

CHAIRWOMAN  
Dianne Martin

COMMISSIONER  
Kathryn M. Bailey

EXECUTIVE DIRECTOR  
Debra A. Howland

STATE OF NEW HAMPSHIRE



**PUBLIC UTILITIES COMMISSION**  
21 S. Fruit St., Suite 10  
Concord, N.H. 03301-2429

TDD Access: Relay NH  
1-800-735-2964

Tel. (603) 271-2431

FAX No. 271-3878

Website:  
[www.puc.nh.gov](http://www.puc.nh.gov)

October 9, 2020

Debra A. Howland, Executive Director  
New Hampshire Public Utilities Commission  
21 South Fruit Street, Suite 10  
Concord, New Hampshire 03301-2429

Re: DW 19-084 – Pennichuck Water Works, Inc.  
Staff Recommendation – Final Revenue Requirement and Customer Rates

Dear Ms. Howland:

In this letter, Staff recommends the Commission approve a final revenue requirement in this proceeding of \$35,819,773 for Pennichuck Water Works, Inc. (PWW or Company). This revenue requirement results in a \$3,749,745, or 11.85%, increase in PWW's revenues from base rates. The proposed increase in revenues, however, is inclusive of previously approved revenues from PWW's Qualified Capital Project Adjustment Charge (QCPAC) mechanism, which, when subtracted from the revenue requirement, results in an estimated realized increase in the Company's revenues of \$2,501,648, or 7.90%. Staff further recommends the Commission approve the establishment of rates based on the final recommended revenue requirement that are in conformity with the Settlement Agreement approved by Commission Order No. 26,383 in this proceeding.

### **Background**

On July 24, 2020, the Commission issued Order No. 26,383 in this proceeding and DW 20-055, PWW's financing docket, which approved a Settlement Agreement inclusive of the following:

- A bond financing of up to \$75 million that would result in potential debt service savings which would determine PWW's final approved revenue requirement.
- Adjustments to PWW's ratemaking mechanism, including the establishment of a Material Operating Expense Factor (MOEF) that would better enable PWW to maintain adequate cash flow coverage between rate proceedings. The MOEF established in this proceeding was not to exceed 9.50% of test year material operating expenses, or \$1,799,471.<sup>1</sup>
- A potential maximum revenue requirement of \$35,839,461, pending the outcome of PWW's bond financing, which would result in a \$3,769,433, or 11.91%, maximum increase in PWW's revenues derived from base rates.

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<sup>1</sup> Total pro forma test year material operating expenses were established at \$18,941,800. Therefore, the calculation of the maximum MOEF is as follows:  $\$18,941,800 \times 9.50\% = \$1,799,471$ . See Appendix 2, Attachment C, Page 76 of Settlement Agreement.

On September 2, 2020, PWW closed on its bond financing, issuing a total of \$73,630,000 in Series 2020C Bonds.<sup>2</sup> The bond financing enabled the Company to refinance certain prior debt issuances with lower cost debt, pay off required debt obligations, and fully replenish its Material Operating Expense Revenue Requirement Rate Stabilization Fund (MOERR RSF) to an established level of \$2,850,000. The Total Interest Cost of the overall bond financing transaction was 4.01%, resulting in a net annual debt service savings to the Company of \$826,154, to be included in the determination of PWW's final revenue requirement.

On September 18, 2020, PWW provided schedules and proposed tariff changes reflecting its calculations of a final revenue requirement based on the net debt service savings realized from its recent bond issuance. The result of which was a proposed increase of 11.85% in PWW's revenue requirement from base rates, which is less than the previously approved maximum increase in the Company's revenue requirement of 11.91%. The proposed final amount is also inclusive of the maximum proposed MOEF of 9.50%. Staff reviewed PWW's submissions and concurs with its calculations of a final revenue requirement and resulting rates.

### **Final Revenue Requirement**

To illustrate the calculation of PWW's final revenue requirement, Staff has attached schedules based on Appendix 2, Attachment C of the approved Settlement Agreement in this proceeding. These modified schedules include the information provided by the Company in its September 18, 2020 filing. See Updated Appendix 2, Attachment C, Pages 1 and 2, Summary (far-right column). The annual debt service savings of \$826,154, resulting from the Company's completed financing, appears on line 17 of the schedule. After applying the 1.1x debt service factor (line 18), the resulting reduction in the Company's debt service becomes \$908,769 (line 19). As such, PWW's adjusted Debt Service Revenue Requirement (DSRR) is \$6,794,125 (\$7,702,894 [line 15] - \$908,769 [line 19]).

The fully implemented MOEF of 9.50% (line 10) increases the Operating Expense Revenue Requirement (OERR) by \$1,799,471 (line 11), resulting in a total OERR of \$21,296,617 (line 12). The adjusted DSRR of \$6,794,125 (line 15 minus line 19) and the OERR of \$21,296,617 (line 12) are then combined with the City Bond Fixed Revenue Requirement (CBFRR) of \$7,729,032 (line 1) to derive the calculated final revenue requirement of \$35,819,773 (lines 20 and 21). After eliminating pro forma other operating revenues of \$420,712 (line 22), the remaining amount of \$35,399,061 (line 23) represents the amount of PWW's revenues to be derived from base rates, which is an increase of \$3,749,745, or 11.85% (line 25). The Company's pro forma test year, however, also includes pro forma QCPAC revenues authorized in DW 18-022 and DW 19-029<sup>3</sup> amounting to \$1,248,097 (line 26). Per the parameters of the QCPAC mechanism approved in DW 16-806<sup>4</sup>, those revenues are subsumed into the proposed base rate revenues of \$35,399,061 (line 23), thereby resulting in an estimated increase in billed water revenues realized from customers of \$2,501,648, or 7.90% (line 27).

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<sup>2</sup> See attached Summary of Final Terms of Bond Financing filed in DW 20-055 on September 11, 2020.

<sup>3</sup> See, *Pennichuck Water Works, Inc.*, Docket No DW 18-022, Order No. 26,183 (October 29, 2018); and *Pennichuck Water Works, Inc.*, Docket No. DW 19-029, Order No. 26,298 (October 9, 2019).

<sup>4</sup> See, *Pennichuck Water Works, Inc.*, Docket No. DW 16-806, Order No. 26,070 (November 7, 2017).

**Rate Impacts**

In its September 18, 2020 filing, PWW provided proposed final revenue requirement calculations based on the provisions included in Section IV. C of the approved Settlement Agreement. PWW’s calculations encompass the approved phase-in of Municipal Fire Protection rates and the concurrent impact of such on Other G-M Charges as described in Section IV. C. 2 of the Settlement Agreement.<sup>5</sup> Based on PWW’s finalized Report of Proposed Changes, the initial increases in rates for each of the Company’s rate classes, including special contracts, will be as follows:

<u>General Metered (G-M) Charges:</u>	
G-M Residential Fixed Charges	7.81%
Other G-M Charges*	10.17%
Private Fire Protection	71.74%
Municipal Fire Protection*	10.17%
<u>Anheuser-Busch Special Contract:</u>	
Contract Charges	0.00%
Volumetric and Meter Charges	10.17%
<u>Town of Milford Special Contract:</u>	
Contract Charges	0.00%
Volumetric Charges	10.17%
<u>Town of Hudson Special Contract:</u>	
Contract Charges	0.00%
Volumetric Charges	10.17%
<u>Town of Tyngsborough Special Contract:</u>	
Volumetric and Meter Charge	10.17%
<u>Pennichuck East Utility Special Contract:</u>	
Volumetric and Meter Charge	10.17%

\*Adjusted annually, see Footnote 5.

PWW also provided draft tariff pages reflecting the proposed rate adjustments based on the above percentages. These are attached to this recommendation. Staff verified the proposed rate

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<sup>5</sup> In accordance with Section IV. C. 2 of the Settlement Agreement, the initial increases in the rates of both Municipal Fire Protection and Other G-M Charges were established at the same percentage of 10.17%. However, per Section IV. C. 2. (e) of the Settlement Agreement, “During each subsequent year following initial implementation of the new rates and ending with year 6, the Municipal Fire Protection Service rates will increase by 3.00% over the prior year’s rate. Concurrently, all Other G-M Charges will decrease by a corresponding percentage designed to equalize the previously approved revenue requirement.” The cover letter included with PWW’s September 18, 2020 filing states, “. . . PWW will, accordingly, file tariff pages no later than August 31<sup>st</sup> effectuating those annual changes [service rendered] as of October 1<sup>st</sup> of the affected years.”

October 9, 2020

adjustments contained in PWW's draft tariff pages. As a result, an average residential customer using 7.77 hundred cubic feet (ccf) of water per month will realize an increase of \$4.66 in their monthly bills (\$55.92 on an annual basis) from approximately \$51.02 per month to approximately \$55.68 per month. However, after factoring in the QCPAC surcharges these customers are already paying, the realized net increase per month is only \$2.59.

Due to the timing of PWW's bond closing and its subsequent compliance filing with the Commission, the Company is proposing its tariffs be effective for service rendered as of October 1, 2020, such that the proposed rate increases will affect its November billings. Staff recommends, however, that the Commission approve the rate increases resulting from the Company's final revenue requirement with an implementation date no sooner than the date of the subsequent Commission order approving PWW's final revenue requirement and rates in this proceeding. In doing so, Staff notes the effective date for temporary rates on a service-rendered basis has been set at April 14, 2020 by the Commission in Order No. 26,373 (June 30, 2020). Per RSA 378:29, the Company can recoup the difference of the permanent rate and the temporary rate back to that date, after the reconciliation calculation is reviewed by Staff and is authorized by the Commission.

The Company further provided an updated schedule illustrating the phased-in effective dates of various imminent rates and surcharges that will be precipitated by the Commission's approval of PWW's final revenue requirement in this proceeding. That updated schedule is based on Section IV. I of the approved Settlement Agreement and is also attached to this recommendation.

### **Conclusion**

Staff reviewed PWW's September 18, 2020 filing and recommends the Commission approve a final revenue requirement in this proceeding of \$35,819,773, resulting in an increase of \$3,749,745, or 11.85%, in the Company's base rate revenues. Staff further recommends the Commission approve the resulting rate increases proposed by PWW to be implemented no sooner than the Commission's order in this proceeding approving rates. Staff contacted the various parties to the Settlement Agreement in this proceeding relative to their positions regarding Staff's recommendations. In response, PWW indicated that it concurs with Staff's recommendations. The Office of the Consumer Advocate (OCA) and the City of Nashua, however, did not provide their respective positions.

Thank you for your attention and assistance with this matter. If you have any further questions, please do not hesitate to contact me.

Sincerely,

*/s/ Jayson P. Laflamme*

Jayson P. Laflamme  
Assistant Director, Gas-Water Division

Attachments: 1) PWW's Final Bond Financing Report in DW 20-055 dated September 11, 2020  
2) Updated Appendix 2, Attachment C Schedules inclusive of Calculation of Final

- Proposed Revenue Requirement
- 3) PWW's Proposed Draft Tariff Pages
  - 4) PWW's Updated Schedule of Imminent Rates and Surcharges

cc: Service List

# RATH YOUNG PIGNATELLI

Richard W. Head  
Of Counsel  
[rw@rathlaw.com](mailto:rw@rathlaw.com)  
603-410-4322  
Please reply to: Concord Office

September 11, 2020

## VIA ELECTRONIC MAIL

Debra A. Howland, Executive Director  
New Hampshire Public Utilities Commission  
21 South Fruit Street, Suite 10  
Concord, NH 03301-2429

**Re: 2020 Petition of Pennichuck Water Works, Inc.  
Docket DW 20-055**

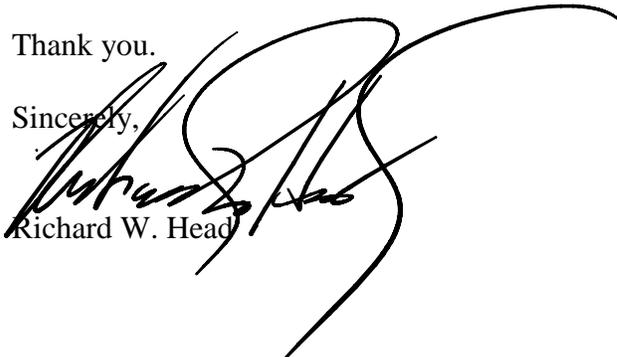
Dear Ms. Howland:

Pursuant to Order No. 26,383 issued for this docket on July 24, 2020, enclosed are an original and six copies of the summary of the final terms of bond financing which was authorized by the Commission's Order. The attached summary was prepared by Larry Goodhue, the Company's Chief Executive Officer and Chief Financial Officer

Please let me know if you have any questions or concerns.

Thank you.

Sincerely,

  
Richard W. Head

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Rath, Young and Pignatelli, P.C.  
[www.rathlaw.com](http://www.rathlaw.com)

One Capital Plaza  
Concord, NH 03302-1500  
T (603) 226-2600  
F (603) 226-2700

20 Trafalgar Square  
Nashua, NH 03063  
T (603) 889-9952  
F (603) 595-7489

120 Water Street, 2nd Floor  
Boston, MA 02109  
T (617) 523-8080

26 State Street, Suite 9  
Montpelier, VT 05602  
T (802) 229-8050  
F (802) 229-4666

**Docket DW 20-055**  
**Pennichuck Water Works, Inc. – Petition for Financing Approval**  
**Information Disclosure for Post Bond Closing Results**

**Prepared by Larry D. Goodhue, Chief Executive Officer and Chief Financial Officer**

**I. INTRODUCTION**

Order No. 26,383 issued for this docket, on July 24, 2020, required Pennichuck Water Works, Inc. (“PWW” or “Company”) to “submit the final terms of bond financing” “within 10 days of closure of the bond issuance.” The Company offers the following summary of events and final terms of the bond financing.

**II. PROCESS AND SUMMARY OF TERMS**

- The Company successfully closed on the bond issuance on September 2, 2020 (Series 2020C bonds), and as such this disclosure is being filed within the filing deadline of 10 days post-closing, on or before September 14, 2020 pursuant to Puc 202.03(b), Computation of Time.
- The bond issuance was “pre-priced” on Tuesday August 25, 2020, which is the deadline for the overall structure of the deal to be finalized, going into pricing the next day.
- The bond issuance was marketed, priced and sold on Wednesday August 26, 2020.
- The overall value of the bonds issued was \$73,630,000, which is in conformity with the Order giving authority to issue up to \$75,000,000 of bonds.
- The bond issuance accomplished all of the major factors petitioned for and approved in Docket DW 20-055, including:
  - The advance refunding and refinancing of the 2014A, 2015A and 2015B bonds, including the funding of the escrow deposit for that advance refunding;
  - The payoff of the AULI Note Payable set to expire on 3/1/2021;
  - The funding of monies needed to refill the MOERR RSF to its imprest level of \$2,850,000, and paydown the Working Capital Line of Credit for the balance outstanding as of the date of pre-pricing, with a maximum cap of \$2,650,000 for that purpose (\$5,500,000 in the aggregate for both components of the new money borrowed);
  - Pay for the overall cost of issuance on the bonds.
- Attached to this disclosure are details of the Post-Award Pricing of the bonds and indicate the overall results of the offering.
- Page 1 as attached is the summation of the entire offering, including all of the components indicated above.
- Page 2 is a summation of the hybrid offering the deal was comprised of, including serial bonds issued maturing from 2021 thru 2030, as well as three term bonds with annual sinking fund payments, having maturities in 2038, 2045 and 2055. All together comprising the structure of the deal to issue bonds over the 35 year term petitioned for and approved, and structured to allow for a near flat cost of debt service over a period of years, and then a reduction in annual debt service for another plateau of years to full maturity. The deal was consummated with an average arbitrage yield of 3.871383% and an overall All-In TIC of 4.011440%
- Page 3 gives the portion of the bonds that were issued within the deal in support of the new money borrowed of \$4.7 million, including COI of \$95,000, with a year one debt service cost of \$250,494.66

- Page 4 shows the total debt service (principal and interest) portion of the bonds for the balance of the offering, including the advance refunding of the 2014/2015 bonds, the payoff of AULI, and the funding of the escrow for the advanced refunding, as well as the COI. This takes the 2021 debt service on the prior debts at \$4,725,486.07 down to a new amount of \$3,648,837.67, for an annual savings of \$1,076,648.40.
- The bond issuance was floated with the Company's attached "A" rating with a negative outlook by S&P. This is the same rating the Company was given for its April 2020 bond issuance, and was not yet given full credit for the results of this current bond issuance in refilling the MOERR RSF account, allowing for the establishment of the MOEF in the Company's rate structure, as approved in the July 24, 2020 Order under Docket No. 19-084, or giving credit for the full value of permanent rates being granted under that docket. The rationale given by S&P in this credit rating issuance was that although those factors were positive for the Company's overall credit rating, the final rates had not yet gone into effect, and thus they could not be fully weighted in the rating. One benefit of the Commission's order and approval of the revised revenue requirement methodology, however, was that, S&P indicated that without these positive items being put in place, the Company's rating would have decreased, like it has for many Companies, due to current overall market concerns and uncertainty due to COVID-19, and its impact on the worldwide economy.
- The Company only funded the new monies at \$4.7 million, instead of the full \$5.5 million authorized, in conformity with the order, based upon the outstanding balance of the W/C Line of Credit as of the date of pre-pricing. On that morning, the outstanding balance was slightly in excess of \$1.85 million, and as bonds are issued in \$5,000 increments, the amount included in the overall offering was rounded down to the \$1.85 million amount.
- The bonds when priced on August 26, 2020 were actually floated at a rate lower than the rates in existence in the market on both the day before and the day after pricing. This is important because it allowed the Company to obtain a lower rate. In fact, the muni bond market rates went up 10 basis points (0.10%) the day after we priced our issuance.
- The Company had \$1,710,867.79 in its DSRR 1.0 account awaiting the 10/1/2020 payment on the 2014A, 2015A, and 2015B bonds, and as such, those monies were used in the deal for those debt instruments being refinanced and defeased in this offering, as those 10/1/2020 payment obligations were being negated and replaced with the new debt service obligations on the new Series 2020 C bonds, with future payment dates of 3/1 and 9/1 of each year until maturity. This eliminated the need to reborrow any of those funds in this offering.
- The net result of this overall transaction is a net annual debt service savings in 2021 of \$826,153.74 (\$1,076,648.40 – \$250,494.66); the amount upon which the overall rate increase and factor for the MOEF in Docket DW 19-084 will be calculated and finalized.

SOURCES AND USES OF FUNDS

Pennichuck Corporation NH  
 Refunding Water Facility Revenue Bonds  
 (Pennichuck Water Works Project)  
 \*\*\* FINAL Series 2020C Bonds \*\*\*  
 August, 26, 2020

Sources:	2020 New Money Series B	2020 Refunding of AULI	2014 Series A Refunding	2015 Series A Refunding	2015 Series B Refunding	Total
Bond Proceeds:						
Par Amount	4,795,000.00	2,440,000.00	42,580,000.00	21,920,000.00	1,895,000.00	73,630,000.00
Other Sources of Funds:						
Issuer Contribution			1,064,869.87	555,789.58	90,208.34	1,710,867.79
	4,795,000.00	2,440,000.00	43,644,869.87	22,475,789.58	1,985,208.34	75,340,867.79
Uses:						
Project Fund Deposits:						
Rate Stabilization Fund	4,700,000.00					4,700,000.00
Refunding Escrow Deposits:						
Cash Deposit		2,391,983.00	169.99	148.11	941.16	2,393,242.26
Open Market Purchases			42,839,144.63	22,061,469.00	1,944,921.90	66,845,535.53
		2,391,983.00	42,839,314.62	22,061,617.11	1,945,863.06	69,238,777.79
Delivery Date Expenses:						
Cost of Issuance	43,863.53	22,320.55	389,511.86	200,519.03	17,335.03	673,550.00
Underwriter's Discount	46,703.30	23,765.60	414,729.20	213,500.80	18,457.30	717,156.20
	90,566.83	46,086.15	804,241.06	414,019.83	35,792.33	1,390,706.20
Other Uses of Funds:						
Additional Proceeds	4,433.17	1,930.85	1,314.19	152.64	3,552.95	11,383.80
	4,795,000.00	2,440,000.00	43,644,869.87	22,475,789.58	1,985,208.34	75,340,867.79

Note: 1) Preliminary and subject to change.

BOND SUMMARY STATISTICS

Pennichuck Corporation NH  
 Refunding Water Facility Revenue Bonds  
 (Pennichuck Water Works Project)  
 \*\*\* FINAL Series 2020C Bonds \*\*\*  
 August, 26, 2020

Dated Date	09/02/2020
Delivery Date	09/02/2020
Last Maturity	09/01/2055
Arbitrage Yield	3.871383%
True Interest Cost (TIC)	3.943101%
Net Interest Cost (NIC)	3.948757%
All-In TIC	4.011440%
Average Coupon	3.903163%
Average Life (years)	21.363
Duration of Issue (years)	13.881
Par Amount	73,630,000.00
Bond Proceeds	73,630,000.00
Total Interest	61,394,239.33
Net Interest	62,111,395.53
Total Debt Service	135,024,239.33
Maximum Annual Debt Service	3,908,670.00
Average Annual Debt Service	3,858,141.61
Underwriter's Fees (per \$1000)	
Average Takedown	
Other Fee	9.740000
Total Underwriter's Discount	9.740000
Bid Price	99.026000

Bond Component	Par Value	Price	Average Coupon	Average Life	PV of 1 bp change
Taxable Serial Bonds (2021-30)	13,225,000.00	100.000	2.593%	5.682	6,740.05
Taxable Term Bond due in 2038	13,895,000.00	100.000	3.820%	14.693	17,924.55
Taxable Term Bond due in 2045	16,135,000.00	100.000	3.920%	22.151	25,493.30
Taxable Term Bond due in 2055	30,375,000.00	100.000	4.020%	30.822	56,497.50
	73,630,000.00			21.363	106,655.40

BOND DEBT SERVICE

Pennichuck Corporation NH  
 2020 New Money Series B  
 Rate Stabilization Fund

Period Ending	Principal	Coupon	Interest	Debt Service
12/31/2021	75,000	1.250%	175,494.66	250,494.66
12/31/2022	80,000	1.950%	175,046.00	255,046.00
12/31/2023	80,000	2.040%	173,486.00	253,486.00
12/31/2024	80,000	2.210%	171,854.00	251,854.00
12/31/2025	85,000	2.260%	170,086.00	255,086.00
12/31/2026	85,000	2.500%	168,165.00	253,165.00
12/31/2027	85,000	2.550%	166,040.00	251,040.00
12/31/2028	90,000	2.810%	163,872.50	253,872.50
12/31/2029	90,000	2.860%	161,343.50	251,343.50
12/31/2030	95,000	2.910%	158,769.50	253,769.50
12/31/2031	95,000	3.820%	156,005.00	251,005.00
12/31/2032	100,000	3.820%	152,376.00	252,376.00
12/31/2033	105,000	3.820%	148,556.00	253,556.00
12/31/2034	110,000	3.820%	144,545.00	254,545.00
12/31/2035	110,000	3.820%	140,343.00	250,343.00
12/31/2036	115,000	3.820%	136,141.00	251,141.00
12/31/2037	120,000	3.820%	131,748.00	251,748.00
12/31/2038	125,000	3.820%	127,164.00	252,164.00
12/31/2039	130,000	3.920%	122,389.00	252,389.00
12/31/2040	135,000	3.920%	117,293.00	252,293.00
12/31/2041	140,000	3.920%	112,001.00	252,001.00
12/31/2042	145,000	3.920%	106,513.00	251,513.00
12/31/2043	150,000	3.920%	100,829.00	250,829.00
12/31/2044	160,000	3.920%	94,949.00	254,949.00
12/31/2045	165,000	3.920%	88,677.00	253,677.00
12/31/2046	170,000	4.020%	82,209.00	252,209.00
12/31/2047	175,000	4.020%	75,375.00	250,375.00
12/31/2048	185,000	4.020%	68,340.00	253,340.00
12/31/2049	190,000	4.020%	60,903.00	250,903.00
12/31/2050	200,000	4.020%	53,265.00	253,265.00
12/31/2051	205,000	4.020%	45,225.00	250,225.00
12/31/2052	215,000	4.020%	36,984.00	251,984.00
12/31/2053	225,000	4.020%	28,341.00	253,341.00
12/31/2054	235,000	4.020%	19,296.00	254,296.00
12/31/2055	245,000	4.020%	9,849.00	254,849.00
	4,795,000		4,043,473.16	8,838,473.16

SAVINGS

Pennichuck Corporation NH  
 Refunding Water Facility Revenue Bonds  
 (Pennichuck Water Works Project)  
 \*\*\* FINAL Series 2020C Bonds \*\*\*  
 August, 26, 2020

Date	Prior Debt Service	Refunding Debt Service	Savings	Present Value to 09/02/2020 @ 3.8713831%
12/31/2021	4,725,486.07	3,648,837.67	1,076,648.40	1,103,273.75
12/31/2022	4,710,271.92	3,651,652.50	1,058,619.42	1,045,880.12
12/31/2023	4,704,066.65	3,644,325.00	1,059,741.65	1,008,635.49
12/31/2024	4,682,861.38	3,645,661.00	1,037,200.38	952,129.67
12/31/2025	4,686,156.11	3,649,472.50	1,036,683.61	917,225.97
12/31/2026	4,673,450.84	3,652,013.50	1,021,437.34	871,622.43
12/31/2027	4,674,495.57	3,645,888.50	1,028,607.07	845,642.60
12/31/2028	4,659,040.30	3,648,503.50	1,010,536.80	801,548.90
12/31/2029	4,651,960.03	3,646,833.00	1,005,127.03	768,773.73
12/31/2030	4,647,629.76	3,648,509.00	999,120.76	737,032.81
12/31/2031	4,640,674.49	3,648,351.00	992,323.49	705,961.99
12/31/2032	4,435,875.47	3,654,107.00	781,768.47	544,337.66
12/31/2033	4,434,351.45	3,647,571.00	786,780.45	528,079.97
12/31/2034	4,427,308.68	3,654,125.00	773,183.68	501,353.90
12/31/2035	4,409,840.91	3,648,196.00	761,644.91	476,940.11
12/31/2036	4,401,748.14	3,650,166.00	751,582.14	454,626.62
12/31/2037	1,756,845.99	3,644,653.00	-1,887,807.01	-973,011.83
12/31/2038	1,752,037.59	3,651,848.00	-1,899,810.41	-941,855.06
12/31/2039	1,740,222.95	3,646,178.00	-1,905,955.05	-908,902.92
12/31/2040	1,731,402.06	3,651,110.00	-1,919,707.94	-880,565.88
12/31/2041	1,725,359.29	3,647,906.00	-1,922,546.71	-848,139.75
12/31/2042	1,716,991.52	3,651,762.00	-1,934,770.48	-820,948.65
12/31/2043	1,716,083.12	3,652,286.00	-1,936,202.88	-790,030.64
12/31/2044	1,702,634.10	3,644,478.00	-1,941,843.90	-762,061.52
12/31/2045	1,701,541.33	3,648,534.00	-1,946,992.67	-734,744.55
12/31/2046	444,787.50	3,493,866.00	-3,049,078.50	-1,125,066.67
12/31/2047		3,499,195.00	-3,499,195.00	-1,246,373.26
12/31/2048		3,500,504.00	-3,500,504.00	-1,199,608.02
12/31/2049		3,492,793.00	-3,492,793.00	-1,151,617.58
12/31/2050		3,496,263.00	-3,496,263.00	-1,109,068.03
12/31/2051		3,495,311.00	-3,495,311.00	-1,066,729.81
12/31/2052		3,494,937.00	-3,494,937.00	-1,026,164.42
12/31/2053		3,499,940.00	-3,499,940.00	-988,646.07
12/31/2054		3,494,918.00	-3,494,918.00	-949,762.76
12/31/2055		3,495,072.00	-3,495,072.00	-913,746.32
	89,553,123.22	126,185,766.17	-36,632,642.95	-6,173,978.00

Savings Summary

PV of savings from cash flow	-6,173,978.00
Plus: Refunding funds on hand	6,950.63
Net PV Savings	-6,167,027.37

DW 19-084  
PENNICHUCK WATER WORKS, INC.  
SUMMARY - CALCULATION OF REVENUE REQUIREMENT

	REVENUE REQUIREMENT PER COMPANY'S	REVENUE REQUIREMENT PER SETTLEMENT		FINAL REVENUE REQUIREMENT (DW 20-055 Financing @)
		ESTIMATED <sup>1</sup> (DW 20-055 Financing @)	MAXIMUM <sup>2</sup> (DW 20-055 Financing @)	
<b><u>CITY BOND FIXED REVENUE REQUIREMENT (CBFRR)</u></b>				
1) City Bond Fixed Revenue Requirement (CBFRR) (Schedule 1)	\$ 7,729,032	\$ 7,729,032	\$ 7,729,032	\$ 7,729,032
<b><u>OPERATING EXPENSE REVENUE REQUIREMENT (OERR) (Schedules 2.1 / 2.2 / 2.3)</u></b>				
2) Total Pro Forma Operation & Maintenance Expenses	\$ 14,739,018	\$ 14,581,494	\$ 14,581,494	\$ 14,581,494
3) Pro Forma Property Tax Expense	4,547,936	3,968,596	3,968,596	3,968,596
4) Pro Forma Payroll Tax Expense	698,087	698,087	698,087	698,087
5) Pro Forma Amortization Expense	415,268	145,720	145,720	145,720
6) Pro Forma Income Tax Expense	103,249	103,249	103,249	103,249
7) Total Operating Expenses [(2) + (3) + (4) + (5) + (6)]	<b>20,503,558</b>	<b>19,497,146</b>	<b>19,497,146</b>	<b>19,497,146</b>
<b><u>MATERIAL OPERATING EXPENSE SUPPLEMENT (MOES)</u></b>				
8) Less: Non-Material Operating Expenses (Schedule 2b)		(555,346)	(555,346)	(555,346)
9) Material Operating Expenses [(7) - (8)]		18,941,800	18,941,800	18,941,800
10) Material Operating Expense Factor (MOEF) per Settlement		x 9.50%	x 7.66%	x 9.50%
11) MOEF Calculated Result [(9) x (10)]		<b>1,799,471</b>	<b>1,450,033</b>	<b>1,799,471</b>
12) Operating Expense Revenue Requirement (OERR) [(7) + (11)]	<b>\$ 20,503,558</b>	<b>\$ 21,296,617</b>	<b>\$ 20,947,179</b>	<b>\$ 21,296,617</b>
<b><u>DEBT SERVICE REVENUE REQUIREMENT (DSRR) (Schedule 3)</u></b>				
13) Pro Forma Test Year Annual Debt Service	\$ 6,999,023	\$ 7,002,631	\$ 7,002,631	\$ 7,002,631
14) Debt Service Coverage Requirement	x 1.1	x 1.1	x 1.1	x 1.1
15) Debt Service Revenue Requirement (DSRR) [(13) x (14)]	<b>7,698,925</b>	<b>7,702,894</b>	<b>7,702,894</b>	<b>7,702,894</b>
16) REVENUE REQUIREMENT BEFORE APPLICATION OF DEBT SERVICE SAVINGS RESULTING FROM DW 20-055 FINANCING [(11) + (12) + (15)]	<b>\$ 35,931,515</b>	<b>\$ 36,728,543</b>	<b>\$ 36,379,105</b>	<b>\$ 36,728,543</b>
<b><u>REDUCTION IN REVENUE REQUIREMENT RESULTING FROM DW 20-055 FINANCING</u></b>				
17) Less: Estimated Debt Service Savings from DW 20-055 Financing (Schedule 3)		(970,374)	(490,585)	(826,154)
18) Debt Service Coverage Requirement		x 1.1	x 1.1	x 1.1
19) Estimated Reduction in Revenue Requirement [(17) x (18)]		<b>(1,067,411)</b>	<b>(539,644)</b>	<b>(908,769)</b>
20) TOTAL PROPOSED REVENUE REQUIREMENT [(16) - (19)]	<b>\$ 35,931,515</b>	<b>\$ 35,661,131</b>	<b>\$ 35,839,461</b>	<b>\$ 35,819,773</b>

DW 19-084  
PENNICHUCK WATER WORKS, INC.  
SUMMARY - CALCULATION OF REVENUE REQUIREMENT

	REVENUE REQUIREMENT PER COMPANY'S	REVENUE REQUIREMENT PER SETTLEMENT		FINAL REVENUE REQUIREMENT (DW 20-055 Financing @
		ESTIMATED <sup>1</sup> (DW 20-055 Financing @	MAXIMUM <sup>2</sup> (DW 20-055 Financing @	
<b><u>CALCULATION OF PERCENT INCREASE (DECREASE) IN ANNUAL WATER REVENUES</u></b>				
21) Total Proposed Revenue Requirement [(20)]	\$ 35,931,515	\$ 35,661,131	\$ 35,839,461	\$ 35,819,773
22) Less: Pro Forma Test Year Other Operating Revenues (Schedules 2.1 / 2.2 / 2.3)	<u>(420,712)</u>	<u>(420,712)</u>	<u>(420,712)</u>	<u>(420,712)</u>
23) Total Proposed Water Revenues from Base Rates [(21) - (22)]	\$ 35,510,803	\$ 35,240,419	\$ 35,418,749	\$ 35,399,061
24) Less: Pro Forma Test Year Water Revenues from Base Rates (Schedules 2.1 / 2.2 / 2.3)	<u>(31,732,664)</u>	<u>(31,649,316)</u>	<u>(31,649,316)</u>	<u>(31,649,316)</u>
25) <b>Proposed Increase / (Decrease) in Annual Water Revenues from Base Rates [(23) - (24)]</b>	\$ 3,778,139 <b>11.91%</b>	\$ 3,591,103 <b>11.35%</b>	\$ 3,769,433 <b>11.91%</b>	\$ 3,749,745 <b>11.85%</b>
26) Less: Pro Forma Test Year Water Revenues from QCPAC (Schedules 2.1 / 2.2 / 2.3)	<u>(1,169,488)</u>	<u>(1,248,097)</u>	<u>(1,248,097)</u>	<u>(1,248,097)</u>
27) <b>Proposed Increase / (Decrease) in Total Annual Water Revenues [(25) - (26)]</b>	<u>\$ 2,608,651</u> <b>8.22%</b>	<u>\$ 2,343,006</u> <b>7.40%</b>	<u>\$ 2,521,336</u> <b>7.97%</b>	<u>\$ 2,501,648</u> <b>7.90%</b>

**Notes:**

- (1) Presented under the scenario whereby the Co's proposed DW 20-055 Financing is issued at the currently estimated 3.67% Total Interest Cost resulting in net annual debt service savings of \$970,374 (Sch 3), thereby enabling the Co to include a MOEF of 9.50% in the MOERR component of its overall revenue requirement, resulting in a revenue increase of 11.35%.
- (2) Presented under the scenario whereby the Co's proposed DW 20-055 Financing is issued at an estimated 4.67% Total Interest Cost resulting in net annual debt service savings of \$490,585 (Sch 3), thereby only enabling the Co to include a MOEF of 7.66% in the MOERR component of its overall revenue requirement so as not exceed PWW's originally proposed increase in its revenue requirement of 11.91%.

**DW 19-084**  
**PENNICHUCK WATER WORKS, INC.**  
**SCHEDULE 1 - CALCULATION OF PWW'S SHARE OF CITY BOND FIXED REVENUE REQUIREMENT (CBFRR)**

Total City Bond	\$	150,570,000	
Bond Interest Rate		4.09%	
Bond Period		30 yrs.	
Total City Bond	\$	150,570,000	
Less Rate Stabilization fund	\$	<u>5,000,000</u>	
Amount of City Bond to be prorated between Utilities CBFRR	\$	<u>145,570,000</u>	
PWW Share of CBFRR		88.12%	
PWW Prorate share	\$	<u>128,282,230</u>	
Add back PWW Pro Rata Share of Rate Stabilization Reserve	\$	<u>3,920,000</u>	
Total PWW Pro Rata Share for CBFRR/MARA	\$	<u>132,202,230</u>	
Bond Interest Rate		4.09%	
Bond Period		30 yrs.	
<b>PWW CBFRR Requirement</b>	<b>\$</b>	<b><u>7,729,032</u></b>	

**Notes:**

Pro Rata Calculation as follows:<sup>(1)</sup>

PWW & Southwood Equity (12/31/2011) <sup>(2)</sup>	\$	56,442,675	88.12%
PEU Equity (12/31/2011)	\$	6,540,063	10.21%
PAC Equity (12/31/2011)	\$	1,066,353	1.66%
	\$	<u>64,049,091</u>	<u>100.00%</u>

Calculation of RSF Percentage based on Revenue requirements from DW13-126, 13-128 and 13-130

RSF amount funded by City Bond -	\$	5,000,000	
PWW Revenue Requirement -	\$	27,689,214	per DW13-130 Settlement Agreement
PEU Revenue Requirement -	\$	6,913,261	per DW13-126 Settlement Agreement
PAC Revenue Requirement -	\$	745,186	per DW13-128 Settlement Agreement
PWW Share of RSF as a percentage -		78.33%	
PWW Share of RSF in \$\$ -	\$	3,920,000	

Distribution of RSF funds to Revenue Requirement RSF's<sup>(3)</sup>

CBFRR RSF	\$	680,000	
MOERR RSF	\$	2,850,000	
1.0 DSRR RSF	\$	<u>390,000</u>	
	\$	<u>3,920,000</u>	

(1) Calculations are from DW11-026

(2) Consists of Equity as of 12/31/2011 as follows:

PWW	\$	54,395,626	
Southwood	\$	<u>2,047,049</u>	
Total	\$	<u>56,442,675</u>	

(3) PWW RSF fund levels as established in DW16-806

**DW 19-084**  
**PENNICHUCK WATER WORKS, INC.**  
**SCHEDULE 2.1 - OPERATING INCOME STATEMENT AND DETAILED CALCULATION OF ESTIMATED REVENUE REQUIREMENT**

	<u>Company Proposal per Original Filing</u>			<u>Settlement Proposal</u>			
	(1) Test Year Operating Income	(2) Pro Forma Adj's Per Co's Filing	(3) Pro Forma Operating Income Per Co' Filing (Co's Sch 1)	(4) Adj's per Co Responses to Staff DR's (Sch 2a)	(5) Pro Forma Operating Income Per Settlement	(6) Revenue Increase per Settlement	(7) Revenue Requirement per Settlement
<b>OPERATING REVENUES</b>							
Revenues from Water Sales:							
Water Revenues from Base Rates	\$ 31,608,641	\$ 124,023	\$ 31,732,664	\$ (83,348)	\$ 31,649,316	\$ 3,591,103	\$ 35,240,419
Water Revenues from QCPAC	362,158	807,330	1,169,488	78,609	1,248,097	(1,248,097)	-
Total Water Revenues from Water Sales	<u>31,970,799</u>	<u>931,353</u>	<u>32,902,152</u>	<u>(4,739)</u>	<u>32,897,413</u>	<u>2,343,006</u>	<u>35,240,419</u>
Water Sales for Resale	3,321		3,321		3,321		3,321
Other Operating Revenues	416,551	840	417,391		417,391		417,391
Total Operating Revenues	<u>32,390,671</u>	<u>932,193</u>	<u>33,322,864</u>	<u>(4,739)</u>	<u>33,318,125</u>	<u>2,343,006</u>	<u>35,661,131</u>
<b>OPERATING EXPENSES</b>							
Operation and Maintenance Expenses:							
Production Expense	5,074,509	223,378	5,297,887	8,300	5,306,187		5,306,187
Transmission and Distribution Expense	2,848,339	98,367	2,946,706	(25,258)	2,921,448		2,921,448
Engineering Expense	1,287,747	11,317	1,299,064		1,299,064		1,299,064
Customer Account and Collection Expense	489,789	9,700	499,489		499,489		499,489
Administrative and General Expense	7,580,371	551,328	8,131,699	(231,028)	7,900,671		7,900,671
Inter-Division Management Fee	(3,288,063)	(147,764)	(3,435,827)	90,462	(3,345,365)		(3,345,365)
Total Operation and Maintenance Expenses	<u>13,992,692</u>	<u>746,326</u>	<u>14,739,018</u>	<u>(157,524)</u>	<u>14,581,494</u>	<u>-</u>	<u>14,581,494</u>
Other Operating Expenses:							
Property Tax Expense	4,438,775	109,161	4,547,936	(579,340)	3,968,596		3,968,596
Payroll Tax Expense	698,087		698,087		698,087		698,087
Gain from Forgiveness of SRF Debt	(59,384)	59,384	-		-		-
Depreciation Expense	5,839,694	(5,839,694)	-		-		-
Amortization of Acquisition Adjustment	(27,026)	27,026	-		-		-
Amortization - CIAC	(740,182)	740,182	-		-		-
Amortization Expense	1,965,332	(1,550,064)	415,268	(269,548)	145,720		145,720
Total Other Operating Expenses	<u>12,115,296</u>	<u>(6,454,005)</u>	<u>5,661,291</u>	<u>(848,888)</u>	<u>4,812,403</u>	<u>-</u>	<u>4,812,403</u>
Income Tax Expense:							
State Income Tax Expense	794,209	(690,960)	103,249		103,249		103,249
Federal Income Tax Expense	1,592,022	(1,592,022)	-		-		-
Total Income Tax Expense	<u>2,386,231</u>	<u>(2,282,982)</u>	<u>103,249</u>	<u>-</u>	<u>103,249</u>	<u>-</u>	<u>103,249</u>
Total Operating Expenses	<u>28,494,219</u>	<u>(7,990,661)</u>	<u>20,503,558</u>	<u>(1,006,412)</u>	<u>19,497,146</u>	<u>-</u>	<u>19,497,146</u>
<b>NET OPERATING INCOME</b>	<u><b>\$ 3,896,452</b></u>	<u><b>\$ 8,922,854</b></u>	<u><b>\$ 12,819,306</b></u>	<u><b>\$ 1,001,673</b></u>	<u><b>\$ 13,820,979</b></u>	<u><b>\$ 2,343,006</b></u>	<u><b>\$ 16,163,985</b></u>

DW 19-084  
PENNICHUCK WATER WORKS, INC.

SCHEDULE 2.1 - OPERATING INCOME STATEMENT AND DETAILED CALCULATION OF ESTIMATED REVENUE REQUIREMENT

**CALCULATION OF REVENUE DEFICIENCY AND REQUIRED INCREASE @ AN  
ESTIMATED DW 20-055 FINANCING TOTAL INTEREST COST OF 3.67%:**

	<u>PER COMPANY</u>	<u>SETTLEMENT ADJUSTMENTS</u>	<u>PER SETTLEMENT</u>	<u>REVENUE INCREASE</u>	<u>PRO FORMA</u>
<b>NET OPERATING INCOME</b>	<b>\$ 12,819,306</b>	<b>\$ 1,001,673</b>	<b>\$ 13,820,979</b>	<b>\$ 2,343,006</b>	<b>\$ 16,163,985</b>
<b>LESS: MATERIAL OPERATING EXPENSE FACTOR (MOEF) CALCULATION</b>					
TOTAL OPERATING EXPENSES	(20,503,558)	1,006,412	(19,497,146)	-	(19,497,146)
LESS: NON-MATERIAL OPERATING EXPENSES	607,875	(52,529)	555,346	-	555,346
MATERIAL OPERATING EXPENSES	(19,895,683)	953,883	(18,941,800)	-	(18,941,800)
x MATERIAL OPERATING EXPENSE FACTOR (MOEF)	9.50% x	9.50% x	9.50% x	9.50% x	9.50%
MOEF CALCULATED RESULT	<b>(1,890,090)</b>	<b>90,619</b>	<b>(1,799,471)</b>	<b>-</b>	<b>(1,799,471)</b>
<b>LESS: CITY BOND FIXED REVENUE REQUIREMENT (CBFRR)</b>	<b>(7,729,032)</b>	<b>-</b>	<b>(7,729,032)</b>	<b>-</b>	<b>(7,729,032)</b>
<b>LESS: DEBT SERVICE REVENUE REQUIREMENT (DSRR)</b>					
PRO FORMA DEBT SERVICE	(6,999,023)	(3,608)	(7,002,631)	-	(7,002,631)
x DEBT COVERAGE REQUIREMENT	1.1 x	1.1 x	1.1 x	1.1 x	1.1
DEBT SERVICE REVENUE REQUIREMENT (DSRR)	<b>(7,698,925)</b>	<b>(3,969)</b>	<b>(7,702,894)</b>	<b>-</b>	<b>(7,702,894)</b>
<b>ADD: ESTIMATED CASH FLOW SAVINGS FROM DW 20-055 FINANCING</b>					
ESTIMATED DEBT SERVICE SAVINGS @ 3.67 TOTAL INTEREST COST	970,374	-	970,374	-	970,374
x DEBT COVERAGE REQUIREMENT	1.1 x	1.1 x	1.1 x	1.1 x	1.1
TOTAL ESTIMATED CASH FLOW SAVINGS FROM DW 20-055 FINANCING	<b>1,067,411</b>	<b>-</b>	<b>1,067,411</b>	<b>-</b>	<b>1,067,411</b>
<b>CALCULATED ESTIMATED REVENUE (DEFICIENCY) / INCREASE</b>	<b>\$ (3,431,330)</b>	<b>\$ 1,088,323</b>	<b>\$ (2,343,006)</b>	<b>\$ 2,343,006</b>	<b>\$ -</b>

**Revenue Requirement Component Summary:**

**City Bond Fixed Revenue Requirement (CBFRR):** **\$ 7,729,032**

**Operating Expense Revenue Requirement (OERR):**

Total O & M Expenses	\$ 14,581,494	
Property Tax Expense	3,968,596	
Payroll Tax Expense	698,087	
Amortization Expense	145,720	
Income Tax Expense	103,249	
<b>Total Operating Expenses</b>	<b>19,497,146</b>	
Less: Non-Material Operating Expenses	(555,346)	
Material Operating Expenses	18,941,800	
Material Operating Expense Factor (MOEF) x	9.50%	
<b>MOEF Calculated Result</b>	<b>1,799,471</b>	<b>21,296,617</b>

**Debt Service Revenue Requirement (DSRR):**

Pro Forma Debt Service	\$ 7,002,631	
Debt Service Coverage Requirement x	1.1	<b>7,702,894</b>

**Estimated Cash Flow Savings from DW 20-055 Financing:**

Estimated Debt Service Savings @ 3.67% Total Interest Cost	\$ (970,374)	
Debt Service Coverage Requirement x	1.1	<b>(1,067,411)</b>

**Total Estimated Revenue Requirement** **\$ 35,661,131**

**DW 19-084**  
**PENNICHUCK WATER WORKS, INC.**  
**SCHEDULE 2.2 - OPERATING INCOME STATEMENT AND DETAILED CALCULATION OF MAXIMUM REVENUE REQUIREMENT**

	<u>Company Proposal per Original Filing</u>			<u>Settlement Proposal</u>			
	(1) Test Year Operating Income	(2) Pro Forma Adj's Per Co's Filing	(3) Pro Forma Operating Income Per Co' Filing (Co's Sch 1)	(4) Adj's per Co Responses to Staff DR's (Sch 2a)	(5) Pro Forma Operating Income Per Settlement	(6) Revenue Increase per Settlement	(7) Revenue Requirement per Settlement
<b>OPERATING REVENUES</b>							
Revenues from Water Sales:							
Water Revenues from Base Rates	\$ 31,608,641	\$ 124,023	\$ 31,732,664	\$ (83,348)	\$ 31,649,316	\$ 3,769,433	\$ 35,418,749
Water Revenues from QCPAC	362,158	807,330	1,169,488	78,609	1,248,097	(1,248,097)	-
Total Water Revenues from Water Sales	<u>31,970,799</u>	<u>931,353</u>	<u>32,902,152</u>	<u>(4,739)</u>	<u>32,897,413</u>	<u>2,521,336</u>	<u>35,418,749</u>
Water Sales for Resale	3,321		3,321		3,321		3,321
Other Operating Revenues	416,551	840	417,391		417,391		417,391
Total Operating Revenues	<u>32,390,671</u>	<u>932,193</u>	<u>33,322,864</u>	<u>(4,739)</u>	<u>33,318,125</u>	<u>2,521,336</u>	<u>35,839,461</u>
<b>OPERATING EXPENSES</b>							
Operation and Maintenance Expenses:							
Production Expense	5,074,509	223,378	5,297,887	8,300	5,306,187		5,306,187
Transmission and Distribution Expense	2,848,339	98,367	2,946,706	(25,258)	2,921,448		2,921,448
Engineering Expense	1,287,747	11,317	1,299,064		1,299,064		1,299,064
Customer Account and Collection Expense	489,789	9,700	499,489		499,489		499,489
Administrative and General Expense	7,580,371	551,328	8,131,699	(231,028)	7,900,671		7,900,671
Inter-Division Management Fee	(3,288,063)	(147,764)	(3,435,827)	90,462	(3,345,365)		(3,345,365)
Total Operation and Maintenance Expenses	<u>13,992,692</u>	<u>746,326</u>	<u>14,739,018</u>	<u>(157,524)</u>	<u>14,581,494</u>	<u>-</u>	<u>14,581,494</u>
Other Operating Expenses:							
Property Tax Expense	4,438,775	109,161	4,547,936	(579,340)	3,968,596		3,968,596
Payroll Tax Expense	698,087		698,087		698,087		698,087
Gain from Forgiveness of SRF Debt	(59,384)	59,384	-		-		-
Depreciation Expense	5,839,694	(5,839,694)	-		-		-
Amortization of Acquisition Adjustment	(27,026)	27,026	-		-		-
Amortization - CIAC	(740,182)	740,182	-		-		-
Amortization Expense	1,965,332	(1,550,064)	415,268	(269,548)	145,720		145,720
Total Other Operating Expenses	<u>12,115,296</u>	<u>(6,454,005)</u>	<u>5,661,291</u>	<u>(848,888)</u>	<u>4,812,403</u>	<u>-</u>	<u>4,812,403</u>
Income Tax Expense:							
State Income Tax Expense	794,209	(690,960)	103,249		103,249		103,249
Federal Income Tax Expense	1,592,022	(1,592,022)	-		-		-
Total Income Tax Expense	<u>2,386,231</u>	<u>(2,282,982)</u>	<u>103,249</u>	<u>-</u>	<u>103,249</u>	<u>-</u>	<u>103,249</u>
Total Operating Expenses	<u>28,494,219</u>	<u>(7,990,661)</u>	<u>20,503,558</u>	<u>(1,006,412)</u>	<u>19,497,146</u>	<u>-</u>	<u>19,497,146</u>
<b>NET OPERATING INCOME</b>	<u><b>\$ 3,896,452</b></u>	<u><b>\$ 8,922,854</b></u>	<u><b>\$ 12,819,306</b></u>	<u><b>\$ 1,001,673</b></u>	<u><b>\$ 13,820,979</b></u>	<u><b>\$ 2,521,336</b></u>	<u><b>\$ 16,342,315</b></u>

DW 19-084  
PENNICHUCK WATER WORKS, INC.

SCHEDULE 2.2 - OPERATING INCOME STATEMENT AND DETAILED CALCULATION OF MAXIMUM REVENUE REQUIREMENT

**CALCULATION OF REVENUE DEFICIENCY AND REQUIRED INCREASE @ AN  
ESTIMATED DW 20-055 FINANCING TOTAL INTEREST COST OF 4.67%:**

	<u>PER COMPANY</u>	<u>SETTLEMENT ADJUSTMENTS</u>	<u>PER SETTLEMENT</u>	<u>REVENUE INCREASE</u>	<u>PRO FORMA</u>
<b>NET OPERATING INCOME</b>	<b>\$ 12,819,306</b>	<b>\$ 1,001,673</b>	<b>\$ 13,820,979</b>	<b>\$ 2,521,336</b>	<b>\$ 16,342,315</b>
<b>LESS: MATERIAL OPERATING EXPENSE SUPPLEMENT (MOES)</b>					
TOTAL OPERATING EXPENSES	(20,503,558)	1,006,412	(19,497,146)	-	(19,497,146)
LESS: NON-MATERIAL OPERATING EXPENSES	607,875	(52,529)	555,346	-	555,346
MATERIAL OPERATING EXPENSES	(19,895,683)	953,883	(18,941,800)	-	(18,941,800)
x MATERIAL OPERATING EXPENSE FACTOR (MOEF)	7.66% x	7.66% x	7.66% x	7.66% x	7.7% x
MOEF CALCULATED RESULT	<b>(1,523,054)</b>	<b>73,022</b>	<b>(1,450,033)</b>	<b>-</b>	<b>(1,450,033)</b>
<b>LESS: CITY BOND FIXED REVENUE REQUIREMENT (CBFRR)</b>	<b>(7,729,032)</b>	<b>-</b>	<b>(7,729,032)</b>	<b>-</b>	<b>(7,729,032)</b>
<b>LESS: DEBT SERVICE REVENUE REQUIREMENT (DSRR)</b>					
PRO FORMA DEBT SERVICE	(6,999,023)	(3,608)	(7,002,631)	-	(7,002,631)
x DEBT COVERAGE REQUIREMENT	1.1 x	1.1 x	1.1 x	1.1 x	1.1 x
DEBT SERVICE REVENUE REQUIREMENT (DSRR)	<b>(7,698,925)</b>	<b>(3,969)</b>	<b>(7,702,894)</b>	<b>-</b>	<b>(7,702,894)</b>
<b>ADD: ESTIMATED CASH FLOW SAVINGS FROM DW 20-055 FINANCING</b>					
ESTIMATED DEBT SERVICE SAVINGS @ 4.67 TOTAL INTEREST COST	490,585	-	490,585	-	490,585
x DEBT COVERAGE REQUIREMENT	1.1 x	1.1 x	1.1 x	1.1 x	1.1 x
TOTAL ESTIMATED CASH FLOW SAVINGS FROM DW 20-055 FINANCING	<b>539,644</b>	<b>-</b>	<b>539,644</b>	<b>-</b>	<b>539,644</b>
<b>CALCULATED MAXIMUM REVENUE (DEFICIENCY) / INCREASE</b>	<b>\$ (3,592,062)</b>	<b>\$ 1,070,726</b>	<b>\$ (2,521,336)</b>	<b>\$ 2,521,336</b>	<b>\$ -</b>

**Revenue Requirement Component Summary:**

**City Bond Fixed Revenue Requirement (CBFRR): \$ 7,729,032**

**Operating Expense Revenue Requirement (OERR):**

Total O & M Expenses	\$ 14,581,494	
Property Tax Expense	3,968,596	
Payroll Tax Expense	698,087	
Amortization Expense	145,720	
Income Tax Expense	103,249	
<b>Total Operating Expenses</b>	<b>19,497,146</b>	
Less: Non-Material Operating Expenses	(555,346)	
Material Operating Expenses	18,941,800	
Material Operating Expense Factor (MOEF) x	7.66%	
<b>MOEF Calculated Result</b>	<b>1,450,033</b>	<b>20,947,179</b>

**Debt Service Revenue Requirement (DSRR):**

Pro Forma Debt Service	\$ 7,002,631	
Debt Service Coverage Requirement x	1.1	<b>7,702,894</b>

**Estimated Cash Flow Savings from DW 20-055 Financing:**

Estimated Debt Service Savings @ 4.67% Total Interest Cost	(490,585)	
Debt Service Coverage Requirement x	1.1	<b>(539,644)</b>

**Total Maximum Revenue Requirement \$ 35,839,461**

**DW 19-084**  
**PENNICHUCK WATER WORKS, INC.**  
**SCHEDULE 2.3 - OPERATING INCOME STATEMENT AND DETAILED CALCULATION OF FINAL REVENUE REQUIREMENT**

	<u>Company Proposal per Original Filing</u>			<u>Settlement Proposal</u>			
	(1) Test Year Operating Income	(2) Pro Forma Adj's Per Co's Filing	(3) Pro Forma Operating Income Per Co' Filing (Co's Sch 1)	(4) Adj's per Co Responses to Staff DR's (Sch 2a)	(5) Pro Forma Operating Income Per Settlement	(6) Revenue Increase per Settlement	(7) Revenue Requirement per Settlement
<b>OPERATING REVENUES</b>							
Revenues from Water Sales:							
Water Revenues from Base Rates	\$ 31,608,641	\$ 124,023	\$ 31,732,664	\$ (83,348)	\$ 31,649,316	\$ 3,749,745	\$ 35,399,061
Water Revenues from QCPAC	362,158	807,330	1,169,488	78,609	1,248,097	(1,248,097)	-
Total Water Revenues from Water Sales	<u>31,970,799</u>	<u>931,353</u>	<u>32,902,152</u>	<u>(4,739)</u>	<u>32,897,413</u>	<u>2,501,648</u>	<u>35,399,061</u>
Water Sales for Resale	3,321		3,321		3,321		3,321
Other Operating Revenues	416,551	840	417,391		417,391		417,391
Total Operating Revenues	<u>32,390,671</u>	<u>932,193</u>	<u>33,322,864</u>	<u>(4,739)</u>	<u>33,318,125</u>	<u>2,501,648</u>	<u>35,819,773</u>
<b>OPERATING EXPENSES</b>							
Operation and Maintenance Expenses:							
Production Expense	5,074,509	223,378	5,297,887	8,300	5,306,187		5,306,187
Transmission and Distribution Expense	2,848,339	98,367	2,946,706	(25,258)	2,921,448		2,921,448
Engineering Expense	1,287,747	11,317	1,299,064		1,299,064		1,299,064
Customer Account and Collection Expense	489,789	9,700	499,489		499,489		499,489
Administrative and General Expense	7,580,371	551,328	8,131,699	(231,028)	7,900,671		7,900,671
Inter-Division Management Fee	(3,288,063)	(147,764)	(3,435,827)	90,462	(3,345,365)		(3,345,365)
Total Operation and Maintenance Expenses	<u>13,992,692</u>	<u>746,326</u>	<u>14,739,018</u>	<u>(157,524)</u>	<u>14,581,494</u>	<u>-</u>	<u>14,581,494</u>
Other Operating Expenses:							
Property Tax Expense	4,438,775	109,161	4,547,936	(579,340)	3,968,596		3,968,596
Payroll Tax Expense	698,087		698,087		698,087		698,087
Gain from Forgiveness of SRF Debt	(59,384)	59,384	-		-		-
Depreciation Expense	5,839,694	(5,839,694)	-		-		-
Amortization of Acquisition Adjustment	(27,026)	27,026	-		-		-
Amortization - CIAC	(740,182)	740,182	-		-		-
Amortization Expense	1,965,332	(1,550,064)	415,268	(269,548)	145,720		145,720
Total Other Operating Expenses	<u>12,115,296</u>	<u>(6,454,005)</u>	<u>5,661,291</u>	<u>(848,888)</u>	<u>4,812,403</u>	<u>-</u>	<u>4,812,403</u>
Income Tax Expense:							
State Income Tax Expense	794,209	(690,960)	103,249		103,249		103,249
Federal Income Tax Expense	1,592,022	(1,592,022)	-		-		-
Total Income Tax Expense	<u>2,386,231</u>	<u>(2,282,982)</u>	<u>103,249</u>	<u>-</u>	<u>103,249</u>	<u>-</u>	<u>103,249</u>
Total Operating Expenses	<u>28,494,219</u>	<u>(7,990,661)</u>	<u>20,503,558</u>	<u>(1,006,412)</u>	<u>19,497,146</u>	<u>-</u>	<u>19,497,146</u>
<b>NET OPERATING INCOME</b>	<u><b>\$ 3,896,452</b></u>	<u><b>\$ 8,922,854</b></u>	<u><b>\$ 12,819,306</b></u>	<u><b>\$ 1,001,673</b></u>	<u><b>\$ 13,820,979</b></u>	<u><b>\$ 2,501,648</b></u>	<u><b>\$ 16,322,627</b></u>

DW 19-084  
PENNICHUCK WATER WORKS, INC.

SCHEDULE 2.3 - OPERATING INCOME STATEMENT AND DETAILED CALCULATION OF FINAL REVENUE REQUIREMENT

**CALCULATION OF REVENUE DEFICIENCY AND REQUIRED INCREASE @ AN  
ACTUAL DW 20-055 FINANCING TOTAL INTEREST COST OF 4.01%:**

	<u>PER COMPANY</u>	<u>SETTLEMENT ADJUSTMENTS</u>	<u>PER SETTLEMENT</u>	<u>REVENUE INCREASE</u>	<u>PRO FORMA</u>
<b>NET OPERATING INCOME</b>	<b>\$ 12,819,306</b>	<b>\$ 1,001,673</b>	<b>\$ 13,820,979</b>	<b>\$ 2,501,648</b>	<b>\$ 16,322,627</b>
<b>LESS: MATERIAL OPERATING EXPENSE FACTOR (MOEF) CALCULATION</b>					
TOTAL OPERATING EXPENSES	(20,503,558)	1,006,412	(19,497,146)	-	(19,497,146)
LESS: NON-MATERIAL OPERATING EXPENSES	607,875	(52,529)	555,346	-	555,346
MATERIAL OPERATING EXPENSES	(19,895,683)	953,883	(18,941,800)	-	(18,941,800)
x MATERIAL OPERATING EXPENSE FACTOR (MOEF)	9.50% x	9.50% x	9.50% x	9.50% x	9.50%
MOEF CALCULATED RESULT	<b>(1,890,090)</b>	<b>90,619</b>	<b>(1,799,471)</b>	<b>-</b>	<b>(1,799,471)</b>
<b>LESS: CITY BOND FIXED REVENUE REQUIREMENT (CBFRR)</b>	<b>(7,729,032)</b>	<b>-</b>	<b>(7,729,032)</b>	<b>-</b>	<b>(7,729,032)</b>
<b>LESS: DEBT SERVICE REVENUE REQUIREMENT (DSRR)</b>					
PRO FORMA DEBT SERVICE	(6,999,023)	(3,608)	(7,002,631)	-	(7,002,631)
x DEBT COVERAGE REQUIREMENT	1.1 x	1.1 x	1.1 x	1.1 x	1.1
DEBT SERVICE REVENUE REQUIREMENT (DSRR)	<b>(7,698,925)</b>	<b>(3,969)</b>	<b>(7,702,894)</b>	<b>-</b>	<b>(7,702,894)</b>
<b>ADD: ESTIMATED CASH FLOW SAVINGS FROM DW 20-055 FINANCING</b>					
ACTUAL DEBT SERVICE SAVINGS @ 4.01 TOTAL INTEREST COST	826,154	-	826,154	-	826,154
x DEBT COVERAGE REQUIREMENT	1.1 x	1.1 x	1.1 x	1.1 x	1.1
TOTAL ACTUAL CASH FLOW SAVINGS FROM DW 20-055 FINANCING	<b>908,769</b>	<b>-</b>	<b>908,769</b>	<b>-</b>	<b>908,769</b>
<b>CALCULATED ACTUAL REVENUE (DEFICIENCY) / INCREASE</b>	<b>\$ (3,589,972)</b>	<b>\$ 1,088,323</b>	<b>\$ (2,501,648)</b>	<b>\$ 2,501,648</b>	<b>\$ -</b>

**Revenue Requirement Component Summary:**

**City Bond Fixed Revenue Requirement (CBFRR):** **\$ 7,729,032**

**Operating Expense Revenue Requirement (OERR):**

Total O & M Expenses	\$ 14,581,494	
Property Tax Expense	3,968,596	
Payroll Tax Expense	698,087	
Amortization Expense	145,720	
Income Tax Expense	103,249	
<b>Total Operating Expenses</b>	<b>19,497,146</b>	
Less: Non-Material Operating Expenses	(555,346)	
Material Operating Expenses	18,941,800	
Material Operating Expense Factor (MOEF) x	9.50%	
<b>MOEF Calculated Result</b>	<b>1,799,471</b>	<b>21,296,617</b>

**Debt Service Revenue Requirement (DSRR):**

Pro Forma Debt Service	\$ 7,002,631	
Debt Service Coverage Requirement x	1.1	<b>7,702,894</b>

**Actual Cash Flow Savings from DW 20-055 Financing:**

Actual Debt Service Savings @ 4.01% Total Interest Cost	\$ (826,154)	
Debt Service Coverage Requirement x	1.1	<b>(908,769)</b>

**Total Actual Revenue Requirement** **\$ 35,819,773**

**DW 19-084**  
**PENNICHUCK WATER WORKS, INC.**  
**SCHEDULE 2a - OPERATING INCOME ADJUSTMENTS PER COMPANY RESPONSES**  
**TO STAFF DATA REQUESTS**

**OPERATING REVENUES**

**REVENUES FROM WATER SALES**

**Water Revenues from Base Rates:**

Town of Hudson Sales:	Staff Tech 2-24	\$ 309,436	
	Staff 3-16	<u>(339,391)</u>	\$ (29,955)
Calculation of 5-Year Average:	Staff Tech 2-16		<u>(53,393)</u>
Total Adjustments - Water Revenues from Base Rates			<u>(83,348)</u>

**Water Revenues from QCPAC:**

Pro-forma Annual QCPAC Revenues:	Staff Tech 2-3		86,989
Calculation of 5-Year Average:	Staff Tech 2-16	26,761	
	Staff 3-16	<u>(35,141)</u>	<u>(8,380)</u>
Total Adjustments - Water Revenues from QCPAC			<u>78,609</u>

**TOTAL ADJUSTMENTS - OPERATING REVENUES** **\$ (4,739)**

**OPERATING EXPENSES**

**OPERATION AND MAINTENANCE EXPENSES**

**Production Expense:**

Purchased Power:	Staff 2-10	\$ 19,640	
	Staff Tech 2-16	(733)	
	Staff 3-13	<u>(2,218)</u>	\$ 16,689
Purchased Water:	Staff 2-39	17,671	
	Staff Tech 2-16	<u>(24,156)</u>	(6,485)
Chemicals:	Staff Tech 2-16		<u>(1,904)</u>
Total Adjustments - Production Expense			<u>8,300</u>

**Transmission and Distribution Expense:**

Miscellaneous:	Staff 2-28	(1,769)	
	Staff Tech 3-5	<u>(15,151)</u>	(16,920)
Maintenance of Mains:	Staff Tech 3-5		(4,952)
Maintenance of Services:	Staff Tech 3-5		<u>(3,386)</u>
Total Adjustments - Transmission and Distribution Expense			<u>(25,258)</u>

**DW 19-084**  
**PENNICHUCK WATER WORKS, INC.**  
**SCHEDULE 2a - OPERATING INCOME ADJUSTMENTS PER COMPANY RESPONSES**  
**TO STAFF DATA REQUESTS**

**Administrative and General Expense:**

Salaries and Wages:	Staff 2-13		44,407
Employee Benefits:	Staff 2-13		21,640
Regulatory Commission Expense:	Staff 2-12		(10,085)
Group Health Insurance:	Staff 2-41		(80,200)
Group Dental Insurance:	Staff 2-42		(2,846)
Office Supplies:	Staff 2-50	(12,175)	
	Staff Tech 3-5	<u>(5,750)</u>	(17,925)
Miscellaneous:	Staff 2-50		(25,534)
Outside Services:	Staff 2-30	(5,520)	
	Staff 2-50	(26,626)	
	Staff Tech 3-5	<u>(27,383)</u>	(59,529)
Maintenance - Computer Equipment:	Staff Tech 2-9		<u>(100,956)</u>
Total Adjustments - Administrative and General Expense			<u>(231,028)</u>

**Inter-Division Management Fee:**

Wages and Salaries:	Staff 2-13		(17,609)
Group Health Insurance:	Staff 4-3		21,382
Group Dental Insurance:	Staff 4-3		759
Office Lease:	Staff Tech 2-4		(4,277)
Maintenance - Computer Equipment:	Staff 4-2	(26,917)	
	Staff Tech 3-2	<u>53,834</u>	26,917
ROI Allocation to Affiliates:	Staff 2-25	62,862	
	Staff Tech 2-7	<u>428</u>	<u>63,290</u>
Total Adjustments - Inter-Division Management Fee			<u>90,462</u>
<b>Total Adjustments - Operation and Maintenance Expenses</b>			<b><u>(157,524)</u></b>

**DW 19-084**  
**PENNICHUCK WATER WORKS, INC.**  
**SCHEDULE 2a - OPERATING INCOME ADJUSTMENTS PER COMPANY RESPONSES**  
**TO STAFF DATA REQUESTS**

**OTHER OPERATING EXPENSES**

<b><u>Property Tax Expense:</u></b>	Staff Tech 3-3		<u>(579,340)</u>
<b><u>Amortization Expense:</u></b>			
Deferred Assets (Pre-existing):	Staff 2-16	(14,341)	
	Staff Tech 2-5	<u>6,594</u>	(7,747)
Transmission and Distribution Expenses:	Staff Tech 3-5		7,830
Office Supplies:	Staff Tech 3-5		1,917
Maintenance - Computer Equipment:	Staff Tech 2-9	11,218	
	Staff Tech 3-4	<u>(2,991)</u>	8,227
Outside Services:	Staff Tech 3-5		7,000
Rate Stabilization Fund - Shortfall:	Staff Tech 2-23		<u>(286,775)</u>
Total Adjustments - Amortization Expense			<u>(269,548)</u>
<b>Total Adjustments - Other Operating Expenses</b>			<b><u>(848,888)</u></b>
<b>TOTAL ADJUSTMENTS - OPERATING EXPENSES</b>			<b><u>\$ (1,006,412)</u></b>
<b>NET OPERATING INCOME ADJUSTMENTS</b>			<b><u><u>\$ 1,001,673</u></u></b>

**DW 19-084  
PENNICHUCK WATER WORKS, INC.  
SCHEDULE 2b - NON-MATERIAL OPERATING EXPENSES**

Acct No.	Description	Per Co's 2018 Gen'l Ledger	Adj Per Co Resp's to Staff Data Requests	Adjusted Test Year Balances
921002	SENIOR MANAGEMENT VEHICLES	\$ 3,374	\$ -	\$ 3,374
921003	SENIOR MANAGEMENT - FUEL PURCHASED	4,087	-	4,087
921004	SENIOR MANAGEMENTT - VEHICLE REGISTRATION	991	-	991
923000	OUTSIDE SERVICES	385,360	(52,529)	332,831
926001	OFFICER'S LIFE INSURANCE	6,303	-	6,303
926500	MISCELLANEOUS EMPLOYEE BENEFITS	8,759	-	8,759
926501	MISCELLANEOUS EMPLOYEE BENEFITS - WELLNESS	3,371	-	3,371
926502	MISCELLANEOUS EMPLOYEE BENEFITS - ACTIVITIES	11,674	-	11,674
926505	EMPLOYEE RELATIONS	-	-	-
926600	TUITION REIMBURSEMENT	32,246	-	32,246
926610	TRAINING EDUCATIONAL SEMINARS	50,967	-	50,967
930100	MEETINGS & CONVENTIONS	35,325	-	35,325
930101	MEMBERSHIPS	35,590	-	35,590
930200	PUBLIC RELATIONS	25,625	-	25,625
930300	MEALS	4,203	-	4,203
930410	CHARITABLE CONTRIBUTIONS	-	-	-
	<b>TOTAL NON-MATERIAL OPERATING EXPENSES</b>	<b>\$ 607,875</b>	<b>\$ (52,529)</b>	<b>\$ 555,346</b>

**Notes:**

<u>Adj. Per Sch. 2a - Based on Co Responses to Staff Discovery:</u>	<u>Outside Service Expense</u>		<u>Net</u>
	<u>Admin &amp; Gen'l</u>	<u>Amortization</u>	<u>Adjustment</u>
Co Response to Staff 2-30	\$ (5,520)	\$ -	\$ (5,520)
Co Response to Staff 2-50	(26,626)	-	(26,626)
Co Response to Staff Tech 3-5	(27,383)	7,000	(20,383)
<b>Net Adjustment - Outside Services</b>	<b>\$ (59,529)</b>	<b>\$ 7,000</b>	<b>\$ (52,529)</b>

DW 19-084  
PENNICHUCK WATER WORKS, INC.  
SCHEDULE 3 - PRO FORMA TEST YEAR DEBT SERVICE  
AND ESTIMATED IMPACT OF DW 20-055 FINANCING

Holder	Term	Maturity	Int Rate	OUTSTANDING DEBT	PRO FORMA PRINCIPAL PAYMENTS					PRO FORMA INTEREST PAYMENTS					PRO FORMA AMORTIZED DEBT COSTS				
					2018 Principal Payments	Pro Forma Adj's per Co Filing	Pro Forma Princ Pmts per Co Filing	Adj's per Co Resp's to Staff DR's	Pro Forma Princ Pmts per Settl'mnt	2018 Interest Payments	Pro Forma Adj's per Co Filing	Pro Forma Int Pmts per Co Filing	Adj's per Co Resp's to Staff DR's	Pro Forma Int Pmts per Settl'mnt	2018 Amortized Debt Costs	Adj's per Co Resp's to Staff DR's	Pro Forma Amort Costs per Settl'mnt	PRO FORMA DEBT SERVICE PER CO FILING	PRO FORMA DEBT SERVICE PER SETTL'MNT
<b>PRO FORMA TEST YEAR DEBT:</b>																			
<b>Outstanding Debt at 12/31/2018:</b>																			
American United Life Insurance (AULI)	25	03/01/21	7.400%	\$ 3,200,000	\$ 400,000		\$ 400,000		\$ 400,000	\$ 241,733		\$ 241,733	\$ (19,733) (a)	\$ 222,000	\$ 8,711	\$ (8,711) (c)	\$ -	\$ 650,444	\$ 622,000
SRF Loan - Hubbard Hill	20	04/01/22	3.800%	72,312	22,250		22,250		22,250	3,206		3,206	(846) (a)	2,360	-		-	25,456	24,610
SRF Loan - Contract # 4 (Water Treatment Plant)	20	10/01/29	4.488%	1,916,605	144,459		144,459	5,120 (a)	149,579	69,595		69,595	(5,120) (a)	64,475	234	(234) (c)	-	214,288	214,054
ARRA Loan - Ashley Commons	20	05/01/31	2.952%	325,583	7,988		7,988	981 (a)	8,969	9,922		9,922	(583) (a)	9,339	131	(131) (c)	-	18,041	18,308
ARRA Loan - French Hill	20	07/01/32	2.864%	1,001,421	20,261		20,261	2,680 (a)	22,941	29,508		29,508	(1,549) (a)	27,959	370	(370) (c)	-	50,139	50,900
ARRA Loan - Glenn Ridge	20	09/01/32	2.864%	76,168	1,494		1,494	202 (a)	1,696	2,243		2,243	(116) (a)	2,127	-		-	3,737	3,823
ARRA Loan - Armory (S Nashua Booster Station)	20	01/01/32	2.864%	224,762	4,984		4,984	624 (a)	5,608	6,633		6,633	(367) (a)	6,266	87	(87) (c)	-	11,704	11,874
SRF Loan - Drew Woods	20	06/01/32	2.952%	617,773	36,989		36,989	1,107 (a)	38,096	18,831		18,831	(1,107) (a)	17,724	442	(442) (c)	-	56,262	55,820
SRF Loan - Nashua Core	20	07/01/36	2.464%	1,978,000	89,323		89,323	2,227 (a)	91,550	49,935		49,935	(2,226) (a)	47,709	698	(698) (c)	-	139,956	139,259
SRF Loan - Timberline Booster Station	20	07/01/36	2.616%	297,546	13,237		13,237	350 (a)	13,587	7,972		7,972	(350) (a)	7,622	105	(105) (c)	-	21,314	21,209
SRF Loan - Raw Water Transmission	20	11/01/36	3.168%	3,019,510	107,304		107,304	23,793 (a)	131,097	60,499		60,499	(2,490) (a)	58,009	509	(509) (c)	-	168,312	189,106
SRF Loan - Amherst Street - 2016	30	05/01/47	2.420%	1,383,522	11,019		11,019	8,671 (a)	19,690	33,837		33,837	(621) (a)	33,216	311	(311) (c)	-	45,167	52,906
BNY Mellon - 2014 A Series Bonds	30	01/01/45	Various	38,905,000	1,030,000		1,030,000	45,000 (b)	1,075,000	1,760,318		1,760,318	(47,475) (a)	1,712,843	-		-	2,790,318	2,787,843
BNY Mellon - 2014 B Series Bonds	30	01/01/45	4.500%	5,030,000	95,000		95,000	5,000 (b)	100,000	228,488		228,488	(4,488) (a)	224,000	-		-	323,488	324,000
BNY Mellon - 2015 A Series Bonds	30	01/01/46	Various	19,490,000	545,000		545,000	20,000 (b)	565,000	917,987		917,987	(22,200) (a)	895,787	-		-	1,462,987	1,460,787
BNY Mellon - 2015 B Series Bonds	30	01/01/46	Various	1,840,000	100,000		100,000	5,000 (b)	105,000	94,500		94,500	(5,125) (a)	89,375	-		-	194,500	194,375
BNY Mellon - 2018 A Series Bonds	30	01/01/48	4.900%	4,460,000	-		-	-	-	100,484	103,891		204,375	204,375	-		-	204,375	204,375
BNY Mellon - 2018 B Series Bonds	30	01/01/48	4.900%	1,075,000	-	85,000	85,000	-	85,000	22,886	21,821		44,707	44,707	-		-	129,707	129,707
Sub-total: 2018 Outstanding Debt				84,913,202	2,629,308	85,000	2,714,308	120,755	2,835,063	3,658,577	125,712	3,784,289	(114,396)	3,669,893	11,598	(11,598)	-	6,510,195	6,504,956
<b>New Debt Acquired during 2019:</b>																			
BNY Mellon - 2019 A Series Bonds	30	01/01/49	4.220%	8,080,000	-	141,368	141,368	(49,701) (a)	91,667	-	347,460	347,460	923 (a)	348,383	-		-	488,828	440,050
BNY Mellon - 2019 B Series Bonds	30	01/01/48	4.220%	170,000	-	-	-	56,667 (a)	56,667	-	-	-	958 (a)	958	-		-	-	57,625
Sub-total: 2019 New Debt				8,250,000	-	141,368	141,368	6,966	148,334	-	347,460	347,460	1,881	349,341	-	-	-	488,828	497,675
<b>PRO FORMA TEST YEAR TOTALS</b>				<b>\$ 93,163,202</b>	<b>\$ 2,629,308</b>	<b>\$ 226,368</b>	<b>\$ 2,855,676</b>	<b>\$ 127,721</b>	<b>\$ 2,983,397</b>	<b>\$ 3,658,577</b>	<b>\$ 473,172</b>	<b>\$ 4,131,749</b>	<b>\$ (112,515)</b>	<b>\$ 4,019,234</b>	<b>\$ 11,598</b>	<b>\$ (11,598)</b>	<b>\$ -</b>	<b>\$ 6,999,023</b>	<b>\$ 7,002,631</b>

**DW 20-055 FINANCING - NET ESTIMATED DEBT SERVICE SAVINGS:**

<b>@ 3.67% Total Interest Cost</b>																		
Estimated Annual Debt Service: RSF Replenishment Financing																		
Less: Estimated Annual Debt Service Savings: AULI Loan Refinancing																		
2014A & 2015A/B Bond Refinancing																		
<b>Net Estimated Debt Service Savings @ 3.67% Total Interest Cost</b>																		
<b>\$ 6,032,257</b>																		

**ESTIMATED ADJUSTED PRO FORMA TEST YEAR DEBT SERVICE**

<b>@ 4.67% Total Interest Cost</b>																		
Estimated Annual Debt Service: RSF Replenishment Financing																		
Less: Estimated Annual Debt Service Savings: AULI Loan Refinancing																		
2014A & 2015A/B Bond Refinancing																		
<b>Net Estimated Debt Service Savings @ 4.67% Total Interest Cost</b>																		
<b>\$ 6,512,046</b>																		

**ESTIMATED ADJUSTED PRO FORMA TEST YEAR DEBT SERVICE**

**DW 20-055 FINANCING - NET ACTUAL DEBT SERVICE SAVINGS:**

<b>@ 4.01% Total Interest Cost</b>																		
Actual Annual Debt Service: RSF Replenishment Financing																		
Less: Actual Annual Debt Service Savings																		
2014A & 2015A/B Bond Refinancing																		
<b>Net Actual Debt Service Savings @ 4.01% Total Interest Cost</b>																		
<b>\$ 6,176,477</b>																		

**ACTUAL ADJUSTED PRO FORMA TEST YEAR DEBT SERVICE**

**DW 19-084**  
**PENNICHUCK WATER WORKS, INC.**  
**REPORT OF PROPOSED RATE CHANGES - FINAL**

Rate or Class of Service	Effect of Proposed Change	Average Number Customers	Change in Annual Revenues from Base Rates				Finalized Change in Annual Revenues from Base Rates	
			Pro Forma Test Year Water Revenues	Less: Pro Forma Test Year QCPAC Revenues	Pro Forma Test Year Revenues from Base Rates	Final Revenue Requirement from Base Rates	Amount	% Increase
G-M Residential Fixed Charges	Increase	27,953	\$ 7,247,129	\$ (276,496)	\$ 6,970,633	\$ 7,515,146	\$ 544,513	7.81%
All Other G-M Charges	Increase		19,063,305	(727,311)	18,335,994	20,199,907	1,863,913	10.17%
Total G-M Charges		27,953	26,310,434	(1,003,807)	25,306,627	27,715,053	2,408,426	9.15%
Private FP	Increase	911	1,260,049	(48,631)	1,211,418	2,080,449	869,031	71.74%
FP - Hydrants	Increase	5	3,582,340	(138,262)	3,444,078	3,794,180	350,102	10.17%
<u>Anheuser-Busch Contract</u>								
Contract Charges	No Increase	2	371,430	-	371,430	371,430	-	0.00%
Volumetric & Meter Charges	Increase	-	475,941	(19,220)	456,721	503,149	46,428	10.17%
<u>Milford Contract</u>								
Contract Charges	No Increase	1	81,000	-	81,000	81,000	-	0.00%
Volumetric Charges	Increase	-	87,652	(6,631)	81,021	89,257	8,236	10.17%
<u>Hudson Contract</u>								
Contract Charges	No Increase	1	32,800	-	32,800	32,800	-	0.00%
Volumetric Charges	Increase	-	63,390	(18,002)	45,388	50,002	4,614	10.17%
<u>Tyngsborough Contract</u>								
Volumetric & Meter Charge	Increase	1	325,735	(13,544)	312,191	343,926	31,735	10.17%
<u>Pennichuck East Utility Contract</u>								
Volumetric & Meter Charge	Increase	1	306,642	-	306,642	337,815	31,173	10.17%
		<u>28,875</u>	<u>\$ 32,897,413</u>	<u>\$ (1,248,097)</u>	<u>\$ 31,649,316</u>	<u>\$ 35,399,061</u>	<u>\$ 3,749,745</u>	<u>11.85%</u>

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PENNICHUCK WATER WORKS, INC.

Superseding ~~Fifth~~ **Sixth** Revised Page 43

**TEMPORARY RATE SCHEDULE**  
 GENERAL SERVICE - METERED  
 SCHEDULE G-M

**Availability:**

The rate is available for metered water service in the franchised area subject to the terms and conditions of this tariff.

**Character of Service:**

Nashua Core System: Water is fully treated, filtered, and purified and is transmitted by gravity and pumps to the individual service pipes.

Community Water Systems: Water is ground water from a well site. Water quality meets or exceeds all federal and state standards for drinking water. Outdoor use of water may be restricted during dry summer periods.

**Rate:**

A minimum customer charge shall be made for each customer whom service is rendered under this tariff, based on the meter size shown below:

Meter Size	Monthly Customer Charge
5/8"	\$ <del>22.58</del> <b>24.34</b>
3/4"	<del>32.50</del> <b>35.04</b>
1"	<del>52.35</del> <b>56.44</b>
1" meter with private residential fire service <sup>1</sup>	<del>29.09</del> <b>35.52</b>
1 1/2"	<del>102.02</del> <b>109.99</b>
2"	<del>167.02</del> <b>180.06</b>
3"	<del>306.28</del> <b>330.20</b>
4"	<del>505.15</del> <b>544.60</b>
6"	<del>1,002.35</del> <b>1080.63</b>
8"	<del>1,599.15</del> <b>1724.04</b>
10"	<del>2,295.22</del> <b>2474.48</b>

1. This rate is grandfathered to single-family residential homes that have a single service with a single curb stop and a 1" meter to allow the passage of fire flows for a single-family residential sprinkler system. The rate for this class will be the tariffed rate of a 5/8" meter and a private 1 1/2" fire service. This is grandfathered to homes that had this type of service prior to 12/31/2018.

**Volumetric:**

In addition to the standard customer charge, the monthly volumetric charge based on usage will be as follows:

Volumetric Charge: \$ ~~3.66~~ **4.03** per 100 cu. Ft. (l)

**Terms of Payment:**

Bills under this rate are net; will be rendered monthly, and are due and payable at the office of the Company on the due date as stated on the water bill.

Issued: July 15, 2020 Issued By: Donald L. Ware

Effective: April 14, 2020 ~~April 14, 2020~~ **October 1, 2020** Title: Chief Operating Officer

Authorized by NHPUC Order No. 26,373 \_\_\_\_\_ Docket No. DW 19-084 dated ~~June 30, 2020~~ \_\_\_\_\_.

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PENNICHUCK WATER WORKS, INC. Superseding FourthFifth Revised Page 44

**TEMPORARY RATE SCHEDULE**  
MUNICIPAL FIRE PROTECTION SERVICE  
SCHEDULE FP-M

**Availability:**

This rate is applicable to general fire protection.

**Character of Service:**

The Company will make every effort to maintain normal pressures at all times on the distribution system, but shall not be held liable for the failure of either the supply or distribution division of its system to adequately furnish its normal quantity of water when such failure is due to the elements, natural causes, breaks, leaks, unusual or concurrent droughts, or the waste or unlawful use of water.

**Rate:**

The charge shall be made up of two parts as follows:

1) Hydrant charge

For each hydrant connected to the distribution system

Current

Rate

\$ ~~21.20~~ 23.36 per month

2) Inch-Foot Charge

The number of "inch-foot" units in the distribution system is to be obtained by multiplying the number of linear feet of pipe of each diameter (4" and larger) by the diameter in inches. The total number of "inch-foot" units in the distribution system will be determined as of January 1st each year, and will be the base for computing the "inch-foot" charge for the entire year with one-fourth to be billed each quarter or one-twelfth to be billed each month.

Charge for each "inch-foot" unit to be

Current

Rate

\$ 0.14629 0.16117 per year

**Terms of Payment**

Bills under this rate are net; will be rendered monthly, and are due and payable at the office of the Company on the due date as stated on the water bill.

Issued: July 15, 2020

Issued by: Donald L. Ware

Effective: April 14, 2020 October 1, 2020

Title: Chief Operating Officer

Authorized by NHPUC Order No. 26,373 Docket No. DW 19-084 dated June 30, 2020.

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PENNICHUCK WATER WORKS, INC.

Superseding ~~Fifth~~ **Sixth** Revised Page 45

**TEMPORARY RATE SCHEDULES**  
PRIVATE FIRE PROTECTION SERVICE  
SCHEDULE FP-NM

**Availability:**

This rate is available for private fire protection and sprinkler service subject to the Private Fire Protection Regulations of paragraph 31 of this tariff.

**Character of Service:**

The Company will make every effort to maintain normal pressures at all times on the distribution system, but shall not be held liable for the failure of either the supply or distribution division of its system to adequately furnish its normal quantity of water when such failure is due to the elements, natural causes, breaks, leaks, unusual or concurrent droughts, or waste or unlawful use of water.

**Rate:**

The charge shall be determined by the size of the fire service tap to the property as follows:

**Monthly Customer Charge**

1 ½" connections	\$ <del>6.54</del> <b>11.18</b>
2" connections	<del>15.50</del> <b>26.62</b>
3" connections	<del>26.02</del> <b>44.69</b>
4" connections	\$ <del>62.03</del> <b>106.53</b>
6" connections	<del>104.08</del> <b>178.75</b>
8" or larger connections	<del>153.25</del> <b>263.19</b>

**Terms of Payment:**

Bills under this rate are net; will be rendered monthly and are due and payable at the office of the Company on the due date as stated on water bill.

Issued: July 15, 2020

Issued by: Donald L. Ware

Effective: April 14, 2020 **October 1, 2020**

Title: Chief Operating Officer

Authorized by NHPUC Order No. 26,373 in Docket No. DW-19-084-dated June 30, 2020

NHPUC NO. 6 WATER

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PENNICHUCK WATER WORKS, INC.

Superseding ~~Fourth~~ <sup>Fifth</sup> Revised Page 47

**TEMPORARY RATE SCHEDULE**  
 GENERAL SERVICE – NON-METERED

Pennichuck Water Works, Inc. (PWW) will charge current unmetered customers a monthly rate as specified below based on the average single family residential usage as specified below until such time as meters are installed.

Commercial, Industrial and Private Fire Protection customers will be charged an average rate as calculated for a similar customer in PWW.

PWW will make every effort to install meters in a timely manner and in no such case should these rates remain in force for more than a twelve month period.

	Current Rate	
5/8 inch Meter Charge	<del>\$ 22.58</del>	<sup>24.34</sup>
Volumetric Charge	<del>\$ 4.03</del>	<sup>3.66</sup>
Average Single Family Residential Usage	<del>7.77</del>	<sup>8.58</sup> CCF
	<del>\$ 31.40</del>	<sup>31</sup>
Total Monthly Charge	<del>\$ 53.98</del>	<sup>55.65</sup>
Annually	<del>\$ 647.76</del>	<sup>667.80</sup>

**Terms of Payment:**

Bills under this rate are net; will be rendered monthly, and are due and payable at the office of the Company on the due date as stated on the water bill.

Issued: July 15, 2020

Issued By: Donald L. Ware

Effective: April 14, 2020 ~~April 14, 2020~~ <sup>October 1, 2020</sup>

Title: Chief Operating Officer

Authorized by NHPUC Order No. 26,373 \_\_\_\_\_ Docket No. DW 19-084 dated June 30, 2020 \_\_\_\_\_.

Pennichuck Water Works, Inc.  
DW19-084  
Illustrative Typical Customer Monthly bill pre and post permanent and QCPAC implementation  
Staff Tech 5-1 (5-7-20); Supp Staff Tech 5-1 (Rev. 5-29-20)  
Revised 6/18/2020 for Settlement  
Revised for final rates approved with 4.01% TIC

Charge Description	Monthly Bill Charges															
	September	October	November	December	January	February	March	April	May	June	July	August	September	October		
5/8 inch Meter Customer Charge (1) -	\$ 22.58	\$ 24.88	\$ 24.88	\$ 24.88	\$ 24.88	\$ 24.88	\$ 24.88	\$ 24.88	\$ 24.88	\$ 24.88	\$ 24.88	\$ 24.88	\$ 24.88	\$ 24.88	\$ 24.88	
Volumetric Charge based on Usage (2) -	\$ 28.44	\$ 30.66	\$ 30.66	\$ 30.66	\$ 30.66	\$ 30.66	\$ 30.66	\$ 30.66	\$ 30.66	\$ 30.66	\$ 30.66	\$ 30.66	\$ 30.66	\$ 30.66	\$ 30.66	
QCPAC Surcharge (3) -	\$ 2.07	\$ -	\$ 2.16	\$ 2.16	\$ 2.16	\$ 2.16	\$ 2.16	\$ 2.16	\$ 2.16	\$ 2.16	\$ 2.16	\$ 2.16	\$ 2.16	\$ 2.16	\$ 2.16	
Rate Expense Recoupment (4) -	\$ -	\$ -	\$ -	\$ -	\$ 0.95	\$ 0.95	\$ 0.38	\$ 0.38	\$ 0.38	\$ 0.38	\$ 0.38	\$ 0.38	\$ 0.38	\$ 0.38	\$ 0.38	
Temporary to Permanent Rate Recoupment (5) -	\$ -	\$ -	\$ -	\$ -	\$ 0.95	\$ 0.95	\$ 0.95	\$ 0.95	\$ 0.95	\$ 0.95	\$ 0.95	\$ 0.95	\$ 0.95	\$ 0.95	\$ 0.95	
QCPAC Recoupment (6) -	\$ -	\$ -	\$ 3.24	\$ 3.24	\$ 3.24	\$ 3.24	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
<b>Total Bill for month -</b>	<b>\$ 53.09</b>	<b>\$ 55.54</b>	<b>\$ 60.94</b>	<b>\$ 60.94</b>	<b>\$ 61.89</b>	<b>\$ 61.89</b>	<b>\$ 59.02</b>									

Notes:

- (1) Current tariffed 5/8" meter charge - \$ 22.58
- (2) The Volumetric Charge is based on the following data:  
Average Monthly usage for Single Family Residence per month in 2018 - 7.77 CCF  
Current tariffed Rate per CCF - \$ 3.66  
Projected rate increase percentage to GM Residential volumetric charge - 10.17% based on attached Customer Impact tab from the set of 1600 schedules filed in response to Staff Tech 5 DR's  
Projected rate increase percentage to GM Residential 5/8" meter fixed charge - 7.81%
- (3) QCPAC Surcharge in effect (granted in DW19-029) - 4.06%  
QCPAC Surcharge requested in DW20-020 - 3.89% based on revenue requirement established in last set of 1600 schedules filed in response to Staff Tech 5 DR's
- (4) Projected rate case expense of - \$ 130,000 to be recouped over 12 months from 28,876 customer accounts
- (5) Temporary to Permanent Rate Recoupment based on increase of - 6.11% and recoupment amount earned between March 2020 and September 2020. This number is net of QCPAC recovered during this time frame  
recovered over 18 months, beginning in January 2021
- (6) QCPAC recoupment from DW20-020 will be recouped over 4 months after issuance of order and authorization of recoupment

Executive.Director@puc.nh.gov  
amanda.noonan@puc.nh.gov  
anthony.leone@puc.nh.gov  
boltons@nashuanh.gov  
carolann.howe@pennichuck.com  
Christa.Shute@oca.nh.gov  
Christopher.tuomala@puc.nh.gov  
david.goyette@puc.nh.gov  
donald.kreis@oca.nh.gov  
donald.ware@pennichuck.com  
George.Torres@Pennichuck.com  
james.brennan@oca.nh.gov  
jay.kerrigan@pennichuck.com  
jayson.laflamme@puc.nh.gov  
karen.moran@puc.nh.gov  
larry.goodhue@pennichuck.com  
mab@nhbrownlaw.com  
ocalitigation@oca.nh.gov  
pradip.chattopadhyay@oca.nh.gov  
robyn.descoteau@puc.nh.gov  
rwh@rathlaw.com  
steve.frink@puc.nh.gov