

ORIGINAL	
N.H.P.U.C. Case No.	DW 10-090
Exhibit No.	#8
Witness	Panel 1
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DW 10-090
Exhibit 8

Pittsfield Aqueduct Company, Inc.

Rate Design
For
Draft Settlement

By

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April 15, 2011

Pittsfield Aqueduct Company, Inc.
Rate Design for Draft Settlement
April 15, 2011

The attached schedules set forth the development of a rate design to accord with the Draft Settlement. The permanent revenue level is \$713,242. An additional revenue amount of \$19,339 is related to the step increase. Hence, the combined revenue level is \$732,581.

Schedule PA sets forth the allocation of the permanent revenue requirement. As noted thereon, it is based on Schedule P11 of the April 2010 study.

Permanent rate design is set forth on Schedule P14. Note on Page 2 of Schedule P14 that no A&G or Management Fee Costs are added to the customer costs. In addition, the increase in customer charges is limited to the overall revenue increase of 17.45%.

Permanent revenues are calculated on Schedule P15. As shown on Page 3 of Schedule P15, the rate design is within 0.005% of the revenue requirement; this difference is negligible.

Schedule A. Step sets forth the allocation of the revenue for the step increase.

Rate design for the step increase is set forth on schedule P14.Step.

The combined revenues (that is, those reflecting both the permanent and the step increases) are set forth on Schedule P15.Step. As shown on Page 3 of Schedule P15.Step, the rate design is within 0.003% of the revenue requirement, this difference is negligible.

Finally, a series of schedules illustrating the effect of the step increase is attached hereto. Schedule SE.1 sets forth the difference between the combined rate elements (that is, those designed to generate the step revenue requirement) and the permanent rate elements. This difference is then applied to the billing parameters on schedule SE.2. As shown on Page 3 of Schedule SE.2, the movement from the permanent rate increase to the step rate increase generates an additional \$19,328 of revenue.

Pittsfield Aqueduct Company, Inc.

Rate Design

For

Permanent Rates

April 15, 2011

Pittsfield Aqueduct Company, Inc.
Pittsfield Division
Revenue Requirement - Revised April 15, 2011

	<u>As-Filed Amount</u>	<u>%</u>	<u>New Revenue Req'm't</u>
Volume Costs	\$ 340,104	46.69%	\$ 333,013
Customer Costs	206,242	28.31%	201,919
Direct Fire Costs - Private	24,433	3.35%	23,893
Direct Fire Costs - Municipal	157,682	21.65%	154,417
Net Revenue Requirement	\$ 728,461	100.00%	\$ 713,242

- Notes: 1) As-Filed Amount and % from Sch P11,
Page1 of 1.
2) % applied to New Revenue Req'm't to
obtain cost breakdown.

Pittsfield Aqueduct Company, Inc.
Pittsfield Division
Rate Design - Revised April 15, 2011

Municipal Fire Protection

Allocated Costs	\$ 154,417
Present Revenue	\$ 121,294.46

Present revenue is less than the cost of service indications.
An increase of about 27% will be developed for municipal fire protection.

<u>Rate Element</u>	<u>Present Monthly Rate</u>	<u>Developed Monthly Rate</u>	<u>% Increase</u>
Hydrant	\$ 66.63	\$ 84.83	27.32 %
Inch-Foot	0.14040	0.17874	27.31 %

Private Fire Protection

Allocated Costs	\$ 23,893
Present Revenue	\$ 21,188.28

Present revenue is less than the cost of service indications.
An increase of about 13% will be developed for private fire protection.

<u>Size</u>	<u>Present Monthly Rate</u>	<u>Developed Monthly Rate</u>	<u>% Increase</u>
4"	\$ 53.63	\$ 60.48	12.77 %
6"	153.91	173.56	12.77 %
8"	326.87	368.60	12.77 %

Pittsfield Aqueduct Company, Inc.
Pittsfield Division
Rate Design - Revised April 15, 2011

GWS Customer Charges (Minimum Charges)

Allocated Customer Costs	\$	201,919
Add 50% of A&G O&M Volume Cost		0
Add 50% of Management Fee Volume Cost		0
Total for Customer Charge	\$	201,919
Present Revenue - Cust Chgs	\$	168,562.80
Less Five 5/8" meters (60 Bills) (Deduct 5 meters per Draft Settlement)		<u>1,120.20</u>
Net Present Revenue - Cust Chgs	\$	167,442.60
Increase Required	\$	34,476.40
		20.45 %
But Limit is 17.45 % per Draft Settlement Therefore, increase is		17.45 %

<u>Rate Element</u>	<u>Present Monthly Rate</u>	<u>Developed Monthly Rate</u>	<u>% Increase</u>
5/8"	\$ 18.67	\$ 21.91	17.35 %
3/4"	26.56	31.19	17.43 %
1"	40.10	47.10	17.46 %
1 1/2"	72.37	85.00	17.45 %
2"	111.95	131.49	17.45 %
3"	207.99	244.28	17.45 %
4"	340.84	400.32	17.45 %
6"	679.86	798.50	17.45 %
8"	1,130.75	1,328.07	17.45 %

Pittsfield Aqueduct Company, Inc.
Pittsfield Division
Rate Design - Revised April 15, 2011

GWS Volumetric Rate

Pro Forma Net Revenue Requirement	\$ 713,242.00
Revenue from Developed Rates	
Municipal Fire Protection	154,420.99
Private Fire Protection	23,893.44
Customer Charges (Minimum Charges)	196,534.80
Remaining from Volumetric Rate	\$ 338,392.77
Annual Volume in 100 cu. ft.	58,450
Designed Rate per 100 cu. ft.	\$ 5.79

<u>Rate Element</u>	<u>Present Rate</u>	<u>Developed Rate</u>	<u>% Increase</u>
Per 100 cu. ft.	\$ 4.88	\$ 5.79	18.65 %

Pittsfield Aqueduct Company, Inc.
Pittsfield Division
Calculation of Revenues Under Developed Rates - April 15, 2011

General Water Service

Residential:

<u>Meter Size</u>	<u>Number of Meters</u>	<u>Number of Bills</u>	<u>Developed Rate</u>	<u>Developed Revenue</u>
5/8" *	534	6,408	\$ 21.91	\$ 140,399.28
3/4"	1	12	31.19	374.28
1"	8	96	47.10	4,521.60
1 1/2"	6	72	85.00	6,120.00
2"	1	12	131.49	1,577.88
3"	0	0	244.28	0.00
4"	0	0	400.32	0.00
Total	550	6,600		\$ 152,993.04

<u>CCFT</u>				
Volume:	46,619	\$ 5.79	\$	269,924.01

* Five 5/8" Meters (60 Bills) removed per Draft Settlement

Commercial

<u>Meter Size</u>	<u>Number of Meters</u>	<u>Number of Bills</u>	<u>Developed Rate</u>	<u>Developed Revenue</u>
5/8"	54	648	\$ 21.91	\$ 14,197.68
3/4"	0	0	31.19	0.00
1"	6	72	47.10	3,391.20
1 1/2"	5	60	85.00	5,100.00
2"	6	72	131.49	9,467.28
3"	0	0	244.28	0.00
4"	0	0	400.32	0.00
Total	71	852		\$ 32,156.16

<u>CCFT</u>				
Volume:	10,185	\$ 5.79	\$	58,971.15

Industrial

<u>Meter Size</u>	<u>Number of Meters</u>	<u>Number of Bills</u>	<u>Developed Rate</u>	<u>Developed Revenue</u>
5/8"	3	36	\$ 21.91	\$ 788.76
3/4"	0	0	31.19	0.00
1"	0	0	47.10	0.00
1 1/2"	0	0	85.00	0.00
2"	3	36	131.49	4,733.64
3"	0	0	244.28	0.00
4"	0	0	400.32	0.00
Total	6	72		\$ 5,522.40

<u>CCFT</u>				
Volume:	501	\$ 5.79	\$	2,900.79

Pittsfield Aqueduct Company, Inc.
Pittsfield Division
Calculation of Revenues Under Developed Rates - April 15, 2011

General Water Service - Continued

<u>Municipal</u>	<u>Meter Size</u>	<u>Number of Meters</u>	<u>Number of Bills</u>	<u>Developed Rate</u>	<u>Developed Revenue</u>
	5/8"	3	36	\$ 21.91	\$ 788.76
	3/4"	0	0	31.19	0.00
	1"	1	12	47.10	565.20
	1 1/2"	0	0	85.00	0.00
	2"	1	12	131.49	1,577.88
	3"	1	12	244.28	2,931.36
	4"	0	0	400.32	0.00
	Total	6	72		\$ 5,863.20
	<u>CCFT</u>				
Volume:	1,145			\$ 5.79	\$ 6,629.55
Grand Total GWS Revenue					\$ 534,960.30

Fire Protection Service

Private Fire Protection

<u>Size</u>	<u>Number</u>	<u>Number of Bills</u>	<u>Developed Rate</u>	<u>Developed Revenue</u>
4"	1	12	\$ 60.48	725.76
6"	9	108	173.56	18,744.48
8"	1	12	368.60	4,423.20
Total	11	132		\$ 23,893.44

Municipal Fire Protection

<u>Size</u>	<u>Number</u>	<u>of Bills</u>	<u>Developed Rate</u>	<u>Developed Revenue</u>
Hydrant	65	780	\$ 84.83	\$ 66,167.40
Inch-Feet	493,754		0.17874	88,253.59
Grand Total Municipal Fire Revenue				\$ 154,420.99

Pittsfield Aqueduct Company, Inc.
Pittsfield Division
Summary of Revenues Under Developed Rates - Revised April 15, 2011

<u>Description</u>	<u>Amount</u>	<u>%</u>
GWS Volume Revenue	\$ 338,425.50	47.45%
GWS Customer Charge Revenue	\$ 196,534.80	27.55%
Grand Total GWS Revenue	\$ 534,960.30	75.00%
Grand Total Private Fire Revenue	\$ 23,893.44	3.35%
Grand Total Municipal Fire Revenue	\$ 154,420.99	21.65%
Grand Total Revenue under Developed Rates	\$ 713,274.73	100.00%
Net Revenue Requirement	713,242.00	
Difference	\$ 32.73	
	0.005%	
	Negligible	

Pittsfield Aqueduct Company, Inc.

Rate Design

For

Step Rate Increase

April 15, 2011

Pittsfield Aqueduct Company, Inc.
Allocation of Combined Rate Revenue
Combined Permanent and Step Increase - Revised April 15, 2011

<u>Description</u>	<u>Developed Permanent Rates</u>		<u>Combined Revenue Requirement</u>
	<u>Amount</u>	<u>%</u>	
GWS Volume Revenue	\$ 338,425.50	47.45%	\$ 347,610
GWS Customer Charge Revenue	196,534.80	27.55%	201,826
Grand Total GWS Revenue	534,960.30	75.00%	549,436
Grand Total Private Fire Revenue	23,893.44	3.35%	24,541
Grand Total Municipal Fire Revenue	154,420.99	21.65%	158,604
Grand Total Revenue under Developed Rates	\$ 713,274.73	100.00%	\$ 732,581
Net Revenue Requirement	\$ 713,242.00		
Difference	\$ 32.73		
		0.005%	
		Negligible	

Pittsfield Aqueduct Company, Inc.
Pittsfield Division
Rate Design - Combined Rate Increase - Revised April 15, 2011

Municipal Fire Protection

Allocated Costs	\$	158,604
Developed Permanent Revenue	\$	154,420.99

Permanent revenue is less than the allocated costs.
An increase of about 2.7% will be developed for municipal fire protection.

<u>Rate Element</u>	Permanent Monthly <u>Rate</u>	Combined Monthly <u>Rate</u>	<u>% Increase</u>
Hydrant	\$ 84.83	\$ 87.13	2.71 %
Inch-Foot	0.17874	0.18358	2.71 %

Private Fire Protection

Allocated Costs	\$	24,541
Present Revenue	\$	23,893.44

Permanent revenue is less than the allocated costs.
An increase of about 2.7% will be developed for private fire protection.

<u>Size</u>	Permanent Monthly <u>Rate</u>	Combined Monthly <u>Rate</u>	<u>% Increase</u>
4"	\$ 60.48	\$ 62.12	2.71 %
6"	173.56	178.26	2.71 %
8"	368.60	378.59	2.71 %

Pittsfield Aqueduct Company, Inc.
Pittsfield Division
Rate Design - Combined Rate Increase - Revised April 15, 2011

GWS Customer Charges (Minimum Charges)

Allocated Customer Costs	\$	201,826
Add 50% of A&G O&M Volume Cost		0
Add 50% of Management Fee Volume Cost		0
Total for Customer Charge	\$	201,826
Dev. Perm. Revenue - Cust Chgs	\$	196,534.80
Increase Required	\$	5,291.20
		2.69 %

<u>Rate Element</u>	<u>Permanent Monthly Rate</u>	<u>Combined Monthly Rate</u>	<u>% Increase</u>
5/8"	\$ 21.91	\$ 22.48	2.60 %
3/4"	31.19	32.02	2.66 %
1"	47.10	48.36	2.68 %
1 1/2"	85.00	87.28	2.68 %
2"	131.49	135.02	2.68 %
3"	244.28	250.84	2.69 %
4"	400.32	411.08	2.69 %
6"	798.50	819.97	2.69 %
8"	1,328.07	1,363.79	2.69 %

Pittsfield Aqueduct Company, Inc.
Pittsfield Division
Rate Design - Combined Rate Increase - Revised April 15, 2011

GWS Volumetric Rate

Pro Forma Net Revenue Requirement	\$ 732,581.00
Revenue from Developed Rates	
Municipal Fire Protection	158,604.76
Private Fire Protection	24,540.60
Customer Charges (Minimum Charges)	201,680.16
Remaining from Volumetric Rate	\$ 347,755.48
Annual Volume in 100 cu. ft.	58,450
Designed Rate per 100 cu. ft.	\$ 5.95

<u>Rate Element</u>	<u>Permanent Rate</u>	<u>Combined Rate</u>	<u>% Increase</u>
Per 100 cu. ft.	\$ 5.79	\$ 5.95	2.76 %

Pittsfield Aqueduct Company, Inc.
Combined Permanent and Step Increase
Calculation of Revenues Under Combined Rates - April 15, 2011

General Water Service

Residential:

Meter Size	Number of Meters	Number of Bills	Developed Rate	Developed Revenue
5/8" *	534	6,408	\$ 22.48	\$ 144,051.84
3/4"	1	12	32.02	384.24
1"	8	96	48.36	4,642.56
1 1/2"	6	72	87.28	6,284.16
2"	1	12	135.02	1,620.24
3"	0	0	250.84	0.00
4"	0	0	411.08	0.00
Total	550	6,600		\$ 156,983.04

	CCFT			
Volume:	46,619	\$ 5.95	\$	277,383.05

* Five 5/8" Meters (60 Bills) removed per Draft Settlement

Commercial

Meter Size	Number of Meters	Number of Bills	Developed Rate	Developed Revenue
5/8"	54	648	\$ 22.48	\$ 14,567.04
3/4"	0	0	32.02	0.00
1"	6	72	48.36	3,481.92
1 1/2"	5	60	87.28	5,236.80
2"	6	72	135.02	9,721.44
3"	0	0	250.84	0.00
4"	0	0	411.08	0.00
Total	71	852		\$ 33,007.20

	CCFT			
Volume:	10,185	\$ 5.95	\$	60,600.75

Industrial

Meter Size	Number of Meters	Number of Bills	Developed Rate	Developed Revenue
5/8"	3	36	\$ 22.48	\$ 809.28
3/4"	0	0	32.02	0.00
1"	0	0	48.36	0.00
1 1/2"	0	0	87.28	0.00
2"	3	36	135.02	4,860.72
3"	0	0	250.84	0.00
4"	0	0	411.08	0.00
Total	6	72		\$ 5,670.00

	CCFT			
Volume:	501	\$ 5.95	\$	2,980.95

Pittsfield Aqueduct Company, Inc.
Combined Permanent and Step Increase
Calculation of Revenues Under Combined Rates - April 15, 2011

General Water Service - Continued

<u>Municipal</u>				
<u>Meter Size</u>	<u>Number of Meters</u>	<u>Number of Bills</u>	<u>Developed Rate</u>	<u>Developed Revenue</u>
5/8"	3	36	\$ 22.48	\$ 809.28
3/4"	0	0	32.02	0.00
1"	1	12	48.36	580.32
1 1/2"	0	0	87.28	0.00
2"	1	12	135.02	1,620.24
3"	1	12	250.84	3,010.08
4"	0	0	411.08	0.00
Total	6	72		\$ 6,019.92
<u>CCFT</u>				
Volume:	1,145		\$ 5.95	\$ 6,812.75
Grand Total GWS Revenue				\$ 549,457.66

Fire Protection Service

<u>Private Fire Protection</u>				
<u>Size</u>	<u>Number</u>	<u>Number of Bills</u>	<u>Developed Rate</u>	<u>Developed Revenue</u>
4"	1	12	\$ 62.12	745.44
6"	9	108	178.26	19,252.08
8"	1	12	378.59	4,543.08
Total	11	132		\$ 24,540.60
<u>Municipal Fire Protection</u>				
<u>Size</u>	<u>Number</u>	<u>of Bills</u>	<u>Developed Rate</u>	<u>Developed Revenue</u>
Hydrant	65	780	\$ 87.13	\$ 67,961.40
Inch-Feet	493,754		0.18358	90,643.36
Grand Total Municipal Fire Revenue				\$ 158,604.76

Pittsfield Aqueduct Company, Inc.
Pittsfield Division
Summary of Revenues Under Combined Rates - Revised April 15, 2011

<u>Description</u>	<u>Amount</u>	<u>%</u>
GWS Volume Revenue	\$ 347,777.50	47.47%
GWS Customer Charge Revenue	\$ 201,680.16	27.53%
Grand Total GWS Revenue	\$ 549,457.66	75.00%
Grand Total Private Fire Revenue	\$ 24,540.60	3.35%
Grand Total Municipal Fire Revenue	\$ 158,604.76	21.65%
Grand Total Revenue under Combined Rates	\$ 732,603.02	100.00%
Net Revenue Requirement	732,581.00	
Difference	\$ 22.02	
	0.003%	
	Negligible	

Pittsfield Aqueduct Company, Inc.

Schedules Illustrating
Effect of Step Increase

April 15, 2011

Pittsfield Aqueduct Company, Inc.
Effect of Step Rate Increase - Revised April 15, 2011

General Water Service

<u>Customer Charge Meter Size</u>	<u>Permanent Monthly Rate</u>	<u>Combined Monthly Rate</u>	<u>Effect of Step Increase</u>
5/8"	\$ 21.91	\$ 22.48	\$ 0.57
3/4"	31.19	32.02	0.83
1"	47.10	48.36	1.26
1 1/2"	85.00	87.28	2.28
2"	131.49	135.02	3.53
3"	244.28	250.84	6.56
4"	400.32	411.08	10.76
6"	798.50	819.97	21.47
8"	1,328.07	1,363.79	35.72
Volumetric Rate	\$ 5.79	\$ 5.95	\$ 0.16

Municipal Fire Protection

<u>Rate Element</u>	<u>Permanent Monthly Rate</u>	<u>Combined Monthly Rate</u>	<u>Effect of Step Increase</u>
Hydrant	\$ 84.83	\$ 87.13	\$ 2.30
Inch-Foot	0.17874	0.18358	0.00484

Private Fire Protection

<u>Size</u>	<u>Permanent Monthly Rate</u>	<u>Combined Monthly Rate</u>	<u>Effect of Step Increase</u>
4"	\$ 60.48	\$ 62.12	\$ 1.64
6"	173.56	178.26	4.70
8"	368.60	378.59	9.99

Pittsfield Aqueduct Company, Inc.
Calculation of Revenue Effect From Step Increase
Revised April 15, 2011

General Water Service

Residential:

Meter Size	Number of Meters	Number of Bills	Developed Rate	Developed Revenue
5/8" *	534	6,408	\$ 0.57	\$ 3,652.56
3/4"	1	12	0.83	9.96
1"	8	96	1.26	120.96
1 1/2"	6	72	2.28	164.16
2"	1	12	3.53	42.36
3"	0	0	6.56	0.00
4"	0	0	10.76	0.00
Total	550	6,600		\$ 3,990.00
Volume:	<u>CCFT</u> 46,619		\$ 0.16	\$ 7,459.04

* Five 5/8" Meters (60 Bills) removed per Draft Settlement

Commercial

Meter Size	Number of Meters	Number of Bills	Developed Rate	Developed Revenue
5/8"	54	648	\$ 0.57	\$ 369.36
3/4"	0	0	0.83	0.00
1"	6	72	1.26	90.72
1 1/2"	5	60	2.28	136.80
2"	6	72	3.53	254.16
3"	0	0	6.56	0.00
4"	0	0	10.76	0.00
Total	71	852		\$ 851.04
Volume:	<u>CCFT</u> 10,185		\$ 0.16	\$ 1,629.60

Industrial

Meter Size	Number of Meters	Number of Bills	Developed Rate	Developed Revenue
5/8"	3	36	\$ 0.57	\$ 20.52
3/4"	0	0	0.83	0.00
1"	0	0	1.26	0.00
1 1/2"	0	0	2.28	0.00
2"	3	36	3.53	127.08
3"	0	0	6.56	0.00
4"	0	0	10.76	0.00
Total	6	72		\$ 147.60
Volume:	<u>CCFT</u> 501		\$ 0.16	\$ 80.16

Pittsfield Aqueduct Company, Inc.
Calculation of Revenue Effect From Step Increase
Revised April 15, 2011

General Water Service - Continued

Municipal

<u>Meter Size</u>	<u>Number of Meters</u>	<u>Number of Bills</u>	<u>Developed Rate</u>	<u>Developed Revenue</u>
5/8"	3	36	\$ 0.57	\$ 20.52
3/4"	0	0	0.83	0.00
1"	1	12	1.26	15.12
1 1/2"	0	0	2.28	0.00
2"	1	12	3.53	42.36
3"	1	12	6.56	78.72
4"	0	0	10.76	0.00
Total	6	72		\$ 156.72
<u>CCFT</u>				
Volume:	1,145		\$ 0.16	\$ 183.20
Grand Total GWS Revenue				\$ 14,497.36

Fire Protection Service

Private Fire Protection

<u>Size</u>	<u>Number</u>	<u>Number of Bills</u>	<u>Developed Rate</u>	<u>Developed Revenue</u>
4"	1	12	\$ 1.64	19.68
6"	9	108	4.70	507.60
8"	1	12	9.99	119.88
Total	11	132		\$ 647.16

Municipal Fire Protection

<u>Size</u>	<u>Number</u>	<u>Number of Bills</u>	<u>Developed Rate</u>	<u>Developed Revenue</u>
Hydrant	65	780	\$ 2.30	\$ 1,794.00
Inch-Feet	493,754		0.00484	2,389.77
Grand Total Municipal Fire Revenue				\$ 4,183.77

Pittsfield Aqueduct Company, Inc.
Calculation of Revenue Effect From Step Increase
Revised April 15, 2011

<u>Description</u>	<u>Amount</u>	<u>%</u>
GWS Volume Revenue	\$ 9,352.00	48.38%
GWS Customer Charge Revenue	\$ 5,145.36	26.62%
Grand Total GWS Revenue	\$ 14,497.36	75.00%
Grand Total Private Fire Revenue	\$ 647.16	3.35%
Grand Total Municipal Fire Revenue	\$ 4,183.77	21.65%
Grand Total Revenue under Step Inc.	\$ 19,328.29	100.00%
Net Revenue Requirement	19,339.00	
Difference	\$ (10.71)	
	-0.055%	
	Negligible	