

ORIGINAL	
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PENNICHUCK WATER WORKS, INC.  
MERRIMACK, NEW HAMPSHIRE

RATE DESIGN  
FOR  
SETTLEMENT

by

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May 2011

PENNICHUCK WATER WORKS, INC.  
RATE DESIGN FOR SETTLEMENT  
MAY 2011

The attached schedules set forth the development of a rate design in accordance with the Proposed Settlement Agreement for Permanent Rates. The permanent revenue level is \$26,997,164. The attached schedules utilize data from and are similar to certain schedules in the February 2011 Revised Report on Cost of Service Allocations and Water Rate Design.

Schedule A sets forth the allocation of the permanent revenue requirement. It is based on the cost allocations from the February 2011 Report.

Schedule B sets forth the development of the Anheuser-Busch Volumetric rate. A payroll tax component is included in this rate as recommended by the Office of Consumer Advocate.

Permanent rate design is set forth on Schedule 10. As shown on Page 3 of Schedule 10, the increases to the customer charges are limited to the overall revenue increase of 11.95%.

Proposed settlement rates are summarized on Schedule 14.

Permanent revenues are calculated on Schedule 15. As noted on Pages 1 and 4, the number of customers taking service has been reduced in accordance with the Proposed Settlement. Finally, as shown on Page 5 of Schedule 15, the rate design generates revenues which are within 0.002% of the revenue requirement; this difference is negligible.

Pennichuck Water Works, Inc.

Revenue Requirement - Settlement May 18, 2011

	<u>February 2011</u> <u>Revised</u> <u>Cost of Service</u>		<u>Settlement</u> <u>Revenue</u> <u>Requirement</u>	
	<u>\$</u>	<u>%</u>	<u>\$</u>	<u>%</u>
Water Service Revenue	24,026,781	85.17	22,993,485	85.17
Private Fire Revenue	1,053,318	3.73	1,006,994	3.73
Municipal Fire Revenue	3,131,999	11.10	2,996,685	11.10
Total Revenues	28,212,098	100.00	26,997,164	100.00

Pennichuck Water Works, Inc.

Revenue Requirement - Settlement May 18, 2011  
Development of Anheuser-Busch Volumetric Rate

Anheuser-Busch Volumetric Rate  
per Schedule 3, Page 3 of February 2011 Report      \$ 0.9099 per CCF

Additional for Payroll Tax Allocation  
per OCA (Rubin) Attachment SJR-5:

Total Payroll Taxes to A-B:	\$ 25,873
A-B Volume in CCF	551,400

Payroll Tax Component      0.0469 per CCF

Total Anheuser-Busch Volumetric Rate      \$ 0.9568 per CCF

Pennichuck Water Works, Inc.

Settlement Rate Design - May 18, 2011

Municipal Fire Protection

<u>Rate Element</u>	<u>February 2011 Proposed Revenue</u>	<u>Settlement Revenue</u>
Fire Hydrants	591,135.36	565,596
Inch-Feet	2,540,863.70	2,431,089
Total	3,131,999.06	2,996,685
Hydrant Revenue Requirement		565,596
Number of Hydrants		2,468
Annual Cost per Hydrant		229.17
Monthly Charge per Hydrant		19.10
Inch-Foot Revenue Requirement		2,431,089
Number of Inch-Feet		18,448,150
Annual Charge per Inch-Foot		0.13179

Pennichuck Water Works, Inc.

Settlement Rate Design - May 18, 2011

Private Fire Protection

Total Private Fire Protection Rev Reqmt	1,006,994
Present Private Fire Protection Revenue	1,005,371
Less One 8" Customer (12 Bills) (Deduct 1 Customer per Settlement)	<u>1,651</u>
Net Present Private Fire Protection Revenue	1,003,720

Increase Required 0.33 %

<u>Size</u>	<u>Present Monthly Charge</u>	<u>Proposed Monthly Charge</u>	<u>Increase</u>
2"	55.70	55.88	0.32 %
4"	55.70	55.88	0.32 %
6"	93.46	93.77	0.33 %
8"	137.60	138.06	0.33 %
10"	137.60	138.06	0.33 %
12"	137.60	138.06	0.33 %
16"	137.60	138.06	0.33 %

Pennichuck Water Works, Inc.

Settlement Rate Design - May 18, 2011

Customer Charges

In accordance with the Settlement, the increases to the customer charges are limited to the overall increase of 11.95%.

	Increase Allowed		11.95 %
<u>Meter Size</u>	<u>Present Monthly Charge</u>	<u>Proposed Monthly Charge</u>	<u>Increase</u>
5/8"	18.18	20.34	11.88 %
3/4"	26.16	29.28	11.93 %
1"	42.13	47.16	11.94 %
1 1/2"	82.10	91.91	11.95 %
2"	134.41	150.47	11.95 %
3"	246.48	275.93	11.95 %
4"	406.51	455.09	11.95 %
6"	806.63	903.02	11.95 %
8"	1,286.90	1,440.68	11.95 %
10"	1,847.05	2,067.77	11.95 %

Pennichuck Water Works, Inc.

Settlement Rate Design - May 18, 2011

Volumetric Charges

Net Water Revenue Requirement	26,997,164
Less Proposed Revenues:	
From Municipal Fire Protection	(2,996,947)
From Private Fire Protection	(1,007,055)
From Customer Charges	(7,545,125)
From Contract Fixed Fees	(113,800)
From A-B Carrying Charge	(371,430)
From A-B Volume Charge - Minimum	(303,483)
From A-B Volume Charge - Excess	(224,097)
Net Required From Volume Charges	14,435,227
Present Volume Charge Revenue	12,696,537
Increase Required	13.69 %

	<u>Present Charge</u>	<u>Proposed Charge</u>	<u>Increase</u>
General Water	2.900	3.297	13.69 %
Anheuser-Busch	1.4956	0.9568	(36.03) %
Hudson	1.8419	2.0942	13.70 %
Milford	1.8249	2.0748	13.69 %



Pennichuck Water Works, Inc.  
Settlement Rate Design - May 18, 2011  
Summary of Proposed Rates

General Service - Metered  
Schedule G-M

<u>Meter Size</u>	<u>Monthly Proposed Charge</u>
5/8"	\$ 20.34
3/4"	29.28
1"	47.16
1 1/2"	91.91
2"	150.47
3"	275.93
4"	455.09
6"	903.02
8"	1,440.68
10"	2,067.77
Volumetric Charge per 100 cu. ft.	\$ 3.297

Municipal Fire Protection Service  
Schedule FP-M

	<u>Monthly Proposed Charge</u>
Each Hydrant	\$ 19.10
Inch-Foot per year	\$ 0.13179

Private Fire Protection Service  
Schedule FP-NM

<u>Connection Size</u>	<u>Monthly Proposed Charge</u>
4" or smaller	\$ 55.88
6"	93.77
8" or larger	138.06

Special Contract Service

Anheuser-Busch

Annual Carrying Chg \$ 371,430.48  
317,185 ccf Required Annual Minimum Use (Take or Pay)  
(86,900 ccf/day = 317,185 ccf/year)  
Volumetric Charge (for all ccf )  
per 100 cu. ft. \$ 0.9568

Hudson

Annual Charge \$ 32,800.00  
Volumetric Charge per 100 cu. ft. \$ 2.0942

Milford

Annual Fixed Fee \$ 81,000.00  
Volumetric Charge per 100 cu. ft. \$ 2.0748

Pennichuck Water Works, Inc.  
Calculation of Revenues Under Settlement Rates - May 18, 2011

General Service - Metered

Residential

<u>Meter Size</u>	<u>Number of Meters</u>	<u>Number of Bills</u>	<u>Proposed Rate</u>	<u>Proposed Revenue</u>
5/8"	23,173	278,076	\$ 20.34	\$ 5,656,065.84
3/4"	324	3,888	29.28	113,840.64
1"	205	2,460	47.16	116,013.60
1 1/2"	131	1,572	91.91	144,482.52
2"	42	504	150.47	75,836.88
3"	19	228	275.93	62,912.04
4"	3	36	455.09	16,383.24
6"	0	0	903.02	0.00
8"	0	0	1,440.68	0.00
10"	0	0	2,067.77	0.00
Subtotal	23,897	286,764		\$ 6,185,534.76

	<u>CCFT</u>			
Volume	3,190,170		\$ 3.297	\$ 10,517,990.49

Total Residential Revenue \$ 16,703,525.25

\* Per Settlement 5/8" less 15 meters (180 bills); 3/4" less 1 meter (12 bills)  
2" less 3 meters (36 bills).

Commercial

<u>Meter Size</u>	<u>Number of Meters</u>	<u>Number of Bills</u>	<u>Proposed Rate</u>	<u>Proposed Revenue</u>
5/8"	605	7,260	\$ 20.34	\$ 147,668.40
3/4"	175	2,100	29.28	61,488.00
1"	255	3,060	47.16	144,309.60
1 1/2"	233	2,796	91.91	256,980.36
2"	150	1,800	150.47	270,846.00
3"	17	204	275.93	56,289.72
4"	2	24	455.09	10,922.16
6"	1	12	903.02	10,836.24
8"	0	0	1,440.68	0.00
10"	0	0	2,067.77	0.00
Subtotal	1,438	17,256		\$ 959,340.48

	<u>CCFT</u>			
Volume	766,150		\$ 3.297	\$ 2,525,996.55

Total Commercial Revenue \$ 3,485,337.03

Pennichuck Water Works, Inc.  
Calculation of Revenues Under Settlement Rates - May 18, 2011

General Service - Metered

Industrial

<u>Meter Size</u>	<u>Number of Meters</u>	<u>Number of Bills</u>	<u>Proposed Rate</u>	<u>Proposed Revenue</u>
5/8"	30	360	\$ 20.34	\$ 7,322.40
3/4"	17	204	29.28	5,973.12
1"	39	468	47.16	22,070.88
1 1/2"	29	348	91.91	31,984.68
2"	35	420	150.47	63,197.40
3"	13	156	275.93	43,045.08
4"	2	24	455.09	10,922.16
6"	2	24	903.02	21,672.48
8"	0	0	1,440.68	0.00
10"	0	0	2,067.77	0.00
Subtotal	167	2,004		\$ 206,188.20
Volume	<u>CCFT</u> 222,313		\$ 3.297	\$ 732,965.96
Total Industrial Revenue				\$ 939,154.16

Municipal

<u>Meter Size</u>	<u>Number of Meters</u>	<u>Number of Bills</u>	<u>Proposed Rate</u>	<u>Proposed Revenue</u>
5/8"	17	204	\$ 20.34	\$ 4,149.36
3/4"	10	120	29.28	3,513.60
1"	16	192	47.16	9,054.72
1 1/2"	27	324	91.91	29,778.84
2"	37	444	150.47	66,808.68
3"	8	96	275.93	26,489.28
4"	2	24	455.09	10,922.16
6"	2	24	903.02	21,672.48
8"	0	0	1,440.68	0.00
10"	0	0	2,067.77	0.00
Subtotal	119	1,428		\$ 172,389.12
Volume	<u>CCFT</u> 79,953		\$ 3.297	\$ 263,605.04
Total Municipal Revenue				\$ 435,994.16
Grand Total GWS Revenue				\$ 21,564,010.60

Pennichuck Water Works, Inc.  
Calculation of Revenues Under Settlement Rates - May 18, 2011

Service to Contract Customers

Town of Milford

		<u>Proposed Rate</u>	<u>Proposed Revenue</u>
Annual Fixed Fee		\$ 81,000.00	\$ 81,000.00
Volume	<u>CCFT</u> 45,237	\$ 2.0748	\$ 93,857.73
Total Milford Revenue			\$ 174,857.73

Town of Hudson

		<u>Proposed Rate</u>	<u>Proposed Revenue</u>
Annual Demand Charge		\$ 32,800.00	\$ 32,800.00
Volume	<u>CCFT</u> 143,376	\$ 2.0942	\$ 300,258.02
Total Hudson Revenue			\$ 333,058.02

Anheuser-Busch

<u>Meter Size</u>	<u>Number of Meters</u>	<u>Number of Bills</u>	<u>Proposed Rate</u>	<u>Proposed Revenue</u>
6"	2	24	\$ 903.02	\$ 21,672.48
Volume	<u>CCFT</u> 234,215 (Excess)		0.9568	\$ 224,096.91
	<u>317,185</u> (Min'm Use)		0.9568	\$ 303,482.61
	551,400 (Total CCF)			
Annual Carrying Charge			\$ 371,430.48	\$ 371,430.48
Total Anheuser-Busch Revenue				\$ 920,682.48
Grand Total Contract Revenue				\$ 1,428,598.23

Pennichuck Water Works, Inc.  
Calculation of Revenues Under Settlement Rates - May 18, 2011

Fire Protection Service

Private Fire Protection

<u>Size</u>	<u>Number</u>	<u>Number of Bills</u>	<u>Proposed Rate</u>	<u>Proposed Revenue</u>
2"	29	348	\$ 55.88	\$ 19,446.24
4"	105	1,260	55.88	70,408.80
6"	369	4,428	93.77	415,213.56
8"*	283	3,396	138.06	468,851.76
10"	6	72	138.06	9,940.32
12"	13	156	138.06	21,537.36
16"	1	12	138.06	1,656.72
Total	806	9,672		\$ 1,007,054.76

\* One 8" Customer (12 Bills) removed per Settlement

Municipal Fire Protection

<u>Size</u>	<u>Number</u>	<u>of Bills</u>	<u>Proposed Rate</u>	<u>Proposed Revenue</u>
Hydrant	2,468	60	\$ 19.10	\$ 565,665.60
Inch-Feet	18,448,150		0.13179	2,431,281.69
Total Municipal Fire Revenue				\$ 2,996,947.29

Pennichuck Water Works, Inc.  
Calculation of Revenues Under Settlement Rates - May 18, 2011

Total Proposed Rate Revenue

Grand Total GWS Revenue	\$ 21,564,010.60
Grand Total Contract Revenue	\$ 1,428,598.23
Grand Total Private Fire Revenue	\$ 1,007,054.76
Grand Total Municipal Fire Revenue	\$ 2,996,947.29
Grand Total Proposed Revenue	\$ 26,996,610.88
Total Customer Charge Revenue	\$ 7,545,125.04
Total Volume Charge Revenue	\$ 14,962,253.31
Total Contract Fixed Fee Revenue	\$ 485,230.48
Total Private Fire Revenue	\$ 1,007,054.76
Total Municipal Fire Revenue	\$ 2,996,947.29
Grand Total Proposed Revenue	\$ 26,996,610.88
Net Water Revenue Requirement	\$ 26,997,164.00
Difference	\$ (553.12) -0.002%