NH Brown Law
Environmental Law ▪ Utility Law

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January 31, 2023

VIA ELECTRONIC AND MAIL DELIVERY
Daniel C. Goldner, Chairman
New Hampshire Public Utilities Commission
21 S. Fruit Street, Suite 10
Concord, N.H. 03301

Re: DW 21-134 – Pennichuck Water Works, Inc.
Petition for Approval of Emergency Temporary Rate
Compliance Filing - Reconciliation

Dear Chairman Goldner:

Pursuant to Order No. 26,597 approving the special contract between Pennichuck Water Works, Inc. and Merrimack Village District, attached for the Commission's review is the reconciliation of the difference between what Merrimack Village District paid and what the actual cost to provide the water totaled.

As shown on Tab 1 of the attached Excel document, or page 1 of the attached PDF, Merrimack Village District overpaid by $18,506.06. Therefore, subject to the Commission's review, and per the terms of the settlement agreement, Pennichuck proposes to refund Merrimack Village District $18,506.06.

Thank you in advance for your assistance with this filing.

Very Truly Yours,

Marcia A. Brown

Marcia A. Brown

cc: Docket-Related Service List for DW 21-134

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Pennichuck Water Works, Inc.
PWW-MVD Emergency Contract
DW 21-134
Reconcilation of Final expenses
1/30/23

| | | | | |
|---|---|---|---|---|
| PWW Core Plant Finished Water Pumpage - | | 6,704,830,000 | MG | between Oct 1, 2021 and Dec 31, 2022 |
| | | 8,963,676 | CCF | between Oct 1, 2021 and Dec 31, 2022 |
| MVD Purchased Water - | | 409,325 | CCF | between Oct 1, 2021 and Dec 31, 2022 |
| Percentage of PWW water used by MVD - | | 4.57% | during the emergency contract period | |

**Total Variable Expenses during Contract period -**

| | | | |
|---|---|---|---|
| Total Actual Electric Expense - | $ | 1,347,696.58 | |
| Total Actual Chemical Expense - | $ | 2,406,970.41 | |
| Total Actual Cost of Carbon - | $ | 1,845,738.00 | Based on 18 month life of carbon |
| Total Actual Variable Expenses - | $ | 5,600,404.99 | between Oct 1, 2021 and Dec 31, 2022 |
| | | | |
| MVD's share of actual Variable Expenses - | $ | 255,741.69 | between Oct 1, 2021 and Dec 31, 2022 |
| MVD's Total Volumetric Payment - | $ | 274,247.75 | between Oct 1, 2021 and Dec 31, 2023 |
| | | | |
| PWW owes MVD - | $ | 18,506.06 | |

Pennichuck Water Works, Inc
DW21-134
Projected WTP Variable Production Expenses
Attachment DOE 2-1
10/25/21

| | 21-Oct | 21-Nov | 21-Dec | **Jan. 2022** | **Feb. 22** | **22-Mar** |
|---|---|---|---|---|---|---|
| | | | | | | **Variable Costs of Proc** |
| Actual WTP finished water production per month in millions of gallons - | 383.99 | 346.81 | 358.57 | 374.06 | 324.88 | 354.80 |
| Actual 2022 Electric Costs per million gallons - | $ 170.21 | $ 160.54 | $ 275.57 | $ 155.28 | $ 144.35 | $ 132.40 |
| Actual 2022 Chemical Costs (including residuals disposal) per million gallons - | $ 295.10 | $ 321.89 | $ 306.34 | $ 304.71 | $ 304.89 | $ 405.80 |
| Total Variable Costs (not including Merrimack River station electricity) per MG - | $ 465.31 | $ 482.43 | $ 581.91 | $ 459.99 | $ 449.24 | $ 538.21 |
| Merrimack River Electric cost/mg of finished water - | $ 36 | $ 25 | $ 43 | $ 62 | $ 13 | $ 52 |
| Total Variable Costs w/ Merrimack River per MG before GAC consideration - | $ 501 | $ 507 | $ 625 | $ 522 | $ 462 | $ 590 |
| Variable Cost/CCF w/ Merrimack River before GAC consideration - | $ 0.37 | $ 0.38 | $ 0.47 | $ 0.39 | $ 0.35 | $ 0.44 |

**GAC Analysis**

| | 2016 |
|---|---|
| qty. of media in each filter in Cubic feet - | 2,460 |
| qty of media in all 12 filters - | 29,520 |
| Life span of filter media in months - | 18 |
| Replacement cost per pound of virgin GAC - | $ 2.46 |
| average unit weight of dry GAC in pounds/cubic foot - | 30.5 |
| Cost per cu/ft virgin GAC - | $ 75.03 |
| Cost/filter bed with virgin GAC - | $ 184,574 |
| Cost for 12 filters virgin GAC - | $ 2,214,886 |

duction:

| 22-Apr | 22-May | 22-Jun | 22-Jul | 22-Aug | 22-Sep | 22-Oct | 22-Nov | 22-Dec | Totals |
|---|---|---|---|---|---|---|---|---|---|
| 369.98 | 517.97 | 618.03 | 709.75 | 692.62 | 535.20 | 432.57 | 340.51 | 345.09 | 6704.83 |
| $ 151.15 | $ 150.97 | $ 143.08 | $ 150.93 | $ 130.11 | $ 140.95 | $ 130.60 | $ 134.97 | $ 141.04 | |
| $ 311.64 | $ 368.61 | $ 386.11 | $ 385.25 | $ 373.21 | $ 392.08 | $ 359.81 | $ 381.42 | $ 414.45 | |
| $ 462.79 | $ 519.57 | $ 529.18 | $ 536.18 | $ 503.32 | $ 533.04 | $ 490.41 | $ 516.39 | $ 555.49 | |
| $ 51 | $ 50 | $ 60 | $ 53 | $ 57 | $ 68 | $ 83 | $ 86 | $ 48 | |
| $ 514 | $ 570 | $ 589 | $ 589 | $ 561 | $ 601 | $ 574 | $ 602 | $ 604 | |
| $ 0.38 | $ 0.43 | $ 0.44 | $ 0.44 | $ 0.42 | $ 0.45 | $ 0.43 | $ 0.45 | $ 0.45 | |

Pennichuck Water Works, Inc
DW21-134
Projected Electrical Production Expenses
Attachment DOE 2-1
10/25/21

2021

| | Oct | Nov | Dec | Jan | Feb | Mar | Apr |
|---|---|---|---|---|---|---|---|
| Actual Gallons Pumped in millions of gallons - | 383.99 | 346.81 | 358.57 | 374.06 | 324.88 | 354.80 | 369.98 |
| Actual KWH consumed per month @ WTP - | 474,547 | 440,160 | 462,512 | 392,017 | 333,559 | 336,997 | 393,737 |
| actual KW Demand (peak value per month) - | 787 | | | 759 | 609 | 505 | 750 |
| **Actual Total Electric cost/month** | **$ 65,359.04** | **$ 55,675.22** | **$ 98,810.30** | **$ 58,083.91** | **$ 46,897.35** | **$ 46,977.13** | **$ 55,922.59** |
| **Electric cost/MG** | **$ 170.21** | **$ 160.54** | **$ 275.57** | **$ 155.28** | **$ 144.35** | **$ 132.40** | **$ 151.15** |

| **Merrimack River Pumps station:** | | | | | **Jan** | **Feb** | **Mar** | **Apr** |
|---|---|---|---|---|---|---|---|---|
| Actual Merimack River Electrical C | Delivery | $ 9,884.50 | $ 8,379.39 | $ 11,600.97 | $ 11,794.72 | $ 7,408.78 | $ 9,448.58 | $ 9,403.18 |
| | Supply | $ 13,816.60 | $ 8,645.78 | $ 15,317.80 | $ 23,135.65 | $ 4,293.52 | $ 18,472.96 | $ 18,978.08 |
| **Estimated Merrimack River 2022 Electric cost/mg -** | | **$ 35.98** | **$ 24.93** | **$ 42.72** | **$ 61.85** | **$ 13.22** | **$ 52.07** | **$ 51.29** |

2022

| May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Total |
|---|---|---|---|---|---|---|---|---|
| 517.97 | 618.03 | 709.75 | 692.62 | 535.20 | 432.57 | 340.51 | 345.09 | **5,615** |
| 543,322 | 627,572 | 802,948 | 679,153 | 557,077 | 412,650 | 323,242 | 350,752 | **5,753,026** |
| 1083 | 1153 | 1176 | 1188 | 1061 | 807 | 688 | 519 | |
| **$ 78,196.42** | **$ 88,425.61** | **$ 107,124.02** | **$ 90,114.26** | **$ 75,438.43** | **$ 56,491.95** | **$ 45,958.52** | **$ 48,670.12** | **$ 798,300.31** |
| **$ 150.97** | **$ 143.08** | **$ 150.93** | **$ 130.11** | **$ 140.95** | **$ 130.60** | **$ 134.97** | **$ 141.04** | **$ 154.14** |
| | | | | | | | Rate per KWH - | $ 0.1388 |

| May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | |
|---|---|---|---|---|---|---|---|---|
| $ 15,552.16 | $ 17,618.64 | $ 17,828.25 | $ 16,495.34 | $ 15,241.56 | $ 15,431.84 | $ 14,219.40 | $ 8,059.65 | 188,366.96 |
| $ 26,013.68 | $ 36,982.00 | $ 37,451.04 | $ 39,724.08 | $ 36,512.96 | $ 35,971.76 | $ 29,116.60 | $ 16,596.80 | 361,029.31 |
| **$ 50.22** | **$ 59.84** | **$ 52.77** | **$ 57.35** | **$ 68.22** | **$ 83.16** | **$ 85.51** | **$ 48.09** | **$ 52.48** |

Pennichuck Water Works, Inc
DW21-134
Projected Chemcial Production Expenses
Attachment DOE 2-1
10/25/21

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | **Chemical Quantities (lbs)** | | | |
| | 21-Oct | 21-Nov | 21-Dec | January | February | March | April | May | June |
| Actual WTP Pumpage in millions of gallons | 383.99 | 346.81 | 358.57 | 374.1 | 324.9 | 354.8 | 370.0 | 518.0 | 618.0 |
| Actual Variable chemical costs: | | | | | | | | | |
| CHLORINE: TREATMENT PLANT | $ 3,822.16 | $ 3,615.97 | $ 4,622.66 | $ 4,743.81 | $ 3,713.55 | $ 5,096.68 | $ 4,354.88 | $ 7,394.93 | $ 9,935.89 |
| FERRIC CHLORIDE | $ 38,757.02 | $ 34,921.19 | $ 36,044.63 | $ 42,725.76 | $ 37,866.53 | $ 48,195.30 | $ 38,587.02 | $ 64,297.08 | $ 77,569.88 |
| TKPP DRY | $ 2,363.80 | $ 2,111.26 | $ 2,239.22 | $ 2,239.22 | $ 1,727.40 | $ 2,175.24 | $ 4,405.01 | $ 6,118.07 | $ 7,464.05 |
| SODIUM HYDROXIDE | $ 24,055.16 | $ 20,938.33 | $ 20,930.67 | $ 23,587.60 | $ 21,715.90 | $ 50,818.92 | $ 29,683.38 | $ 60,781.07 | $ 77,699.21 |
| CORROSION INHIBITOR | $ 4,879.86 | $ 4,024.83 | $ 4,476.98 | $ 4,840.18 | $ 4,254.61 | $ 4,721.58 | $ 4,321.32 | $ 5,396.10 | $ 11,552.34 |
| POLYMERS | $ 1,476.75 | $ 1,181.40 | $ 1,279.85 | $ 1,582.82 | $ 989.26 | $ 1,187.11 | $ 1,187.11 | $ 1,582.82 | $ 2,077.45 |
| MAINT PROC EQ: TP SLUDGE REMOV | $ 37,959.82 | $ 44,841.95 | $ 40,251.48 | $ 34,261.55 | $ 28,784.41 | $ 31,784.15 | $ 32,761.55 | $ 45,357.40 | $ 52,326.24 |
| Total monthly variable chemical cost: | $ 113,314.57 | $ 111,634.93 | $ 109,845.49 | $ 113,980.94 | $ 99,051.66 | $ 143,978.98 | $ 115,300.27 | $ 190,927.47 | $ 238,625.06 |
| Actual total Chemical cost/MG | $ 295.10 | $ 321.89 | $ 306.34 | $ 304.71 | $ 304.89 | $ 405.80 | $ 311.64 | $ 368.61 | $ 386.11 |

| July | August | September | October | November | December | |
|---|---|---|---|---|---|---|
| 709.8 | 692.6 | 535.2 | 432.6 | 340.5 | 345.1 | 6705 |
| $ 11,793.01 | $ 12,845.45 | $ 8,252.05 | $ 6,692.02 | $ 6,935.46 | $ 8,205.20 | $ 102,023.72 |
| $ 86,570.34 | $ 85,609.54 | $ 58,982.31 | $ 50,305.53 | $ 38,584.10 | $ 41,784.66 | $ 780,800.89 |
| $ 9,084.06 | $ 8,950.47 | $ 6,679.46 | $ 5,480.16 | $ 4,521.13 | $ 4,932.14 | $ 70,490.69 |
| $ 93,250.21 | $ 78,324.12 | $ 53,990.41 | $ 43,176.99 | $ 37,429.65 | $ 37,559.62 | $ 673,941.24 |
| $ 9,980.21 | $ 13,152.54 | $ 9,180.11 | $ 7,118.18 | $ 5,950.48 | $ 7,774.01 | $ 101,623.33 |
| $ 1,780.67 | $ 2,671.00 | $ 1,932.82 | $ 1,478.04 | $ 1,364.34 | $ 1,250.65 | $ 23,022.09 |
| $ 60,970.82 | $ 56,940.84 | $ 70,826.14 | $ 41,393.81 | $ 35,090.92 | $ 41,517.37 | $ 655,068.45 |
| $ 273,429.32 | $ 258,493.96 | $ 209,843.30 | $ 155,644.73 | $ 129,876.08 | $ 143,023.65 | $ 2,406,970.41 |
| $ 385.25 | $ 373.21 | $ 392.08 | $ 359.81 | $ 381.42 | $ 414.45 | **$ 358.99** |
| | | | | | average: | $ 354.09 |