TAB 8

Testimony of Donald L. Ware

STATE OF NEW HAMPSHIRE

BEFORE THE

PUBLIC UTILITIES COMMISSION

Docket No. DW 19-084

Pennichuck Water Works, Inc.
Rate Proceeding

DIRECT TESTIMONY OF DONALD L. WARE

June 27, 2019

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I. INTRODUCTION

Q. What is your name and what is your position with Pennichuck Water Works, Inc.?

A. My name is Donald L. Ware. I am the Chief Operating Officer of the Pennichuck Water Works, Inc. ("PWW" or "Company"). I have worked for PWW since 1995. I am a licensed professional engineer in New Hampshire, Massachusetts and Maine.

Q. Please describe your educational background.

A. I have a bachelor's 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 the Company?

A. As Chief Operating Officer, I am responsible for PWW's overall operations, including customer service, water supply, distribution and engineering. I work closely with PWW's Chief Engineer and other senior managers to help develop PWW'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 PWW 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 11 and 12, respectively, of PWW's rate case filing. My testimony will provide insight into each 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 ("FR Sch 1") and the financing necessary to support the Company's Capital Improvements in 1604.08 Schedule 5 ("RoR Sch 5").

A. SUMMARY OF NEED FOR RATE INCREASE

Q. Why is PWW filing rate schedules to increase customer rates?

A. Based on the Filing Requirement Schedules and Rate of Return Information, PWW is in an earnings deficiency. The revenues collected in 2018 fell well below the revenue requirements the Company needs to fully fund (without extensive exhaustion of its RSF funds), the monies needed to: (1) maintain its operations, (2) make its required payments to the City under the CBFRR, and (3) make its debt payments. As explained in the testimony of Larry Goodhue, that revenue deficiency is at 11.91%.

Q. Please describe the primary drivers of this revenue deficiency.

A. The drivers in the 11.91% revenue deficiency are:

1. The debt service on Capital expenditures made in 2017 and 2018, which account for 4.06% of the 11.91% increase being sought.

2. Compounded annual inflationary pressure of the Company's operating expenses since its last permanent rate case; most specifically:
   a. Increases in Production expenses driven primarily by increased purification chemical costs, power usage and rates, sludge removal and labor expenses.
   b. Increases in Transmission and Distribution expenses resulting from
      i. Increased meter operating labor costs associated with labor expended to replace leaded brass meters (in accordance with regulatory requirements), which was capitalized in prior years, but is now replaced with labor expended to complete meter periodic tests (again, in accordance with regulatory testing requirements), as an operating expense.
      ii. Increased levels of main and service repairs, resulting from an increased focus on finding and repairing leaks for the Company's aging infrastructure. The Company's unaccounted for water has dropped from about 18.5% (in the "Core" system) and 10.5% (in its Community Water Systems) at the end of 2015 to levels of 13.6% (Core) and 8.9% (Community Water Systems) at the end of 2018. This has been done in accordance with regulatory requirements and "best practices" for the water industry, with a desired leakage factor of no more than 15%, and optimally below 10%. The result of these activities, although more costly in the short-term, is beneficial in the long-term, as it relates to the costs of treating, producing and distributing water to the Company's customers.
      iii. Three additional full-time staff and the use of outside contractors to complete increased levels of gate and hydrant maintenance, along with water service

line replacement work, created by increased levels of Community paving as well as responding to increased levels of Dig Safe marking associated with increased construction activities throughout the Company's service territories.

c. Increases to Engineering expense created by the addition of two full time staff to manage, maintain and continually update the Company's Asset Management program.

d. Increases in property taxes, based upon valuation and millage rate changes by the communities that the Company serves, in lieu of abatement activities that have been pursued to control certain extraneous and over-reaching valuation adjustments.

e. Increases in payroll taxes associated with the additional employees referenced above, as well as annual increases in wages for the Company's staff, in a manner consistent with overall market factors.

Q. Please describe what PWW has done to control these drivers of the revenue deficiency.

A. The Company is focused on controlling expenses in an intelligent fashion. In order to accomplish that control the Company has established the following practices:

1. Department managers evaluate staffing levels as part of the annual budgeting process. The evaluation is completed to ensure that each Department uses the right mix of full time, part time and seasonal employees along with outside consultants and technology to accomplish the regulatory tasks and "best" utility operating practices that each Department needs to complete each year. Current staffing levels are not expected to change in the future for the Company to meet its customer and regulatory needs as the

Company's deployment of Asset Management and Geographical Information system programs proceed from the creation phase into the implementation phase and are placed into full service. Once in full service, these programs will result in increased employee efficiency in the field and enhance and further streamline the office activities that support the field operations. A fully operational asset management program will also help the Company's capital planning by providing individual asset level data that focuses on a balance of: (1) asset vulnerability to failure, (2) the impact of an asset failure, and (3) the asset repair and maintenance records and expenses, with the objective of replacing the Company's assets at the proper time to minimize the life cycle cost of its assets.

2. The Company seeks competitive bids for services where ever it is feasible. It seeks bids for inventory, power supply, chemicals, print house services, insurances (health, dental, property and liability) and natural gas, as well as other services to attract the lowest possible pricing for its customers.
3. It seeks competitive bids for its capital expenditures.
4. It completes annual assessments of market valued wages to ensure that the Company maintains a competitive wage and benefit package, which attracts and retains good employees, to the long-term benefit of running the utility as a service to our customers. These assessments are conducted using data for local, regional and national studies and metrics, both within the water industry and across industries, as it relates to market data for wages, on a position by position basis.
5. The Company has invested and highly focuses its activities as it relates to safety training and policies, with the result being a decrease in its Worker's Compensation

experience modification factor from 1.02 to 0.63 over the past 5 years resulting in lower workers compensation premiums, despite a larger value of wages being insured for. The Worker's Compensation experience modification factor is a measure of a Company's injury experience and costs, as compared to other companies in a region, industry and across industries. A factor of 1.0x means your company is at parity with the market. A factor above 1.0x means that your worker's compensation costs have risen above the market. A factor below 1.0x means that the company is experiencing costs of injury claims better than the market, which translates to favorable worker's comp insurance premium costs. The minimum that the factor can go down to is 0.59x.

6. The Company Health care premiums had no increase in 2016 and 2019and averaged just 2.46% over the past 7 years. To put this increase in perspective, health care premium costs in NH for other companies over the same time period have increased a factor of 3x or 4x PWW's percentage. PWW's attention to plan design and employee education accounts for PWW's lower health care premium increase due to:

a. Employees being educated on how to use their Health care services efficiently and how to be well (via Company sponsored wellness plans) resulting in lower utilization rates,

b. Changes in plan design (increased deductibles, increased co-pays)

c. Plan selection expanded to include limited HMO's and PPO High deductible plan mated with both a Health Savings Account and Health Reimbursement Account. The combination of all of these elements results in an overall plan architecture which comes at a lower overall cost to both the Company and the employees.

d. Increased level of employee contribution toward their health plan selection from 10% to 19% over the past 9 years.

7. Use of seasonal employees to accomplish seasonal work, such as: station yard maintenance, hydrant painting, watershed inspections, water quality monitoring, water main inspection and other work that does not result in a year-round work load and does not require the skills of a certified operator.

8. Use of outside contractors to supplement the Company's staff, allowing the Company to keep up with the gate and hydrant maintenance and service replacement work created by the expanded paving programs being completed by the communities the Company serves. Outside contractors can, and are, hired as needed to supplement full time staff, while limiting overtime created by the seasonality of this work.

B. DISCUSSION OF EFFECT OF QCPAC ON PROPOSED RATE INCREASE

Q. Will this rate case be addressing the Company's Capital Improvements?

A. No, not directly. The Company's Capital Improvements are addressed through its' annual Qualified Capital Project Adjustment Charge ("QCPAC") filings. Pennichuck is currently seeking a QCPAC for the Capital Improvements it completed in 2018 via DW19-029.

Q. Please describe how the QCPAC sought in DW19-029 will interface with the revenue requirement sought in DW19-084.

A. The QCPAC being sought for the Company's 2018 capital improvements is a surcharge on the permanent rates (inclusive of the step increase) granted in DW16-806. The QCPAC will result in additional revenues that will cover the 1.1 times the principal and interest associated with the Bonds issued on April 4, 2019 as well as the property taxes

associated with the capital improvements that were placed into service during 2018 by the Company. The QCPAC will be recoupable back to the date of the issuance of the Bonds (April 4, 2019). The QCPAC revenues associated with the 2018 improvements, along with the QCPAC revenues associated with the 2017 capital improvements (granted in DW 18-022) will be rolled into the permanent rate increase being sought in this docket, thereby addressing the 11.91% revenue deficiency. PWW anticipates that the QCPAC associated with the Company's 2019 Capital improvements (to be filed in February of 2020) will be treated as a surcharge on the revenue requirement granted in this docket. The QCPAC filed in 2020 will be equivalent to the step increases granted in previous rate filings which allowed the Company to recover its' investment, and associated expenses, for capital improvements placed in service within 12 months of the end of the test year.

III. SUMMARY OF RATE SCHEDULES PER ORDER NO. 26,070

Q. Do you have any summary comments regarding the filing schedules?

A. Yes. The format of the filed schedules is consistent with the format approved in Order No. 26,070 for Docket No. DW 16-806. The order approved the modified ratemaking structure described in the settlement agreement in that proceeding. The schedules filed reflect the building of a revenue requirement consisting of the following components:

1. The City Bond Fixed Revenue Requirement (CBFRR) as approved in DW11-026.
2. The Operating Expense Revenue Requirement (OERR) which is composed of the Company's Material Operating Expense Revenue Requirement (MOERR) and the Company's Non-Material Operating Expense Revenue Requirement (NOERR)
3. The Debt Service Revenue Requirement (DSRR) which provides the revenues to pay the Company's principal and interest payments on its outstanding debt.

4. The 0.1 Debt Service Revenue Requirement (0.1 DSRR) which provides for the coverage of the Company's Debt Service payments in accordance with its bond coverage requirements.

5. Pro Forma to the test year volumetric revenues and volumetric related expenses to reflect the five-year average for volumetric sales and volumetric related expenses.

IV. DISCUSSION OF SPECIFIC RATE CASE SCHEDULES AND INFORMATION

Q. Please discuss the revenue components detailed on the Filing Requirements ("FR") Schedule A of the 1604.06 schedules as presented in the filing.

A. FR Schedule A is used to determine the revenue requirement of the Company. As described above the Company's revenue requirement consists of four components, the CBFRR, the OERR, the DSRR and the 0.1 DSRR. FR Schedule A details each of these revenue requirements for the Test Year ending 12/31/2018. FR Schedule A details a set of pro forma adjustments to the 12/31/2018 year ending revenue requirements to account for known and measurable changes to those revenue requirements, which will occur within 12 months of the end of the test year. A second set of pro forma adjustments to the operating expenses and current TY revenues are then made to reflect the average of the consumptive sales and variable expenses over the past five years.

Q. Please discuss the pro forma detailed on FR Schedule A to the Test Year actual revenue requirement and as detailed in the column titled "PRO FORMA Adjustments to 2018 Test Year".

A. The pro forma adjustments to the Test Year revenue requirements on FR Schedule A are as follows:

1. The Test Year CBFRR was reduced by $130,481 to reflect an overcollection of revenues during the Test Year for this Revenue Component, resulting in an after-adjusted amount equal to the required CBFRR of $7,729,032. The CBFRR is developed on Schedule 1, Attachment A, Page 2 of the Puc 1604.06 schedules.
2. The Test Year OERR was reduced by $1,178,432 from $21,650,451 to $20,472,019 reflecting pro forma adjustments to Test Year operating expenses as detailed on FR Sch 1 of the 1604.06 schedules.
3. The DSRR 1.0 was increased by $699,540 from $6,299,483 (which reflects the actual revenues booked to this account during 2018 based on the percentage of overall revenues booked in 2018 per DW16-806) to $6,999,023 which reflects the total principal and interest that the Company will be paying on all debt issued and in repayment mode, before the end of 2019.

Q. Please discuss the Pro Forma detailed on FR Schedule A to the 12/31/2018 Pro Forma Test Year revenue requirement based on the Five-Year Average.

A. The Pro Forma adjustments made to the Pro Forma 12 months ending 12/31/2018 revenue requirements are as follows:

1. OERR was increased by $31,539 to reflect the additional variable expenses associated with purchasing or producing the Five-Year Average of 6,158,929 hundred cubic feet (CCF) versus the 2018 actual purchased or produced volume of 6,050,734 CCF. The calculation of the Five-Year Average is detailed on FR Schedule 1C of the 1604.06 schedules.

2. The Total current revenues were increased by $173,359 to reflect the increased sales for the Five-Year Average per FR Schedule 1C as well as the increase in fixed meter charges associated with the meter count and meter sizes in service at the end of 2018.

Q. Please explain why you did not include 2016 sales, purchased water and produced water in the calculation of the Five-Year average.

A. 2016 was a drought year with exceptionally high sales (record sales in the past 15 years). Per DLW Exhibit 1 of my testimony, including 2016 data in the calculation of the Five-Year average shows an increase in the average sales by 128,722 CCF, from 5,218,620 CCF (Average sales for 2014, 2015, 2017 and 2018) to 5,287,774 CCF. This would result in the maximum difference between the low consumption year and the Five-Year average (excluding 2016) of 6.01% versus a maximum difference between the Five-Year Average with 2016 included and the low consumption year of 16.33%. Including the 2016 drought years consumption in the five-year calculation would result in projected average sales that would have over predicted sales in three of the past five years, resulting in an under collection of revenues during an average year. As explained later in my testimony, under collecting revenues is very problematic based on the Company's current rate making methodology.

Q. Please confirm that the Company is not seeking a step increase for capital improvements completed in 2019.

A. That is correct. The QCPAC that will be filed in February of 2020 will produce the revenues necessary to support the capital expenditures made by the Company in 2019.

Q. Please discuss the pro forma to the Total Revenues detailed in FR Schedule 1, the Operating Income Statement.

A. The Company's FR Schedule 1 begins with the Test Year ("TY") ending 12/31/2018 Revenues. These revenues are divided into Water Sales, less QCPAC revenues, Water Sales for Resale, and other Operating Revenues. The TY ending Water Sales, less QCPAC Revenues were pro formed in a series of steps to the Per Rate Based on Five Year Average Water Sales as follows:

(1) TY Water Sales were reduced by $54,636 reflecting the following pro forma:

(a) Water Sales were reduced by $66,708 to reflect the Company selling water directly to Pennichuck East Utility (PEU) rather than to PEU via the Town of Hudson (per Sch. 1C).

(b) Water Sales were increased by $11,620 reflecting The Commission's disallowance of credits issued to the Company's small diameter fire protection customers per Order 26,200 in regard to DW 18-076

(2) Adjustments to the Water Sales between the PRO FORMA 12 Months 12/31/18 and the Perm Rate based upon the Five-Year Average reflect an increase in expected water sales of $178,658 to G-M customers based upon the Five-Year Average versus the actual 2018 actual Water Sales (per Sch. 1C) and based on an fixed meter charges based on the number and size of meters in service at the end of 2018.

The TY QCPAC Revenues were pro formed in a series of steps to the Perm Rate Based on Five Year Average Water Sales as follows:

(1) TY QCPAC Revenues were increased by $812,629 reflecting the collection of a full year of QCPAC revenues granted in DW18-022 and a full year of revenues sought by the Company in DW19-029 (per FR Sch. 1 Attach A Pg 1).

(2) Adjustments were made to the QCPAC between the PRO FORMA 12 Months 12/31/18 and the Perm Rate based on the Five-Year Average, reflecting a decrease in expected QCPAC Revenues of $5,299 on the Five-Year Average sales versus the actual 2018 actual Water Sales (per FR Schedule 1C which reflects a 0.45% decrease in sales subject to the QCPAC).

The TY Other Operating Revenues were increased by $841 to reflect projected revenue increases associated with the margins on increased wages associated with jobbing activities per FR Schedule 1, Attach A, Pg 1.

Q. Please discuss the pro forma to the Operating Expenses detailed in FR Schedule 1, the Operating Income Statement.

A. PWW's FR Schedule 1 begins with the TY ending 12/31/2018. The Pro forma adjustments reflect known and measurable increases/decreases to the 12/31/2018 Test Year Operating Expenses that occurred during the test year or will occur within 12 months of the end of 2018 TY resulting in the PRO FORMA 12 Months ending 12/31/2018 Operating Expenses. The next PRO FORMA set of adjustments to the Operating Expenses on FR Schedule 1 are associated with the change in pumpage expenses associated with using the Five-Year average production versus the 2018 TY production. Each of the PRO FORMA adjustments in FR Schedule 1 are explained on the Schedule 1 support schedules.

Q. Please discuss each of the FR Schedule 1 Support Schedules between the Twelve Months 12/31/2018 and the Pro Forma Test Year ending 12/31/2018 in regard to Operating Expenses.

A. FR **Sch. 1 Attachment B – Production Account**. Pro forma Production expenses are expected to be $191,839 greater than the actual 2018 TY production expenses or about a 3.8% increase. This increase is associated with increases in wages, purchased water expenses, electrical expenses and chemical expenses.

FR Sch. 1 Attachment C – Distribution Account. Pro forma Distribution expenses are expected to be $98,367 greater than the 2018 TY Distribution expenses or about a 3.5% increase. This increase is associated with increases in nonunion and union labor wage rates.

FR Sch. 1 Attachment D – Engineering Account. Pro forma Engineering expenses are expected to be $11,317 greater than the 2018 TY Engineering expenses or about a 0.9% increase. The increase in engineering expense is the result of increased wage rates.

FR Sch. 1 Attachment E - Customer Accounts and Collection. Pro forma Customer Accounts and Collection expenses are expected to be about $9,700 greater than the 2018 TY expenses or about a 0.7% increase. The increase in expenses is the result of increased postage costs. The Company will be seeking proposals for bill and notice processing and printing this summer and as such has reserved a pro forma for this work in this Attachment.

FR Sch 1 Attachment F - Administrative and General Account. Pro forma Administrative and General expenses are expected to be $551,328 greater than the actual

2018 TY expenses or about an 7.3% increase. This primary causes of this increase were increases in labor, benefit and computer expenses per the pro forma on this Attachment.

Q. Please explain the Pro forma increase in Interdivisional Management fee, pursuant to the 2006 Cost Allocation Agreement, of $147,764 to the other Pennichuck Corporation Subsidiaries from the Company.

A. This increase is the result of allocating 26.66% of the Company's Expenses to the other subsidiaries of Pennichuck Corporation (Pennichuck East Utility, Inc., Pittsfield Aqueduct Company and Pennichuck Water Service Company) in accordance with the 2006 Cost Allocation Agreement between Pennichuck Corporation's subsidiaries previously approved by the Commission. The calculation of the $147,764 allocation is detailed on FR Sch 1 Attachment G.

Q. Please compare the total operating expenses for the pro forma Year Ending ("YE") 12/31/18 operating expenses when compared to the YE 2015 total operating expenses?

A. The pro forma TY 18 operating expenses, exclusive of income taxes and amortization expenses (which is the equivalent to the projected YE 2019 operating expenses) are $3,446,197 greater than the year ending 12/31/2015. In TY 2018 there was 7.3% less water pumped/purchased than in 2015 resulting in a year over year decrease in production costs of $210,713. Therefore, the comparable Pro forma TY 18 operating expenses (adjusted for reduced pumpage from 2015 to 2018) were $3,656,910 greater than the year ending YE 15 operating expenses or an increase of about 22.1% over four years (2016, 2017, 2018 and Pro forma 2018 which equates to 2019 operating expenses) resulting in an average annual increase in total operating expenses of about 5.1%.

Q. Please discuss the pro forma to the Amortization Expenses as detailed in FR Schedule 1, the Operating Income Statement.

A. The pro forma to amortization expense includes three adjustments resulting in an increase in amortization expense in the amount of $280,602. The adjustments were as follows:

(1) A reduction in amortization expense in the amount of $5,645 reflecting certain deferred assets being fully amortized in 2018 per Schedule 2, Attach B, page 1.

(2) A reduction in amortization expense in the amount of $528 reflecting that fact that the Upper Merrimack River Watershed Study will be fully amortized in 2019, per Schedule 1, Attachment I.

(3) A $286,775 increase in amortization expense associated with the creation of a three-year deferred debit associated with recovering 50% of the total rate stabilization fund shortfall of $1,720,648 per Schedule 1, Attach A, Pg 3 and Schedule 1, Attach I. Please note that the Company is only seeking to recover 50% of the depleted rate stabilization funds based on the following assumptions:

a. That as part of this rate case the Company is granted some form of an annual Material Operating Expense Surcharge (MOES) that shortens the capturing of inflationary impacts on annual operating expenses each year as opposed to every three years as part of a full rate case filing. The need for a MOES will be detailed later in my testimony and is addressed in Mr. Goodhue's testimony as well.

b. That the Company is allowed to use cash from the 0.1 DSRR account to replenish the remaining unfunded 50% of the depleted rate stabilization funds.

Q. Please discuss the pro forma to the Property Tax Expense as detailed in FR Schedule 1, the Operating Income Statement.

A. The pro forma to Property Tax expenses resulted in an increase of $109,161 as reflected in FR Schedule 1 Attachment H. The change in property tax expenses is a combination of:

(1) Changes in Town millage rates

(2) Increased property values resulting from plant additions made in 2018 that are not currently reflected in the 2018 TY property tax expenses.

(3) Decreased property values associated with plant retirements made in 2018 that are not currently reflected in the 2018 TY property tax expenses.

Q. What is the overall impact of the change in Property Taxes between the YE 18 and YE 15?

A. Property tax expenses increased $525,093 between the YE 2015 and YE 2018 or about 13.1%.

Q. Please discuss the pro forma to the Income Tax Expense as detailed in Schedule 1, the Operating Income Statement.

A. Income Taxes (State and Federal) for the Company's year ending 12/31/2018 were $2,386,231. The Company does not pay or file State and Federal income taxes directly as its' income is consolidated with all of Pennichuck Corporation's subsidiary's and the Corporation filed a Consolidated Tax Return, and pays any Federal and State Income taxes due, based upon those filings. The income taxes accrued as a current or deferred provision are shared by each of the Subsidiaries in accordance with their proportionate share of taxable income, and the components of the current and deferred tax positions. Likewise, the portion of income taxes paid, in any given year, are shared by each of the Subsidiaries in accordance with the Corporate management fee allocation. In 2018 the

Corporation paid a total of $137,941 in Taxes which was associated with the NH Business Enterprise Tax per Sch 1, Attach J. The Company's share of these Consolidated NH Business Enterprise Taxes paid was $103,249.

Q. Please explain the Pro Forma adjustments made in FR Schedule 1 to the Total Operating Expenses applied to the PRO FORMA 12 Months 12/31/2018.

A. Just as revenue levels were normalized in FR Schedule 1 to reflect the Five-Year average of volumetric sales, all operating expenses that are impacted by the change in volumetric sales have been normalized to reflect the expenses associated with producing or purchasing the Five-Year Average volumetric sales volumes versus the TY 2018 volumetric sales volumes.

Q. What operating expenses are impacted by a change in volumetric sales.

A. The primary expenses impacted by a change in volumetric sales are the electric and chemical expenses required to produce the water for its customers as well as the electric expenses required to deliver the water to its customers.

Q. What is the total impact on the operating expenses detailed above as a result of using the Five-Year Average volumetric sales instead of the 2018 TY volumetric sales?

A. The impact on operating expenses, per FR Sch 1 Attachment B, is increased expenses of $31,539 which are the result of the following pro forma adjustments:

(1) An increase in purchased water expenses associated with a 1.45% increase in purchase water expense of the Five-Year Average purchased water versus of the 2018 TY purchased water resulting in an additional expense in the amount of $7,218.

(2) An increase in electric expenses associated with a 1.65% increase in plant production and an 8.98% increase in electric pumping expenses (comparing the Five-Year average production versus the 2018 TY production) resulting in a projected increase in electrical expenses in the amount of $6,065.

(3) An increase in WTP and CWS chemical expenses associated with a 1.65% increase in plant production and an 8.89% increase in CWS production (comparing the Five-Year average production versus the 2018 TY production) resulting in a projected increase in Chemical expenses in the amount of $18,256.

Q. Please describe Sch 5 of the 1604.08 Rate of Return (RoR") Schedules

A. RoR Sch 5 of the 1604.08 schedules provides a complete listing of all of the Company's outstanding debt instruments along with specific information for each bond or debt instrument. The bond and 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 has $93,163,202 of outstanding debt as of the issuance of the 2019 Series A and 2019 Series B Bonds in April of 2019. The average Funded Effective Rate for all of the Company's outstanding debt is 4.94%, 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. The columns to the right of the "Coupon Rate" in RoR Schedule 5 of the 1604.08 schedules reflect the calculation of the Principal and Interest payments ("P&I") made on these bonds and debt instruments, as follows:

(1) The P&I payments made by the Company during the 2018 TY in the amount of $6,287,885.

(2) The pro forma 2018 P&I payments in the amount of $6,999,023 reflecting the total annual P&I payments that the Company will need to make on the outstanding bond and loan amounts of $93,163,202, which was borrowed to fund the Company's Plant in Service as of 12/31/2018.

Q. How were the annual P&I payments detailed in para. 1 through 3 above calculated?

A. The P&I payments made during the 2018 TY reflect actual cash payments on the outstanding bonds and other debt instruments in service during 2018. The pro forma 2018 P&I payments of $700,765 reflect the following pro forma:

(1) In 2018 the Company made a partial year interest payment of $100,484 on the BNY Mellon-2018 A Series Bonds. In 2019 a full year of interest, in the amount of $204,375, must be paid on these Series bonds, resulting in a pro forma interest payment of $103,891. No principal payments are due on this serialized Bond series until 2029 so no principal payment pro forma is required.

(2) In 2018 the Company made a partial year interest payment of $22,886 on the BNY Mellon-2018 B Series Bonds. In 2019 the required interest payment on this Bond series will be $44,700 resulting in in interest pro forma of $21,821. Additionally, the Company must make a principal payment on this serialized Bond Series in 2019, in the amount of $85,000, resulting in a pro forma principal payment of $85,000, as no principal payments were required to be made on these bonds in 2018.

(3) In 2018 no principal or interest payments were made on the BNY Mellon 2019 A or B series Bonds. All the proceeds from these Bonds were invested in plant placed in service between 1/1/2018 and 12/31/2018. The 2018 P&I payment pro

forma of $488,828 reflects the annual principal and interest payment that must be paid each year on this Bond series, beginning in 2019 through the maturity of this serialized Bond Series in 2049.

(3) The Company also has $11,598 in annual amortization expenses associated with the issuance of all of its debt (exclusive of the issuance expenses on the BYN Mellon Series 2014 through 2019 Series Bonds which were funded through the bond issuances). In conventional rate making these expenses would have been treated as a regulatory asset and recovered over the life of the debt instrument. The Company would have received a return on the unamortized portion of the issuance costs in rate base and a return of the issuance costs via amortization expense. The rate making model established in DW16-806 allows for a return of the issuance costs via amortization expense as a Material Operating Expense but there is no rate mechanism that allows for the recovery of a return on the unamortized portion of the issuance costs. Going forward, for the Company to have sufficient cash to pay for issuance costs, it needs a rate mechanism that provided for both a return of and a return on debt issuance costs. As such, the Company proposing that when issuance costs can not be rolled into the cost of the bond or loan that the Company either:

(1) be allowed to borrow the issuance costs and recover the principal and interest on those issuance costs. (Please note that State Revolving Loan funds have no mechanism to roll loan issuance costs into the loan so the Company must get cash from another source to pay for that loan.), or

(2) If the Company can not borrow the cash to close on the loan/bond it would need to fund issuance costs with the 0.1 DSRR money or

(3) Book debt issuance expenses as an Outside Services Expense as part of its recoverable Material Operating Expenses.

For purposes of this case, per Mr. Goodhue's testimony, the Company is proposing to write off its existing debt issuance expenses due to their *di minimis* level.

V. COST OF SERVICE STUDY

Q. Please discuss the 1604.08 Schedule 9 (RoR Sch 9).

A. The RoR Schedule 9 details the rate increase, both in percentage and total dollars for each customer class. The rate increases, by customer class detailed in this schedule are based on the following facts:

(1) The Company engaged an outside expert, Concentric Energy Partners, to complete a Cost of Service Study (COSS) using the American Water Works Base Extra Capacity methodology. Based on the results of the COSS the Company divided its requested revenue requirement between the G-M, Special Contracts, Private and Municipal Fire customer classes as recommended by the COSS. This results in a shifting of the overall revenue requirement among the respective customer classes that results in a larger increase to the Municipal and Private Fire customer classes than the G-M class. The Special Contract customers, by contract, get the same increase as the G-M class customer to their volumetric and fixed meter charges. The shift in collecting a higher percentage of revenues from the Municipal and Private Fire customer classes is largely driven by the capital invested in the Company's replacement of small, unlined cast iron water main with larger, lined ductile iron

water main. The need to replace the smaller unlined water main was driven by age, water quality issues, coordination with Community paving, sewer and storm drain projects and insufficient fire protection. The replacement of the smaller water mains with larger water main was driven almost exclusively by the need to meet fire protection requirements. The formulation of the revenue collections from the various customer classes is covered in detail in the testimony provided by the Company's Cost of Service Study expert Mr. Gregg Therrien of Concentric Energy Advisers. The COSS recommended rate increases by customer class are as follows:

General Metered and Special 7.85%

Municipal Fire Customers – 24.20%

Private Fire Customers – 72.09%

(2) The COSS recommended that 42.8% of the G-M revenues be derived from the G-M volumetric charge and 57.2% from the G-M fixed meter charges. The COSS recommended weighting of G-M revenue collections from the volumetric and fixed meter charges is significantly different than the current weighting of the volumetric and fixed meter charge revenues which were as follows during the 2018 TY:

(a) G-M Fixed Meter Charge Revenues – $8,882,933 or 35.5% of G-M revenues

(b) G-M Volumetric Charge Revenues - $16,112,379 or 64.5% of G-M revenues

While the Company agrees that the COSS recommendations regarding the weighting of the G-M revenue classes between fixed and volumetric were developed correctly and in theory would result in a correct matching of revenues collected to customer classes it does not believe that changing or even partially migrating from the current G-M revenue weighting to the COSS G-M weighting is appropriate at this time. The

COSS proposed shift would result in an over 100% increase in the fixed meter charges and about a 27% percent decrease in the current volumetric rate. This COSS recommended shift in where G-M revenues are collected from would:

i. Cause the largest rate impact on the small users, especially retired rate payers.

ii. Discourage conservation due to the lower volumetric rate.

iii. result in less revenues from the Company's special contract customers who already benefit from a reduced volumetric rate.

The 1604.08 RoR Schedule 9 filed with the case propose that the G-M fixed and volumetric rates be increased by the same percentage of 7.85%.

VI. RATE CHANGES TO RATE CLASSES

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 on RoR Schedule 9 in Sections 6 and 12 of the filing. Per the discussion in the Paragraphs above the COSS recommends that the overall rate increase of 11.91% be distributed among the customer classes as follows:

General Metered and Special Contract Customers – 7.85%

Private Fire Customers - 72.09%

Municipal Fire Customers - 24.20%

VII. DISCUSSION OF RATE STABILIZATION MECHANISMS

Q. Please provide an overview and status update of PWW's rate stabilization mechanisms.

A. Yes. I would like to discuss the Rate Stabilization Funds (RSF). As noted on the 1604.06 FR Schedule 1, Attach A, Pg 3 the RSF funds underlying the CBFRR and DSRR have excess funds, that is the balances in these accounts as of 12/31/2018 exceed the balances established in DW16-806. This is not surprising as the underlying annual CBFRR need does not change in annual dollar value between rate cases, while there is typically a small amount of customer growth between rate cases that results in slightly higher revenues being collected, than granted in the previous rate case. The DSRR portion of allowed revenues is adjusted annually, via the QCPAC process, resulting in adequate funding to pay the Company's principal and interest expenses leaving the DSRR RSF untouched unless there is a series of years where the revenues that are collected are less than those allowed in the previous rate case and QCPAC filings.

Q. What is the status of the MOERR RSF?

A. This fund had a 12/31/2018 year end balance of $539,345 which is well below the balance of $2,850,000 allowed in DW18-806. This is not surprising as the MOERR set in DW16-806 was based on pro forma 2015 operating expenses. The Material Operating Expenses incurred in 2018 had experienced three years of inflationary pressure, which has a compounding effect, over those experienced during the 2015 test year.

Q. As of 12/31/2018 what was the total balance in the RSF accounts?

A. The total balance in the RSF accounts as of 12/31/2019 was $2,199,352, which is $1,720,648 short of the combined RSF account balance of $3,920,000 approved in DW16-806 (See 1604.04 Schedule 1, Attach A, Pg 3). The Company proposes to refill the RSF account deficiency by:

(1) Transferring the $400,917 in excess CBFRR RSF funds and $189,091 in excess DSRR 1.0 RSF funds into the MOERR RSF account which would lower the deficit in that RSF account from $2,310,655 to $1,720,648.

(2) Seeking a deferred debit of $286,775 over three years as part of its MOERR. This would leave a deficit in the MOERR RSF account in the amount of $860,324.

(3) Requesting that it be allowed to use up to 40% of the DSRR 0.1 funds available at the end of each year over the next three years ($699,902 per year based on 1604.06 FR Sch A) or about $280,000 per year to make up the remainder of the deficit.

VIII. PROPOSED MATERIAL OPERATING EXPENSE SURCHARGE (MOES)

Q. Earlier in your Testimony you referred to a conceptual annual adjustment to rates, a Material Operating Expense Surcharge (MOES) that the Company is seeking as part of this rate case. Please explain why the Company is seeking the MOES?

A. The revenue requirement granted as part of each rate case is designed to provide the cash required by the Company to pay:

(1) the City for the debt it incurred to purchase the Company (the CBFRR)

(2) the principal and interest required to pay the debt service on the bonds sold and loans incurred to pay for capital investment made by the Company on all assets that were used and useful prior to the end of the Test Year. (the 1.0 DSRR)

(3) 10% of the 1.0 DSRR to insure compliance with bond and loan covenant requirements (the 0.1 DSRR)

(3) the operating expenses incurred by the Company during the Test Year with pro forma adjustments to these expense for known and measurable changes to these expenses which will occur within 12 months of the end of the Test Year.

The current rate making model, inclusive of the QCPAC process and the underlying RSF funds insures that the Company has adequate cash to pay the City debt and any debt incurred by the Company to fund its annual capital improvements even during wet years (where volumetric sales revenues are less than allowed in the most recent rate filing). Additionally, the revenue requirement for the City Bond payment is not subject to regulatory lag and payment of bond/loan debt obligations is only subject to about a 6-month regulatory lag due to the allowance of the QCPAC. The current rate making model is problematic is in its coverage of the inflationary impact on operating expenses, as well as the risk of a year where the revenues granted to cover these expenses fall below those allowed in the rate making process (due to reduced volumetric sales during a wet year). This risk is highlighted in Exhibit DLW-1 which details that 3 years of inflationary pressure at 3.5% in addition to three years of substandard sales would result in a shortfall of over $5,780,000 when comparing MOERR Revenues to actual expenses. This shortfall which would fully drain the $2,850,000 in the MOER RSF before the end of the second year following the Test Year of the prior rate case. To provide adequate cover of the MOER expenses, accounting for both regulatory lag and the potential of reduced sales, the attached DLW Exhibit 1 indicates the need for the MOER RSF fund to be set at about $6.4 million (inclusive of a 10% contingency and assuming a run rate inflationary pressure of 3.5%). If the MOERR RSF get drawn down fully, or nearly so, it would require the Company to borrow money to sustain its operations during the end of the second year and for all of the third year from the previous rate case Test Year. The complete depletion of the MOERR RSF would require the Company to borrow money to refill at least a portion of the MOERR RSF, while it waited for the order for the next rate

case to be issued. By example, the $2,850,000 MOERR RSF established in DW16-806 and funded when the order for this filing was issued in late 2017 was drawn down to less than $530,000 by the end of 2018. During the first six months of 2019 the remaining MOER RSF account will likely be fully depleted. Assuming the current rate case follows the normal regulatory approval track the Company would not expect an order approving new rates until the late summer of 2020 which could result in an additional MOERR shortage over the next twelve to fifteen months in excess of $2.5 million dollars. This shortage in working capital would require the Company to borrow from Pennichuck Corporation's Working Line of Capital (which only has a $4 million capacity and must be paid off in full for 30 consecutive days every calendar year) in order to fund its ongoing operating expenses. The Company's belief is that the best result for its customers is not to have to borrow money and pay interest costs on debt in order to fund operating expenses. The Company sees two rate making options to avoid borrowing money to fund operating expenses:

(1) Seek to fund the MOERR RSF at a substantially greater level than the currently approved amount of $2,850,000, or

(2) Seek and gain approval in this rate case filing of an alternate rate making model to keep the Company's MOERR Revenues and any MOERR RSF from falling behind it's expenses to the point where it must borrow money from a bank to cover its operating expenses. To that end the Company is proposing the concept of an annual Material Operating Surcharge (MOES) which would result in an annual surcharge of the Company's last approved permanent rate. The purpose of the annual surcharge is to generate enough revenue to keep up

with the inflationary pressure on the Company's material operating expenses. The Company's concept for the annual MOES filing is as follows:

a. File for a MOES on May 1st of each year.

b. The annual MOES revenue requirement would be derived by subtracting the Material Operating Expenses (MOE) approved in the last rate case from the MOE incurred during the prior year. The MOE expenses for the prior year would be taken directly from the Company's prior year annual report that was filed on or before March 31st of the year the annual MOES petition is filed with the Commission.

c. No pro forma adjustments will be filed as part the annual filing process.

d. The approved MOES surcharge would be recoupable back to January 1st of the year it was filed. This would set the annual surcharged MOES revenues at the prior years expense level and limit the lag in MOERR revenues to MOE to 1 year (assuming recoupment is granted).

If the MOES concept, as detailed above, were adopted it would reduce the required MOERR RSF requirement to about $1.3 million versus the three-year requirement of about $6.4 million per DLW Exhibit 1. Additionally, the concept of an annual surcharge to revenues to cover inflationary pressure on the Company's operating expenses will result in less risk that the Company would need to borrow money to cover operating expenses. It would also lower the total dollars the Company might need to recover

during a full rate case to refill a depleted MOERR RSF. Per Mr. Goodhue's testimony, should the MOES filing be allowed, the Company would seek to maintain a balance of $3,920,000 across the three RSF accounts to provide the following coverage:

1. Two years of MOERR coverage ($3,120,000 per DLW Exhibit 1)
2. Two years of 1.0 DSRR coverage ($400,000 per DLW Exhibit 1)
3. The remainder of the unused RSF funds, $400,000 would be placed into the CBFRR RSF.

DLW Exhibit 1 details the calculation of the RSF funding levels based on the revenue requirements sought in this rate case.

Q. If the MOES had been applied on the years following the DW16-806 rate case what sort of surcharges would have occurred?

A. Please see Exhibit DLW Exhibit 2 for the calculation of the MOES that would have been:

1. Granted in 2018 based on the increase in 2017 MOE's over those granted in DW16-806 in the increased revenue requirement in the amount of $210,077 resulting in a surcharge of 0.67%

2. Granted in 2019 based on the increase in 2018 MOE's over those granted in DW16-806 in an increased revenue requirement of $1,777,665 (inclusive of the $210,077 from the prior MOES) resulting in a cumulative MOES or 5.64%.

Q. If the MOE's went down in any year in comparison to last approved MOE's would the Company propose a negative MOES?

A. Yes, the MOES would result in a reduction in revenues sought from the Company's customers.

Q. What would the cumulative rate surcharge be as a result of the 2018 and 2019 QCPAC and MOES filings if they had been allowed?

A. The total percentage increase would have been about 9.7% or just slightly less than the 11.91% rate increase sought in this filing.

Q. If the Company were allowed to complete an annual MOES filing how would the Company propose to charge its customers for the Surcharge?

A. The Company would notice all of its customers of the pending MOES filing in December of the year proceeding the MOES filing. The Company would seek recoupment of the MOES sought back to January 1 of the year the filing is made.

Q. Do you have any other information regarding the MOES process?

A. No.

IX. TRENDS IN CUSTOMER USAGE

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 of 1.2% in the average monthly usage between 2016 and 2018.

X. CUSTOMER BILL IMPACTS

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

A. Please see Exhibit DLW-1 for the impact of the requested permanent increase on the average single-family residential bill on a monthly basis. The Company is seeking a 11.91% increase in its' revenue requirement from its pro forma TY 2018 Five Year

Average Revenues. Assuming the overall revenue requirement sought by the Company is distributed in accordance with the Concentric Cost of Service Study, the overall rate increase being sought for a single family residential customer would be 7.85%, which would result in an increase of $4.00 per month to the current average single family monthly water bill of $53.09 per month (inclusive of the 4.06% cumulative QCPAC increase being sought in DW19-029). This would result in an average monthly water bill of $55.02.

XI. CUSTOMER NOTIFICATION

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. The direct mailing will also include information regarding the suspension of the Company's rates and the date of the prehearing conference. Additionally, when the Commission issues the order to suspend tariffs and schedule a prehearing conference, the Company will provide notification in area newspaper(s). The Company also posts notice of the rate case filing on its website.

Q. Do you have any other testimony to offer?

A. No.