ending December 31, 2007 as will be requested by the Company in its planned rate filing before the New Hampshire Public Utilities Commission.

Revenue Requirement

Every public utility must receive total revenues sufficient to ensure proper operation and maintenance, development and perpetuation of its system and facilities, and preservation of its financial integrity. Without adequate revenues, the public utility would not be able to provide safe and adequate service to its customers. The total revenue requirement of a public utility is synonymous with its total cost of service and represents the amount of monies which must be recovered from its customer base through a system of periodic rates and charges for utility service.

Cost of service allocation and rate design studies for investor-owned water utilities reporting to a regulatory authority are often conducted in conjunction with the processing of a rate relief application at which time it is usually necessary to develop a pro forma revenue requirement. Such is the case in the present study which is based on the pro forma operations for the test year ended December 31, 2007, as developed by the management of the Company.

For the purpose of this study, the total pro forma revenue requirement, as developed by the Company for the test year ended December 31, 2007, may be summarized as follows:

Item	Amount
Operation and Maintenance Expense	$396,029
Depreciation and Amortization	65,699
Taxes Other Than Income Tax	37,366
Net Operating Income	145,140
Income Taxes	17,205
Total Revenue Requirement	$661,439

As subsequently discussed herein, this study results in the allocation of the $661,439 revenue requirement to functional costs and rate elements. It is noted that some $5,372 of the revenue requirement is projected to be obtained from other revenue or miscellaneous service revenue leaving a net revenue requirement of $656,067 to be recovered from a schedule of rates and charges for water service. This is the revenue amount the Company is requesting in temporary rates to relieve its net operating losses.

Plant Investment

The Company maintains its plant investment accounts in accordance with the fixed capital reporting requirements of the New Hampshire Public Utilities Commission.

Under this system, the original cost and the depreciation expense for utility plant in service as of December 31, 2007 may be summarized as follows:

Plant in Service	Original Cost	Depreciation Expense
Source of Supply and Pumping	$198,584	$3,064
Water Treatment	948,654	22,684
Transmission and Distribution	2,458,491	44,587
General	81,192	2,789
Intangible	75,551	3,778
Total Utility Plant in Service	$3,762,472	$76,902

As subsequently discussed herein, the above original cost elements and depreciation expense elements are allocated to a group of functional costs. The results of these allocations then become an input into the allocation of the pro forma revenue requirement.

Cost of Service Allocation

The pro forma revenue requirement (or equivalently, the total cost of service) was allocated to three broad functional cost categories, namely Volume Cost, Customer Cost, and Direct Fire Cost. These allocations are set forth in detail on the accompanying Schedules P1 through P6.

The Volume Cost Component, in the study developed herein, encompasses all the volume related elements of the cost of service. That is, the Volume Cost Component includes both costs associated with serving customers under average load conditions and costs associated with meeting rate-of-use requirements in excess of average. Stated in another manner, volume costs comprise all costs other than customer costs or direct fire costs.

The Customer Cost Component includes those costs associated with connecting and serving customers irrespective of the volume of water used or the demand requirements imposed on the system. Customer costs generally comprise capital and operating costs related to services, meters, and customer installations and meter reading, billing, and collecting expenses. In the present study, a portion of the costs and expenses related to transmission and distribution mains and distribution reservoirs were also allocated to the Customer Cost Component.

The Direct Fire Cost Component includes those costs associated with the installation, operation, and maintenance of fire hydrants together with a portion of the costs and expenses related to transmission and distribution mains and distribution reservoirs.

The accompanying Schedule P1 sets forth the allocation of utility plant in service at December 31, 2007. The results of the utility plant allocation are used to allocate property insurance and property taxes.

The results of the utility plant allocation are also an input into the rate base allocation. The accompanying Schedule P2 sets forth the allocation of the rate base at December 31, 2007. The results of the rate base allocation are used to allocate capital related elements of the revenue requirement such as net operating income and income taxes.

The accompanying Schedule P3 sets forth the allocation of the depreciation expense at December 31, 2007. The results of this allocation are used to allocate the pro forma depreciation and amortization expense.

The accompanying Schedule P4 sets forth in detail the allocation of the pro forma operation and maintenance expense. The results of this allocation become part of the revenue requirement allocation.

The accompanying Schedule P5 sets forth the allocation of the pro forma operating expense and other revenue requirements. Other revenue has been deducted from the revenue requirement allocations resulting in a net revenue requirement allocation. As shown on Schedule P5, the Volume Cost component accounts for 60.02% of the net revenue requirement while the Customer Cost Component accounts for 26.70% and the Direct Fire Cost Component accounts for 13.28%.

The right-most columns of Schedules P1 through P5 are headed "Allocation Code" and set forth the codes for the specific allocation factors used in this study. The allocation codes are simply reference numbers which designate groups of percentages which are used to allocate the total amount of any given cost element to the several cost functions. The accompanying Schedule P6 lists the allocation codes and percentage factors and contains a brief written description of the allocation bases.

Allocation of Mains and Distribution Reservoirs

As noted previously herein, portions of the costs and expenses related to transmission and distribution mains and distribution reservoirs were allocated to both the Customer Cost Component and the Direct Fire Cost Component in addition to being allocated to the Volume Cost Component. As shown by Allocation Code 04 on Schedule P6, 45% of the main costs and expenses were allocated to volume with 30% allocated to customer and 25% allocated to direct fire. These percentages were determined through an analysis of the inch-feet of mains in service at December 31, 2007.

The accompanying Schedule P7 sets forth the lengths of transmission and distribution mains in service as of December 31, 2007. As shown on Page 1 of Schedule P7, there were a total of 71,164 feet of transmission and distribution mains in service as of December 31, 2007. Page 1 of Schedule P7 illustrates both the reduction of all larger size mains to a 2" diameter and the calculation of inch-feet of mains. An inch-foot is simply the length of main in feet multiplied by the size of the diameter in inches. As shown on Page 1 of Schedule P7, there was an actual total of 484,910 inch-feet as of December 31, 2007. Under the reduction in size, there are only 142,328 inch-feet or about 30% of the actual number. This 30% is the customer cost portion of the mains. In essence, reducing the mains to 2" in diameter is similar to developing a minimum size system. This is also similar to the minimum size distribution system concept used in electric cost of service analyses.

Page 2 of Schedule P7 sets forth the methodology used to determine the direct fire cost portion of mains. All mains larger than 4" were reduced to the next smaller size. Generally, without fire protection, mains can be sized at least one size smaller. As shown on Page 2 of Schedule P7, this reduction results in 355,642 inch-feet which is 26.66% less than the actual number. That is, approximately 25% (26.66% rounded down) of the main size is directly related to fire protection. This 25% is the direct fire cost portion of the mains.

Private Fire Protection/Municipal Fire Protection

The Direct Fire Cost Component contains costs related to the provision of both private fire protection and municipal fire protection. The accompanying Schedule P8 sets forth the allocation of direct fire costs to private and municipal fire protection. The

allocations are primarily based on the relative numbers of hydrants and the weighted fire protection units.

The accompanying Schedule P9 illustrates the development of the percentage factors used in the allocation of direct fire costs to private fire and municipal fire.

The accompanying Schedule P10 sets forth the calculation of the weighted fire protection units. As noted thereon, the weighting factors are based on the ratio of the cross-sectional area of a given service size to the cross-sectional area of a 6" service, with hydrants assumed to have 6" branches.

In addition to the direct fire costs, certain elements of both the volume cost and the customer cost are related to the provision of both private fire protection service and municipal fire protection service. The accompanying Schedule P11 illustrates the allocation of volume costs and customer costs to private fire and municipal fire.

Customer costs were allocated to fire based on the relative numbers of bills and the weighted number of services. The accompanying Schedule P12 shows the numbers of bills and the calculation of weighted services. Weighted services are based on the ratio of service diameters.

In order to allocate volume costs to fire, reference was made to the AWWA Water Rates Manual M1, Fourth Edition. Chapter 5 therein, "Rate Design for Small Water Utilities", indicates that it is appropriate and reasonable for a water utility with 635 customers to obtain approximately 30% of its revenues from fire protection charges. This recommendation was used as a guideline to allocate some of the volume costs to fire. As noted at the bottom of Schedule P11, a conservative approach was taken by setting fire

protection revenue to 20% of the total revenue requirement; this resulted in $42,746 of volume costs being allocated to fire.

After allocating direct fire to private and municipal fire and allocating volume and customer costs to fire, the resulting allocation, as shown at the bottom of Schedule P11, indicates that 53.50% of the revenue requirement is attributable to volume costs, 26.50% is attributable to customer costs, 2.42% is attributable to private fire, and 17.58% is attributable to municipal fire. This information allows for the development of a rate design to generate the revenue requirement.

Revenues From Present Rates

Before designing a schedule of developed rates based on the allocations set forth herein, revenues under present rates were calculated. This calculation was based on the reported numbers of meters and fire protection units in service at December 31, 2007 together with the reported billable volumetric water usage during calendar year 2007.

The accompanying Schedule P13 sets forth the calculation of revenues under present rates. As shown on Page 3 of Schedule P13, 48.34% of present rate revenue is obtained from general water service volumetric charges, 20.38% is obtained from general water service customer (or minimum) charges, 4.65% is obtained from private fire protection charges, and 26.63% is obtained from municipal fire protection charges.

The Existing Pittsfield Division Rate Schedule

The present rate schedule used by the Company for general water service comprises a monthly minimum customer charge which varies by meter size together with a uniform volumetric usage charge applied to all water used.

With respect to private fire protection service, there is a monthly charge which varies by connection or service size.

With respect to municipal fire protection service, there are two parts to the total charge for service. At present, there is a $66.63 monthly charge per hydrant combined with an effective annual inch-foot charge of $0.14040 applied to mains 6" and larger in diameter. (It is noted that per Schedule FP-M of the tariff, the inch-foot charge is stated as $0.03510; however, this charge is billed four times per year, resulting in an effective annual $0.14040 inch-foot charge. It is suggested that the tariff language be modified to avoid any confusion or mis-interpretation in the billing procedures.)

The rates and charges presently set forth in the PAC tariff were used in the calculation of present rate revenues on Schedule P13 and may be found thereon.

Rate Design

The design of rates, based on the allocations set forth and discussed herein, is presented on the accompanying Schedule P14.

Page 1 of Schedule P14 addresses both municipal and private fire protection. As noted thereon, the present revenue from municipal fire protection is about 5.2% greater than the cost of service indications while the present revenue from private fire protection is about 33.4% greater than the cost of service indications. Therefore, no changes were developed for either municipal or private fire protection rates and charges.

Page 2 of Schedule P14 sets forth the rate design for the customer or minimum charges. As shown thereon, an increase of about 87.3% is indicated. The monthly rates for all meter sizes have been increased by this percentage.

Page 3 of Schedule P14 sets forth the design of the volumetric usage rate. The volumetric rate is the "balance wheel" in the rate design. It provides the remaining amount of the pro forma net revenue requirement after deducting the developed revenues from municipal fire protection, private fire protection and customer charges. The developed volumetric rate is about 54.2% greater than the existing volumetric rate.

Revenues from Developed Rates

The accompanying Schedule P15 sets forth the calculation of revenues under the developed rates. As shown on Page 3 of Schedule P15, 51.77% of developed rate revenue is obtained from general water service volumetric charges, 26.51% is obtained from general water service customer (or minimum) charges, 3.23% is obtained from private fire protection charges, and 18.49% is obtained from municipal fire protection charges. The developed rates, when applied to the billing parameters, generate $656,038 in revenue. This revenue amount is about $29 less than the net revenue requirement of $656,067. This difference is only 0.004% and is considered negligible.

Closure

The results of the studies set forth and discussed herein can provide guidelines to be utilized in restructuring the Company's rates and charges for service. However, it must be remembered that cost of service allocations are the products of analyses based in part on judgment and experience and as such, while their results are a substantial aid in the design of rates, they are not meant to be literal, exact "gospel truth" type answers. Seldom, if ever, are rates exactly in line with the costs of service at any given time nor is it usually possible to design rate structures which are in complete exact agreement with all aspects of a cost of service allocation study. Generally, minor differences will exist

just as a matter of normal circumstances. In addition, attempts to exactly meet the cost of service indications in one rate adjustment can impose extremely large and undue burdens on individual customers or customer groups. Most rate consultants favor a process of gradually bringing deficiency in revenue generation in line with cost of service indications so as to avoid or ameliorate undue or abrupt changes in rate structure. Actual rate and tariff design, in addition to relying on the results of cost of service allocation analyses, should also include consideration of policy matters, impact and extent of rate changes, past historical practice, future planning, special customer characteristics and regulatory and contract requirements.

Pittsfield Aqueduct Company, Inc.
Pittsfield Division

Schedules P1 through P15

to Accompany

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Pittsfield Aqueduct Company, Inc.
Pittsfield Division
Allocation of Utility Plant in Service at December 31, 2007

Acc't	Description	Total Cost	Volume	Customer	Direct Fire	Allocation Code
Source of Supply and Pumping Plant						
303	Land and Land Rights	44,180	44,180	0	0	01
304	Structures and Improvements	71,250	71,250	0	0	01
305	Collecting and Impounding Reservoirs	48,493	48,493	0	0	01
306	Lake, River and Other Intakes	29,050	29,050	0	0	01
307	Wells and Springs	0	0	0	0	01
309	Supply Mains	4,551	4,551	0	0	01
310	Power Generation Equipment	0	0	0	0	01
311	Pumping Equipment	1,060	1,060	0	0	01
	Total Supply and Pumping Plant	198,584	198,584	0	0	
Water Treatment Plant						
304	Structures and Improvements	934,998	934,998	0	0	01
320	Water Treatment Equipment	13,656	13,656	0	0	01
	Total Water Treatment Plant	948,654	948,654	0	0	
Transmission and Distribution Plant						
330	Distribution Reservoirs	0	0	0	0	04
331	Transmission and Distribution Mains	2,086,126	938,757	625,838	521,531	04
333	Services	153,162	0	153,162	0	02
334	Meters and Meter Installations	140,371	0	140,371	0	02
335	Hydrants	77,338	0	0	77,338	03
	Subtotal Transmission and Distribution Plant	2,456,997	938,757	919,371	598,869	
	Percents Code 05	100.00%	38.21%	37.42%	24.37%	
339	Other Plant and Miscellaneous Equipment	1,494	571	559	364	05
	Total Transmission and Distribution Plant	2,458,491	939,328	919,930	599,233	
	Subtotal Above Plant	3,605,729	2,086,566	919,930	599,233	
	Percents Code 06	100.00%	57.87%	25.51%	16.62%	
General Plant						
340	Office Furniture and Equipment	0	0	0	0	06
343	Tools Shop and Garage Equipment	9,688	5,606	2,471	1,611	06
344	Laboratory Equipment	3,939	2,279	1,005	655	06
346	Communication Equipment	28,612	16,558	7,299	4,755	06
347	Computer Equipment	25,899	14,988	6,607	4,304	06
348	Miscellaneous Equipment	13,054	7,554	3,330	2,170	06
	Total General Plant	81,192	46,985	20,712	13,495	
Intangible Plant						
301	Organization	75,551	43,721	19,273	12,557	06
302	Franchise	0	0	0	0	06
	Total Intangible Plant	75,551	43,721	19,273	12,557	
Total Utility Plant in Service		3,762,472	2,177,272	959,915	625,285	
	Percents Code 06	100.00%	57.87%	25.51%	16.62%	

Pittsfield Aqueduct Company, Inc.
Pittsfield Division
Allocation of Rate Base at December 31, 2007

Acc't	Description	Total Cost	Volume	Customer	Direct Fire	Allocation Code
	Total Utility Plant in Service	3,762,472	2,177,272	959,915	625,285	
	Accumulated Depreciation					
	Organization	(18,888)	(10,930)	(4,818)	(3,140)	06
	Structures	(243,274)	(243,274)	0	0	01
	Pumping and Distribution Equipment	(5,901)	(5,901)	0	0	01
	Transmission and Distribution Mains	(503,944)	(226,775)	(151,183)	(125,986)	04
	Services	(59,462)	0	(59,462)	0	02
	Meters	(21,260)	0	(21,260)	0	02
	Hydrants	(17,247)	0	0	(17,247)	03
	Other Equipment	(44,990)	(26,036)	(11,477)	(7,477)	06
	Accumulated Depreciation - Loss	111,293	64,405	28,391	18,497	06
	Accumulated Depreciation - Cost of Removal	3,019	1,747	770	502	06
	Total Accumulated Depreciation	(800,654)	(446,764)	(219,039)	(134,851)	
	Contributions In Aid of Construction					
	CIAC - Mains	(750,286)	(337,629)	(225,086)	(187,571)	04
	CIAC - Water Filtration	(398,350)	(398,350)	0	0	01
	Amortize CIAC - Mains	143,887	64,749	43,166	35,972	04
	Amortize CIAC - Water Filtration	76,393	76,393	0	0	01
	Total CIAC	(928,356)	(594,837)	(181,920)	(151,599)	
	Subtotal Above Rate Base Items	2,033,462	1,135,671	558,956	338,835	
	Additions to Rate Base					
	Working Capital	57,288	36,985	15,233	5,070	09
	Materials & Supplies	0	0	0	0	06
	Prepaid Insurance	6,738	3,899	1,719	1,120	06
	Prepaid Property Taxes	4,314	2,497	1,101	716	06
	Deferred Charges - Main Breaks	20,512	9,230	6,154	5,128	04
	Deferred Charges - Other Items	34,363	19,886	8,766	5,711	06
	Total Additions	123,215	72,497	32,973	17,745	
	Deductions from Rate Base					
	Customer Advances	0	0	0	0	04
	Customer Deposits	(86)	0	(86)	0	02
	Deferred Income Tax	(246,512)	(142,656)	(62,885)	(40,971)	06
	Total Deductions	(246,598)	(142,656)	(62,971)	(40,971)	
	Totakl Rate Base	1,910,079	1,065,512	528,958	315,609	
	Percents Code 13	100.00%	55.79%	27.69%	16.52%	

Pittsfield Aqueduct Company, Inc.
Pittsfield Division
Allocation of Depreciation Expense - Pro Forma at December 31, 2007

Acc't	Description	Total Cost	Volume	Customer	Direct Fire	Allocation Code
Source of Supply and Pumping Plant						
303	Land and Land Rights	0	0	0	0	01
304	Structures and Improvements	1,644	1,644	0	0	01
305	Collecting and Impounding Reservoirs	713	713	0	0	01
306	Lake, River and Other Intakes	582	582	0	0	01
307	Wells and Springs	0	0	0	0	01
309	Supply Mains	60	60	0	0	01
310	Power Generation Equipment	0	0	0	0	01
311	Pumping Equipment	65	65	0	0	01
	Total Supply and Pumping Depreciation Exp.	3,064	3,064	0	0	
Water Treatment Plant						
304	Structures and Improvements	21,885	21,885	0	0	01
320	Water Treatment Equipment	799	799	0	0	01
	Total Water Treatment Depreciation Exp.	22,684	22,684	0	0	
Transmission and Distribution Plant						
330	Distribution Reservoirs	0	0	0	0	04
331	Transmission and Distribution Mains	33,906	15,258	10,172	8,476	04
333	Services	3,090	0	3,090	0	02
334	Meters and Meter Installations	6,478	0	6,478	0	02
335	Hydrants	1,029	0	0	1,029	03
	Subtotal Trans.and Dist.Depreciation Exp.	44,503	15,258	19,740	9,505	
339	Other Plant and Miscellaneous Equipment	84	32	31	21	05
	Total Trans.and Dist.Depreciation Exp.	44,587	15,290	19,771	9,526	
	Subtotal Above Depreciation Exp.	70,335	41,038	19,771	9,526	
General Plant						
340	Office Furniture and Equipment	0	0	0	0	06
343	Tools Shop and Garage Equipment	762	441	194	127	06
344	Laboratory Equipment	197	114	50	33	06
346	Communication Equipment	1,431	828	365	238	06
347	Computer Equipment	181	105	46	30	06
348	Miscellaneous Equipment	218	126	56	36	06
	Total General Depreciation Exp.	2,789	1,614	711	464	
Intangible Plant						
301	Organization	3,778	2,186	964	628	06
302	Franchise	0	0	0	0	06
	Total Intangible Depreciation Exp.	3,778	2,186	964	628	
Subtotal Utility Plant Depreciation Exp.		76,902	44,838	21,446	10,618	
	Percents Code 07	100.00%	58.30%	27.89%	13.81%	
Add New Depreciation Rate Adjustment		(2,486)	(1,449)	(693)	(344)	07
Total Utility Plant Depreciation Exp. - Pro Forma		74,416	43,389	20,753	10,274	

Pittsfield Aqueduct Company, Inc.
Pittsfield Division
Allocation of Operation and Maintenance Expense - Pro Forma at December 31, 2007

Acc't	Description	Total Cost	Volume	Customer	Direct Fire	Allocation Code
Production Expenses						
	Total Supply, Pumping, and Water Treatment	71,496	71,496	0	0	01
Transmission and Distribution Expenses						
662	Trans & Dist Lines Expense	418	188	125	105	04
663	Meter Expenses	1,391	0	1,391	0	02
664	Customer Installation Expenses	191	0	191	0	02
665	Miscellaneous Expenses	659	0	659	0	02
660	Operation Supervision and Engineering	10,197	3,896	3,816	2,485	05
673	Maintenance of Trans & Dist Mains	13,805	6,212	4,142	3,451	04
675	Maintenance of Services	10,462	0	10,462	0	02
676	Maintenance of Meters	130	0	130	0	02
677	Maintenance of Hydrants	4,614	0	0	4,614	03
678	Maintenance of Miscellaneous Equipment	2,913	1,113	1,090	710	05
	Total Transmission and Distribution O&M	44,780	11,409	22,006	11,365	
	Percents Code 08	100.00%	25.48%	49.14%	25.38%	
Customer Accounts Expenses						
	Total Customer Accounts Expenses	12,136	0	12,136	0	02
	Subtotal Above O&M Expenses	128,412	82,905	34,142	11,365	
	Percents Code 09	100.00%	64.56%	26.59%	8.85%	
Administrative and General Expenses						
924	Property Insurance	7,912	4,579	2,018	1,315	06
	All Other A&G Expense	12,935	8,351	3,439	1,145	09
	Total Administrative and General Expenses	20,847	12,930	5,457	2,460	
	Subtotal Above O&M Expenses	149,259	95,835	39,599	13,825	
	Percents Code 10	100.00%	64.21%	26.53%	9.26%	
Inter Div Management Fee						
	Total Management Fee	246,770	150,628	64,210	31,932	11
	Total Operation and Maintenance Expenses	396,029	246,463	103,809	45,757	
	Percents	100.00%	62.23%	26.21%	11.56%	

Pittsfield Aqueduct Company, Inc.
Pittsfield Division
Allocation of Pro Forma Operating Expense and Other Revenue Requirements

Acc't Description	Total Cost	Volume	Customer	Direct Fire	Allocation Code
Operation and Maintenance Expense					
Total Operating Expense	396,029	246,463	103,809	45,757	
Depreciation and Amortization					
Total Depreciation and Amortization	65,699	38,303	18,323	9,073	07
Taxes Other Than Income Taxes					
Total Other Taxes (Property Taxes)	37,366	21,624	9,532	6,210	06
Net Operating Income					
Pro Forma Net Operating Income	145,140	80,974	40,189	23,977	13
Income Taxes					
Pro Forma Income Taxes	17,205	9,599	4,764	2,842	13
Total Pro Forma Revenue Requirement	661,439	396,963	176,617	87,859	
Percents Code 12	100.00%	60.02%	26.70%	13.28%	
Less Other Revenue	(5,372)	(3,224)	(1,434)	(714)	12
Net Revenue Requirement	656,067	393,739	175,183	87,145	
Percents Code 12	100.00%	60.02%	26.70%	13.28%	

Pittsfield Aqueduct Company, Inc.
Pittsfield Division
Summary of Allocation Factors

Allocation Code	Description	% Volume	% Customer	% Direct Fire	Check Total %
01	Volume Cost	100.00	0.00	0.00	100.00
02	Customer Cost	0.00	100.00	0.00	100.00
03	Direct Fire Cost	0.00	0.00	100.00	100.00
04	Trans. And Dist. Mains	45.00	30.00	25.00	100.00
05	Trans. And Dist. Plant	38.21	37.42	24.37	100.00
06	Total Plant	57.87	25.51	16.62	100.00
07	Depreciation Expense	58.30	27.89	13.81	100.00
08	Trans. And Dist. O&M Expense	25.48	49.14	25.38	100.00
09	O&M Before A&G and Management Fee	64.56	26.59	8.85	100.00
10	O&M Before Management Fee	64.21	26.53	9.26	100.00
11	Management Fee	61.04	26.02	12.94	100.00
12	Revenue Requirement	60.02	26.70	13.28	100.00
13	Rate Base	55.79	27.69	16.52	100.00

Explanation of Factors Used in the Allocations

01 This Code allocates items 100 percent to Volume Cost

02 This Code allocates items 100 percent to Customer Cost.

03 This Code allocates items 100 percent to Direct Fire Cost.

04 This Code allocates items to the cost components based on analyses of transmission and distribution inch-feet.

05 This Code allocates items to the cost components based on the composite allocation of transmission and distribution plant.

06 This Code allocates items to the cost components based on the composite allocation of total utility plant

07 This Code allocates items to the cost components based on the composite allocation of depreciation expense.

08 This Code allocates items to the cost components based on the composite allocation of transmission and distribution operation and maintenance expense.

09 This Code is based on the composite allocation of O&M expense without A&G expense and the management fee.

10 This Code is based on the composite allocation of O&M expense without the management fee.

11 This Code is based on equal weightings of Codes 06 and 11. It is used to allocate the management fee.

12 This Code allocates items to the cost components based on the composite allocation of the revenue requirement.

13 This Code allocates items to the cost components based on the composite allocation of the rate base.

Pittsfield Aqueduct Company, Inc.
Pittsfield Division
Transmission and Distribution Inch-Feet
Inch-Feet of Mains in Service at December 31, 2007
Reduce Larger Mains to 2" Size

Actual Mains in Service			Reduce Larger Mains to 2" Size		
Size	Length	In-Ft	Size	Length	In-Ft
1 1/4'	0	0.0	1 1/4'	0	0.0
1 1/2"	0	0.0	1 1/2"	0	0.0
2"	5,345	10,690.0	2"	5,345	10,690.0
3"	0	0.0	2"	0	0.0
4"	1,185	4,740.0	2"	1,185	2,370.0
6"	30,701	184,206.0	2"	30,701	61,402.0
8"	29,622	236,976.0	2"	29,622	59,244.0
10"	1,717	17,170.0	2"	1,717	3,434.0
12"	2,594	31,128.0	2"	2,594	5,188.0
Total	71,164	484,910.0	Total	71,164	142,328.0

Inch-Feet Based on Actual Size of Mains	484,910.0
Inch-Feet Based on Reduced Size of Mains	142,328.0
Difference	342,582.0
	70.65%

Pittsfield Aqueduct Company, Inc.
Pittsfield Division
Transmission and Distribution Inch-Feet
Inch-Feet of Mains in Service at December 31, 2007
Reduce Larger One Size

Actual Mains in Service			Reduced One Size		
Size	Length	In-Ft	Size	Length	In-Ft
1 1/4'	0	0.0	1 1/4'	0	0.0
1 1/2"	0	0.0	1 1/2"	0	0.0
2"	5,345	10,690.0	2"	5,345	10,690.0
3"	0	0.0	3"	0	0.0
4"	1,185	4,740.0	4"	1,185	4,740.0
6"	30,701	184,206.0	4"	30,701	122,804.0
8"	29,622	236,976.0	6"	29,622	177,732.0
10"	1,717	17,170.0	8"	1,717	13,736.0
12"	2,594	31,128.0	10"	2,594	25,940.0
Total	71,164	484,910.0	Total	71,164	355,642

Inch-Feet Based on Actual Size of Mains	484,910.0
Inch-Feet Based on Reduced Size of Mains	355,642.0
Difference	129,268.0
	26.66%

Pittsfield Aqueduct Company, Inc.
Pittsfield Division
Allocation of Direct Fire Costs to Private and Municipal Fire

Item	Total Direct Fire	Private Fire Protection	Municipal Fire Protection
Total Operating Expense - C	45,757	2,928	42,829
Total Depreciation and Amort - B	9,073	1,191	7,882
Total Other Taxes - A	6,210	796	5,414
Pro Forma Net Oper Income - A	23,977	3,074	20,903
Pro Forma Income Taxes - A	2,842	364	2,478
Total Pro Forma Revenue Req'm'nt	87,859	8,353	79,506
Percents	100.00%	9.51%	90.49%
Less Other Revenue	(714)	(68)	(646)
Net Revenue Requirement	87,145	8,285	78,860
Percents	100.00%	9.51%	90.49%

Pittsfield Aqueduct Company, Inc.
Pittsfield Division
Development of Factors for Private/Municipal Fire Allocation

Item	Total Direct Fire	Private Fire Protection	Municipal Fire Protection
Plant in Service			
Hydrants	77,338	0	77,338
Allocated Based on Number of Hydrants	65	0	65
Dist. Reservoirs	0		
Trans. And Dist. Mains	521,531		
Total	521,531	76,769	444,762
Allocated Based on Weighted Number of Units	100.00%	14.72%	85.28%
Total Above Plant	598,869	76,769	522,100
Plant Percents - A	100.00%	12.82%	87.18%
Depreciation Expense			
Hydrants	1,029	0	1,029
Allocated Based on Number of Hydrants	65	0	65
Dist. Reservoirs	0		
Trans. And Dist. Mains	8,476		
Total	8,476	1,248	7,228
Allocated Based on Weighted Number of Units	100.00%	14.72%	85.28%
Total Above Depr. Exp.	9,505	1,248	8,257
Depr. Exp. Percents - B	100.00%	13.13%	86.87%
O&M Expense			
Hydrants	4,614	0	4,614
Allocated Based on Number of Hydrants	65	0	65
Dist. Reservoirs	0		
Trans. And Dist. Mains	3,556		
Total	3,556	523	3,033
Allocated Based on Weighted Number of Units	100.00%	14.72%	85.28%
Total Above O&M Exp.	8,170	523	7,647
O&M Exp. Percents - C	100.00%	6.40%	93.60%

Pittsfield Aqueduct Company, Inc.
Pittsfield Division
Calculation of Weighted Fire Protection Units

Private Fire Protection

Size	Number	Factor	Weighted Number	%
4"	1	0.44	0.44	
6"	9	1.00	9.00	
8"	1	1.78	1.78	
Total	11		11.22	14.72%

Municipal Fire Protection

Actual Number of Hydrants:				
Total	65	1.00	65.00	85.28%
Grand Total			76.22	100.00%

Notes: Weighting factors are based on the ratio of the cross-sectional area of a given size to the cross-sectional area of a 6" service. Hydrants are assumed to have a 6" branch.

Pittsfield Aqueduct Company, Inc.
Pittsfield Division
Allocation of Volume and Customer Costs to Fire Protection

COS Allocation Results

	$ Amount	%
Volume Costs	393,739	60.02%
Customer Costs	175,183	26.70%
Direct Fire Costs - Private	8,285	1.26%
Direct Fire Costs - Municipal	78,860	12.02%
Net Revenue Requirement	656,067	100.00%

The above results contain certain volume costs and certain customer costs which are properly allocable to private fire and to municipal fire.

Customer Costs:

Cust. Rec. & Coll. Exp.:	$ Amount	% of Bills
Remain in Customer	7,559	98.15%
Alloc to Private Fire	131	1.70%
Alloc to Municipal Fire	12	0.15%
Total Cust. Rec. & Coll. Exp.	7,702	100.00%

Cust. Installation Exp.:	$ Amount	% of Svcs
Remain in Customer	170	88.93%
Alloc to Private Fire	21	11.07%
Alloc to Municipal Fire	0	0.00%
Total Cust. Installation Exp.	191	100.00%

Maint. of Services:	$ Amount	% of Svcs
Remain in Customer	9,304	88.93%
Alloc to Private Fire	1,158	11.07%
Alloc to Municipal Fire	0	0.00%
Total Maint. of Services	10,462	100.00%

With above three allocations, the resulting fire allocation becomes:

$ Amount	%
88,467	13.48%

According to AWWA Water Rates Manual M1, Fourth Edition, Chapter 5, "Rate Design for Small Water Utilities", it is appropriate for aproximately 30% of the revenues of a 635 customer water utility to be obtained from fire protection. This recommendation can be used as a guideline to allocate some of the volume costs to fire protection. To be conservative, the target fire protection revenue can be set at 20% of total revenue or $ 131,213 this means that $ 42,746 of the volume costs would then be allocated fore.

Reallocate Volume Costs:	$ Amount	% of Units
Alloc to Private Fire	6,292	14.72%
Alloc to Municipal Fire	36,454	85.28%
Total Reallocated Volume Cost	42,746	100.00%

Reallocation Results

	$ Amount	%
Volume Costs	350,993	53.50%
Customer Costs	173,861	26.50%
Direct Fire Costs - Private	15,887	2.42%
Direct Fire Costs - Municipal	115,326	17.58%
Net Revenue Requirement	656,067	100.00%

Pittsfield Aqueduct Company, Inc.
Pittsfield Division
Calculation of Weighted Number of Services

GWS Meter Size	Number of Meters	Service Factor	Weighted Number	%
5/8"	596	1.0	596.0	
3/4"	1	1.3	1.3	
1"	14	2.0	28.0	
1 1/2"	11	2.7	29.7	
2"	12	4.0	48.0	
3"	1	4.0	4.0	
4"	0	5.3	0.0	
Total	635		707.0	88.93%

Private Fire Size	Number	Service Factor	Weighted Number	
4"	1	5.3	5.3	
6"	9	8.0	72.0	
8"	1	10.7	10.7	
Total	11		88.0	11.07%
Grand Total			795.0	100.00%

Notes: Weighting factors are based on the ratio of service diameters.

Percentage Distribution of Bills

Class	Number of Bills	%
GWS	7,620	98.15 %
Private Fire	132	1.70 %
Muni. Fire	12	0.15 %
Total	7,764	100.00 %

Pittsfield Aqueduct Company, Inc.
Pittsfield Division
Calculation of Revenues Under Present Rates

General Water Service

Residential:

Meter Size	Number of Meters	Number of Bills	Present Rate	Present Revenue
5/8"	537	6,444	$ 10.27	$ 66,179.88
3/4"	1	12	14.61	175.32
1"	8	96	22.08	2,119.68
1 1/2"	6	72	39.81	2,866.32
2"	1	12	61.58	738.96
3"	0	0	114.41	0.00
4"	0	0	187.49	0.00
Total	553	6,636		$ 72,080.16
	CCFT			
Volume:	53,886		$ 3.30	$ 177,823.80

Commercial

Meter Size	Number of Meters	Number of Bills	Present Rate	Present Revenue
5/8"	54	648	$ 10.27	$ 6,654.96
3/4"	0	0	14.61	0.00
1"	6	72	22.08	1,589.76
1 1/2"	5	60	39.81	2,388.60
2"	6	72	61.58	4,433.76
3"	0	0	114.41	0.00
4"	0	0	187.49	0.00
Total	71	852		$ 15,067.08
	CCFT			
Volume:	10,371		$ 3.30	$ 34,224.30

Industrial

Meter Size	Number of Meters	Number of Bills	Present Rate	Present Revenue
5/8"	2	24	$ 10.27	$ 246.48
3/4"	0	0	14.61	0.00
1"	0	0	22.08	0.00
1 1/2"	0	0	39.81	0.00
2"	3	36	61.58	2,216.88
3"	0	0	114.41	0.00
4"	0	0	187.49	0.00
Total	5	60		$ 2,463.36
	CCFT			
Volume:	1,270		$ 3.30	$ 4,191.00

Pittsfield Aqueduct Company, Inc.
Pittsfield Division
Calculation of Revenues Under Present Rates

General Water Service - Continued

Municipal

Meter Size	Number of Meters	Number of Bills	Present Rate	Present Revenue
5/8"	3	36	$ 10.27	$ 369.72
3/4"	0	0	14.61	0.00
1"	0	0	22.08	0.00
1 1/2"	0	0	39.81	0.00
2"	2	24	61.58	1,477.92
3"	1	12	114.41	1,372.92
4"	0	0	187.49	0.00
Total	6	72		$ 3,220.56

	CCFT		
Volume:	1,203	$ 3.30	$ 3,969.90

Grand Total GWS Revenue $ 313,040.16

Fire Protection Service

Private Fire Protection

Size	Number	Number of Bills	Present Rate	Present Revenue
4"	1	12	$ 53.63	643.56
6"	9	108	153.91	16,622.28
8"	1	12	326.87	3,922.44
Total	11	132		$ 21,188.28

Municipal Fire Protection

Size	Number	of Bills	Rate	Revenue
Hydrant	65	780	$ 66.63	$ 51,971.40
Inch-Feet	493,754	1,975,016	0.03510	69,323.06

Grand Total Munipical Fire Revenue $ 121,294.46

Pittsfield Aqueduct Company, Inc.
Pittsfield Division
Summary of Revenues Under Present Rates

Description		Amount	%
GWS Volume Revenue	$	220,209.00	48.34%
GWS Customer Charge Revenue	$	92,831.16	20.38%
Grand Total GWS Revenue	$	313,040.16	68.72%
Grand Total Private Fire Revenue	$	21,188.28	4.65%
Grand Total Munipical Fire Revenue	$	121,294.46	26.63%
Grand Total Revenue	$	455,522.90	100.00%

Pittsfield Aqueduct Company, Inc.
Pittsfield Division
Rate Design

Municipal Fire Protection

Allocated Costs	$	115,326
Present Revenue	$	121,294.46

Present revenue is about 5.2% greater than the cost of service indications. Therefore, no increases will be developed for municipal fire protection.

Private Fire Protection

Allocated Costs	$	15,887
Present Revenue	$	21,188.28

Present revenue is about 33.4% greater than the cost of service indications. Therefore, no increases will be developed for private fire protection.

Pittsfield Aqueduct Company, Inc.
Pittsfield Division
Rate Design

GWS Customer Charges (Minimum Charges)

Allocated Costs	$	173,861
Present Revenue - Cust Chgs	$	92,831.16
Increase Required	$	81,029.84
		87.29 %

Rate Element	Present Monthly Rate	Developed Monthly Rate	% Increase
5/8"	$ 10.27	$ 19.24	87.34 %
3/4"	14.61	27.37	87.34 %
1"	22.06	41.33	87.35 %
1 1/2"	39.81	74.57	87.31 %
2"	61.58	115.34	87.30 %
3"	114.41	214.29	87.30 %
4"	187.49	351.16	87.30 %
6"	373.98	700.44	87.29 %
8"	622.01	1,164.97	87.29 %

Pittsfield Aqueduct Company, Inc.
Pittsfield Division
Rate Design

GWS Volumetric Rate

Pro Forma Net Revenue Requirement	$	656,066.60
Revenue from Developed Rates		
Municipal Fire Protection		121,294.46
Private Fire Protection		21,188.28
Customer Charges (Minimum Charges)		173,900.04
Remaining from Volumetric Rate	$	339,683.82
Annual Volume in 100 cu. ft.		66,730
Designed Rate per 100 cu. ft.	$	5.09

Rate Element	Present Rate	Developed Rate	% Increase
Per 100 cu. ft.	$ 3.30	$ 5.09	54.24 %

Pittsfield Aqueduct Company, Inc.
Pittsfield Division
Calculation of Revenues Under Developed Rates

General Water Service

Residential:

Meter Size	Number of Meters	Number of Bills	Developed Rate	Developed Revenue
5/8"	537	6,444	$ 19.24	$ 123,982.56
3/4"	1	12	27.37	328.44
1"	8	96	41.33	3,967.68
1 1/2"	6	72	74.57	5,369.04
2"	1	12	115.34	1,384.08
3"	0	0	214.29	0.00
4"	0	0	351.16	0.00
Total	553	6,636		$ 135,031.80
	CCFT			
Volume:	53,886		$ 5.09	$ 274,279.74

Commercial

Meter Size	Number of Meters	Number of Bills	Developed Rate	Developed Revenue
5/8"	54	648	$ 19.24	$ 12,467.52
3/4"	0	0	27.37	0.00
1"	6	72	41.33	2,975.76
1 1/2"	5	60	74.57	4,474.20
2"	6	72	115.34	8,304.48
3"	0	0	214.29	0.00
4"	0	0	351.16	0.00
Total	71	852		$ 28,221.96
	CCFT			
Volume:	10,371		$ 5.09	$ 52,788.39

Industrial

Meter Size	Number of Meters	Number of Bills	Developed Rate	Developed Revenue
5/8"	2	24	$ 19.24	$ 461.76
3/4"	0	0	27.37	0.00
1"	0	0	41.33	0.00
1 1/2"	0	0	74.57	0.00
2"	3	36	115.34	4,152.24
3"	0	0	214.29	0.00
4"	0	0	351.16	0.00
Total	5	60		$ 4,614.00
	CCFT			
Volume:	1,270		$ 5.09	$ 6,464.30

Pittsfield Aqueduct Company, Inc.
Pittsfield Division
Calculation of Revenues Under Developed Rates

General Water Service - Continued

Municipal

Meter Size	Number of Meters	Number of Bills	Developed Rate	Developed Revenue
5/8"	3	36	$ 19.24	$ 692.64
3/4"	0	0	27.37	0.00
1"	0	0	41.33	0.00
1 1/2"	0	0	74.57	0.00
2"	2	24	115.34	2,768.16
3"	1	12	214.29	2,571.48
4"	0	0	351.16	0.00
Total	6	72		$ 6,032.28
	CCFT			
Volume:	1,203		$ 5.09	$ 6,123.27
Grand Total GWS Revenue				$ 513,555.74

Fire Protection Service

Private Fire Protection

Size	Number	Number of Bills	Developed Rate	Developed Revenue
4"	1	12	$ 53.63	643.56
6"	9	108	153.91	16,622.28
8"	1	12	326.87	3,922.44
Total	11	132		$ 21,188.28

Municipal Fire Protection

Size	Number	of Bills	Developed Rate	Developed Revenue
Hydrant	65	780	$ 66.63	$ 51,971.40
Inch-Feet	493,754		0.14040	69,323.06
Grand Total Munipical Fire Revenue				$ 121,294.46

Pittsfield Aqueduct Company, Inc.
Pittsfield Division
Summary of Revenues Under Developed Rates

Description		Amount	%
GWS Volume Revenue	$	339,655.70	51.77%
GWS Customer Charge Revenue	$	173,900.04	26.51%
Grand Total GWS Revenue	$	513,555.74	78.28%
Grand Total Private Fire Revenue	$	21,188.28	3.23%
Grand Total Munipical Fire Revenue	$	121,294.46	18.49%
Grand Total Revenue under Developed Rates	$	656,038.48	100.00%
Net Revenue Requirement		656,067.00	
Difference	$	(28.52)	
		-0.004%	
		Negligible	