TAB 10

Testimony of Donald Ware and Attachments

STATE OF NEW HAMPSHIRE

BEFORE THE

PUBLIC UTILITIES COMMISSION

Docket No. DW 20-153

Pittsfield Aqueduct Company
Permanent Rate Proceeding

DIRECT TESTIMONY OF DONALD L. WARE

November 16, 2020

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I. INTRODUCTION

Q. What is your name and what is your position with the Pittsfield Aqueduct Company?

A. My name is Donald L. Ware. I am the Chief Operating Officer of the Pittsfield Aqueduct Company ("PAC" or "the Company") which is a subsidiary of Pennichuck Corporation. I am employed by and have worked for Pennichuck Water Works, Inc. 1995. I am a licensed professional engineer in New Hampshire, Massachusetts and Maine.

Q. Please describe your educational background.

A. I have a Bachelor in Science degree in Civil Engineering from Bucknell University in Lewisburg, Pennsylvania and I completed all the required courses, with the exception of my thesis, for a Master's degree in Civil Engineering from the same institution. I have a Master's in Business Administration from the Whittemore Business School at the University of New Hampshire.

Q. Please describe your professional background.

A. Prior to joining the Company, I served as the General Manager of the Augusta Water District in Augusta, Maine from 1986 to 1995. I served as the District's engineer between 1982 and 1986. Prior to my engagement with the District, I served as a design engineer for the State of Maine Department of Transportation for six months and before that as a design engineer for Buchart-Horn Consulting Engineers from 1979 to 1982.

Q. What are your responsibilities as Chief Operating Officer of PAC?

A. As Chief Operating Officer, I am responsible for PAC's overall operations, including customer service, water supply, distribution and engineering. I work closely with PAC's

Chief Engineer and other senior managers to help develop PAC's Annual and Three-Year Capital Improvement Plans.

II. PURPOSE OF THIS TESTIMONY

Q. What is the purpose of your testimony?

A. I will be discussing the operations of PAC and how these operations relate to and justify the requested rate increase. I have been principally responsible for preparation of the Filing Requirement Schedules and Rate of Return Information filed at Tabs 12 and 13 of PAC's rate case filing. My testimony will address specific details of these schedules. My testimony will interface with Larry Goodhue's in regard to addressing the revenue and operational pro forma that are part of 1604.06 Schedule 1 ("Sch 1"), requested changes in rate design that are part of 1604.06 Schedule A ("Sch A") and the capital investments that impact 1604.06 Schedule 3 ("Sch 3") and the financing necessary to support the Company's Capital Improvements in 1604.08 Schedule 5 ("Sch 5").

Q. Do you have any general comments regarding these schedules?

A. Yes. The format of the schedules is generally consistent with the format described in the Settlement Agreement filed in DW 16-806 and DW19-084. The filed schedules follow the methodology approved by Order No. 25,292 in Docket No. DW 11-026 as well as the methodology described in the DW 16-806 and DW 19-084 Settlement Agreements reflecting further modifications to the DW 11-026 methodology. To facilitate review of PAC's proposed rate relief, including the proposals for modifications to the ratemaking structure, I have incorporated within these schedules analysis of several scenarios. One scenario applies the ratemaking structure as it was approved in DW 11-026. This scenario is referred to in the schedules as "Perm-Conventional" (see, for example,

Schedule A, Tab 12) A second scenario applies the modifications requested by PAC in its Petition for Specific Modifications to its Ratemaking Structure. This scenario is referred to in the schedules as "Proposed" (see, for example, Schedule A, Tab 12).

Q. Why have you incorporated these various scenarios in the ratemaking schedules and rate of return information?

A. As indicated by PAC's full rate case filing, PAC requires rate relief that will allow it to generate revenues sufficient to cover its reasonable operating expenses, its obligations to the City as reflected by the City Bond Fixed Revenue Requirement ("CBFRR"), and its principal and interest obligations. PAC has prepared the ratemaking schedules and rate of return information to incorporate and demonstrate the effects of the proposed modifications within the same analysis that applies the approved ratemaking structure. I believe that this integrated presentation will allow parties to understand the operation of the proposed modifications in the most effective and efficient manner possible. As evaluated in significant detail in DW 16-806, DW 17-128 and DW 19-084, PAC, like PWW and PEU, must operate on a cash flow basis rate making basis instead of a traditional rate of return ratemaking basis due to the fact that it's capital is 100% debt funded and there is no equity in its rate structure. In the proposed rate making formula, principal payments are substituted for depreciation expense to ensure sufficient cash flow to cover the debt service and retirement. This is very clearly based on the fact that the composite Depreciation rate for PAC's 2020 through 2022 Capex of 2.91% would return PAC's invested capital over 34+ years which does not provide sufficient cash flow to pay PAC's principal and interest on the debt issued to pay for the proposed improvements which will have terms of 20 to 30 years.

III. DISCUSSION OF SPECIFIC SCHEDULES AND INFORMATION

Q. Please discuss the various Schedule A's that are part of the filing.

A. I have included two Schedule A's as part of the 1604.06 schedules titled as follows:

1. Sch A Perm-Conventional (Sch A P-C)
2. Sch A Proposed

Q. Please explain the formation Sch A Perm-Conventional.

A. The first column Sch A P-C reflects data from the Test Year ("TY") ending December 31, 2019 without any pro forma adjustments following the prescribed filing process approved as part in DW11-026. The first pro forma column titled "PRO FORMA Adjustments to Test Year" adjusts the 2019 TY data as follows:

(1) The 2019 TY ending rate base was reduced by $2,263,803 reflecting the removal of the equity that was purchased by the City along with the Municipal Acquisition Regulatory Adjustment ("MARA"). The MARA were removed from the Company's rate base because in DW 11-026, the Commission granted PAC the CBFRR component to its revenues to pay for the City's debt incurred in acquiring all the shared of stock in Pennichuck Corporation. The CBFRR component of rates is used in lieu of a return on the equity related portions of rate base that were purchased by the City when it purchased of Pennichuck Corporation.

(2) The 2019 TY Adjusted Net Operating Income was pro formed to reflect known and measurable changes to the 2019 TY revenues, operating expenses and operating deductions that were only partially incurred during 2019 or will be incurred within 12 months of the end of the 2019 TY. These operating expense

and deduction pro forma adjustments will be discussed in detail later in my testimony when I discuss the formulation of Sch 1 P-C.

(3) The 2019 TY Current Revenues found in Sch A P-C were pro formed by reducing by the Company's share of the CBFRR, or $147,539, per Sch 1 Attachment A, page 2.

Q. Please explain the derivation of the Rate of Return (ROR) for the Test Year and for the Proforma Test Year detailed on Schedule A P-C.

A. The Test Year ROR is derived in Schedule 1 of the 1604.08 Schedules. It reflects the short-term intercompany debt and the long term SRF debt on PAC's books as of 12/31/2019 and their associated interest rates.

Q. Please explain what the remaining $14,674 of short-term debt that is reflected in the pro forma 1604.08 Schedule 1.

A. The $14,674 is a short-term intercompany loan from Pennichuck Water Works, Inc. to PAC to provide cash to sustain its operations when cash flow from revenues are not sufficient to cover operating expenses.

Q. Please explain the reasoning behind the additional Puc 1604.06 Schedule titled "Schedule A-Proposed".

A. The additional Schedule A reflects the Company's request for the use of alternate revenue requirement methodologies to the conventional revenue requirement methodology followed in Schedule A P-C and is reflective of the rate making methodologies approved in for PWW in DW16-806 and DW19-084.

Q. Please explain the alternate rate treatment sought by the Company on Puc 1604.06 Schedule A Proposed.

A. The requested rate treatment involves the following modifications:

1. Modifying the test year ending revenues to reflect the average of last five years of volumetric sales (2015 through 2019). The purpose of this adjustment is to eliminate the swings in revenues that can occur between a wet test year followed by a dry year or a dry test year followed by wet year. The normalization of volumetric sales and expenses from the test year to the average of five years of volumetric sales and the associated production related expenses results in smaller swings in Net Income than would otherwise be associated with swings in summer consumption. The Sch A Proposed -5 Yr Ave Current Revenues used are based on 1604.06 Schedule 1C.

2. Adding a Material Operating Expense Revenue Requirement (MOERR) based on the Material Operating Expenses incurred during the Test Year with proformas reflecting known and measurable changes to the Test Year expenses in addition to changes to those operating expenses that are impacted by a change in production expenses associated with using a 5-year average of water produced. The Material Operating expenses (MOE's) used for this revenue requirement do not include Non-Material Operating Expenses (NOE's) as detailed on 1604.06 Sch 1, Attachment I. The MOE's are inclusive of total operating expenses as well as amortization, property tax and income tax expenses.

3. Adding a Material Operating Expense Factor (MOEF) of 6% to provide an operating cushion to test year operating expenses which typically grow year over year due to inflation and other operational pressures, such as changes in regulatory requirements. This MOEF is meant to provide the necessary cash to cover the increases in operating expenses not covered by the revenues granted in the last rate case with the goal of the Company not having to borrow money to cover operating expenses as there is no rate

mechanism to allow for the recovery of cash borrowed to pay the deficit between `operating revenues and expenses.

4. Adding a Non-Material Operating Expense Revenue Requirement (NOERR) which provides the cash to cover approved Test Year expenses that are deemed nonmaterial based on the chart of accounts to which these expenses are ascribed. The applicable chart of accounts from Non-Material Operating Expenses (NOE's) are as approved in DW 16-806.

5. Adding a Debt Service Revenue Requirement (DSRR 1.0) which reflects the revenue necessary to cover the Company's annual debt service (principal and interest payments) associated with all plant in service by the end of the Test Year ending 12/31/2019 as found in Sch 5 of the 1604.08 Schedules. This revenue requirement replaces the conventional revenue requirement methodology that is based on rate base, rate of return and depreciation expense as further detailed in Mr. Goodhue's testimony.
cost of the principal and interest associated with the Company's outstanding debt.

6. Adding a Debt Service and Interest Coverage Requirements (0.1 DSRR) equal to 10% of the DSRR 1.0.

Q. Are the results of the revenue requirement derived from conventional rate making methodology with the CBFRR versus the proposed rate making methodology for the summarized anywhere within your testimony?

A. Yes. Please see Exhibit DLW-1, Tab 12 for this comparison as follows:

(1) Using the rate making methodology approved in DW 11-026 resulted in a revenue requirement of $820,922 or a 6.35% increase over the pro forma test year revenues.

(2) Using the proposed rate making methodology approved in DW 19-084 resulted in a revenue requirement of $862,927 or a 11.18% increase over the pro forma test year revenues.

Q. How do these increases impact the average single-family residential water bill?

A. Please see the Customer Impact schedule tab in the 1604.06 schedules Tab 12 for the impact of the revenue requirement increase detailed above on the average single-family residential bill on a monthly basis. In regard to the Company's proposed rate making methodology, which resulted in a requested overall rate increase of 11.18%, there would be an increase of $6.50 per month to the average single-family monthly water bill of $58.12 resulting in an average monthly water bill of $64.62.

Q. Please discuss the pro forma to the Total Revenues detailed in Puc 1604.06 Schedule 1 P-C and Schedule 1 Proposed, the Operating Income Statement.

A. The Company's Schedule 1 begins with the TY ending 12/31/2019 Revenues. The TY ending Revenues were pro formed in a series of steps as follows:

(1) In arriving at the PRO FORMA Revenues for the 12 months ended 12/31/2019, the TY Revenues were pro formed for the 12 months ending 12/31/2019, by reducing the TY revenues by the sum of: (a) the CBFRR allowed (per Sch 1 Attachment A, Page 2), and (b) by a pro forma adjustment to the test year (Proposed Sch 1 only) volumetric sales related to the five year average calculation found on 1604.06 Schedule 1C.

Q. Please discuss the pro forma to the Total Operating Expenses detailed in Schedule 1 P-C and in Schedule 1 Proposed, the Operating Income Statement.

A. PAC's Schedule 1 begins with the TY ending 12/31/2019. The Pro forma adjustments reflect known and measurable increases/decreases to the 12/31/2019 Test Year Operating

Expenses that occurred during the test year or will occur within 12 months of the end of 2019 TY resulting in the PRO FORMA 12 Months ending 12/31/2019 Operating Expenses. The next PRO FORMA column (found only on Sch 1, Proposed) reflects PRO FORMA Adjustments to the Operating Expenses on Sch 1-Proposed that are associated with the change in pumpage expenses associated with the difference between the 2019 TY pumpage and the Five-Year average production derived in 1604.06 Schedule 1C. Each of the PRO FORMA adjustments in Schedule 1 are explained on the Schedule 1 support schedules.

Q. Please discuss each of the Sch 1 Support Schedules used to develop the pro forma between the Twelve Months 12/31/2019 and the Pro Forma Test Year ending 12/31/2019 in regard to Operating Expenses.

A. **Sch 1 Attachment B – Production Account**. Pro forma Production expenses are expected to be $1,537 more than the actual 2019 TY production expenses or about a 1.2% increase. This increase is associated with increases to union labor rates which is slighted offset by a reduction in purchased power expenses. The Company also adjusted, production expenses (for the proposed rate making methodology only) to account for an increase the amount of water that would be produced based on the five-year average for the 2019 TY production by $66 to reflect the proforma adjustment purchased power expenses.

Sch 1 Attachment C – Distribution Account. Pro forma Distribution expenses are expected to be $3,117 greater than the 2019 TY Distribution expenses or about a 5.09% increase. This increase is associated with increases in union labor wage rates.

Sch 1 Attachment D Customer Accounts and Collection. Pro forma Customer Accounts and Collection expenses are expected to be $422 less than the 2019 TY expenses or about a 2.7% decrease. The decrease in expenses is the result of decreased print management and postage costs.

Sch 1 Attachment E Administrative and General Account. Pro forma Administrative and General expenses are expected to be $623 greater than the actual 2019 TY expenses or about an 2.3% increase reflecting increases in insurance expense and regulatory commission expenses.

Sch 1, Attachment F Inter Divisional Management Fee expenses. Pro forma Inter Divisional Management Fees in 2020 are expected to increase $1,385 over the 2019 TY Inter Divisional Management Fee expenses as a result of:

1. The Company's 1.42% share Annualized Salary decrease of $134,080 at Pennichuck Water Works resulting in a decrease of $1,904.
2. The Company's 1.42% share of the $3,035 decrease in Pennichuck Water Works office lease expense or a decrease of $43.
3. The Company's 1.42% share of the $22,147 increase in Pennichuck Water Works Pension and Health Retirement expenses or $314.
4. A $3,018 increase associated with a shift in PWW's Tier 1 management fee expenses associated with changes in PWW, PEU, PWSC and PAC's revenues driven by a reduction of PWSC's revenues (due to the reduction of about $1.5 million in revenues associated with the loss of the Hudson operating contract) and an increase in PWW's revenues associated with DW 19-084.

Sch 1 Attachment G Property Taxes Pro forma Property Tax expenses are expected to be $230 less than the actual 2019 TY expenses or about a 0.3% decrease reflecting changes associated with plant additions and retirements and changes to the Town tax rate.

Sch 1 Attachment J Income Taxes Pro forma Income Tax expenses (Federal and State) were reduced by $13,529 to reflect the difference book taxes and actual cash taxes paid. This pro forma only applies to Sch 1 Proposed. The tax pro forma for Sch 1 P-C is found on Sch 1, Attachment L.

Sch 1, Attachment K Deprecation Expenses – Pro forma Depreciation Expenses (only used for rate making on Sch 1 P-C were decreased by $27,111 from the 2019 Test Year depreciation expense of $101,572, primarily due to the elimination of depreciation expenses associated with equity funded assets that were acquired by the City on 1/25/2012.

Sch 1 Attachment L Income Taxes Pro forma Income Tax expenses (Federal and State) were reduced by $44,289 to reflect the difference in book taxes for the 2019 TY and a pro forma of Book Taxes for 2019 accounting for known and measurable changes to the 2019 TY expenses associated with the previously described operating expense and operating deduction pro forma. This pro forma only applies to Sch 1 P-C.

Q. Please compare the total operating expenses for the pro forma Year Ending ("YE") 12/31/19 operating expenses compared to the actual YE 2013 (Last rate case test year for PAC making 2013 YE the equivalent of the pro forma YE 2012) total operating expenses.

A. The Pro forma TY 19 operating expenses (which is the equivalent to the projected YE 2020 operating expenses) are $415,657 versus the YE 2013 operating expenses of

$398,118 or an increase of $17,509 which translates to an average annual increase in operating expenses of less than 1% over the past 6 years.

Q. Please discuss the pro formas to the Total Operating Deductions as detailed in Schedule 1 P-C and Schedule 1 Proposed, the Operating Income Statement.

A. The progression of pro forma to the Company's Total Operating Deductions as detailed in Schedule 1 (Perm-Conventional and Proposed) follows the same steps as detailed in response to the question regarding pro forma to Total Operating Expenses, detailed previously in this testimony.

Q. Please discuss each of the Sch 1 Support Schedules between the Twelve Months 12/31/2019 and the Pro Forma Test Year ending 12/31/2019 in regard to Operating Deductions.

A. Sch 1 Attachment G Property Taxes Pro forma Property Tax expenses are expected to be $230 less than the actual 2019 TY expenses or about a 0.3% decrease reflecting changes associated with plant additions and retirements and changes to the Town tax rate.

Sch 1 Attachment J Income Taxes Pro forma Income Tax expenses (Federal and State) were reduced by $13,529 to reflect the difference book taxes and actual cash taxes paid. This pro forma only applies to Sch 1 Proposed. The tax pro forma for Sch 1 P-C is found on Sch 1, Attachment L.

Sch 1, Attachment K Depreciation Expenses – The pro forma to the Operating Deductions associated with changes to Depreciation and the Acquisition Adjustment Expenses reflect the impact of three (3) pro formas as follows:

(1) The annualization of a half year of depreciation expense to a full year of depreciation expense for plant placed in service between 1/1/2019 and 12/31/2019. This resulted in a pro forma increase in depreciation expense of $274

(2) The elimination of a full year's worth of depreciation associated with plant that was retired from service between 1/1/2019 and 12/31/2019. This resulted in a pro forma decrease in depreciation expense of $59.

(3) A reduction in depreciation expense in the amount of $27,325. This was associated with the elimination of depreciation expense related to the elimination of $1,063,241 of equity-related assets in accordance with Order 25,292 in Docket No. DW 11-026. Additionally, pro forma was made to Depreciation Expenses (only used for rate making on Sch 1 P-C) associated with plant additions and retirements that occurred during the Test Year. The net impact of these adjustments in depreciation expense was a decrease in the Test Year depreciation expense of $101,572 by $27,111.

Sch 1 Attachment L Income Taxes Pro forma Income Tax expenses (Federal and State) were reduced by $44,289 to reflect the difference in book taxes for the 2019 TY and a pro forma of Book Taxes for 2019 accounting for known and measurable changes to the 2019 TY expenses associated with the previously described operating expense and operating deduction pro forma. This pro forma only applies to Sch 1 P-C.

Q. Please discuss the pro forma to the Operating Deductions related to Amortization Expense.

A. The pro forma to the Operating Deductions associated with changes to Amortization Expenses were reduced by $34,349 associated with the elimination of the amortization of the MARA in accordance with Order 25,292 (DW 11-026) in the amount of $200,394.

Q. Please explain the Pro Forma adjustments made in Sch 1 Proposed to the Total Operating Expenses applied to the PRO FORMA 12/31/2019 column using the FIVE-YEAR AVE for volumetric sales as opposed to the TY 2019 volumetric sales.

A. Just as revenue levels were normalized in Sch 1- Propose to reflect the difference between the 2019 volumetric sales and the Five-Year average of volumetric sales the operating expenses that are impacted by the change in production expenses have been normalized to reflect the change in operating expenses associated with producing the difference between the Five-Year Average production volumes and the TY 2019 production volumes. This proforma was made to the 2019 pro forma Test Year expenses and is detailed on 1604.06 Sch 1, Attachment B.

Q. What operating expenses are impacted by the change in production volume.

A. The primary expense impacted by a change in production volumes is the electric expenses required to produce and deliver the water to customers

Q. What is the total impact on the operating expenses detailed above as a result of adjusted production volumes as detailed previously?

A. The impact on operating expenses, per Sch 1 Attachment B is an increase of $66 in expenses which is associated with an increase in electrical expenses related to the five-year average production volume being 3.47% greater than the 2019 TY production volume.

Q. Please describe Sch 3 and the pro forma made to it:

A. Sch 3 is used to develop the Company's Total Rate Base which is required to compute the revenue requirement following the DW 11-026 rate making methodology. The Schedule begins with the Company's 2019 TY Average Rate Base. The following pro

formas were made to the 2019 TY Ave. Rate Base to create the Pro forma Test Year Rate Base:

(1) Plant in Service was adjusted per Sch 3 Attachment A as follows:

(a) A reduction of $1,063,241 in the 2019 TY Average rate base resulting from the elimination of the equity on the Company's books at the time of the acquisition by the City of Nashua.

(b) An increase in the 2019 TY Average rate base of $3,698 to reflect the difference between the 13-month average and 2019 TY rate base value for plant additions that occurred between 1/1/2019 and 12/31/2019.

(c) A reduction in 2019 TY Average rate base of $1,659 to reflect the difference between the 13-month average and 2019 YE rate base value for plant retirements that occurred between 1/1/2019 and 12/31/2019.

(2) Accumulated Depreciation was increased by $215 reflecting the net impact of adjusting depreciation expense for plant additions and retirements made between 1/1/2019 and 12/31/2019 to reflect a full year's depreciation expense per Sch 3 Attachment A, Exhibits 1 and 3.

(3) Working Capital was increased by $769 reflecting the 2019 pro forma increases to the 2019 TY operating expenses and a 12.33% Working Capital Rate per Sch 3 Attachment D.

(4) Other & Deferred Charges were reduced by $1,203,429 reflecting the elimination of the MARA per Sch 3 Attachment B.

Q. Does PAC plan to seek a Step Increase for plant invested in during 2020?

A. No. There were a limited number of investments made in PAC in 2020 and there is no long-term debt associated with those investments at present so PAC does not feel that filing for a Step increase is warranted.

Q. Does PAC plan to seek a Qualified Capital Project Adjustment (QCPAC) charge as part of this rate case?

A. No. Unlike Pennichuck Water Works and Pennichuck East Utility, the size and scope of PAC's annual capital investments also do not warrant a QCPAC mechanism, at this time. Over the next three years there are two major capital improvements that need to be completed in PAC: (1) the construction of a water storage tank and (2) improvements to the water treatment process to remove disinfection byproduct precursors. PAC will time these projects such that it will seek rates through the normal rate making process to pay for these capital improvements and any others made between rate cases. PAC has no plans in the near future (10 years) to replace its existing water mains as most are constructed of either ductile iron or lined cast iron water main. The majority of PAC's substandard water mains (steel, stove pipe, unlined cast iron) were replaced between 1998 and 2016. As of the end of 2020 about 14% or about 12,000 LF of PAC's water main is unlined cast iron. A replacement plan for this water main will be developed as part of the Company's asset management plan, but based on location, age, break history, colored water history and impacts on fire flows this pipe may not be replaced until decades into the future.

Q. What is the net change in plant, property and equipment invested in by the Company between the DW 13-130 rate case and this rate filing?

A. The Company's TY2102 Net Plant in Service (exclusive of CIAC) was $1,196,371 which its' TY 2019 Net Plant in Service (exclusive of CIAC) was $1,415,854 or an increase in Net Plant of $219,483. The total plant additions over this seven-year time frame were $409,258.

Q. What made up the plant additions between TY2012 and TY2019?

A. The plant additions were as follows:

1. Account 304 – Structures – $8,640

New Shingled roof on Water Treatment Plant - $8,640. Replaced 20-year-old shingles.

2. Account 311 – Pumping Equipment - $11,170

Replace failed WTP Backwash pump - $9,849

Rebuild failed WTP Booster pump - $1,320

3. Account 320 – Water Treatment Equipment - $10,061

Replace failed Filter Actuators - $10,061

4. Account 331 – Distribution Mains - $268,077

Joy Street – Paving associated with the replacement of 1600+ LF of 8" Stove pipe water main with 8" DIPCL that occurred in 2012 and 2013 - $46,273

Replace failed gate valves (6) – $19,761

Broadway Street – replace 197 LF of 6 unlined cast iron watermain with 6" DIPCL - $39,132

Fairview/Catamount Road project – Install parallel water main from WTP to Main Street. SRF funded project. - $162,912

5. Account 333 – Water Services - $48,845

A total of 15 services were replaced/installed new during this time frame. Ten of the services were replacements of existing main to stops and 4 were new main to stops of existing, single family residential properties.

6. Account 334 – Meters and Radios - $32,837

A total of 53 meters were exchanged during the meter periodic testing program. The meters being removed were brass with a high lead contest and were replaced with new, lead free brass meters. During the same time frame four new meters were installed for new customers. The total investment in meters was $28,242

A total of 40 radio meter readers failed during this time frame and were replaced with new radio readers. Four new radio meter readers were installed in conjunction with the four new meters installed above. The total investment in radios was $4,595

7. Account 335 – Hydrants - $20,331

A total of 5 failed hydrants were replaced during this time frame.

7. Account 346 – Communications Equipment - $9,298

Replace a failed SCADA computer which failed at the WTP and was replaced - $3,839

Cellular SCADA alarming was added to the WTP to allow SCADA from Pittsfield WTP to report to the Nashua WTP - $5,459

Q. How was the Rate of Return in the Puc 1604.06 Schedule 1A determined?

A. The rate of return was calculated in the Puc 1604.08 Schedule 1. Schedule 1 has one pro forma referenced in Note #4 which is the elimination of $1,063,241 of common equity associated with the elimination of the MARA.

Q. Please describe the 1604.08 Schedule 5.

A. The 1604.08 Schedule 5 reflects the long-term debt on the Company's books. The Company has two long term debt obligations:

1. An SRF loan associated with the Catamount Road project which was approved in PUC Order No. 25,888 in DW 16-035,
2. A long-term intercompany loan with Pennichuck Corporation that was approved in PUC Order No. 26,125 and in DW 18-033.

These two loans result in a blended effective debt rate of 3.25% and a pro forma 2020 principal and interest payment of $67,828. The pro forma reflects the changes to principal and interest payments made in 2019 and those that will be paid in 2020.

The debt instrument specific information is detailed in the columns between and including the columns titled "Term" to "Coupon Rate". The bottom line to this schedule is that the Company had $1,312,186 of outstanding debt as of 12/31/2019 with an average Funded "Effective Rate" of 3.25% which is the Component Cost Rate for the Company's Long-term Debt used in the calculation of the company's Overall Rate of Return. All the columns to the right of the "Coupon Rate" in Sch 5 of the 1604.08 schedules are new to this schedule and reflect the calculation of the Principal and Interest payments ("P&I") made on these bonds as follows:

(1) The P&I payments made by the Company during the 2019 TY in the amount of $67,791.

(2) The pro forma 2019 P&I payments in the amount of $67,828 reflecting the total annual P&I payments that the Company will need to make on the outstanding loan amounts in 2020 to fund the Company's Plant in Service as of 12/31/2019.

IV. DISCUSSION OF OTHER OPERATIONAL MATTERS

Q. Thank you for walking through the schedule details. Are there any operational issues you would like to discuss?

A. Yes, I would like to discuss the Company's request and calculations regarding the Rate Stabilization Funds ("RSF") it is seeking to undergird the Company's payment of its CBFRR obligation, its payment of Material Operating Expenses Revenue Requirement (MOERR) and its payment of outstanding Principal and Interest ("P&I").

Q. What are the requested levels for each RSF?

A. The Company is seeking to establish each RSF as follows:

CBFRR RSF - $13,000

MOERR RSF - $80,000

P&I 1.0 RSF - $7,000

Q. Please explain how the requested RSF levels were calculated?

A. The calculations used to establish the requested RSF levels can be found in DLW-Exhibit 1 of my testimony. Each RSF is calculated to provide sufficient cash to meet the Company's obligations over three years of reduced revenues resulting from wet weather as well as 3 years of inflation at 3.0% in regard to the Material Operating Expenses. These calculations detail a need for a total RSF amount of $166,000. The Company reduced the level of the MOERR RSF from $166,000 to $80,000 to reflect RSF funds available to PAC in the amount of $100,000 (See calculation of PAC's share of original DW 11-026 RSF fund on $5,000,000 on 1604.06 Schedule 1, Attachment A, Page 2.) The Company's requested level for each RSF based on its request to implement a Material Operating Expense Factor (MOEF) as part of this rate filing being approved.

Q. How did you determine the revenue reduction associated with three years of wet weather?

A. The Company compared the 5-year average metered sales against the worst year of metered sales during the past five years. This comparison results in a 6.42% reduction in consumption. In calculating the revenue impact of this reduced consumption, the Company adjusted the consumption related expenses by reducing them by 6.42%.

Q. How does the Company plan to fund the initial Rate Stabilization funds?

A. The Company plans to fund the $100,000 from its prorated share of the $5,000,000 RSF fund set up in DW 11-026, and as approved in Docket No. DW 16-806. If the MOEF sought by the Company is not approved as part of this rate filing, it would seek to establish a combined RSF account at the full calculated amount of $186,000. Mr. Goodhue's testimony addresses the options that could be considered by the Company to fund the $86,000 shortfall between available and desired RSF fund levels.

Q. Please explain the purpose of the MOEF?

A. The MOEF is a contingency factor applied to the approved Material Operating Revenues to ensure that the Company has sufficient cash flow from water sales under approved rates to pay for material operating expenses for the years between rate case test years. In the proposed rate structure, the Material Operating expense revenues are granted based upon a pro forma adjustment to the Test Year expenses for known and measurable changes to the Test Year expenses which occur within 12-months of the end of the test year. Given the normal progression of a rate case, which is typically filed 6 to 9 months after the TY. And, assuming that the new permanent rates take effect at the date of customer notice (typically between 7 to 11 months after the TY) the revenues granted in a

rate case, without a MOEF, are only sufficient to cover expense increases that occurred within the first 12 months after the test year. The year after the filing (two years after the TY) the revenues being collected are only sufficient to cover the expenses for the year following the TY and if there are upward pressures on the material operating expenses, year over year, the revenues being collect two years after the TY would be insufficient to pay for expenses of that year. This shortage of revenues is further exacerbated during the 3rd year after the test year as the revenues being collected are still based upon the pro forma TY expenses which are now two-years old, resulting in a larger gap between revenues collected and current year expenses. The rate making mechanisms approved in DW 11-026 did not provide for this cash flow deficit, resulting in the Company having to borrow money in the form of short-term debt to pay for the expenses not covered by the collected revenues. There currently is no rate making mechanism which allows for the Company to collect revenues needed to pay-off the short term debt incurred between rate cases, which results from the inevitable deficit in cash created by the difference between approved revenues based on test year expenses and actual expenses incurred in future years between rate cases. The MOEF is a mechanism to provide the Company with the cash flow to go three years between rate cases without having to borrow money to cover increased operating expenses.

Q. Wasn't the purpose of the RSF funds to provide operating cash necessary to cover the shortfall between rate case granted revenues and increased operating expenses?

A. No. The RSF was designed to cover cash short falls created by differences in revenues and expenses that were either related to weather impacts or other economic factors outside the Company's control. Experience with both Pennichuck Water Works and

Pennichuck East Utilities show that when the cash from the RSF funds was used, in accordance with DW 11-026, DW 16-806, DW 19-084 and DW 17-128, that these funds were drawn down to $0 between rate cases and forced those Companies to borrow money on a short-term basis to bridge the cash gap between revenues that are fixed to a test year, compared with expenses that were growing in a compounded fashion from those approved for from the pro forma test year. The depletion of RSF funds, as investigated in DW 19-084, was so large that the replenishment of the funds to their imprest values over three years in the form of a deferred debit would have resulted in very large rate increases. The MOEF is designed to minimize the usage of RSF cash; limiting it to usage only to cover deficits created by a reduction in revenues associated with consumption levels that fall below those used to establish the test year revenues.

Q. **How was the proposed MOEF factor level of 6.0% determined?**

A. The proposed 6% MOEF, which would be recognized as part of the MOERR portion of allowed revenues, was designed to provide three years of material operating revenues that would equal three years of upward trending material operating expenses. In the PAC case, the calculation is detailed on DLW Exhibit 1 and is based upon a 3% per year change in operating expenses. The MOEF should result in the Company collecting more MOERR revenues in the first year outside the rate case than required, with those funds being deposited into the MOER RSF. In the second year outside of the rate case, it is projected that the MOERR revenues would essentially equal the MOE's for that year, and those funds would neither flow into or out of the MOER RSF during that year. In the third year outside of the rate case the projected MOERR revenues would not produce sufficient cash to pay for the increased operating expenses, and the shortfall would be

covered by withdrawing cash from the MOER RSF, as deposited into the fund in year one outside the test year. In an ideal world, assuming that the consumption each year equaled the consumption used to develop the MOERR portion of allowed revenues, the RSF would be back to its originally established level at the end of three years which would also be the next Test Year for a rate case.

Q. Is the Company doing anything to promote conservation by its customers?

A. Yes. The Company continues to work with its customers with regards to sustainable conservation efforts through the use of semi-annual mailings promoting water saving fixtures, good water use habits and proper lawn irrigation practices. The Company is a member of the EPA WaterSense program and uses its website to direct customers to the EPA WaterSense program where there is an extension amount of information regarding water conservation and water saving fixtures.

Q. Is the Company continuing to see a reduction in base residential water use as a result of conservation efforts by its customers?

A. Yes. The average single-family water usage for the months of December through March, which reflects indoor water usage patterns, has shown a drop in average monthly usage of 3.9% between 2015 and 2019.

Q. Was a Cost of Service Study prepared as part of this case?

A. No. The last cost of service study was prepared as part of DW 08-052-090. Because there has been little change in the mix of customers, assets, and expenses since DW 08-052, the Company believes that preparing a Cost of Service Study, expected to cost between $40,000 to $50,000 is not justified and if required would have a very large impact on rate case expense without a corresponding benefit.

Q. Please summarize the impact of the Company's rate increase request by Customer Class.

A. The Tariff pages and Report of Proposed Changes sheets which detail the impact or the rate increase by customer class are found in Tabs 14 and 7 of the filing. The Company proposes to spread the propose rate increase uniformly across all customers classes.

Q. How does the Company plan to notify its customers of the pending rate increase?

A. In accordance with Puc 1203.02(c) and (d), the Company will be notifying its customers regarding the rate filing by providing a form of notice. The notice will be sent via a direct mailing to its customers, along with a FAQ document, as further explained in Mr. Goodhue's testimony. The notice will be sent to customer's prior to November 25, 2020. The direct mailing will also include information pointing customers to the Company's web page and to watch for a publication of notice regarding the suspension of the Company's rates and the date of the prehearing conference. Additionally, when the Commission issues the order to suspend the proposed tariffs and schedule a prehearing conference, the Company will provide notification in area newspaper(s) in addition to the individual customer notification.

Q. Do you have any other testimony to offer?

A. No.